

PRACTICAL LECTURES

— ON —

ANTHROPOLOGY,

— BY —

DR. W. A. PAYNE,

DEMONSTRATOR OF

Anatomy, Physiology, Physiognomy & Phrenology,

AND

AUTHOR OF BIRD'S EYE VIEW OF MAN.

Fifteen Metaphysical Essays on Mind and Organization—A Treatise on the Normal and Abnormal conditions of the Heart and Lungs, Stomach and Liver—
A Work on the Human Reproductive System—A Brief Hand-book
of Comparative and Special Ethnology—An Essay on the
Five Senses—A Sketch of various Diseases incident to the Nervous System.

A BRIEF ANALYSIS OF THE MENTAL CHARACTERISTICS OF

BARON VON HUMBOLDT, GOETHE, SCHILLER, BYRON, POE,
JEAN PAUL RICHTER, GOLDSMITH, MICHELET,
DR. BALZACK, ETC., ETC.

ST. LOUIS:

SOUTHWESTERN BOOK AND PUBLISHING CO., 510 AND 512 WASHINGTON AVENUE
1869.



DR. W. A. PAYNE.

Prof. J. M. Schaeberle
7-18-33
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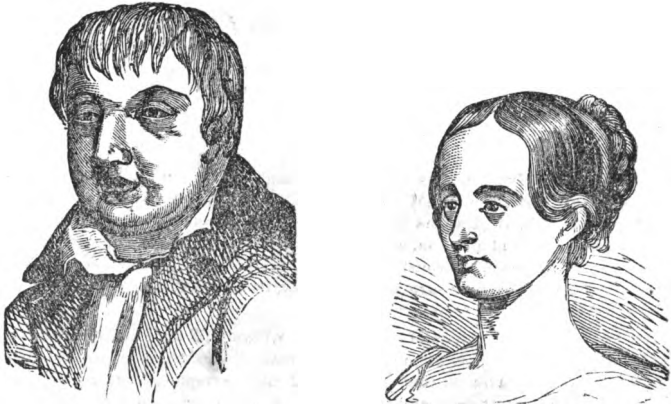


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Different temperaments require different methods of medical treatment. That which might prove an efficacious remedy for one patient in a given malady might prove positively injurious to another.

DR. PAYNE'S OFF-HAND
LECTURES ON 'ANTHROPOLOGY,'

DELIVERED BEFORE HIS CLASS DURING THE MONTHS
OF FEBRUARY AND MARCH, 1869.

Reported by Mr. JAMES HOLLAND, Phonographer, and given at PAYNE'S Lecture
Hall, 403 North Fifth Street, St. Louis.

☞ Owing to press of business only about one-third of the Lectures were reported. No alterations have been made; they go to press just as they fell from the Lecturer's lips.

LECTURE FOURTH.

Each of you consists of two hundred and forty bones and five hundred and twenty-five muscles. Each of you possesses valves, ventricles, heart, lungs, capillaries, gastric glands, and so forth. In short, each of you represents within yourself a part and parcel of every object of the animal kingdom. You embrace in your organizations not only the chemical conditions of the earth, but also the peculiarities of each animal that walks the swamp or wanders through the forest. You are subject to the same general laws that characterize the lion, the tiger, or any of the vertebratæ; but when we strike upon the domain of reason you are lifted above the realm of animal life. Reason, then, constitutes the great difference between man and the inferior animals.

The best brain would not work properly or manifest its powers to the full extent if a man were

affected by tricuspid disease of the heart. If a valvular trouble characterized the man from morn till night, his mental manifestations would not be the same as if the heart were perfectly sound. Although a man may possess the highest degree of brain formation, if the blood is not sent to the brain thoroughly ærated, he would not manifest one-half the ability that he would if this were in full development.

Your crania are composed of eight bones—the occipital, the vertex, the two parietals, the coronal, the temporal, the frontal, the sinus, the ethmoid. We find, gentlemen, that so beautifully has nature arranged the skull that it is altogether impossible for any mechanic to imitate it. No box can be made that will contain vitalized matter in a state of life, as in the skull. Nature has also arranged it so that a person may receive a heavy fall, and by the joining of each of these skull bones to the rest, the substance of the brain will not be injured, unless the blow is a very severe one. If the blow be sufficiently great, and be received in the frontal portion, we have produced in the object receiving the injury partial insanity or imbecility; if in the occipital portion, we have some disease of the nervous system, or of the vascular substance of the brain; if in the coronal portion, we have some disease affecting spirituality, hope or conscientiousness. These facts have been demonstrated for the last fifty years, and are the highest proofs we have of the location of the phrenological organs.

The brain is divided into two hemispheres—the

right and the left. When an injury is done to the left hemisphere of the brain the right takes on supplementary activity; and although a man may receive a wound in the left portion of the brain, owing to a provision of nature, the right may perform to an extent the functions of the other, because the phrenological organs are double—just the same as the eyes, arms, legs, etc. No mechanic, however skillful, could form the sutures of the skull as we find them joined. The God of Nature knew that, from the peculiar construction of the earth, limbs would be broken, dangers would beset man's pathway, and that it was necessary, in order to make all things even, to construct man in a peculiar and inimitable manner. The cerebellum is divided from the cerebrum by the tentorium, and is about one-seventh as large. The cerebrum is divided by the falx cerebri, which dips down into it, and thus produces two hemispheres. Nature has also arranged it so that it is very difficult for the cerebrum and cerebellum to be separated. Anatomically the brain is divided into four parts: the cerebrum, cerebellum, pons varolii, and medulla oblongata. The medulla oblongata runs from the pons varolii to the upper portion of the spinal cord. The human brain is heavier than that of any other animal of the same size. The average weight of the brain in the adult male is forty-nine and a half ounces—three pounds avoirdupois; of the female, forty-four ounces. The leading brains of the male range from forty-six to fifty-three ounces; those of the female from forty-one to forty-seven ounces. Some brains have

weighed as much as three and a quarter and even three and a half pounds, but these are extreme cases—Cuvier, Abercrombie and Dupuytren are examples. Texture, however, is of as much importance as weight, if not more so.

If a man's cerebellum were as large as his cerebrum he would be too much of an animal because the more cerebellum he possesses the more animal force does he manifest; the finer and the greater quantity of cerebrum he possesses, the greater will be his intellectual manifestations. Many of you are not aware of the fact that there are two distinct brains: the cerebrum comprises the anterior or intellectual portion of the brain; the cerebellum comprises the posterior, base, or that mass of nervous matter lying at the back of the tentorium.

The remarks this evening will be especially on craniology. In the first place, I wish to invite your attention to the Scottish type of brain, which is indicated by the formation of the cranium. We invariably find a projection in the region of comparison and casualty, great breadth of the cerebrum, a great deal of globularity in the top, and a tolerably fair correspondence between the frontal and the coronal; while in the Esquimaux there is a total want of this condition of brain. In the Sandwich Islanders there is also a want of this formation of skull. The Sandwich Islander and the Hottentot possess what is termed the flat formation—something of the order of the Mogul Tartar. All men who possess manly and elevated characteristics rise from the metatus auditorus externus, or opening of the ear, on forward to the

vertex. There is great height from the center of the ear to the crown of the head. Craniology indicates this fact. When we cast our eyes over the different races of the earth we find there is no race but what differs vastly from the rest, and they do not differ any more in their mentalities than in the formations of their skulls; and by virtue of the difference of the formation of the brain do we find the difference in their mentalities. The French skull is invariably less developed in the crown of the head than the Scotch, the American, the German, the Italian. The primitive Egyptian or Greek type of head was more thoroughly developed in the crown than the modern Greek. The Romans possessed a great deal more development in the parietal regions and around the region of the ears than the Greeks, hence they were men of force and military renown; while the Greeks manifested the artistic and literary type, being full in the frontal and coronal regions.

By throwing back the skull, gentlemen, if such could be done in a living human being, we find the dura mater, and the pia mater, and the arachnoid membrane, protecting the soft gelatinous substance of the brain from becoming injured by the hard formation of the skull. These are beautiful and delicate structures, so interlaced that they effectually protect the brain from becoming injured by over action. Were it not for them it would be painful to think; in fact it is so when the thought is intense. Study is no easy matter. Show me the man that expends ten hours each day in mental labor and I will point to a man that is often complaining of

great heat and pain in the frontal portion of the brain ; from the fact that every effort of thought requires a certain amount of brain movement, and this, acting upon the pia mater, produces a certain amount of pain, but not near so much as if it were acting upon the hard substance of the skull.

There are some men in the world who still hold to the doctrine that so soft a substance as the brain can not make any impression on the skull. Now, if those men possessed large perceptive faculties, and would look on the face of nature, they would invariably find that in every instance the internal sap, or living principle, whatever it may be, underlying organized and vitalized matter, always gives shape and configuration to the external, and the external invariably gives way to the action of the internal. When any foe to the science of craniology brings up this objection, answer him that the bark of the hickory tree, the hide of the rhinoceros, the epidermis of the elephant, in short, every external thing, no matter how hard it may be, gives way to the action of the internal. We will let this rest, then, here, as this is sufficient proof to convince any one of ordinary reasoning powers.

The intellectual portion of man's nature lies immediately in the frontal lobes ; the semi-intellectual portion lies somewhat in the rear of the forehead ; the passional lies at the base of the back part of the head ; the propelling lies around the region of the ears and in the vertex ; and all the arguments in the world can never convince the practical or observing man to the contrary. Look on the faces

of Mike McCoolle, Joe Coburn, Allen, and, if it could be possible, on the faces of Yankee Sullivan, Tom Hyer and Tom Sayers, and in every instance you will find a full development of brain in the region of the ear, and a physiognomical expression of pugilistic propensities. If you want a practical illustration of this, attend one of the sparring exhibitions in "Looney's Hall" and you can not fail to be convinced of the truth of these statements. Contrast these men with Howard the philanthropist, Gratchett, and several others of these pictures (referring to those in the class room) and you will find they differ so greatly that you can not doubt the truth of this science of Anthropology.

Every man who is fond of giving his money away, who is benevolent, will invariably possess the condition of large benevolence, that is to say, he will have a large development of this organ. But before we can specify the characteristics of the different sorts of men in the world we must examine the formation of the brain a little more, and see how it is constructed. Each one of the hemispheres, then, just mentioned is subdivided, so that we have forty-two specific centers, forty-two specific libraries for special intelligence. Now I must deal in a little argumentation in order to show you the object of this. In the first place, the brain is a plurality of organs. One man can not paint a picture, draw a design, plan work, or reason so profoundly as another; whereas, if it were not for this plurality of organs, one man would manifest as much talent, or calculative ability, or lingual ability, as another.

But we know this is not the case. Elihu Burritt speaks a number of languages, so did Sir William Jones. Some of us find it difficult to study Greek and Latin, but my reporter, James Holland, now taking down this lecture, finds no difficulty in studying these languages. Now, there is a combination in those cases which gives to them a specific talent for the study of languages. There is no such combination in the case of the Comanche Indian. If the brain, then, were not a plurality of organs, any one could speak as many languages as the men before mentioned, because we all have heads; but the special distribution is different, owing to the causes referred to.

The brain is the dome of thought, the palace of the soul, as remarked by Fenelon. It is the grand centre of man's existence; it is the instrument through which the mind operates. It is decidedly more complex in its structure than any portion of the viscera, or heart, or lungs. Each part of it has a definite function to perform. Could it be possible, then, for any one to arrange such a complex work as the human brain but God? Every one will recognize the fact that mental phenomena are higher than physical phenomena, and therefore it requires a higher condition of organized matter to evolve them, and a more recondite and beautiful finish; this we have in the brain. Instead of being simply an organ of the mind, it is a multiplicity of organs, and there are as many organs of the brain as we have faculties of the mind. Again: if it were not so, we would not find one so good in selling goods, and another

without any knowledge at all in this way. The cerebellum presides over all the involuntary actions of the body ; the cerebrum presides over all the intellectual operations of the mind, or, rather, it is the instrument through which all the intellectual operations are evolved ; and just in proportion to the fineness, quality, breadth, width and height of the cerebrum will be the mind. There is never an exception to this rule.

Craniology was known previous to the coming of Gall, but owing to the fact that teachers were not conversant with the science of physiology, as at present known, and with other collateral branches, their admeasurement were false and their conclusions in many instances were wrong. A point I wish to make is this: That you must never take, for instance, the measurement of the head for the specific amount of brain a man possesses. One man's head may measure twenty-two and a half inches, and another only twenty-two and a quarter, and there will be more absolute mind in the latter than in the former. Why is this? Because the possibilities may be that the larger head possesses a thicker skull, and also the person possessing the large head may have a great deal of brain in the base and occipital regions. We judge, then, of the size of the brain from the development of the frontal lobes themselves rather than from the circumference. Practice has taught us this. It is a common thing to find a man with a twenty-two and a half inch brain possessing more intellect than the man with a twenty-three and a half inch brain.

Some people imagine that because a man wears a larger hat than another he must necessarily possess more mental power. Now, the hat fits over a part of the head that is not very complimentary to the man. It does not indicate the size of the frontal lobes; and it is often the case that a man's hat will slip over the head of an individual at the same time that the small head will possess more power than the large one. That is the reason that mistakes were made in the case of Lord Byron. A great many persons' hats would pass over his eyes; but it was owing to the peculiar shape of his head. He really possessed an immense amount of brain, and, next to Cuvier, weighed more than any man on the continent of Europe. Of course there are thousands of men whose brains were never weighed, but I speak of those of which we have a record. Whenever you read an article, then, saying that Byron possessed a small head, throw it aside as untrue. The hat business, then, will not do to decide whether a man possesses more intellect than another. It is not a safe criterion by any means.

All the domestic propensities lie in the occipital regions; all the moral in the crown; all the reflective in the frontal lobes; all the perceptive over the superciliary ridge; all the propelling power at the vertex and side regions. If you want a proof of this latter proposition, look at the face and brain formation of the lion, tiger and cat, and contrast them with that of the dove and the lamb, and see the difference. There is a very high proof taken from the animal kingdom. The superciliary ridge, it is

true, will not always indicate the organs supposed to be located beneath it, for the simple reason that some persons possess a great deal of form, size and weight which an examiner can not recognize; but by noting the expression of the face, watching the movements of the eye, and so forth, he can overcome any difficulty in that respect. We often make mistakes in examining the development of form, size and tune, but we very seldom make a mistake in examining comparison and causality, ideality, sublimity, or any of those that are plainly exhibited. Some old writers formerly objected to the science of phrenology, because they claimed that the organs under the superciliary ridge could not exist there, as the brain was situated at the back of that; and this is in part true. How, then, can a man ascertain the development of those organs under the superciliary ridge from the inspection of the external parts? In nine cases out of ten he can approximate to it by the temperament. If the man is of the mental temperament, he will have a thin skull and superciliary ridge. If he possesses a bilious, motive temperament, he will have a thicker development; if the lymphatic, still thicker. Hence you would not say that a man's form is six, size six, or weight seven, simply because he protrudes that much in these organs; but you would take into consideration the temperaments and allow one degree for his motive temperament, three for the lymphatic, and for the nervous, mental, or purely sanguine temperament, you would allow every portion to be read in conformity to the degree of development.

Now, I hold a skull in my hand, representing a chief of the Arappahoe Nation, who, by the testimony of Dr. Miner, killed more than a hundred individuals. He was one of the bravest of those chiefs, a man of inordinate force of character and bravery. What I am going to show you is about the highest proof we have in support of Craniology.

By taking this skull and holding it up to the light you will find that it is diaphanous in the region of destructiveness and combativeness, while in the regions of veneration, ideality and sublimity no light is visible; it is perfectly opaque. By examining this other skull, which is that of a notorious coward, we find light admitted through the region of cautiousness, while the regions of destructiveness and combativeness admit of no light whatever. Take the skull of Diana Walters, taken from the cabinet in Philadelphia, and you will see light through the regions of veneration and spirituality. She became crazy on the subject of religion, and exhorted all people, in the open streets, to go to her church. The result was that the constant action of spirituality and veneration produced thinness in those regions. Wherever a man has been very intellectual, if you could examine his skull after death, you will see the light through the frontal bones, or at least you will discover greater thinness there than in the posterior bones. Where a man has been very passionate and has indulged his amativeness, there would be great thinness through the regions of the occipital bone, at the lower portion. In fact, all persons who use one portion

of the brain with a great deal of force, and with constant attention to one subject, invariably develop a thin condition of the skull in that region. There is not within the domain of human reason a higher proof that the brain is a plurality of organs than the one we have just shown. Nothing can go farther to prove that each part is intended for a certain purpose, or for evolving a certain impression or idea, than the simple facts just stated.

Another point, gentlemen, is that the skulls of nations, as well as of individuals, differ greatly in thinness, thickness, brittleness, density, and all that. What would do a positive injury to one man's skull would not affect another. If I should strike this man (pointing to a member of the class) in the frontal lobe, I would hurt him; but if I should strike an Ethiopian there my hand would be hurt, because the skull in the Ethiopian is much thicker than in the Anglo-Saxon or Caucasian. The thinness or thickness of the skulls of individuals can be ascertained by vibration—by an application of the hands. If the skull be thick, there is not a particle of vibration; the skull, in fact, must be very thin and the brain very flexible to give you a thorough vibration. This is of paramount importance, then, in order to judge of the relative thinness or otherwise of skulls, because in admeasurements a quarter of an inch will make a great difference in your deductions of character, and you might give a man with a head measuring a quarter more than another man credit for more brain, where, owing to the difference in the thickness of their respective skulls,

the one with the smaller head and thinner skull would manifest more mental power than the other. Place your hand on the head, have the subject to speak in a full voice, and you will ascertain the facts.

A great many men suppose that the skull is not divided—that it is a solid box ; and several ask me why nature divided it into so many compartments. They might as well ask me why the mind is divided into so many compartments. It is simply from the fact that it could not perform its functions were it made in any other shape. A jar on a skull with no joining would produce instant death ; there must be something that will not break, but gently give. All the great mechanics who have tried to imitate the human skull have lamentably failed. It is a matter of impossibility to imitate it exactly—to make an exact copy of it. No machinery can be joined with such accuracy, or rendered so very invulnerable, or adapted to so many functions as the human skull. The pons varolii occupies the back portion of the brain. The medulla oblongata is situated so as to send off from the central portion of the occipital regions all those nerves which ramify over the body. What is the medulla oblongata ? It is nothing more than the oblong nerve, the grand nerve of sensation. If it were possible to touch this with a piece of steel or wood in the living human being the pain would be so intense that the man would faint with agony. But touch the cerebrum with steel or wood, and there is no such pain felt. If a bullet were fired through the frontal lobæ of a man the brain substances

would not feel it, but the little nerves connected with the cerebrum will feel the shock, although the sensation of pain will not be half so great as if he had been shot immediately through the cerebellum. These facts, gentlemen, are known by experiment. Sir Astley Cooper, in performing the operation of trepanning a patient in the hospital, had to take out a portion of the frontal bone about the size of a twenty-five cent piece. By lifting up the cloth which covered it and throwing back the dura mater he could see a portion of the brain. When the boy was asleep, resting in perfect quietude, there was not a particle of movement in the cerebrum. He would walk in the hospital, clap his hands to arouse the boy from his slumber, and the brain would immediately pulsate with extreme vigor and protrude through the orifice. This indicates that for every intellectual effort there must be a certain amount of motion in the frontal lobes.

Flourens and Magendie, in their experiments with birds, discovered that the moment they touched the medulla oblongata the bird writhed with pain. Dr. Dalton finds that by excavating a portion of the cerebellum many of the involuntary actions of cats, mice, rats, etc., cease; and, doubtless, if he had excavated a portion of the cerebrum the instinctive power of these animals would have been lessened or destroyed. If a portion of the brain were taken from one side only, the other side, by the provision of nature before mentioned, would continue to perform the functions the same as usual. Such experiments as these, being made now more than ever they were,

lay the broad and never to be forgotten foundation of the true science of man. It is by the collection of such facts as those we have been speaking of that we are enabled to build up the superstructure which we name Anthropology. Phrenology itself is not the science of man any more than anatomy or physiognomy; but by combining all these things together we have the science of Anthropology, which, defined, means the science of man.

Flourens, Magendie, Albemarle, and all the other physiological experimenters, deserve our highest praise for the light they have thrown upon this subject.

I will lead you over another and different field on to-morrow night. You have my thanks for your interest and attention this evening.

LECTURE FIFTH.

Amativeness, philoprogenitiveness, adhesiveness, inhabitiveness and conjugality constitute the domestic group. It would be impossible for a man to rear a family by the simple operation of amativeness itself. We find it necessary for the purpose of developing a second edition of one's self; but if nature had not made a greater provision than this one organ, a man would never look after his offspring. Even adding philoprogenitiveness to the organ of amativeness, we yet have not a domestic group in the total, because although a woman might love a child with fervor, and although a man might

pay the most strict attention to the welfare of his children, if inhabitiveness had not been given to them by nature the man and woman could never, possibly, have a house and home and place for the education and rearing of children. And after giving a man and woman inhabitiveness, it would not answer all the purposes of the domestic group. If they possessed amativeness, philoprogenitiveness and inhabitiveness, it is necessary that, in order to be true to each other in fulfilling the marital contract in toto, they should have a principle or organ that would weld each to the other. We have such an organ, gentlemen, and it is called conjugality. But even with conjugality possessed by the individuals, the domestic group would be unfinished. In order, then, to finish that group we must have another organ, and that is adhesiveness, which implies friendship and intense attachment to a partner. Bear in mind, then, that because a man possesses large amativeness, it does not follow that he will make a good husband; and although a woman may possess large philoprogenitiveness, it does not follow that she will make a good wife. In order to make a first-class domestic character there must be a full development of the entire domestic group. And in every instance where you inspect a head and discover fullness in this region, from the base of the brain to about the center of the occipital prominence, you will find a person well adapted to marriage—in short, a person that would be totally miserable without a companion. Adam and Eve, according to the statements of the Bible, were placed

in the garden of Eden, but they could never have been the father and mother of the human race had they not possessed amativeness ; nor could they, by a law of nature, have been instrumental in rearing their progeny had not each also possessed philo-progenitiveness ; nor could they have remained together if each had not possessed the organ of conjugality. You see, gentlemen, that the science of phrenology is so completely natural that it is impossible to dispute it, if you fairly analyse it.

When we find the domestic group, then, thorough in development, we have a domestic man, of course. But can the man possessing this domestic group, and by its action alone, step out into the fields or forests and execute a certain amount of manual labor ? Can he handle the ax, and strike it deeply into the heart's core of a large tree ? After the tree is down can he split it into timber ? Can he shape it into houses and fences ? We answer, no ; that is not its province ; but nature, looking out for these contingencies, joins near the domestic group destructiveness and combativeness. Now a man might have the finest domestic group in the world, gentlemen, and he could never rear the buildings we see around us. But owing to nature giving us destructiveness and combativeness, that is, the propelling power, we are enabled to construct buildings and secure certain ends and certain material resources. Without this provision we would simply be men without energy. Excessive destructiveness and combativeness develop a quarrelsome, fault-finding, pugilistic man, while a full development of the

organs develops a man of energy and force, a man of reasonable pluck, not of foolish or animal courage. But we find nature would be at fault if she stopped here, because destructiveness and combativeness can not of themselves rear buildings, make a draft, design or picture, or do that kind of work which nature intended other organs to perform. What does she do in this case? She gives us an organ of constructiveness, and a little above that the organ of imitation; and by these two organs a man is enabled to become a mechanic, and to work wood, marble, bronze, glass, etc., with a certain degree of elegance and dispatch. See how beautifully these principles underlie human nature. As we have seen, a man with a domestic group could not cut down a tree without combativeness and destructiveness, nor could he make a building without constructiveness and imitation. And even with these organs man could not make that building thorough, unless ideality and sublimity had been given him, to render taste, beauty and outline to the structure. But does nature stop here? Not at all. In order to make that building thorough in every particular, internally and externally, form, size, weight, comparison and the organ of calculation are requisite. And from the fact, gentlemen, that no other theory of the human mind gives any information—that is, clear information—upon the subject of mental manifestations, and we find that phrenology does, why not accept it as the science of the human mind? Can any system of metaphysics explain to you why a man with a domestic formation of brain differs so

greatly from one with a purely intellectual or ambitious formation of brain? You may study Locke, Aristotle, Pythagoras, Plato, and possibly twenty others that I might mention, and in not one instance will you find any reason given for the discrepancies between different men, or any reason for one man excelling in the domestic departments and being sadly deficient in the moral.

The domestic propensities reach this line (pointing to the line of demarkation between the selfish propensities and the domestic), and, as I remarked, where there is fullness in this region of the brain the man will evince the qualities of the husband, the father, and the provider for a family. In every instance where there is a total want of development in this region in a lady, we have a woman inclined to commit infanticide—to kill her children.

It is a common thing for women to take medicine for the purpose of killing a child after it has been in the womb several months. In all those cases a phrenologist will invariably discover that those women possess a very small quantity of the organ of philoprogenitiveness and very little conscientiousness. In all those cases where a woman becomes insane on the subject of loss of child, we find a remarkable amount of the organ of philoprogenitiveness. Here are two extreme cases in this department. Number seven (pointing to the picture number seven) is in an abnormal condition, that is, excessively large; number eight is in an abnormal condition, that is, excessively small. That lady became insane because two of her children were killed;

this one committed the horrible deed already spoken of. These were extreme cases of philoprogenitiveness; no skill could have reached them, because diseased conditions were there. It is impossible, then, for any woman to make you a good wife who possesses a small organ of philoprogenitiveness, because that is the leading feature in the domestic group. It is often the case that we discover a head possessing a large amount of philoprogenitiveness and a very deficient amount of conjugality. Here, then, are seeming inconsistencies. The man will be very affectionate to his children, but will have very little affection for his wife. Many of you know husbands who are very indulgent to their children, but who yet always prefer being away from their wives. Instead of taking them to places of amusement they want to go by themselves. Again, it sometimes happens that a man possesses inhabitiveness seven, and locality only three. Such a condition makes the stay-at-home man, a man not at all inclined to travel, one of those who takes no interest in what may lie beyond the confines of his own optical vision. In my travels through the extreme South I met some characters of that sort. They did not want to know anything about the people from the other different States; they were totally wrapped up in their own State, county or town. These men presented to me, in every instance, a very large development of inhabitiveness and a very narrow development of locality.

Very often you will examine a man and find that he has large inhabitiveness; you find also that he

has large locality. Having first examined large inhabitiveness, you say you are passionately fond of your own home, and when you come to large locality you say you are very fond of traveling. How are you to account for this? You must make a combination and examine the two of them at the same time, and if they are equally developed, you can say he has a great taste for home as well as for traveling. Some of our best travelers appreciated home better than most men. Without the domestic group, then, gentlemen, the world would be a chaotic mass; everything would be irregular; this would be a land of lechery, of dissipation, of murder, of infinite misery. We must confess that it is so to-day, to an extent; but it is owing to the fact that people do not understand the laws governing the domestic group. It is estimated by the best thinkers and writers that seven married people out of every ten are dissatisfied with their marital companions. Why is this? It is from the fact that when they married they never knew anything about the relative or absolute domestic points possessed by each. Marrying and discovering the inconsistencies afterward, when too late, they walked through life miserable, yet too proud to get a divorce, and at the same time too sensible to let the world know anything about it. The domestic qualities are remarkably deficient in many of our young men that marry. Five examinations out of every seven that I make in my rooms in different cities run very small in that region. Young men seem to prefer billiard rooms, the lower forms of theatrical representations, after

the manner of the "White Fawn," the "Black Crook," and all the different processes of sensualism, to the real and genuine enjoyment of domestic life.

In every instance where a man presents himself to you, after you have paid attention to this subject, you will know whether he is adapted to marital relations or not. If he is deficient in that region, he will never make a good provider for a family and will never be true to a wife. This domestic group, then, seems to be something of ballast to his entire constitution, and when it is not developed in excess, gives a man more pleasure than all the other parts of his nature. Henry Clay possessed inhabitiveness and the entire domestic group the largest of any public man in this country. Just notice the formation of that brain (pointing to the portrait of Henry Clay). Inhabitiveness seven, conjugality six, amativeness six and a half, adhesiveness seven. His greatest pleasure was to get through the business of Washington City, return to the city of Lexington, and ride out to Ashland, about half a mile up the principal street, get under a particular tree, sit in a particular rocking chair, and remain there every moment of spare time that he had, possibly, entertaining his friends in a domestic way. Humphrey Marshall, of the city of Louisville, says that Henry Clay gave the best proof of phrenology he ever met. His domestic nature was thoroughly developed, and we find his entire actions through life indicating the fact.

Look at this picture of the rambler. You see there is a total want of the domestic organs. There

we have a young man who was passionately fond of traveling. Locality is seven, the perceptive full, but the domestic group is entirely deficient. It was impossible for that man to ever be happy in a state of quietude or in one place. It is almost impossible for Mr. Thomas (a member of the class) to be happy and contented in one place, with his large locality and his disposition for change; but give him a greater breadth and depth in the occipital regions, and less of the organ of locality, and he possibly would be as much a home man as any one of you. He is a good type of the character under discussion. I have conversed with him, and find that he has led a very adventurous life; that he has been all over the wildest and most dangerous portions of America. Bear in mind, then, that you will never find a man with the formation of brain of Henry Clay who is happy while traveling.

Adhesiveness, gentlemen, located contiguous to inhabitiveness, leads a man when in excess to a great many foolish acts. His friendship being so great, as derived from this organ, he will do injustice to his family and self, possibly, to oblige a friend. Most of the men I have ever examined who have been in the habit of endorsing friends and acquaintances have invariably possessed the organ of adhesiveness from 6 1-2 to 7; and I have never discovered in my life one of those close, hard, flinty bankers that ever possessed adhesiveness 6 or 7 in development. But in all very warm-hearted and obliging men adhesiveness will run, in every instance, from 5 3-4 to 7. When it falls below 4 in development a

man has a very small amount of it. Hence no man can be warm-hearted, friendly and obliging unless the upper portion of the brain is full in development.

After skipping continuity, which I shall not speak of this evening, I will touch upon self-esteem, firmness and approbation. According to the testimony of Combe, Vimount, Gregory, Mackintosh and other writers, approbation, self-esteem and firmness are selfish organs, just the same as amativeness, combativeness and destructiveness. They seem to be necessary, also, to a certain degree. If a man's head is flat in that region you will find him devoid of confidence in his ability, devoid also of firmness. If you find the brain wanting in breadth in this region a man is deficient in the organ of approbation. You might appeal to his pride or flatter him all the days of your life and you would never make any headway, because there is no approbation to take up the impressions. Self-esteem, in its natural manifestation, gives a certain degree of dignity, weight and gentility of character. When in excess it produces an egotistical, bombastic, supercilious man. When very deficient it produces a very humiliating, modest and diffident man. In fact, when very small it makes a man a mere cringer at the feet of power. We often see men who are so totally wanting in this organ of self-esteem that if they should be furiously dashed to the ground by another man, and that man had done the act in a fit of anger, they would rise from the ground and make apologies to the party for being in the way. Other men possess it so large that even if they had done a pos-

itive injury they would be too proud to make an apology. Now, if you know where to locate approbation, self-esteem and firmness, you have one of the greatest keys to success in life. Suppose, for instance, you met a man possessing approbation 7, acquisitiveness 4 only, and his selfish organization comparatively small, and you wanted to gain a certain amount of influence and money from that man, you would make a great mistake by telling him that he would make a great amount of money out of the scheme. You should show him great respect and praise him a good deal, because he is subject to extreme love of flattery with this large approbation. If you get off a few little shots of this nature you will commence making him feel weak about the knees, and when you continue this so as to get complete possession of his vanity he will do almost anything in the world for you. One of the best collectors for churches in New York is a very good phrenologist, and it is really fascinating to hear him talk on this subject. If he wants to raise ten thousand dollars for a certain church he will approach the man of large approbation in this way. He will tell him: "All the world will hear that you gave this thousand dollars. I have the right to publish it in the *Post*, *Herald*, and all the papers, and your name will shine brightly as a liberal man;" and he completely overcomes the man with the expectation of more admiration and causes him to dash off a check for two or three thousand dollars. He leaves the man with large approbation and visits another who possesses but little of this, who cares nothing for

the smiles or frowns of the world, but who is a smart advertiser, who possesses large secretiveness, acquisitiveness and causality. With him his method is different. He tells him that he can arrange matters so that his advertisements will appear in connection with the donation. He will tell him that he will be pecuniarily benefited; and by these means, in almost every instance, secures the desired amount of money. If he wants to raise money to purchase an organ he does not go to the man with no organ of tune, but he makes his application to those who are fond of music. And so, simply by going by the science of phrenology, he has made for himself the greatest reputation in the city of New York for raising money for churches.

If a man has a large allotment of self-esteem and you also have it, and you come in contact with each other for the first time, the probabilities are that you will be disgusted with each other. The more his self-esteem acts the more will yours act. I have noticed young ladies who were jealous of each other's charms, toss their heads back and pretend not to notice each other; but if you come in contact with a person that is very small in self esteem, while you possess a good deal of it, you will immediately come together. If a man is very small in the organ of self-esteem he should associate with men who are large in that organ, and by their influence, in less than one year, he will have a sufficient amount of it for all practical purposes. John B. Gough claims that when he first addressed a public audience his self-esteem was so small that he trembled like an aspen

leaf; he could hardly keep his center of gravity. Edwin Booth, the celebrated actor, also stated to a friend of mine that when he first made his appearance in New York, in Hamlet, Richard the Third, and several other Shakspearean plays, he trembled so much that he could not do justice to the characters assumed. Now visit Edwin Booth's theatre, and in his acting you will find him as much at ease as any man in the world. He is as much at home in a vast assembly as among his most intimate friends. It is a very useful thing to have a sufficiency of self-esteem; not so much as to make you think yourself better than any one else, but enough to make you feel master of whatever you undertake—to enable you to appear in any public assembly without a particle of tremor. Daniel Webster never experienced this sensation at all; that is to say, he never experienced the trembling sensation. Rufus Choate never did, neither did the great Hamilton, Aaron Burr, Andrew Jackson, John Quincy Adams, President Johnson, and several others. Why did they not? Because self-esteem was large in their cases. But George Washington, mind you, experienced the tremor, and it was only by the continuous applause of the world that he manifested an ordinary amount of self-esteem. Now look at the bust of George Washington and you will see that it is very small in the organ of self-esteem. Look on the busts of those other men mentioned, and the large development of self-esteem will tell you that they used the first personal pronoun frequently.

Firmness, gentlemen, when excessive, should be

handled quite delicately. It is next to impossible to convince those men who possess it very large. The more you try to convince them the more impossible will it be. But if you can find out what other organs they possess as large as firmness, and appeal to them, you counteract their stubbornness, and before they know what they are about they will acquiesce in all you say. One of the best specimens of that order of men resides in the city of Washington to-day, Dr. ———; the name slips my memory. He had a great discussion with O. S. Fowler on the subject of phrenology. After he had listened to him lecture, and had listened to the delineations given, and after his reason had been appealed to, he professed his belief in it. But when he had slept over it his large self-esteem and firmness made him come to the conclusion that no man had a right to be any smarter than he on these subjects. The result was that he wrote a very scurrilous article on the subject. Old Mr. Fowler met him and worsted him in the argument, I suppose. After Mr. Fowler left there he wrote to Daniel Webster, Henry Clay and John C. Calhoun for their opinion on phrenology. One made one answer, one another, but most of them endorsed it; and he published that Daniel Webster did not believe in it, when in reality he simply stated that he had not studied it enough. He “pitched into” phrenology then, and probably “pitches into” it to this day; but if any sensible student should call into that man’s house and appeal to this portion of his nature (the region of self-esteem and firmness), he will ac-

quiesce in every instance ; but immediately you are gone he throws it all aside. Now this is a strange thing, but it is a fact.

Certain men will make you the finest promises in the world, will promise to meet you to-morrow, etc.; but instead of fulfilling the engagement they have forgotten all about it. These are the sort of men that you must be able to detect, and I intend to describe them in one of my lectures. A young man told me a few days ago about his intention of starting a printing establishment, in connection with another gentleman. He said he had two thousand dollars and the other had the same amount. And I found out afterward that he brought the other gentleman from Chicago, caused him to waste over five weeks, and all on the supposition that he could possibly get the money from his uncle. The reason why he made these promises was that hope was about 7 in development, go-aheadativeness big, his propelling power large, his acquisitiveness sufficiently large for the accumulation of money—in short, the very combination which would lead us to expect this manifestation. There is a man (referring to a member of the class) possessing artistic as well as general ability, the man I referred to last night. He would never make a promise unless he could fulfill it.

Another point to bear in mind is this: that some skulls are much thicker than others and also much coarser. You must distinguish between thickness and thinness, first by vibration, and second by temperament. All skulls are necessarily thicker that

belong to a lymphatic man than those that belong to a motive, sanguine man. A man of the motive has a thicker skull than a man of the mental, nervous or sanguine. Whatever organ is called most into requisition during life, that organ acts upon the skull and causes it to give way. But there is no danger of the skull ever becoming so thin as to allow the brain to protrude. Nature has made a provision for this, in as much as the external part grows just in proportion to the internal. Hence, although a very intellectual man will be very thin in the frontal lobes and a very sensual one in the occipital, there is no danger of the skull ever becoming so as to allow the brain to protrude. No difference how rapidly the organ grows, the skull will adapt itself to it and retain the brain in its proper place.

LECTURE SIXTH.

CEREBRAL STRUCTURE.

In order to form a perfect man, nature requires more than the simple domestic and vertex group, as described last evening. However perfect a man might be in these respects, he might fall far short of being what the God of nature intended him. In order to make him a uniform being, a man possessing the physical as well as the mental and moral attributes, it is necessary to have certain specific centers for the special manifestations of the moral and spiritual qualities. Phrenology reveals the fact

that we have these centers. Experience and observation locate them. Underneath the coronal bone we find the five ingredients which make up the moral man—veneration, spirituality, conscientiousness, hope and benevolence. Although a man may possess a very deficient amount of spirituality and veneration, he may yet possibly manifest a great deal of benevolence. It is a very common thing to see a person possessed of but little faith in a future existence exhibiting the very highest degree of human sympathy and philanthropy. In order to bring this moral brain before you, gentlemen, I will briefly analyse these five ingredients, and refer you, by way of practical illustration, to certain moral developments that we have here in our gallery.

Conscientiousness located on either side of the coronal bone, when large, produces an elevation of that portion of the cranium. Remember, we do not believe in bumps and excrescences or horns, as taught long ago, but in elevation and depression. Now, if there is a considerable elevation over the region of conscientiousness, that man is characterized by honesty. He is a man that will always fulfill his engagements and deal justly with all persons, He may be deficient in that organ which causes him to have faith in a future state of existence, but in spite of his want of faith he will be scrupulously exact in everything that appertains to honesty. A great many persons suppose that veneration and spirituality constitute a man of honor. Bear this in mind, gentlemen, that some of our greatest impostors have possessed large veneration and spirituality,

and of course must have possessed small conscientiousness and but feeble benevolence ; hence I claim that a man's honor and sentiments of right proceed directly from the center termed conscientiousness, and the organ conscientiousness in man proclaims in every instance the relative or absolute power that he possesses in this way. A man's spirituality may be seven, hence he will be superstitious ; he will suppose a great many natural things to be supernatural. He will have a taste for that which is indefinite and mysterious, without giving any explanation for his taste. He will have a credulous cast of mind, in short ; and if veneration is in excess he will venerate antiquity—those great men who passed away it may be thousands of years ago, the bronze and marble statues of ancient times ; the designs and artistic works of mechanics, and so forth, yet at the same time he may possess but little conscientiousness and but few sentiments of honor. Veneration and spirituality, then, understand distinctly, do not imply a man of honor ; of course it would be much better if we could have in the same organization not only large conscientiousness, but large veneration and spirituality. There is a distinction, of course, between large and very large. We would not wish to see a man possess very large spirituality or veneration, unless they were accompanied by very large causalty, or comparison and conscientiousness, simply from the fact that many of the crimes that have been committed have been done in the name of religion. The major portion of crimes that have been committed for the last

nineteen hundred years have been committed in the name of religion—caused by too great development of veneration and spirituality, coupled with too great a development of the animal propensities. There never would have been a religious war, never would have been the scenes depicted by Charles Dickens in his “Barnaby Rudge,” or those described by Morley, which the Protestants charged upon the Catholics, and the Catholics in their turn charged upon the Protestants, were it not that there was excessive development of spirituality and veneration on both sides, not coupled with a sufficient amount of reason and conscientiousness, and put into action as it were by the propensities of the basilar regions. On the crown or top of a man’s cranium we discover the conditions which not only make him a religious and aspiring being, but an honorable man. I talk to you as sensible men, not as men belonging to any particular denomination, but simply as reasoning, logical men. I claim that nineteen logical men out of every twenty find fashionable religion very flat. Very few men have any definite idea of what constitutes religion. Religion is something more than a mere system of faith and worship. Phrenology indicates to us that it is simply another term for goodness and conscientiousness—for doing to people as we would have them do to us. Phrenology does not do away, however, with creeds, forms, etc., of religion, nor look down on the swarms of preachers of different denominations with contempt, because it teaches that the reason that many differ is from the fact that their brains differ. The

Methodist differs from the Catholic and holds to his faith owing to the peculiar formation of head and distribution of parts. Hence every phrenological student ought to consider it beneath him to throw contempt or derision upon any man because of his religious opinions.

A man might possess benevolence and veneration and yet not be perfect with all the other organs we have described without a certain amount of hope. All of us are subject to being ruined pecuniarily from one to five times in a short life time. All are subject to daily depression of spirits ; all are subject to many sources of annoyance, which, were it not for the organ of hope, man could not possibly endure. It is estimated by one of our best writers that two-thirds of every individual's life is passed in toil and gloom ; only one-third left for him to enjoy himself rationally and intellectually. Now, separate hope from a man's organization, and when he sees no rifts in the clouds, when he beholds but a dark and continued mist, he immediately becomes depleted in energy ; he is no longer a man. There is not one of you that could manifest the capacity given to man were it not for that organ of hope. It is said to be a delusive phantom, yet it is one of the leading ingredients in furthering each individual's interest, causing him to lift up his head when men attempt to cast him down and place him in an unenviable position in life. It talks to man when he is lying on a bed of sickness, it is wafted to him on every breeze ; enemies may attack, or attempt to do him an injury, yet hope comes in, and, if there is any

possible chance of beholding a rift in the clouds, enables him to see it. Were it not for hope the mariner at sea would lose heart when the mighty wind tossed his frail bark like a nut-shell on the heaving billows, when the lightning swept the vessel from stem to stern, and the thunders roared like the voice of an angry God; were it not for this hope the seamen would have been incapable of acting, and we would never have known such a country as the one we now inhabit—America, the land of freedom. But when in excess, this hope does a man an injury. When up to seven in an organization the man will always promise too much, will always expect too much. If he goes into business he expects to realize five times as much as the facts would indicate. If he bets on an election he is certain not only to exceed the amount of money he has to lose, but also gets beyond reason in his calculation of the number of votes cast. In short, when in excess it makes a visionist out of a man; gives him the characteristics and peculiarities of such men as Wilkins Micawber, Charles O'Malley, etc. These, of course, are only imaginary characters, but still they personate people whom we often meet in the world, people who live altogether through the realms of imagination and the strength of hope. When 5 1-2 in development this organ will enable a man to be in a perfectly normal and rational state; when it goes beyond this he is liable to go to extremes and to expect too much.

Where there is too little veneration a man will not have enough respect for creeds and forms of

religion, or for religious people. Every man should respect religious people; yet where veneration is very small, a man will not exhibit ordinary civility and respect toward them. It is a very common thing to find suspicion lingering in the best of minds; but such men are not given to sneering with derision at the religious world, they simply doubt, because, through their reason, they can not prove a future state. They respect every man, however, for his opinion. If your veneration or spirituality is small, cultivate it, because it will save you a great many troubles, it will elevate your general character, and throw a refined influence over the expression of your face. Look on the portraits of all those great martyrs, priests and reform ministers, and you will find there a beautiful halo, that indicates the action of veneration and spirituality, coupled with benevolence and conscientiousness. No man can possibly be an honest man if his conscientiousness is small—not because the brain makes the man, but because the man makes the brain. No man can exercise his passional nature and his perceptive and reflective nature to the exclusion of his conscientiousness without making out of his moral self a miserable dwarf; hence it is as important for a man to attend to this department as to any other, and perhaps more so. We find in our American men, as a general thing, a deficiency of veneration and spirituality. They are a very progressive, onward and restless people. They dislike the old, and continually want to take up the new; and so great is their dislike for the old that they will allow any innovation to carry

them away. This is not as it should be; for, although every phrenologist believes in the doctrine of progression, he does not believe in carrying it to excess. To make this perfectly plain to you, gentlemen, cast your vision on number 30 and number 29. The region of conscientiousness in Dr. Tyng is 6 1-2 in development; in the great thief and malefactor only one in development. Now all the logic in the world could not convince you or me that number 30 could manifest the attributes characterizing number 29. Why not? Because he has not the development of the other. You may ask, "Why did nature give Dr. Tyng such an immense moral development, and give that thief such a miserable formation of brain?" We answer, that five or six generations were required to develop the full-fledged thief—five or six generations of crime, lechery, dissipation and dishonesty, whilst in the case of Dr. Tyng from ten to fifteen generations of virtue, goodness and veneration were required to elaborate perfectly the coronal development we have in his case. Phrenology teaches that these things can not be done in a day; that expansion of brain is a gradual, not a rapid progress. Is such a man as number 30 responsible? is a question some of you will ask. You look upon the structure of the man, and each of you, as phrenological students, know that he is miserably formed. You know that, according to our theory, so long as a man possesses that kind of an organization he could not be anything but a thief and scoundrel, and you stop, many of you, possibly shocked at the idea. But when we

tell you that that man could have just as readily improved that coronal development as to have made it worse, you will not wonder at all. When we further state to you that every man has it within his power to become a good or a bad man, and that the man possessing one talent and making use of it will be rewarded accordingly, is absolutely true, there will be no cause to wonder. If the man possessing one talent makes use of it, he is just as good in the eyes of reasonable, rational men as the one possessing seven. Hence you must not be too hard on people who have a deficient moral brain, but rather try to develop what little they possess. Treat them kindly, for they need a great deal of assistance in order to manifest the human virtues. It is true you might treat such a person kindly and affectionately, and they might break open your drawers and steal all your money, but you would have to run that risk.

Look at Lord Byron's formation over there (pointing to his picture in the gallery). He lacks altogether in veneration and spirituality. He was one of the most reckless writers, and also one of the most fascinating, we have ever had. Read his Cain, his Werner, his Childe Harold and his Don Juan, and in each of them you will find more or less of the skeptic and atheist cropping out. He was a peculiarly organized man, with immense intellectual powers and deficient spirituality and veneration, and not a very great amount of conscientiousness. Lord Byron illustrates the topic we are on admirably, because he exhibits the highest degree of scholastic

finish with but a poor development of spirituality and veneration. He is a contradiction to himself; he was a contradiction to all who attempted to write about him.

Edgar A. Poe was a moral monstrosity, made so to an extent by his inherited conditions of brain; but they were intensified by the life he led to such an extent that he became one of the most profoundly mysterious and unhappy men that ever lived. His writings are brimfull of those peculiar sentiments that plunge all impressible human beings into gloom. Look well to the formation and expression of his head, as shown in the picture. He possesses but little spirituality and veneration; but cast your eyes in the direction of ideality and sublimity, and Edgar A. Poe, together with Lord Byron, possesses the very largest development. Shakspeare himself did not possess more than the parties under consideration. But as I am not going to analyze their characters, but simply mentioned them to exemplify the subject we have been considering, I will pass on to something else.

Practically, then, gentlemen, how are we to ascertain whether a man is honest or dishonest? You must examine the entire brain, taking note of the absolute and relative degrees of development of each organ, and if there is a predominance of development in the selfish regions over the moral, the man is dishonest. To make this perfectly plain, if a man's acquisitiveness is 6 1-2, secretiveness 6 or 7, base of brain large, conscientiousness small, benevolence medium, we will not only have a dishonest

man, but a man that will commit crime for the sake of money—a man that would commit the most terrible deed for the sake of pecuniary advancement. If, on the other hand, a man possessed conscientiousness 6, acquisitiveness 6, secretiveness 6, reasoning ability 6, he would be very fond of money, but would never manifest any disposition to murder for it. You will ascertain, then, whether a man is honest or dishonest by the absolute amount of moral development, and you may rest assured that a man is not absolutely honest who does not possess more than the degree of 3 of conscientiousness. If it goes to 4 he will be an average honest man. There are many such men in the world; the government is full of them. They belong to the whisky rings, and all those schemes which are intended to swindle the government. They would not put their hands into a man's pocket, but they would swindle thousands of persons out of large sums of money by joint stock companies, railroad shares, and all such things. As an illustration of the organ of conscientiousness I will mention the following case, which was revealed to me a few days ago: A young bookkeeper of this place, formerly connected with an insurance company, had his head examined by me, and I found that his conscientiousness was very large. A few days previous to this, as I afterward learned, he had a large offer by a certain whisky ring to go into a certain disreputable business by which he would acquire money and advance himself. Nobody would have been any the wiser, yet his conscientiousness was so large that he threw aside the proposal and

kept his situation. In the course of a few weeks he lost his situation and had not money enough to pay his board. On passing along the street one day he met the person who made the proposition to him. Said the man to him, "You look hard up. You want money?" "Yes," said the young man, "I want money, but I will never accept of your offer."

There are men, you see, who possess conscientiousness so great that before they will do anything disreputable or dishonest they are willing to run the risk of starvation. These kind of men, however, are the fewest in number.

Some men can resist all inclinations except one—the silent but persistent calls of amativeness. Offer this class of men place, money, or fame, and they will throw it aside as worthless, but show them a piece of dimity, plenty of curls, a fine formation of body, and everything is completely stopped and they give themselves over to that passion.

Look at the Comanche chief, gentlemen, and you will find a total want of conscientiousness in his case. You find a large amount of firmness, combativeness and destructiveness. Now, contrast that man with Professor Agassiz; see how beautifully expanded the region of conscientiousness is in him. Both pictures are taken from life. A physician gave me much of the Comanche chief's life, but a great deal of it has escaped my memory. He was a very bloodthirsty man, without one particle of conscientiousness. Fennimore Cooper and other writers give us in their novels very glowing descriptions of this order of men. Practically they are decidedly

devoid of the moral conditions which go to make up an elevated, aspirational type of man. Now and then you find an Indian who possesses good qualities, but it is all foolishness for writers to state their superiority over the Anglo-Saxon or Caucasian race. Indians, generally, give us in the intellectual and moral regions about the degree of 4 in development—just one degree removed from the average Mongolian. Their craniological structure indicates that half the eloquent speeches attributed to them were made by book writers. I have the best authority that Logan and Tecumseh were not half the men they are given credit for. They were men of force and power, but had less of the coronal development than the Anglo-Saxon race exhibits.

The semi-intellectual organs comprise all of those powers of the mind which impart taste and artistic ability. Ideality, sublimity, imitation, constructiveness, are the leading organs of the semi-intellectual group. Without these organs a man could not be a mechanic to save his life, yet thousands of parents make mechanics out of their children because their grandfather possibly was one, or some relative can get him in as an apprentice. On the same principle many parents make their sons lawyers and ministers, when every other organ is developed but the ones necessary to make them successful in those lines. Ideality and sublimity is 7 in the character of Fanny Forrester, as we see in this picture; it is only 4 or 5 in Dr. Hall, as seen in that picture. Large ideality and sublimity give this lady taste and beauty of expression and make her a fine de-

scriptive writer. Medium ideality and sublimity give Dr. Hall an appreciation for the beautiful and grand, but very little power in that way. Picture 39 represents a total deficiency of ideality and sublimity; all fine structures and paintings would fall in vain upon that man's brain; there is nothing there to receive it. He possesses ideality and sublimity only 1 in development; hence he is devoid of taste, refinement and grandeur of thought. Look at the picture of that great painter; constructiveness is large; see what breadth there is through that region, and imitation. Now look at picture 22 and see what a deficiency there is in the region of constructiveness—a total want of that region of the brain. One could not mend a pen; the other could handle a brush, pencil or pen with the utmost dexterity. It is perfectly foolish to try to make an artist, sculptor or mechanic out of a person who possesses no ability in that way. The cases I have just mentioned are extreme cases, the one possessing the highest degree of constructive ability, and the other the lowest degree. When constructiveness is less than 4 in development no man should ever attempt to make a mechanic out of himself, or an artist or sculptor. When it is up to 6 or 7, with imitation good, the man by all means should be some one of those trades mentioned.

A man's logical and reasoning ability lies in the two organs, comparison and causality. A purely intellectual speech will only interest purely intellectual organs. Comparison and causality will always be pleased, if they are thoroughly developed, with

a logical speech; ideality and continuity will be pleased with a redundant speech. Thousands of men would go to sleep whilst listening to the celebrated George Combe, or the great and gifted Lord Bacon, the author of "Novum Organum," because in the part of the brain where comparison and causality are located they are very meagrely developed. In every instance where that portion of the brain is large, *cæteris paribus*, the best and most profound philosophers would be appreciated best. The more theoretical and emphatical a man is the more would that man be appreciated by such a type of head. Plato possessed that type of head, if there is any truth in the bust that has been handed down to us. Aristotle possessed it, and so did Jean Paul Richter, Baron von Humboldt, Goethe and Napoleon Bonaparte, Agassiz, Owen and Newton, in short, every great philosophic man must possess a large development in the regions of comparison and causality; and the reason we know that they exist is from the fact that in every great man's head they are well developed, and there never yet has been a great philosopher who possessed a small allotment of the reasoning brain, because logic springs directly from comparison and causality. Whately, Abercrombie, Locke, Stewart, Mills, Sir William Hamilton—all these great men show to us a large development of the organ mentioned; and if you can point out to me a man possessing a large amount of logical and reasoning power, who possesses a head different from the formation described, then I will confess that this science is all a mistake—that there is no truth in

cerebral structure. But you all know that that could not be. If the perceptives are large a man may not be a close analytical reasoner, but he will be a knowing man. Such men as these succeed best in life. If a man possesses individuality 7, eventuality 6, and continuity 5, he will exhibit the most decided talent in a political and public capacity. Half of our best stump speakers are men in the possession of large memory, observation and quick perception. They go with the masses, they move gently down with the masses of the people, and hence they become very popular. If you study their characters closely and analytically you will discover that very few of them possess any reasoning ability. They are sharp, keen, shrewd men of the world, and may be known in most instances by the evidences exhibited over the superciliary ridge, namely: large eventuality, individuality, calculation, form—in fact, the entire perceptive group thoroughly developed, with full language and continuity. Some of these men far excel the philosophic cast of mind, because they are more ready in coming at conclusions, owing to the full perceptives and large individuality. That gentleman (pointing to a member of the class) belongs to the class of men I have just mentioned, but it is not possible with such an organization as he possesses to have the reasoning ability that characterizes this physician (another member) on my left, yet with that kind of formation he will remember a great many important particulars that many of you more logical men will forget. Now, remember that where a man is thoroughly developed in the region

of the perceptives, in the possession at the same time of a nervo-mental or sanguine temperament, he is invariably knowing, quick, and always on the alert. Whenever he possesses not only these conditions, but also a full development of brain in the reasoning part of the head, you may know that he is a deep as well as a knowing man, and that he can go as deeply into a subject as most men.

In order, then, to form a beautiful and perfect character, a forcible and brilliant character, it is necessary to have all the perceptives, all the reflectives, all the moral, all the domestic, all the propelling and ipseal organs large and harmoniously developed. There are very few men of that character. William Shakspeare includes within himself more of these ingredients than any man we have ever had, with the exception, of course, of that immortal being who was "perfect God and perfect man." The picture of Christ, executed by Michael Angelo, shows the most perfect head, in a phrenological point of view, that the world has ever seen. Shakspeare's portrait, as handed down to us, ranks next, as the nearest approximation to perfection. Tom Moore was very graceful as a poet, Kit Carson was powerful as a great traveler and discoverer of new countries, Edwin Booth is a remarkable personator of Hamlet, Charles Dickens is a rapid, graceful, fascinating writer, but shall we stop for one moment to compare them to William Shakspeare? No, not even Richard Cobden and John Bright, although they are men possessing fine brains and have made themselves noteworthy by their reform movements in England.

No man has a finer brain formation than Shakspeare. What higher proof can we have of the truth of this science than the portraits of such men as Lord Brougham, Chatham, Pitt, Edmund Burke, O'Connell, Emmet, Samuel Johnson, the pictures of whom can not fail, at first sight even, to convey the idea of their great and expansive minds.

LECTURE TENTH.

THE HUMAN FACE.

As you are already aware, physiognomy means the science of the human face. It is hundreds of years older than phrenology. It was common to the people in the days of the Sanscrit—in the olden days, when the Egyptians were wont to write on human nature. If it had increased with the same degree of rapidity that phrenology has, it would have been much farther advanced to-day than phrenology is. There seems to be fewer physiognomical facts and principles given to the world than phrenological. There are various reasons for this, but I will not take up your time by stating them. Most men regard physiognomy with more favor than phrenology. I have often been accused myself, in the public halls in different States, of reading men's dispositions from their faces rather than from their heads, and they made the statements from the fact that they generally noticed that in making admeasurements of the head I was in the habit of looking

the man in the face. There are some men in the world that no system of logic could convince that there is anything in phrenology, yet they believe in physiognomy. They say nothing can be told about a person's disposition from the head, but a great deal can be told by the face. On the other hand, there are phrenologists in the world who say they can tell all about a man's disposition by the head, but nothing by the face. Both of these theories are wrong, because you can tell something about a man by his head and something by his face; in short, they are both necessary for the proper understanding of human nature.

We find, in looking over the animal kingdom, that the faces of all animals indicate the disposition they possess. The bull-dog is known by virtue of the formation of his face, and the greyhound is known by the formation of his face. You will never confound a race horse with a jackass, or a Scotch terrier with a Newfoundland dog; so that by the face of the animals you know their order and specie. Different regions of the face are brought into action when acted upon by given faculties; when heat and anger are in the ascendancy we have a lowering brow; when love is in the ascendant we have an uplifted brow. The muscles and nerves in the faces of animals, as well as in human countenances, simply indicate to those that look upon them the state of the mind, and if you cast your eye over a vast number of people while they are listening to an eloquent speaker you will notice that one is impelled by one motive and another by another, and that the

expressions of the countenances are altogether different, although at the same time they may be lit up by the same kind of sentiment. An eloquent man will impress a thousand persons, yet when he ceases to speak possibly forty persons will differ from him in his opinions. The face is a better portion of a man's anatomy to explain with reference to reading character than the head, from the fact that it is open to every man's scrutiny. People can hide the phrenological developments by wearing their hair, and on the street you can not use phrenology from the fact that the hat envelopes the greater portion of the brain ; hence to make a strict practice out of phrenology would be a difficult thing, but to make a strict practice out of physiognomy would be right. If you stand near the postoffice about the time that the Eastern mail is being distributed you will see all forms of faces in the course of an hour or so ; you will see long, sharp, intense noses, flat and round noses ; you will see angular chins, dimpled chins ; very receding foreheads ; eyes of different colors, emitting different rays, some of affection, some of hate, some of joy, some of depression ; in short, the countenances are mirrors of the minds of all of these individuals. Look in the face of a dyspeptic merchant and you can read his disposition ; look in the face of the girl on her way to the seminary and you will see in it health, and see that she is in a perfect state of physical strength ; look in the face of a scoundrel, and notice the peculiar expression about the region of the lips and a want of clearness about the region of the eyes. All scoundrels are

found to possess a very bad eye. A frank and honorable man will generally look you in the face while speaking to you, but it has been the experience of all physiognomists that our most consummate scoundrels can not look intently in a person's face.

In the first place we will briefly consider the eye. The black eye, if sunk from the ridge of the brow and full of lustre, indicates a person of intense feeling. If such a person loves, it will be with indescribable tenderness; if he hates, it will be with the same degree of fervor. If the eye is excessively black, and the eye-lashes move frequently, and the eye is small and beady in its character, he will be a very dangerous and treacherous person; if it is full and black, standing prominently out from the sockets, you have a communicative, energetic person, without a corresponding amount of the deceptive element. If the eye is blue, in seven cases out of ten the man will be characterized by mildness and kindness rather than by cruelty. If it is steel-grey, look out; most of our murderers possess those kind of eyes. They are dangerous eyes to inhabit the head of a woman; they have often characterized our shrews and dangerous women, but they are never so cunning, acute and desperately deceptive as the black eye which is set back deeply in the head. The brown eye has been regarded by most observers as favorable to the manifestation of intelligence and of fidelity. A brown-eyed man, as a general thing, is more true to his marital companion than a black-eyed man, and it is said they are more true than the blue or grey-eyed man. Of course what I say under

this head is partially speculative ; I can not state these things with the same degree of dogmatism, with the same degree of self-satisfaction, as if I were dwelling on phrenological conditions.

A very small eye of any kind never is a good sign ; it is always better to have a full eye. A large, full development of eye indicates, in all instances, full language. Watch well the countenance of a bad man and you will detect him, however much he may assume the peculiarities of others. Some of our greatest hypocrites pretend to be the most suave, honorable and sympathetic men ; now if you study the eye in these cases you will find that just in proportion as a man is attempting to deceive you his eye will vacillate and change from one part of the orbit to the other—there is a want of steadfastness. Look at the eye of a man who is trying to take the initiative, and if he is in the habit of dropping his eyes and looking all around him, shun him ; he is dangerous, no matter what he may say to the contrary. There is a great deal of poetry about the eye ; Shelley, Tennyson, Ottoway, and many others, have written about it, but as I do not intend to deal largely in quotations, I will pass it by.

The nose is one of the remarkable features. It is a great physiognomical sign, and is in such a position that a person can not hide it. You can hide the expression of the eye, the lip, the ear and chin with hair, but you can not hide the nose ; it will stand out prominently and show itself to everybody. A nose that is very wide in the center and at each side denotes a miserly, stingy character, and in order to

give you an evidence of that I refer you to the nose formation of the Jews. They invariably possess a very wide part on the center of the nose at each side. Go down Broadway, St. Louis, through the clothing houses, and if you go to New York go along Chatham street, and possibly five hundred Jews will tackle you before you go down the street and offer to sell you a nice suit of clothes for thirty dollars, and if you bargain with them you can generally get for ten dollars what they asked thirty for, and if you notice their noses you will find that they are nearly all wide in the center. The lower form of Jew is a miserable creature; you can not make a gentleman out of him. Some of the upper classes are rather generous, but, as a general thing, they are always on the make. They, as a class, seem to be exempt from any of the sympathies common to our race. Walk along the street during a time of calamity and you will find them talking of the rise and fall of goods, not of the calamities of the nation. If an accident happens on the street to a person, an American or Englishman is more or less affected, but the Jew thinks nothing of it; but if some one was throwing cheap goods on the ground they would be the first to get their share. I do not state these facts because of any prejudice, but from my experience. We know that the money of the United States is gradually going into the coffers of the Jews. On the continent of Europe it is the same. The Rothschilds almost control Europe. In Cincinnati all the large establishments are conducted by Jews. The city of New York is controlled in a mercantile

point of view by the Jews. But they have a better field in Cincinnati than in any other city in the United States, and they never give the Gentiles employed by them much of a salary. You will find that they always leave their money to their own people; all the money they make is for the purpose of being of practical utility to their own people. Every liberal man is thin through the region we have mentioned. When this is stated in a public lecture nearly every little woman will put her handkerchief to her nose.

The next sign is what is termed the bridge of the nose. I speak in this plain language because I want you to understand it thoroughly. I will not speak of concavities or convexities, but about the bridge. A man who has a very prominent nose with a crook in it, such as Alexander the Great is described as possessing, will always be an energetic, persevering, aggressive character; will always push aside those that are in his way, and take advantage of those that are around him. Now, we know the Romans treated the Greeks with an immense amount of cruelty, and they did so not by virtue of the mouth, not by virtue of possessing a peculiar kind of eye, but by virtue of powerfully developed brain and nose. Look on the physiognomy of the Hindoos, and you find almost a total absence of nose development compared to the Romans. Look on the bust of Cæsar, Brutus, Demosthenes, Cicero, and you find they all exhibit a full nose. The Greek nose is very delicately formed and generally small; they were men of taste and refinement rather than of power.

But these noses are mingled in nearly all cases so as to make it hard to tell one nose from the other. In the American we have the German, the Gallic, the French and the Ethiopian all mingled, giving a very peculiar kind of nose. The American nose is not yet defined, but the Roman, Grecian and Hebrew noses prevail in this country among the real Americans. Mr. Wells calls the Hebrew nose the commercial nose. He says no man can be a great merchant that does not possess more or less of that nose. If the nose is very sharp and pointed the person is inclined to consumption, in the majority of instances. If it is a very long, sharp nose, the person is certain to die of consumption. I can point out gentlemen in this house who can not possibly die of consumption. I can point out others who, if not very careful, will be apt to die of consumption. The nose, also, to a certain extent, indicates the condition of a man's heart and his circulation, but I have not time to enter into that subject now. Situated immediately below the eyes are the magnetic centers, which indicate the condition of the lungs. You have all heard of the physiognomical signs which characterize those laboring under heart or liver disease. Any good physician can tell, in every instance, whether a person is laboring under consumption or liver complaint, by looking in the face. Some diseases do not manifest themselves in the face, but in the majority of instances you can tell by the facial expressions. The region of the face in which these diseases are indicated is that immediately below the

eye, running to the line from the opening of the nostrils to the superior maxillary jaw bone.

The lips express all the sentiments common to humanity—benevolence, hate, determination; in short, by looking at a man's lips you can make up your mind whether he is a sensualist or refined man, whether he is a voluptuary or godly man. The lips have their language just as much as the eyes, the nose and the cheeks. No man can be firm without a compressed condition of the lips. I have never found a firm man in my life who did not, when in a state of rest, have his lips tightly together. When a man tells you he is going to do a certain thing, if he has energy and perseverance, if his lips are closed at the last sentence, you may know he will do it; he has the firmness to carry it through. If a man tells you you are a scoundrel, and brings his lips tightly together at the close of the sentence, he will be apt to follow it up with a blow. You will know if a man means fight by watching his lips. Another great criterion is given by O. S. Fowler. He says it is one of the best criterions of a brave man when he shakes his head in the direction of destructiveness and combativeness that he will hurt you. If he shakes his head in the direction of benevolence he won't hurt you at all, but if he comes at you sideways, like a Durham bull, look out for him. If a person has pale, thin, blueish lips, that person has a poor circulatory system—too much dark blood and not enough red; if a person has the red, full, voluptuous lips, there is good, active circulation, fine respiration, not necessarily a very sensual character, but

a greater amount of animal passion is found to go with a full lip than with a thin one.

The chin indicates the condition of the digestive apparatus better than any other part. Show me a full, rounded chin, somewhat elongated, and I will show you a person with admirable digestion; but if he has a very short chin, you will find him dyspeptic, or inclined to diseased digestion. These are signs that will always guide you right. There are also certain nerves which, under certain conditions of mind, will produce change in the expression of the face. You can never fail to detect a man who has done you an injury by coming up to him and saying, "You have done so and so," as if you knew it. Watch his eye; if he is guilty the mind will radiate at once on the muscles that are connected with the organ that is thrown into activity, and before he is aware of it he will exhibit guilt in every lineament of his face. The Calvinists have a peculiarly forcible expression of countenance, and rather a combative expression by training themselves and holding to peculiar religious dogmas. The Quakers do not want to plant any religion by force, but by kindness, consequently they have a serene and tranquil countenance. Take all the propagandists and reformers in the world, those who change the destinies of nations by force, and you will find that they have a forcible expression of the entire facial development far greater than in a calm man, after the manner of the Quaker or Shaker. The Mormons possess many elements of a forcible character. Brigham Young looks very forcible. The entire expression of his

face indicates a remarkably strong man ; you might hide all his head but his face, and you could tell this. The Roman type of face is indicated by a large development of each of the features, large nose, mouth, chin and large cheek-bones. The Grecian type is indicated by small features ; and when you say that a person is of the Grecian type, you may as well say that he is of the artistic type and the polite type, because it amounts to that. When you say he is of the Roman type, you may as well say that he is a very forcible, energetic character.

All faces differ in expression, varying emotions continually gliding from one muscle to another produce the remarkable changes we see in faces. A certain man sees a certain woman who possesses nothing attractive but simply a smile playing around her face: he finds it impossible to resist the expression of that face, and consequently marries the woman. Some women are absolutely beautiful so far as regularity of outline and perfect uniformity is concerned, and yet we say they are altogether homely because there is not a pleasant expression emblazoned upon it. It is by the action of the nerves and muscles of the face that a man or woman is made beautiful, it is not owing to regularity of features. This is not only a physiognomical statement, but one that every fine artist will make, and in good faith. Some of our most irregularly formed men are our handsomest men. Many a man with an ugly face attracts women sooner than those with a handsomer face, because a woman will detect in a

man's face all the shades we have referred to. That is what causes most men to love one woman better than another. When a woman once overcomes you, you find it impossible to give her up; she may jaw you from morning till night, but still you can not cast her off.

A celebrated lecturer in Edinburgh advertised to give a lecture on physiognomy; he addressed his audience with his first two sentences in this way: "Physiognomy is a science—Man is immortal." Physiognomy should be studied above all things else. I say that physiognomy by itself would not always guide you safely, but will assist you very much; and in connection with phrenology and the temperaments, will furnish all the information that human beings can judiciously use in reading each other—all the information that you can practically apply. Of course there are shades and peculiar lines of thought in the brains of men that no material science can possibly get at. To the point: I read one of you, gentlemen; the reporter reports it, it occupies fifteen minutes, or perhaps half an hour. Do I stop speaking about you because there is nothing further? Not at all. It would be just as easy for me to continue the examination for three months as for half an hour, because the varied combinations and blending of the different faculties could be painted and limned until they would run into eternity itself. We want simply to tell a man's dominant traits, not to tell all the various little shades and deformities of his character; the only science that will do that is psychometry. Where a

person is a clairvoyant, where he can take up a full, sensible impression of what is contained in the brain; when that science is perfectly known then can he say this man possesses so much of this or that—he will read him in every ramification. There is a day coming when that will be done. Fifty years ago people in this country looked with contempt upon those who attempted to read people by their heads; all people now regard it as a science. Dr. McDowell has been lecturing on the anatomy of the brain, and one of his students told me that he endorses phrenology, and he is the son of old Dr. McDowell, who was one of our best anatomists; but he is only one case out of thousands of our best anatomists, every one of whom believes in phrenology and physiognomy.

We have advanced remarkably within the last forty years in these matters. A medical man is not thorough in his business now unless he can diagnose diseases from the expression of the face. All over the country they are learning phrenology. Why do some people say there is nothing in physiognomy? Because they do not understand the lines of the face. If I should enter into an analysis of these lines of the face I could devote six or seven evenings as easily as one hour; it is so extensive that it would take up a great deal more time than you or I would be willing to give to it. The last statement I wish to make with reference to the connections existing between the phrenological organs and the facial organs is that the one can not exist without the other. Take away the brain and there is no expression of

the face. Look on the face of a dead man, see the closed eyes, the want of expression; and why is this? Because the soul has left the cerebrum; there can not be any expression so long as the cerebrum is separated from the face. Now this proves that phrenology is the pathological science and physiognomy the reflex science, and springs in the first place from the fountain—phrenology. No person can expect to read character by physiognomy alone; it is necessary in order to understand it to study phrenology first and physiognomy second.

I doubt very much whether Mr. Wells, of New York, can, in a short series of lectures, give students a thorough knowledge of physiognomy and phrenology in its minute ramifications, from the fact that I have taken as much trouble as any man in giving lessons to a class, and I have found it impossible to give more than general physiognomy and phrenology in twenty lessons. You get all of the science that is necessary for the practical reading of those around you, but to go into the fine shades would require more time than any of you are aware of. A great many men take lessons in New York and receive their diplomas or certificates of ability. They go there without any previous knowledge of anatomy or physiology. It is a matter of impossibility for a man to be a thorough phrenologist without such knowledge, yet these young men start out to different portions of the United States, preaching phrenology, and the consequence is that seven out of ten of them fail. They are never heard of after six or seven months, and from the simple fact that they did

not understand anatomy and physiology in the first place; hence I say to those present who are intending to practice phrenology, read up on anatomy and physiology, for it is just as necessary to make you a good phrenologist as phrenology is to make you a good physiologist.

A celebrated writer named Chambre alludes to the fact that Jesus Christ himself believed in physiognomy. I notice also that Mr. Wells alludes to the same. We find a great many passages which would show that Jesus Christ believed in the science of physiognomy. He speaks about a man winking with his eyes and talking with his fingers. He says, "By their faces ye shall know them." Also, that "the wise man never looks like a fool," and *vice versa*. There are a great many expressions of a physiognomical character in the New Testament, indicating that Christ understood, by virtue of his superior intellectual endowments, a great deal of the science of physiognomy, in fact, more than he exhibited before the people. A man is always the best physiognomist who possesses the most human nature, individuality and locality; then, if he has good language to describe what he sees, he makes a good descriptive physiognomist and phrenologist.

If you look straight into the face of a common woman, or demi-monde, you will find all the lines indicating a bad woman. Concentrate your eye upon the eye of any woman that you have been intimate enough with not to develop timidity, and you can detect whether she is virtuous or not; there are peculiar little shades which indicate the fact. Men carry

their minds in their faces. A hypocrite attempts not to do so, but if you keep your eye on him and get him under control he will lose his equilibrium, relax the nerves and muscles that he has been restraining, and take up his natural expression of countenance, which is that of a bad man. I have got many good points from detectives and artists who are in the habit of making an every day business of studying human faces. There is an artist in this city who has executed a picture which is well worth seeing. It is a picture of a man who has run riot in all kinds of dissipation. I don't think I have ever seen anything in the world to equal it. It shows minutely all the marks that sensuality would develop. He has another picture with all the conditions that would necessarily characterize the face of a man who would live a very temperate or scholastic life. Now he draws these from his own brain. I examined the artist's head and found that he had remarkable ideality and imitation and originality. He has given a better picture of vice and virtue than we meet in every day life. Were it not for the conditions which nature has bestowed on this artist he could never have conceived these two faces—one indicating virtue, the other vice. The face of a wild dog does not resemble the face of a domesticated dog. The wild potato, tomato and cereals of the earth do not look like the tame ones. The facial expression of all vegetable and animal life will be marred or made by culture. If I had leisure I would speak of the law of arrested development.

LECTURE EIGHTH.

CONFIGURATION.

I wish to direct your attention this evening to shape. In order to make it as practicable as possible I will refer you to many men who have lived in the world, and whose portraits I have here on canvas. In order that a man should have a good phrenological head it is necessary for it to be somewhat globular, that is to say, each part of the cranium corresponding harmoniously to every other part. Where there is a discrepancy in this respect the man is not favorably balanced. Few men, however, reach the highest degree of cerebral equilibrium. When we have a man of globular form of head, the frontal corresponding with the coronal and the occipital with the side regions, we have what we term the Baconion or well-balanced head. In the formation of Haggerty, the murderer, there is no such harmony; there is a want of equilibrium in every part of that brain. I regard that man as being totally incapacitated for manifesting the human virtues. With such an organization he could have been nothing but a murderer. Destructiveness and combativeness are deeply engraven there, with very little caution, benevolence or conscientiousness. From his boyhood he is said to have been characterized by the utmost cruelty, which culminated in his taking the life of a fellow being. Thompson, the murderer of a lady and two children in Iowa last spring, and Probst, the murderer of the Deering family, possessed heads

similar to that of Haggerty—an immense protuberance in the regions of destructiveness and combativeness, and in the regions of acquisitiveness and amativeness, and total want of development in conscientiousness, benevolence and adhesiveness. I examined the boy, Max Klinger, a few weeks ago in the jail of this city, and discovered that he possessed an immense amount of the bad qualities mentioned, with a deficient development of the moral brain. He has an unfortunate head. It appears he received an injury when he was quite young, near continuity—almost over that organ. Since then he claims that he forgets many things and can't keep his mind on one subject for any length of time. Some lawyers supposed that owing to this injury received by him, and through the influence exerted on the lower portion of his brain, this murder was perpetrated. As I am talking to you as students and not to the public at large, I must state that that boy has a murderous head, as terrible a head as I ever examined, and if you ever have an opportunity to investigate the case you will find the organs that I have already described. Lawyers are devoting a great deal of attention at present to phrenology, especially in France, from the fact that it throws an immense amount of light on obscure and difficult cases. It was at the solicitation of a lawyer that I visited Max Klinger, and for the purpose of ascertaining if that injury would produce a morbid disposition to murder. I found out that the injury over continuity would not produce that morbid disposition. He has a brain that will murder in every instance where he imagines

that a person is infringing on his rights. This same peculiarity of brain makes Mrs. Godfrey that terrible murderess, whose physiognomy plainly reveals to you her dominant trait. Look on this canvas and note the expression of the lips, the intense firmness and determination. There is a physiognomy that indicates the icicle, that is to say, a woman that would not warm up under the action of her friendly organs, but through the instrumentality of her pas-sional and vindictive ones. All heads that resemble Haggerty's and Mrs. Godfrey's possess their proclivities; and the reason why you should all know how to judge such people is from the fact that you don't know when you may take into your embraces a woman, or into your confidence a man, who will either deceive or strike you dead on the slightest provocation.

You have probably read of the Pittsburg tragedy, some eighteen months since, where a woman instilled poison into the circulatory system of her husband; and there are thousands of such people all over the world with this combination, who poison and assassinate those they despise. The combination that produces this class of people is destructiveness, combativeness and firmness large; conscientiousness, benevolence and adhesiveness small. It is a matter of impossibility to look upon the face of Lucretia Mott (pointing to the picture) and associate a murderous inclination with her; or upon the face of Bishop Cranmer, as shown in the picture, and say that murder lurks amid the wrinkles of his face. There is an expression of calmness, serenity and

goodness in that type of face which speaks its own language on first sight. We can not say the same with reference to Mrs. King. That woman possessed the same peculiarities that characterized Haggerty and Mrs. Godfrey, but she had, in addition to these peculiarities a large amount of intellectual shrewdness and cerebral activity; hence, instead of being a common murderess she was a scientific one. There are two classes of villains that afflict humanity: one class possesses the elements described in the case of Haggerty, the other possesses very fine intellects, splendid perceptive faculties, large selfish organs, and deficient moral brain. They are never found doing any little, contemptible act for money, but they are found swindling the government out of money—swindling thousands of persons instead of one individual. There are thousands of such men in all the large cities in the world. You must scrutinize them closely, never be deceived by their plausibility or pretended kindness or friendship; but if the moral brain does not correspond favorably to the frontal, he is a scoundrel in spite of all his protestations to the contrary.

Another order of men I wish to draw your attention to is that order which is not so terrible in its formation as the order of murderers and burglars, but which nevertheless excites attention. This order is made up of self-esteem 7, firmness 7, language 7, secretiveness 5, acquisitiveness only medium, individuality large; comparison, causality, conscientiousness, and in short all the rest of his intellectual and moral nature deficient. This kind of organiza-

tion develops our foolish surface wranglers, our mere pretenders and impostors; men, in short, that must always have the best of everything, must go foremost, must have persons to look up to them. As an illustration of this order, while Professor Agassiz was delivering a lecture in one of the New England towns on the subject of zoology, an obscure but conceited individual approached him after the lecture was over, and shook hands with him and said, "My name is Jones." The Professor bowed to him. Said he, "I regret to say that I differ from you in your general opinions," as if it made any difference to the Professor whether he did or not. It is stated of this individual that a public man never made his appearance in that village but he would beg leave to differ with him. Now he had with great self-esteem a great deal of suavity. These kind of egotists are hardly so unpleasant as those domineering and brusque egotists. There is a gentleman of the latter kind in this city. He is perfectly happy when he can harangue several hundred people, or when he can get any one to listen to his opinions. He is totally incompetent to secure means to place himself in a comfortable situation in life; he has no financial or logical capacity, but he is continually exhibiting his opinions to those around him on some petty theory of his own. He is about forty-seven years of age, has traveled a great deal, and yet he will tire any person in ten or fifteen minutes. He does not understand anything in particular, although he claims to understand everything. Now he is an amiable egotist—

not what is termed a brusque egotist. He will always be known by his large self-esteem, and in addition to this will be very amiable and suave in his egotism. Configuration has a great deal to do with character. Indeed I firmly believe that the physiological student can give almost as correct a definition of a man's character as a phrenologist, by taking the general conformation of the brain, because if you get this you will get the general characteristics of the individual. There is a school in France and Germany where they read people by the general formation of the head rather than by the specific developments of certain parts, and they are said to be very accurate.

We have in Emerson, the idiot (pointing to the picture), what is termed the irregular frontal lobe shape; there is no equilibrium in that man's brain. There is a total want of homogeneousness of structure. In every instance where there is such a want we find idiocy, where there is an approximation we find partial idiocy, where there is a slight tendency there is a want of capacity for lucid reasoning. Swedenborg possessed a fine, harmonious development (as shown by his picture) of the spiritual and reasoning portion of the brain. His writings are said to be the most profound productions of the sort. He had a clear insight into the mysterious and that which is undefined; in short, he had a clear insight into that which lies beyond the horizon of recognized science. Now, if a man's forehead recedes much from the organ of individuality back to veneration he can not be a profound reasoner; he

may be a knowing man and an observing man, because individuality would impart that, but in nine cases out of ten he is wanting in the capacity of sound reasoning. He can not possibly reason from cause to effect; he will argue with you, state facts to rebut the facts that you may state, but he will never put one thing to another and analyze a given subject, because in every instance where we find first-class philosophical powers we have a first-class development of the frontal lobes of the brain—a projection in that region where we locate comparison and causality. Many politicians possess the form of head last described, viz.: the sloping forehead, wide side regions, and a full base of brain; but these men never possess the elements that go to make up a Clay, a Webster, a Calhoun or a Randolph. The question is often asked, why some men with low foreheads manifest a great deal of intelligence. It is owing to the fact that they possess fine temperaments. Some cases have come under my consideration where men of low foreheads were very smart, but the general rule is that the man with the deep as well as wide and high forehead must necessarily possess the most intellect. Many men possess, or seem to possess, noble foreheads, but they will not bear scrutiny. In order to detect whether a man has a good forehead or not, draw a line from the outer angle of the superciliary ridge up to the frontal portion of veneration, and just as to the depth of brain anterior to this line will be the man's power of thought; of course his temperament must be taken into consideration at the same time. If he is of the

lymphatic temperament this depth will not give him as much intellect as if he were of the motive temperament; if motive, not so much as the vital sanguine; if vital sanguine, not so much as the mental. Carry the same principle into the phrenological organs themselves, and always make allowance for temperament.

Look at the pictures of Pope Alexander and Melancthon; they are real characters and correct copies of the busts handed down to us. Melancthon was characterized by great depth of the cerebrum and great deficiency of the posterior and side regions of the head. You can know from the expression of that face that he would labor under more or less mental agitation; that he would be subject to nervous disorders and depression of spirits; that he would also be very intense in everything he would undertake—that he would throw his vital as well as mental force into it. He did as much as Martin Luther, possibly, in the Reformation. His writings were more acceptable to the most of people. There was nothing selfish, dogmatical or sensual in his organization. This picture exhibits him just as a phrenologist would describe him. There is an excess of comparison and causality, veneration and spirituality, over the mechanical, artistic, the domestic, the social, and base of the brain; whilst in Pope Alexander we find an excess in the posterior regions. He was a terrible man—almost as bad a man as Caligula or Nero. He was totally wanting in benevolence and conscientiousness, and as for his hope or faith in a future^r state, it was absolutely nothing.

His whole life would indicate that every move he made was for the purpose of selfish gratification. You see the physiognomy in this picture corresponds to the brain precisely, and indicates that he was a selfish, designing, hypocritical man—one that would sacrifice his nearest and best friends on the shrine of personal gratification and advancement. That type of people will do so in every instance, but the Melancthon type presents different attributes altogether.

Whilst traveling in Kentucky I visited the asylum for the weak-minded and imbecile, and I never can contemplate more unfortunately developed heads than I beheld there. The Pope Alexander type of head is more commonly met with than the Emersonian type, as pointed out before. There was hardly an ordinary amount of intelligence in some of the organizations I met with at the Frankfort, Ky., Asylum. They were really not so acute and cunning as the monkey. Now, what is the cause of this? It is owing to a want of shape of brain, want of depth of convolutions, want of flexibility, and almost a total want of fibre. There are hardly any fibres at all in the brain of an idiot. A smart man after death will always exhibit to the medical dissector deep convolutions, long fibres, and regularity of outline. The physicians in the hospitals of England are paying more attention to this subject now than ever they did before, and they find upon dissection that people who manifested intelligence during life invariably possess deep convolutions, whilst those that were observed to be weak-minded and

had the kind of head that would indicate idiocy, possessed very shallow convolutions. One point I wish to mention is this: that there is an internal as well as external development. There is an external development of the brain that in most instances will reveal the character, but there is an internal development which no one possesses but the very scholastic, deep and thoughtful man; therefore it is more difficult to read the finer shades of a scholastic man's character than to read those of an illiterate man's character. But as these are exceptional cases to the general rule you will have no difficulty in reading the generality of men's characters by the external signs.

Patrick Henry, as shown in the picture, possessed language 7, sublimity and ideality 7, and nearly all the other intellectual organs deficient. He was not a profound reasoner; he was a very poor scholar, a very unstudious boy, and yet by the combination mentioned he could produce more enthusiasm in a crowd than any other man probably that ever lived. The combination mentioned makes our off-hand, brilliant orators, but never makes our logicians or sages. Now look at the picture of Patrick Henry; he has a good memory of facts, but his ideality and sublimity are the largest organs he possesses, and these throw a degree of splendor into his language. Contrast the shape of his head with that of Sir Walter Raleigh; the general intellectual group in the latter is splendidly developed. He was an accomplished gentleman, a courtier and a cavalier, but he had not the power to rouse an audience that Patrick

Henry had, because the distribution of parts was altogether different. One was the accomplished gentleman, the other the fervent orator. Look on the general formation of Black Hawk's head, as given in the picture; see the large firmness, the large destructiveness and combativeness in that man's case. He was said to be very eloquent as well as brave. All the celebrated Indians exhibited eloquence in proportion as they possessed the cerebral organs, but the major portion of these people are totally incompetent to exhibit eloquence. Their words are close and sharp; their consonants short, and they have but a very meagre alphabet, consequently they can not develop much eloquence as a class.

Contrast for one moment Baron Von Humboldt's head with that of Black Hawk, and mark the difference. Black Hawk does not possess the causality and comparison that distinguishes Baron Von Humboldt. Tom Benton, formerly of the city of St. Louis, also illustrates this subject of configuration. His memory was prodigious. There is not a man in this house, as I hold up this picture of Tom Benton, who will not readily recognize the fullness of the organs of individuality and eventuality. He had not only a memory of events and occurrences, but also of faces and impressions of all kinds. It is said of him that if he met a friend after an absence of ten years or more he would take him by the hand, call his name, and reproduce the scenes which occurred at their last meeting, and locate the place in which they occurred. No man could do that un-

less he possessed the combination that characterized Tom Benton. You might give him all the reasoning faculties in the world, but without individuality and eventuality he could not possibly possess such a memory as Benton possessed. There is a difference between the formation of Horace Mann and Tom Benton, as their pictures indicate. The former did not possess individuality and eventuality as large as the latter by three degrees, but he possessed a more scholarly type of character, although Benton produced a great work entitled "Thirty Years in the United States Senate." If Tom Benton had been deficiently developed in the regions already mentioned he could never have manifested that tenacity of memory that characterized him. Remember, then, that whenever a man bulges in the regions of individuality and eventuality you may rest assured that his memory is first-class, unless he has vitiated it by some of the incidents common to youth. It is a sad thing to discover that a man having the characteristics of a good memory has lost it in part by masturbation or the excessive use of liquor or tobacco. The physiognomy of Thomas Benton would indicate good digestive power—good gustatory capacity. He would enjoy his meals; would take great pleasure in the material things of life. The physiognomical make-up of Horace Mann would indicate the contrary—that his pleasure would mainly consist in scholarly pursuits, following out some pet scheme, or manufacturing some new idea or essay.

Look now on the pictures of Cornelius Vanderbilt and George Peabody. These two men represent the

highest type of the financial brain—Peabody rather superior to Vanderbilt. The acquisitiveness of Peabody is 7, secretiveness 6 1-2, firmness 7, self-esteem 6, language 5, perceptives large, reflectives large. Such a combination will produce a first-class financier in every instance. Take the same frontal lobe that George Peabody exhibits to us, add to it acquisitiveness 3, secretiveness 2, firmness small, self-esteem small, and he could never have been George Peabody, because he would not have had the propelling power and the operative principles which were requisite for success in that direction. The same will apply to Vanderbilt. Contrast these two heads now with those of Edgar A. Poe and Lord Byron, as they are represented to us in the portraits. There is a peculiarity about the character of George Peabody; he remains single; he accumulated a vast amount of money, but, owing to his large development of benevolence, instead of hoarding that money up, as did Baron Rothschild, and leaving it to his heirs, he appropriated it to public charities, and still lives to see the benefits flowing from his financial talents. Some of you will perhaps say that he does it because there lurks in his organization a desire to be of benefit to the human race. It is true his approbation is large, but his benevolence is larger. O. S. Fowler has made five or six fortunes, and he, to-day, is comparatively poor. He has as good capacity for making money as any lecturer in the world, yet he can not retain it. He has a poor financial development of head; his cranium indicates that to himself, as well as to all phrenologists

who examine it. Professor Wells, formerly Fowler's partner, possesses the financial type of head, and he has managed that large cabinet on Broadway, New York, and the *Phrenological Journal* with the most masterly financial skill for the last fifteen years. Fowler has not been connected with that establishment for that length of time, but Wells, by his business capacity, has built up an immense circulation and business; he has crania from all parts of the world, together with designs and plates of all kinds. If any of you have heard Mr. Fowler lecture, you will have noticed, from his manner of addressing his audience, that he is a sharp, keen, money-making man; but, owing to the want of the financial group, and the proper blending of the same, he can not retain the money that he has made. Wells has not made so much money by his writings or lectures as Fowler, but he is the wealthiest man of the two. Alexander Stewart (referring to the portrait) also exhibits to us a high degree of the financial brain; so does Leonard Jerome, Fiske, Gould and Jay Cooke, of the city of New York; and all the pictures that we have of men who have accumulated vast fortunes exhibit a marked development of secretiveness, acquisitiveness, caution, comparison and causality. I do not include all rich men, for many people were possessed of fortunes when they came into this world, and others have had fortunes left them by the death of relatives, or by some fortuitous event; but every person who makes his own fortune must possess the kind of head already described. He could not, however, be

a good speaker with this combination, because, as we have already noticed, the organs that we use the most will necessarily be more fond of being used than those that are seldom called into requisition. For instance, a good writer can write thirty or forty pages with his right hand, but he would soon get tired by writing with his left, whereas if he had commenced to write with his left, he would find it just as difficult to write with his right afterward. On the same principle a man can cause a vigorous action of amativeness; it being large and calling for gratification, every time you exercise it you increase it, so that it is better to bring into requisition some other faculties of the mind in order to subdue it.

In conclusion, gentlemen, allow me to observe that our own city of St. Louis possesses all types of men, from the realms of pugilism and traffic on forward to the realms of poetry, metaphysics and art. St. Louis offers as wide a field for the study of "Human Nature" as any city in America or on the continent of Europe. Long may she stand, with the Capitol in her center.

For full knowledge of the "Law of Shape," observe the face of Nature generally. The hazel bush will be found to correspond to the hazel nut; the oak tree to the acorn; the corn to its stock; the melon to its vine, etc., etc. In short, the laws of structure and correspondence run throughout animate and inanimate creation.

LECTURE ELEVENTH.

TEXTURE.

The leading physiologists of Europe define temperament to mean peculiarities of body and brain. This is a short and sensible definition of the word, but, like all other terms, it needs a little dressing up to put it into proper shape. All of you classical students will remember the sword used by one of the warriors of ancient Rome. So remarkably elastic was this sword that it could be bent in all possible directions and still it would spring back to the same degree of beauty that characterized it at first. What caused it to do this? It was its temperament—or its quality, temper or texture, if you prefer the terms. Even the atmosphere has its temperament as well as temperature. Walk into a garden during the bleak weeks of December; look upon the wilted evidences around you, the flowers and shrubs completely withered. Is it the fault of the flowers? Not at all. It is owing to the temperament of that season of the year, because during the month of June you may step into that same garden and find each flower and shrub blooming in beauty and richness. Now, the flower of winter did not differ from the flower of spring in its essence, but owing to the temperament of the atmosphere it differed very much in appearance. Dry goods also have their temperaments; that is to say, their quality, and a man never mistakes a piece of linsey woolsey for silk, or a piece of cotton for barege, if he has any experience

at all. Quality, then, gentlemen, constitutes temperament; this is a sufficient definition for all practical purposes.

I will present to you now the outline, as taught by Hippocrates, etc., and taken up by Gall, Combe, and several other modern writers. There are four temperaments: the lymphatic, the nervous, the sanguine and the bilious. The bilious is indicated by dark complexion, angular body, coarse hair, remarkably dense formation of bone. The nervous is indicated by a large brain, small body and small chest. The sanguine is indicated by red hair and face, and a great deal of blood always visible at the surface. The lymphatic is indicated by repletion of the cellular tissues and fullness, an inclination to plethora, fatness and all that. The mental temperament is a new one. It is struck off from the frontal lobes of the brain, and is not the nervous, as was supposed by former writers. Dissection, observation and experiment prove the fact that although a man may possess a large degree of the nervous temperament he yet may possess very little of the mental temperament. Mr. Fowler, Combe, and many other writers have called the nervous and mental temperaments one, from the fact that it was popular. They said that the nervous made the mental, but we know this is not so, from the fact that thousands of persons possessing the largest degree of the nervous temperament have but very little intellect or brilliancy, whereas we know hundreds of people who have little of the nervous and a great deal of the mental and possess the highest degree of

intelligence. There is evidently something wrong in this theory of the nervous temperament always indicating a great man. Mr. Fowler teaches it from the fact that it is the popular opinion that a man or woman who is nervous must necessarily be smart; but the fact is that the mental temperament arises from the frontal lobes of the brain, while the nervous is developed from the base of the brain and the sympathetic and general system of nerves; and the line of demarkation is so great between the two that they differ as much as the lymphatic and bilious of the old school.

The mental temperament will always be indicated by measuring from the opening of one ear to the opening of the other, over the region of the forehead. If the amount of brain greatly exceeds the posterior admeasurement, the man is of the mental temperament; but if it exceeds it very little the probabilities are that he is of the nervous temperament, particularly if he is of a delicate type of physique. As an example of the mental temperament, I refer you to the portraits of Edgar A. Poe, Goethe, Tom Moore, Laurence, Terrence, Dr. Tyng, and Mrs. Ritchie. For the purely mental temperament, again look at the portraits of Oliver Goldsmith, Madame de Stael and Horace Mann. Horace Mann is as fine a representative of the mental temperament as I know of. Swedenborg and Edwin Booth are also illustrious examples of the mental temperament. This temperament gives an expression of intelligence and of force. The nervous, on the other hand, simply indicates a certain amount

of cerebral activity or nervous flexibility. No man can be pre-eminently great who possesses the nervous temperament. There has never been a case on record, although some writers have spoken of Otway, Fielding, Beaumont and Fletcher as possessing the nervous temperament. Some writers have also stated that De Balzac, Jules Janin, and Favre, one of the best writers in France, possessed the nervous temperament; but from their portraits I am convinced that they possess the very highest degree of the mental temperament. If a man is of the nervous temperament to the extent of 7, he will be subject to hysterics and extremes of feeling the same as a woman. He will not be a reliable man; he will be altogether given over to sensitiveness; he is not a well-balanced man; he is irregular in his habits and wanting in force before the public. These are the characteristics of nervous men that many writers have attempted to make us believe were the leading men of the world. The leading men of the world are those of the mental temperament; that is, those in whom we find a predominance of the cerebrum over the basilar and side regions of the brain, and of the central portion of the cerebrum over the entirety of the brain. It is true that in all great men we have the nervous temperament blended more or less, but every great man must lead off with the mental, as in the case of William Shakspeare, Lord Bacon, and the celebrated law-giver, Blackstone. Daniel Webster possessed the mental-bilious-motive temperament: mental indicated by the full development in the frontal regions of the brain; motive

indicated by the formation of the vertex and base of the brain; bilious indicated by the angular outline and dark complexion—you know he was termed “Black Dan of the East.” It would be very improper to say that he was of the nervous-motive-bilious temperament, according to the discoveries that physiologists have made recently, because the nervous does not imply a great amount of mentality, but mere susceptibility of the nervous system to all influences. Dr. Byrd Powell named the mental temperament the encephalic, but that is not a good name for it. It means the human brain, and there is nothing distinguishing about it; he, however, in his analyzation, notices the same difference between the encephalic temperament and the purely nervous temperament, or between what we term the mental and purely nervous. The frontal portion of the head is a mass of nerves, as well as the occipital, so that in order to evolve our mental phenomena it is necessary to go to the frontal to do it; in order to get nervous phenomena we must go to the cerebellum; hence I claim that a man possesses not only a nervous but a mental temperament, and that they are as widely different as the sanguine temperament is from the bilious.

When we speak about a vital temperament we mean a man with a large chest, a thorough, acting heart, deep respiration and a fine, stout pair of lungs. Every man possessing these conditions is of the vital temperament. When we speak of a man of the motive temperament we mean simply a person of large,

bony structure, with great length from the top of the forehead to the vertex, unusual prominence of all the features, and angularity, the same as in the bilious-motive temperament. If we had a man about six and a half feet high presented to us, weighing about 150 pounds, wiry, withey, angular, we would have the finest specimen in the world of the motive temperament. O'Baldwin, the Irish pugilist, is a very good example of the purely motive temperament.

Picture 36 represents the nervous temperament. He was a rickety, unhappy boy, with small firmness and small self-esteem. He had plenty of intellect in front, but not enough propelling power to drive him forward. It is a very unfortunate temperament. As an example of the mental temperament look at the pictures of Richard Cobden and John Bright. Bright represents the mental-bilious, Cobden the mental-sanguine. Addison represents the mental temperament, so does De Foe, the author of Robinson Crusoe, and no doubt if I had the portraits of all the great scholars of Rome, Greece, England, Ireland, Germany, France, America, etc., I could show that each had the mental temperament in excess of all others, thus proving that it is the great and scholarly temperament—the metaphysical, aspiring, onward and upward temperament—better than all the rest put together for the elaboration of thought and the production of ideas. But in order to form a perfect man nature proclaims that he must have more than the mental temperament, and we find in each organization a blending of all the rest. Whichever

of these predominates in an organization will be the leading temperament.

If there is an excess of bile in any one of you, excess of biliary secretions, a large and thoroughly acting liver, the bilious, of course, will lead off in your case. In examining a man's character you must always see what temperament he has in excess. All people possessing the lymphatic temperament are simply fit for keeping bread and beer from spoiling. They are sleepy, stolid, senseless men. They are the happiest men in the world; they feel a pleasurable sensation from the top of their heads to the soles of their feet every mouthful they take. Those people are happier whilst at a dinner table than the most intellectual man in this audience would be whilst listening to Emerson or the celebrated George D. Prentice. The facial signs in this temperament are, a large development of the inferior portion of the face. If the inferior portion predominates over the superior in any man, he will possess more sensualism and epicureanism than if it were the reverse. He can not possibly be an intellectual man where the inferior predominates over the superior part of the face. These men are usually non-progressive, slow coaches; require ten years to catch an ordinary idea that many men would take hold of in a few minutes. They get in the way of progress and get run over, but still, I regret to say, they are found in our best political positions, and by virtue of money, without any work on their part, they get positions in government and make laws for the destiny of this nation. They are found in all the State legislative

halls, trying to make laws for people who are better qualified in every way than they are for making those laws. When the world understands them they will be placed in their proper sphere, which is attending to the culinary department or running a hotel. They make the best hotel keepers in the world. The lymphatic temperament is not so common in this country as it is in England. We find very few of the lymphatic temperament in France; they are a very vivacious people, and, as far as I have been able to judge from those I have met in my travels, are also a very immoral people. They possess the nervo-mental temperament, the Scotch the mental-nervo, the English the sanguine-nervo-mental.

The healthiest men in the world are those who possess the mental 5 in development, the lymphatic 4, the nervous 3, the vital 6, the sanguine 6, the bilious 4. A man can not be healthy if his mental goes up to 7, or even 6, unless it is kept in good working order by the other temperaments. Mental temperament, if a man possesses it large, must be sedulously guarded.

Stephen A. Douglass possessed the mental-motive-sanguine temperament, with a slight dash of the bilious. In his case we have the mental in excess, and we know that he was a great logician. One of the most intellectual correspondents in the United States remarks that he was the finest orator that ever spoke in the Senate; his speeches were close, analytical and profound. If you can get these temperaments you have the key to a man's character,

and it will tell you the general outlines in every instance, but to fill up details you must know something of the specific parts of the brain. I hold here three portraits—Voltaire, Dr. Caldwell (at one time principal lecturer of the Transylvania Medical University and connected with the Philadelphia medical schools), and Mr. Hall, High Sheriff for Philadelphia. Mr. Hall possessed the highest degree of the bilious-motive-vital temperament; Voltaire possessed the highest degree of the mental or encephalic temperament, without a corresponding amount of the vital to render him a healthy or a happy man; he was a very unhappy, sarcastic and perverted man. Caldwell possessed the motive-mental-nervous-sanguine temperament. He was a dashing writer; stopped at nothing. His review of Jeffries, of the *Edinburgh Review*, is one of the finest things in the English language. The physiognomy corresponds with the temperament; you see that in the faces of the three men mentioned, and can also observe the same fact in these three hundred portraits of character around you.

SYNOPSIS OF A LECTURE
ON
THE HEART AND CIRCULATION,
DELIVERED BY
DR. W. A. PAYNE,

Before the Students of Kentucky University, Lexington, Kentucky.

GENTLEMEN: This evening's lecture will make the tenth and last one of the present course, yet I have a hope that we will again be called together at some future time for the purpose of contemplating anew the grand problems of life, mind and nature. Here in this old and venerable city, within sounding distance of Ashland, the beautiful home of the immortal Clay, and near the place where stood the globular form and commanding figure of Breckinridge, I, as a mere student of human nature, have attempted to instruct those around me. I do not forget that this was the home of the great Dr. Charles Caldwell, author, lecturer and discoverer; nor do I lose sight of the fact that Lexington is to-day the home of some of the most brilliant and profound scholars of the South. My subjects are fascinating, and command the attention of the learned as well as the unlearned, and I would feel no hesitancy in present-

ing them to the great men mentioned, or to the kings of literature and science dwelling in your midst. During this course of lectures I have exhibited some startling geological and chemical facts, but do not imagine that they in any way conflict with the Bible. The Book of Revelation and the Book of Nature will be found to harmonize when each is properly interpreted.

Without further preliminaries allow me to enter at once into the subject matter. Deficient blood in all animals indicates deficient life; in fact, without blood there would be no animal life, and without valves and ventricles, blood, the essence of organization, would be of no avail. The human heart is the grand pivotal center from whence proceeds this wondrous fluid, and if it be malformed or injudiciously played upon by the nervous forces resident in the cerebellum, the life thereof will be greatly vitiated. Science has exploded the idea that the heart is the seat of the affections, and has discovered that it has other duties of equal magnitude to perform. Many of the lesions and diseases of the heart can be traced primarily to some overt act or acts of the nervous system. Of course hypertrophy, angina pectoris, and other serious maladies are traceable to other causes. The circulatory organs of the human body consist of the heart, arteries, veins and capillaries. Deficient capillary circulation produces varicose and swollen veins, blue and death-like, while deficient arterial circulation produces languor, extreme pallidness of countenance and despondency of mind. Excessive arterial circulation inclines an

individual to plethora and various types of inflammatory complaints, while deficient arterial circulation develops enema or "white blood," and numerous chronic maladies. The heart occupies the left cavity of the chest, between the right and left lung, and is surrounded and protected by a covering called the pericardium. Nature seemed to have been very particular with the heart, as well as especially particular with the brain and lungs, for each is found upon dissection to be amply and properly provided with the necessary linings. Physically the heart may be regarded as a complete bundle of muscles, each muscular fibre possessing a contractile power far beyond that of any other bodily muscle. Anatomical experiments prove it to be a double organ, that is to say, it has two sides, right and left, differing in function, and separated by a muscular septum. A subdivision is made of these two parts and named the auricle and ventricle. The walls of the auricle differ from the ventricle in both color and breadth. The auricle contains the blueish blood that arrives by the venous system of veins, while the ventricle holds chiefly the red blood. The tricuspid valves lie between the auricle and ventricle on the right side, while the two mitral valves lie between the auricle and ventricle on the left side of the heart. We have also a right and left ventricle, a right and left auricle. The pulmonary artery emanates from the right ventricle, and the great aorta from the left. At the summit of these great arteries are located the semilunar valves. The arteries that ramify between the muscular fibres of the heart are the me-

dia through which the blood in the heart is carried to every part of the animal economy ; while the veins are the media by which the blood is returned to the auricles of the heart after it has gone its rounds among the tissues. The pulmonary artery conveys the impure blood to the lungs, where it is decarbonized by the action of oxygen ; hence the importance of pure air. The arteries and veins are so sympathetically related that the condition of one is almost that of the other, morbid action of an artery usually affecting the entire venous system. The aorta springs from the left ventricle of the heart and holds in solution the red, pure and nutrient blood. It, with its divisions, constitutes the central or systemic circulation. The fine net-work entitled capillaries establishes communication between the termination of the arteries and the beginning of the veins. These capillaries greatly assist in converting the concentrated material of the blood into flesh, bone and tendon. Dalton remarks that the parts of the heart most liable to disease are the valves—the mitral in particular. When these become hardened or ruptured the blood regurgitates and seriously impedes breathing. After five years' practice in diagnosing diseases of the heart with the stethoscope, I am free to state that the normal and abnormal conditions of this organ can be scientifically detected in every instance. Hypertrophy, angina pectoris, valvular obstructions and ventricular engorgements all speak in language unmistakable to the skilled examiner.

Emphysema, or distension of the air cells of the

lungs, together with any other of the morbid sounds of the lungs, are readily ascertained by listening with the instrument. The dilation of the ventricles is called by anatomists the diastole of the heart; their contraction the systole of the heart. The ventricles are more rapid and forcible in their contraction than the auricles. It is estimated that they contract seventy-five times per minute in the average run of men, in old age about sixty-three times, in infants one hundred times, and every contraction places the owner that much nearer the grave. As whisky and tobacco both increase the number of the heart's pulsations I hope you will avoid them both. The motion caused by ventricular contraction is known under the name of pulse, which is simply a pressure of blood against the coats of the arteries. A man can, by a process of cerebral stimulation, increase his pulse almost indefinitely. If you desire to flash meteor-like through life, all you have to do will be to imitate those fast bloods that bet, drink and gamble around the Phoenix and Southern Hotels. Plenty of condiments, raw brandy, rich food, wine, tobacco, dashed with late hours and midnight suppers, will accelerate the heart's action to such an extent as to give you an early grave with wild flowers blooming over it, twenty-five years before your natural time. At every contraction of the ventricle, or, what is the same thing, beat of the pulse, blood goes and comes. See to it, then, that you don't increase circulation too much on the one side or impede it on the other. Repose and tranquil enjoyment, either mental or moral, diminishes the number of pulsa-

tions and thereby prolongs life. Haste, heat and dissipation increase the beating and thereby engender premature decay, and often instantaneous death. A gambler fell dead at the card table in Frankfort, at the Capital Hotel, while I was lecturing there. I learned upon inquiry that he had for several consecutive days played from the early shades of night to the dawn of day. This death was produced by mental concentration and anxiety acting on an already enfeebled heart. The last and heaviest hand of the evening he lost; his body could not sustain the shock. The gambler was no more. Permit me to warn you against all exciting games of chance, and even pleasure. Base ball is becoming a popular game. Be careful here, for this indeed is a violent game as played now, and but recently a young man produced a rupture of a valve by this harmless but much abused game. From twenty-five to thirty-five pounds of blood is the average estimate in a healthy man, and it requires from three to eight minutes for it to make its rounds through the human system and return to the heart. Of course the relative degrees of purity and quality and quantity differ in different individuals. The health of the blood depends primarily in a great measure upon the respiratory system. If it be not thoroughly oxygenized when passed from the pulmonary artery to the lungs it will return and vitiate more or less every tissue of the organism. Hence I recommend deep, full and copious breathing, not through the mouth, but by the avenues of the nasal appendages; also, slight pounding of the chest, together with hand fric-

tion over the region of the heart, upward and downward, and backward and forward movements of the arms, all of which should be repeated morning, noon and night. By this method, in connection with rest, proper food and judicious medical treatment, the most frightful heart diseases may be cured.

The three following rules, if remembered, will greatly assist in forming good blood and sending full supplies to every part of the animal frame :

First—Wear your clothing loosely ; because tight lacing or dressing compresses and impedes the passage of blood through the various vessels.

Second—Bathe your feet in hot alkaline water twice per week ; rub them dry with a crash towel.

Third—In the unclassical but strong language of the gifted Abernathy, “Keep your head cool and your bowels open.”

ZOOLOGY.

[Extract from Dr. Payne's Zoological Work.]

Zoology is the science which has for its object the classification, analyzation and description of every order, genera and specie of animal which the earth contains. It is a minute and profound study, and none but the highly intellectual ever attempt it. Zoology proves that there is a constant tendency among the lower animals to take on more perfect forms, and in no field of human investigation do we find the laws of progression and diversity more visibly exhibited. The elephant, zebra, dorcus, gazelle, giraffe, hyrax, armadillo, crocodile, vulture, imperial eagle, gentle dove, hippopotamus, walrus, vicugna, the yak of Tartary, and countless other animals inhabiting Europe, Asia, Africa and America, have each their distinctive characteristics.

The *genus homo* includes all mankind, and heads the list of organic life. The *genus quadrumena* is next in the scale of development, and includes apes, baboons, monkeys, chimpanzees, ourang-outangs, etc. The old naturalists gave to this latter order a higher degree in the scale of intelligence than the facts in the case really warrant. The vertebratae come next, including all birds, horses, dogs, cats,

lions, tigers, buffalo, etc. The articulatæ next, including the insects, such as ants, flies, bees, fleas, millipedes, beetles, etc. The crustaciæ next, including all inhabitants of the water, such as crab, lobster, prawn, shark, whale, minnow, craw, etc. The mollusca come next, including muscles, oysters, and all life enclosed by a shell. The ratiatæ next, embracing star-fish, sea-urchin—in short, all animalculæ or animalcules come under this last head. When we glance at any of the above mentioned orders, or take a look at the physical world around us, we are struck at once with the idea of diversity, variety and incessant change. No two animals alike! no two mountains, rivers, lakes or valleys exactly alike, nor no two aggregated substances remaining for any protracted length of time exactly in the same position. Each rock, cliff, steep, stream, bird, blade and blossom seem subject to the law of “endless *mutation*.” Mountains change their faces, oceans their channels, rocks their forms, and gullies their indentures—all because of the existence of this peculiar law called “Change,” and all animate and inanimate existence must bow under its everlasting and universal sweep. This is as it should be, for without change the intellectual faculties of man would become inactive and sluggish, and life itself a long, monotonous funeral song. The fluctuations and differences noted among animals, trees, flowers, leaves, branches, stones, plants, etc., are evidently intended by the “All-wise God” to arouse and vividly awaken the mental energies of the human race to a succession of contemplations and for the purpose of

expanding its innate powers. Children of men! listen to the voice of animate and inanimate nature, and you will learn strange lessons and hear weird-like and dulcet music quivering from unnumbered chords. Allow me to quote from memory a singular passage from the pen of one whom I do not know: "There are chains in nature that hold us as the clouds hold rain and guide us safely through the howling blasts of fate. The deep blue arch above us traversed by a mystical net-work of invisible bonds which can never be severed or broken. Over the green sward, up the mountain, down the valley, over the placid lake and foaming ocean—far, far away they reach, a warp and woof of wondrous and expansive strands, which bind us together in a common brotherhood forever and ever. The globe on which we tread wheels on through endless space, kept ever in the circuit that it makes by that restraining force which holds it to the pillar of the sun. Loose but for a moment this restraining force, and old earth flies in wild tangential flight and shatters other worlds. If man could loose but for a moment his hold upon the world of mind, then chaos soon would be. Chains, fetters, bonds, above, below, around. I dread their fearful sounds."

To the student of nature there is nothing to dread and nothing to fear within the realms of knowledge. There was a time, however, and that not remote, when the moral teachers of mankind traduced geology, chemistry, etc., from the fact that they conceived the idea that all science was to render men irreligious. Zoology was formerly very odious to a

certain set of foolish word-weavers, but now it is greatly respected by all classes who have even an inkling of its scope and utility. In the third chapter of this work I present the main outlines of zoology, while in the fourth chapter facts are exhibited which tend to throw light on the opposite doctrines of unity and plurality as they stand related to the animal kingdom. Quotations will be made from the writings of Huxley and Darwin.

LECTURE NINTH.

ABNORMAL CONDITIONS.

This evening, by request, I will invite your attention to the abnormal developments of the brain, which will include, to a short extent, pathological anatomy. In many instances we find a person of the purely phlegmatic temperament afflicted with serous deposits and water in the convolutions of the brain. You will find on pressing certain parts of a child's head, at a certain period of life, great sensibility and tenderness over a certain region of the brain (Fontanelle). If that does not close up, as it generally does, it is from the fact that water collects in too great quantities, and just in proportion as it collects we have a case of hydrocephalus. A child afflicted with this kind of disease can not possibly manifest much intelligence. There has never been a case on record where a child possessing an abnormally sized brain was altogether intelligent; it might

be sprightly in some particulars, but the general strength is much wanting. There are certain kinds of diet, of habits, &c., that produce a certain amount of water on the brain or of rich, aerated blood, so that a person can build up the brain by the kind of diet he lives on. I would mention that if your brain feels light and does not seem to have the same strength that it had in former days, use fish three times a day; it has more brain-building properties than any kind of meat in the world; in fact, it is above vegetables; nothing but phosphorus itself is so good to give strength to the brain as fish. One of the best remedies for what is termed depleted cerebral energy is a certain amount of iron, phosphorus and calisaya. That is the great preparation used now by celebrated physicians in Paris for people who are debilitated in the brain. The brains of men are just as liable to disease as those of the inferior animals. You will find in different dogs an inclination to this or that brain disease. One dog is so excessively congested with blood at the summit of the brain that he will have fits similar to apoplexy in the human being. Abnormal conditions, then, are seen not only in men, but in the entire animal kingdom. We say a man's mirthfulness is in a diseased state when it goes beyond the borders of propriety or common sense. If a man is laughing and jeering whilst listening to something grave, in most cases there will be an abnormal condition of mirthfulness.

You probably have heard of that lawyer in Georgia who possessed mirthfulness so large as to be uncontrollable by his intellectual or social nature. He

lost an immense practice from the excessive action of the organ of mirthfulness. He would go into a large establishment, order a number of things, give a false name, and have them all directed to some hotel in a different part of the city from where he lived; and put the merchant to all this trouble for the sake of having fun. He would register his name at a hotel in such an illegible hand that neither the clerk nor proprietor could make it out, and enjoy himself at their confusion. He would then seat himself in the parlor in the midst of half a dozen women, draw a little primer from his pocket and study it as if he were altogether wrapped up in it. The ladies would be perfectly astonished at seeing a man in the midst of them attempting to study. They took him to be a philosopher who was studying some occult science. He would drop the primer on the piano and step out as if to look around, enjoying himself with the thought that the ladies would find nothing but a primer. When supper was announced he would go to the table, and as it was customary in the old days of Georgia for the landlady to sit at the head of the table and ask if her guests would have tea or coffee, cream or sugar, or both, he would ask for a little cream and sugar, taste it, and ask for a little more, and in this way he would keep the landlady for about five minutes; then he would ask some gentleman to pass the plate with the meat, and he would empty the whole contents on his own. He would do the same with the vinegar, mustard, in fact, everything he could see on the table, until he had his plate piled up, and all this time he would not relax

a muscle of his face. Some people supposed him insane, others thought him eccentric; but we know that it was owing to a diseased condition of mirthfulness. In Americans, as in other races, mirthfulness is too large, and anything that is funny will always attract a larger crowd than anything that is serious.

Hope sometimes is diseased, and when it is a man never sees any lions in the way or anything to obstruct him; that is one extreme. The other one makes him continuously depressed and gloomy. Hundreds of men are totally wanting in the normal action of hope. If they were in a normal condition they would always expect reasonably of the future, but would never go to extremes. A great many men who are suffering from the effects of masturbation totally counteract the effects of hygiene, physiological advice and medicine by the continuous abnormal condition of hope. A banker in this city is in that condition. If he would follow the advice that I gave him he would certainly get well of these effects in a few weeks, but his mind continuously dwells upon it, and, as I told him, if he does not take his mind off the subject he will become insane. I directed him to stimulate hope in every reasonable way and bring on a normal action of that organ, because the organ of hope was as badly diseased as the sexual apparatus itself. If a young man with large hope will follow the physiological directions and take the prescriptions in the case of spermatorrhea sedulously, he will get well in a short time, but

where there is an abnormal condition of hope he will be apt to give up too soon.

Self-esteem is often diseased in man. I will illustrate this by a story: People from all parts of Europe sent insane persons to Wurtemberg, to the physician of the large insane asylum kept there. Dr. Gall visited that hospital for the purpose of studying phrenology, and there gained a great many important facts. Three men were incarcerated in that asylum possessing an abnormal condition of self-esteem. One of these men imagined he was fire, another imagined he was water, and the third one imagined he was God. The one that imagined himself water was to be set at liberty in a few days. A medical and scientific man who resided there doubted whether the man was really sane, and in order to prove it he sent for the man who imagined himself to be fire and told him that his friend water was going to be dismissed from the establishment as cured, and that he would probably be soon released too. This, to an extent, aroused the indignation of the man that imagined himself fire; he turned around to the other, and with the utmost hatred flashing from his eyes, said, "Just as certain as you leave this asylum I will send fire and burn you and all contained on this earth." The other, in response, said, "Send all the fire you please. I am the god of water, and can extinguish all your fire." These parties were never effectually cured. In the asylum at Columbus, Ohio, there is a man who imagines that he is made of glass; that is an abnormal condition of caution and marvelousness together. If

that man takes a seat on a chair, it is with the utmost caution; he imagines that if he should happen to lose his balance he would break. Another man in the Pennsylvania asylum imagines that he is a teapot; he will place himself as nearly in the position of a teapot as he can; he imagines the steam is coming out of his mouth, and makes a noise as if he were raising the lid; he tells people not to come near him or he will scald them. That is another diseased condition of caution and marvelousness. Before the discovery of phrenology people did not know how to account for these things, but now we have a clue to the cause of nearly all cases of insanity. How would you account for the case of incest which appeared in the *St. Louis Republican*, and in which it was plainly proven that a father and daughter had been holding intercourse? It was an abnormal condition--of amativeness 7, caution small, moral brain small, but the propelling power of each must necessarily have been great, which caused them to gratify themselves in that way. No sane man or woman could hold such communication. The people who committed that crime can not possibly be totally at themselves; in other words, there can not be a perfect condition of brain. You may have read of the case of that minister in New England whose taste became so perverted that for year after year he had been handling the clitoris of little girls and having them play with his penis for the purpose of exciting pleasure. All these cases are owing to an abnormal condition of amativeness that should be attended to--all these people should be incarce-

rated, because they can not be relieved or cured. A case occurred in Cincinnati where a woman, who had all that she could desire, and an affectionate and intelligent husband, gratified herself every day with four or five different men, and had been gratifying herself for a series of years previous to being discovered. Along with the diseased condition of amativeness she possessed a great deal of secretiveness, which enabled her to hide it for such a length of time; and, of course, in her case, so great was the predominance of the passional nature that the moral and intellectual nature could not guide her. Her death was a sad one; she became diseased, became a street-walker, and died in an obscure garret. Her name is suppressed by her relatives, so the world knows nothing about the facts. Another case occurred in that same city, of a lady, the wife of a celebrated minister, who is in an abnormal condition of amativeness, and who lives, week after week, in the utmost lechery. All these extremes are abnormal conditions of the brain. When your heart beats with regularity, it is said to be in a normal state; when it beats with irregularity, it is said to be in an abnormal state: so when your brain works with that regularity and precision that nature intended it to work, you will find a normal action of each of the faculties, and you will find that each assists the other; but when one portion of the brain is in an abnormal condition it affects the entire congeries of the mind. Just so certain as a man has a serious trouble of heart, it will affect the circulation in the extremities and in the region of the lungs.

Sometimes form becomes diseased in its action. A man may close his eyes as tight as he pleases, and ten thousand hobgoblins will present themselves on the walls; all sorts of different things will present themselves to his mind. It is the case in many fevers. At one period, whilst I was laboring under a fever in Wisconsin, I experienced an abnormal action of form. The more tightly I closed my eyes, the more luminous would be the pictures; sometimes there would be an immense countenance reaching from the top to the bottom of the room; it would gradually diminish in size until it would be no bigger than the point of a needle, and then ten thousand other configurations would leap up and it would be a perfect pandemonium. The organ of hearing was not affected. I could not hear anything; but the grimaces and agony expressed in some of those countenances never can be obliterated from my memory. Dr. Dwelle, who owns this house, has a servant-boy who is diseased in the organ of tune; he is constantly singing from six o'clock in the morning until bed-time. He is often spoken to and told not to sing, but it does no good; he may stop for a short time, but he commences singing again, and keeps it up through the entire day. As long as so much blood is in the organ of tune, and it is so active and intense, he will manifest this diseased condition. Blind Tom is a monstrosity in music; nothing but music dwells in his brain. He will play the most difficult piece after hearing it once or twice; he has no capacity outside of that.

Shelley was in an abnormal condition when he pro-

duced several of his strange works. Bailey was in an abnormal condition when he produced his *Festus*; so was Lord Byron when he produced his *Cain* and his *Werner*: yet writers have never made allusion to these facts because they never studied pathological anatomy. Leigh Hunt and one or two other writers referred to these points as being calculated to explain the peculiarities of those men of genius. We say a man is a genius when he can do a certain thing with great beauty, skill and quickness; a man of talent when he can adapt all the learning of these days to his own use, place things in shape, and is in every sense of the word a practical man. All who are smart should be termed men of talent; genius should be applied where a man is in an abnormal condition. The celebrated opium eater, De Quincey, was no doubt in a diseased cerebral condition when he wrote his "Confessions;" his language is brilliant, his description terse; still a physiologist can see the workings of diseased conditions all through his writings. There is a degree of melancholy and mystery about him that a person can not explain outside of pathological anatomy.

The organ of conscientiousness becomes abnormally large sometimes, and when it is so a man will do every other person justice and not himself. It becomes diseased in every instance where there is not a sufficiency of blood flowing to it—where it is too small to call the blood in that direction. Then, of course, a man is wanting in the corresponding manifestation; he passes through life as a man wanting in honor and conscientiousness. Where it is ex-

cessively large the man is too scrupulously exact to succeed in any of the duties of life. Either excess or deficiency, then, is abnormal and not natural. Nature intended a man to manifest talents rather than genius. All genius, as I mentioned before, grows out of an abnormal condition of the brain; talents grow out of the natural operation of certain faculties.

Firmness is often diseased, rendering a man so obstinate and bigoted and self-poised that he can not be convinced, no matter how well you may reason. It is diseased, too, when it is so small that he is lead into this or that extreme. All men have recognized these facts, but they possibly have never known that the brain was out of order when a man manifested these extremes of action. Where you see a man totally humiliating himself, bowing and scraping to every person and wanting in dignity, his self-esteem is in an abnormal condition.

Conjugalitv is not so often diseased by excess as it is owing to deficiency. I suppose if a certain number out of ten thousand men were to be hung for being true and devoted to their wives, the hangman would not have much to do: and in this age there is not as much virtue and conjugalitv in the opposite sex as conscientious men would like to see.

Sublimity is diseased when a man is continuously rioting in bombastic expressions, talking about grand speculations, designs, &c., to the exclusion of more practical things. "Our Mutual Friend" Bonora, is diseased in sublimity. Any occurrence that he is describing wherein he plays the hero, he paints

the picture with startling grandeur; he talks about retinues, vast concourses of people, and at one time held an audience of ten thousand so spell-bound that you could have heard a pin drop. That is a compound diseased condition of self-esteem and sublimity. If a man with adhesiveness and conjugality 7 in development and the intellectual organs small, marries a woman with the same kind of brain he is apt to become crazy at her death. There are instances of men being so grief-stricken that a smile never illuminated their faces after the death of their wives. Queen Elizabeth, at the loss of her favorite lover, never presented a smiling countenance afterward. Every effort was made to interest her, but without effect. Could they have brought about reaction, stimulated the other faculties, and drawn the blood away from the centers affected, they could have cured her diseased condition. By leaving the scenes of the calamity the blood might have been drawn from those parts, and in the course of time a cure might have been effected. If a person possesses very large conjugality, adhesiveness and benevolence, so long as that person remains near the grave of the object that he or she loved so long will that person be miserable. It is dangerous, then, for a man that is broken up to stop in the place in which he became so; by branching out into a new place the probabilities are that he will do better than in the old place. There can be too little of conjugality, too; in that case it is also abnormal. Some women, in less than three weeks after their husband's death commence to go round and look out for some one

else. Wherever you find a man that has married three or four women you will always find conjugality small. I don't think I have ever known an exception to this rule. I am personally acquainted with an old man who has killed seven women, and who is now about seventy years of age. He could calculate to within three months of the death of his wife. The last three married, counting on his fortune. The old man would say to his friends at each additional marriage, "She thinks she is going to outlive me, but she will die in less than eighteen months." He was a fine looking man, about six feet in height, but he had no conjugality; his amativeness was prodigious; his wives were killed by receiving too much of his passional nature.

Destructiveness, when in an abnormal condition, makes a man quarrelsome, cruel, peevish and vindictive—so does combativeness. In short, any one of these organs is in an abnormal condition when it is diseased; and when all the congeries of the brain are diseased we have an insane man. And here allow me to remark, that amid the innumerable proofs we have of phrenology this one should take the lead: That many people are insane on one subject, and perfectly sane on others. This proves that the brain is a multiplicity of organs, because if it were not so, when a man would be diseased and manifest insanity, he would be insane on all subjects. In that same asylum that I spoke of there was a woman in an abnormal state of conjugality; she makes an attempt to hug every little boy she comes near; she calls them all sorts of endearing names and makes a

great fuss about them. There is a man diseased in amativeness in that asylum; he attempts to rush out and embrace every woman that comes near his cell; he is wild and delirious while in the presence of woman. There is also a man there with a diseased condition of caution. Every foot-fall that he hears along the balustrade produces the utmost nervous tremor, but when that feeling had subsided, and they commenced to talk on outside topics, he was perfectly sane. There was another man that was always talking about figures, but you could not make head or tail out of what he was saying. He was a great accountant, and his mind dwelt so much on mathematics that the organ of calculation became diseased. People who are diseased in language keep their tongues going from morning till night—one chain of words is concatenated to another until they render the place they are in a perfect Babel.

We find, then, that any great deficiency in a given organ, or excessive development, so as to cause either a great predominance over all the rest, or else to be so much beneath all the rest as to have very little effect, will produce diseased manifestations. It is a very delicate thing for any one to prove the sanity or insanity of an individual. We are all more or less insane; every one has a little bit of the net-work of insanity in his composition. Were it not for that we would have no reformers or propagandists. To an extent Cromwell, Milton, Luther, Payne, Robespierre, Dante, O'Connell, Emmet, even Patrick Henry and George Washington, were in an abnormal condition. When they produced the

greatest and highest results of their minds they were in a temporary abnormal state—not in a permanent one. After the excitement was over they were sane men. Take for instance a general: allow all his faculties to remain quiescent and calm, and place him in the field, destructiveness not being inflamed, and he would be very apt to run away or become panic-stricken. In order for him to take the lead, as Phil. Sheridan of the Northern, and Stuart of the Southern troops, a great deal of blood must concentrate in the organs of combativeness and destructiveness, and a great deal must be withdrawn from the other faculties. When you get a soldier in that state, bullets are nothing to him; after the first shower is over he will rush forward fearing nothing; and when in this state he is in an abnormal condition. The only difference between a sane person and an insane person is, that while we are often in a temporary abnormal condition they are in a permanent abnormal condition. Madame Roland was in an abnormal condition five months previous to her execution. Many Frenchmen during the Revolution would cry aloud with joy at the sight of blood. Any of you who have read of the French Revolution will remember that the streets of Paris were fairly covered with blood, in some parts ankle deep; and the more blood the people came in contact with the more fierce they became, because the blood acted upon the organs at the base of the brain, producing partial insanity. Charles Dickens gives in *Barnaby Rudge* a description of a scene in the city of London, which is absolutely terrific. Persons actually

swallowed whisky which was running in the gutters, percolated with human blood. Brothers were dashing madly against brothers, acquaintances against acquaintances, shouting, reveling, murdering, like demons in pandemonium. Their passional elements were in full sway, while their good qualities seemed to be temporarily obliterated.

LECTURE THIRTEENTH.

W O M A N .

GENTLEMEN: Woman's nervous and sexual system is the theme of the day—certainly a very perplexing one to all, whether learned or unlearned. Her generative organs are very complicated and minute in structure, and require great discretion, attention and study on the part of students of human nature. A proper presentation of woman's triple nature would do away with a vast deal of twaddle and florid rhetoric with reference to her "proper" sphere, "unbounded superiority," unequalled grandeur and nobility of soul, etc., etc. We who ponder the laws of cerebral and bodily organization know that all women are not noble—that all men are not noble, and that it is somewhat dangerous and unscientific to generalize too much with relation to either man or woman. We can not truthfully say that woman is such and such—that man is such and such—without qualifying our remarks, but we can say

some men are so and so, and some women are so and so.

The sexual system of woman is composed principally of nerves, tissues, membranes and organs, the more important features being the majora labia, vagina, womb, clitoris, ovaries, ovum, germinal vesicle, the vulva, fallopian tubes, etc., etc. Owing to woman's artificial mode of life, these various appendages are liable to disarrangement and disease. The female child of unrestricted nature is hardly conscious that she has a sexual system, as all the machinery works so harmoniously, while the child of society is painfully conscious of the fact.

To give a full analysis of the character of woman, mentally, physically, socially and morally, would require about the same amount of time as would be required in giving a full and complete analysis of man. I propose to lecture on Woman this evening—not by any means to make an analyzation of her entirety, but simply to direct your attention to her sexual system, from the fact that many of those present are married and many are contemplating marriage.

It is necessary for a man, whether single or married, to know at least the location and the functions of the different sexual organs of woman. The mons veneris is distinguished by fullness and growth of hair; it is distinguished also for a great deal of elasticity and sensitiveness of touch. Immediately within the lips of the vagina are found numerous little vesicles or blood vessels, and when these are greatly congested, as in the case of partial nympho-

mania, they are very much swollen. They look exceedingly red to the naked eye or when inspected with a speculum. Immediately at the back of these little vesicles is found the clitoris of woman. That is nothing but a minute male penis, because it looks precisely like a penis, and had it proportions and size, it would require nothing more to make it one.

The little clitoris is the seat of amative sensation in woman, because in every instance where this has been cut off or benumbed with any kind of drug, the woman ceases to take pleasure in sexual embraces. There are some diseases that affect the clitoris so as to produce, on the part of woman, a total incompetency for, and total dislike to, sexual encounters. Many of the diseases incident to the sex are traceable to this one little organ; it develops many of the diseases that pave the way to sensuality and crime. When the nerves which ramify over the glans penis become inflamed the same condition is produced in man as an inflamed clitoris produces in woman. This disease is termed satyriasis in man; in woman it is termed nymphomania, or inflammation of the nymphe itself. There is no question about the fact of Cleopatra possessing nymphomania. She had intercourse with Antony, and, as some writers have remarked, with the major portion of the great Roman orators of that period; and she would receive the embraces of from five to ten men within the compass of twenty-four hours. In that same age there lived another woman who seemed to be afflicted even more than Cleopatra with the element of lechery; and it was said that thirteen large

and lusty gendarmes failed to gratify her sexuality.

A woman is to be greatly pitied who labors under this disease. Why, if it is running to a great extent in her organization she is almost morally irresponsible for her acts. It seems to affect the entire congeries of the brain, and makes her for the time being perfectly wild with sexual excitement. Many a woman has made a *faux pas* in life, disgraced herself, possibly, for a series of years, if not for her entire period of life, by being impelled to gratify her amativeness illicitly whilst laboring under this disease. Now, if women understood, as they should, their sexual systems, they would not labor under these troubles, because injections of cold water mingled with a little chloride of potassium, will allay this sexual irritability so as to prevent her from going to extremes. Many a good man wonders why his wife is so unusually passionate, so unusually fervent in her embraces, from the fact that antecedently she had been noted for reservedness. The facts may be, that owing to a want of bathing the parts, the gentle, virtuous wife may manifest this by virtue of absolute disease of the clitoris and nympha itself. It is more lamentable to see a woman laboring under this disease than to see a man laboring under satyriasis. To behold a virtuous young woman, sixteen or eighteen years of age, with a cheek blooming with health, eyes bright, countenance sparkling, perverted by this disease of nymphomania, is one of the most terrible pictures in the world for the contemplation of any person. Immediately back of this clitoris we find the rugus walls, or walls of the

vagina. They are little rough and wrinkled. If the volutes are very deep in a woman, she is remarkably inclined to conceive; that is to say, seminal fluid is more apt to be left in one of these places, to be carried to the ovaries, than if they were shallow, because if they are shallow the seminal fluid will often pass downward, especially if there is no strength in the spermatozoa; whereas, if they are deep the seminal fluid is retained for days, even after the woman has washed herself, and possibly impregnation will take place unless she has attended to other physiological rules. In some women these walls are rougher than in others. At the further extremity of these walls there is a certain muscle so arranged as to fasten tightly around the glans penis of a man and produce suction. Where a woman has great suctional power, she is a woman of great passion, and of a good, sound, healthy sexual system; but where there is a flabbiness and want of this suctional power, the woman is laboring under some disease or general debility of the sexual and nervous system combined; these are points that every one should understand. A man is very often displeased in holding copulation, even with his own wife, whom he respects and loves, because there is no suctional power. A simple remedy would be sufficient to place that portion in a condition to manifest the highest degree of suctional power. At the extreme end of the vagina is the mouth of the womb, and in some women, instead of being away back in its place it is down to one inch, half an inch, or even

down to an eighth of an inch, of the mouth of the vagina, and sometimes absolutely protruding through the lips of the vagina itself. That is an abnormal condition. A woman possessing such a condition can not possibly be healthy. It is not possible for a woman laboring under prolapsus, or falling of the womb, to be either a sociable companion, or capable of producing healthy children. Prolapsus is one of the most common diseases incident to females on this continent. Possibly forty per cent. of our so-called civilized women of America are afflicted with that disease, and these same women will always complain of their husbands hurting them during the copulative period—they experience pain instead of pleasure, simply from the fact that the man's penis no sooner enters the lips than it comes in contact with the sensitive mouth of the womb itself. There is a sensation felt on the mucous substance of the womb similar to what would be experienced by throwing a handfull of rough, coarse sand upon a portion of your face that had been skinned; hence these women are altogether indisposed to copulate whilst laboring under that trouble. Prolapsus uteri is one of the most common, and at the same time one among the most fatal of family diseases. There are certain signs by which you can detect a woman laboring under prolapsus, and it might be well enough to state to young men the various signs; but from the fact that it would take more time than we have leisure this evening, I will have to let it pass by.

Passing from the mouth of the womb up its centre,

we find that as we approach the farthest extremity of the womb the orifice opening is larger than it was at the beginning. This is a law that nature has introduced for the purpose of not compressing the spinal marrow or brain of the child too tightly. The proper delivery is such as would give a woman the least pain. The natural position of the child is such as not to impede the opening of the orifice, but to assist it, and the upper portion being the deepest and widest contains the deepest and widest portion of the embryonic child. Immediately on the right and left of the womb we have that mysterious formation—which was not definitely analyzed until a few years ago—the ovaries. Very few men knew much about the ovaries thirty years ago; in fact, we had very little tangible knowledge previous to 1858, and we have acquired much more knowledge within the last five years than we did in all the time previous. Ovaries to woman are, of course, what the seminal fluid is to man. The best seminal fluid would not manufacture a child without the ovaries or ovum. When these two principles come in contact, and when the conditions are fit for electrifying each other, a child is the result, of course. The reason that many women are barren is from the fact that the ovaries are only partially developed; consequently the ovum or egg is small and illy developed. Wherever a woman possesses a healthy egg, full in development and clear in consistency, in every instance that woman can conceive and bear children. Where there is a want of development, a want of a full yolk on the one side, and albumen on the other,

there can be no baby, no matter what power the husband may possess. A great many ladies suppose they are barren because they take no pleasure in sexual intercourse. It is a common thing to find ladies with a fine physique who have not a particle of taste for sexual encounter, just the same as now and then we find in our own sex a man with a large physical formation totally wanting in virile or sexual strength. But it matters not one iota whether a woman enjoys the copulation or not—whether she is placed under the influence of aconite, belladonna or opium; just so sure as she has a healthy ovum, and that ovum comes in contact with the spermatozoa of the man, she will conceive and bear a child. It is all foolishness, then, for you to hold to the theory as vulgarly taught, that it was a certain sign that a woman was barren because she did not enjoy sexual pleasure. The sympathy existing between the front and occipital portion of a woman's brain and the sexual system is greater than in man. We find women are more easily thrown out of gear than men. There is a period of from one to seven days in every month after a woman reaches puberty, on to the climax or turn of life, that she must be troubled, that she must be unfitted for the executive duties of life. During that period a woman is found to be exceedingly nervous and irritable, in many cases fault-finding and peevish; and it requires a man of a great deal of information and sense to know exactly how to treat his wife when she is in that state. One class of women require to have sexual intercourse because there is a great deal of heat about the sexual appa-

ratus—the nympha is heated and they demand sexual intercourse. Sensible husbands will never gratify them, because they are in danger of poisoning themselves, and developing a serious disorder, which we term “fever of the vesicles,” if they hold copulation during her periods.

Another class whilst menstruating experience such a disgust and antipathy to the opposite sex that they will not treat them with ordinary civility. So you see that while one woman is plunged into a torrent of sexual pleasure, another woman is totally devoid of it. In most Indian tribes it is customary, when a girl is undergoing her menstrual period, to lock her up in a room away from the family. If they have no house she must sit within a certain portion of the tent. She is never allowed to eat at the same table nor to cook any victuals, because there is a legend among those people that everything that is touched by a female laboring under her menstruation will be calculated to develop ill luck and sickness to those who handle or eat the thing touched by them. My medical studies have taught me that it is not only common to the Indians, but that it is also a common belief among the lower forms of the Malay and Mongolian people; and it is said by some recent writers that there are some parts of Europe where the major portion of the lower class of people believe in that yet; that the blood of the woman at that period will disease anything it touches; if it falls upon the grass, they imagine it will be forever blasted, and if it falls upon a particular track that a child is in the habit of walking

over, the child's life will be like the March winds, irregular, disjointed and cross. Of course this is all perfect folly. Every physiologist will give you the same advice as I do, viz.: That when a woman is laboring in her period she should be left alone, spoken to kindly, treated with great respect, should not be embraced or caressed in any way; and never let her know, if you can prevent it, that you are apprized of the fact, because some women are so sensitive and refined that they look shame-faced and downcast while laboring under this period. A great many men make fun of them, sneer, and so forth; that sort of treatment is well calculated, in a delicate woman, to produce disease. Now, this period is very essential to woman. Were it not for the periodical flowing off of the poisonous blood from the female system the woman would be a mass of corruption in less than three years, unless some other avenues would take the blood and throw it off from the system, because there are certain acrimonious secretions collecting around the capillaries and concentrating to a given center, and if they do not pass off with the blood-periods, it will, in the course of time, develop sores and a diseased condition of the body in general. A man having a wife should be very particular about her periods. Some women flow three or four ounces, and others one or two pints; the natural flow is from one to one and a half ounces. One French writer claims that the flow should not exceed one half ounce, in order to be in perfect health. This is one of the most recondite parts of woman's sexual system. My opinion is that it depends alto-

gether on the woman's temperament, and I think that if she is a large, plethoric woman, ten ounces in the course of five or six days would be less to her than two ounces would be to a woman of the mental temperament, or to a weak woman, so that it would depend on the physiological make up of the woman.

In all women who possess a small pelvis we may expect to discover a small sexual apparatus ; that is to say, the lips will be very small ; instead of being widely elongated, they will be very closely knit and small ; the canal will be short and narrow ; the womb will be imperfectly developed ; the ovaries in many instances only partially developed. If you marry a woman of that kind—with a small pelvis—you will have an imbecile all the days of your life. Sexual intercourse produces disease ; if she has a child it will be rickety and imbecile, and in nine cases out of ten will kill the mother at the time of delivery. Remember that, young man. Never marry a woman with a small pelvis ; that is an exceedingly bad development of body in the region of the sexual system ; never marry a woman who possesses a very narrow waist, because, in most cases, her narrow waist has been produced by artifice, which causes the floating ribs to become compressed, and the intercostal muscles to be prevented from becoming developed. Marry a woman with a wide pelvis, with a fully developed sexual apparatus, with large mammary glands or breasts, a full development of chest, and see also that the breasts are not flabby or soft to touch. If they are hard and

well-knit you may know that she is a virtuous woman. There was a time when virtue was decided altogether on the state of the hymen. Some old fogies talk about a hymen, and a great many men believe in that yet ; that is to say, they suppose that where a woman has no hymen she is not virtuous, but the fact is there are thousands of girls who break their hymens by lifting, straining, running or jumping. It is a very delicate membrane, so delicate that a girl may burst it without knowing it ; it is therefore no proof at all. I have known some poor fellows, frightened supposing they had not married a virtuous woman because they found a broken hymen. Fifteen or twenty years ago a physiologist making such a statement would not be believed. The best physiologists of Europe claim that the hymen is in no way connected with a woman's virtue.

Women are more sensitive than men ; they require a great deal more caressing and attention. But it is a lamentable fact that the most miserable organizations that inhabit the continent of America are women. Take a badly organized woman and she will go to ten times the depth of meanness, degradation and scoundrelism that would distinguish the most degraded criminals in the prisons of the United States. There are men that possess ten times the natural refinement and delicacy of some women, and these men can be known by the nature of their brain and temperamental formation. You do not say a woman is a woman because she is different in sex, or a man is a man because he is different. We

must not say a woman is good because she is a woman. An old law-giver, some twelve centuries ago, erected a large representation of the weaker sex, with the words over it: "Woman of this century—the Goddess of Lechery." Moses speaks about woman being emblematic of passion or lust; and a Hindoo philosopher states that the original Hindoos formerly supposed that woman's figure and form illustrated sensualism so much better than man's that they erected beautiful effigies of her in their different establishments devoted to pleasure and sensuality, and there were certain words written over her implying that she was full of lust. I state, as a physiologist, that we have more lecherous women than men, from the fact that they are lifted above the necessity of work. I am speaking now, of course, of women of wealth and pleasure. More absolute sexual crime envelops these little silken organizations than envelops our men. And all of you will recognize the fact that to say that a woman, simply because of her sex, includes all the virtues that many writers have attributed to her, is simply stating contrary to the dictates of experience; but to make this declaration, that all persons possessing certain ingredients calculated to exhibit the qualities that we all admire, such as nobleness and elevation, must necessarily have fine temperaments and good organizations, whether man or woman, would be quite correct.

It is a very common thing to see a poor, delicate man leave his seat in an omnibus and resign it to a large, plethoric, bombastic woman. The poor man will have to stand and lean on his crutch while the

woman who occupies his seat will not even thank him for it. The majority of women will go to sleep while listening to a scientific, analytical lecture, sermon or debate, but give them something perverse—something after the manner of the “Black Crook”—and their countenances are illuminated, eyes flashing, joy depicted on every feature; and the house is crowded with these women. Then, I must state, as a physiologist, that the women of the nineteenth century are absolutely, in every sense of the word, inferior to men.

It is a matter of serious speculation to the physiologist, as well as to the observant citizen, to see the attempts they are making to perform the duties of man—to unsex themselves so far as to enter into the executive duties of life. Now, if it were a question of mere brains it would be a different thing, because then we would say, if she is smart enough let her vote, by all means. But the question seems to be: “Shall I, as a woman, have all the rights that have been granted to man?” Two leading ladies, with reference to women’s rights, wrote editorials to the effect that if a man keeps a mistress, a woman, by all means, is entitled to keep a paramour, and because men do so now women will do the same. These great teachers tell us that they have the same privileges as men, and it is a common thing in the city of New York for a nice, gentlemanly husband to be duped by a miserable wife who is running after her paramour. Her education is tending in the wrong direction. Of course, every physiologist believes in equal rights, and that every woman should

occupy as high a position as man, but no physiologist believes that she can perform all the duties of man. Mentally, woman is inferior to man by virtue of less brain; physically, she is inferior by virtue of less muscle; and morally, by virtue of less force of character. This makes her more liable to be drawn from the paths of rectitude than man. Thousands of beautiful, grand and magnificent women are trying to do something for the purpose of causing their sex to manifest more intelligence and sense, but the trouble is, woman's present notions of right and her education cause her to accept the bad and reject the good. All the excitement we have in this country with reference to woman's rights is doing a great deal of harm and very little good. A woman now says to a man, "I am not only your equal, but your superior. You may go and labor day after day, but you must give me all the privileges I want. I will not be placed in the condition of a slave." She will talk herself into a fit of anger by reading certain articles on woman's wrongs, when the fact is, she has a good husband, who tries to make her comfortable, but, owing to a want of proper education, she catches the wrong idea. Most women take the wrong rather than the right side of this revolution. A woman's social, mental and physical nature will develop just the same as a man's. There are no two women exactly alike; there are no two men exactly alike. What we say about one woman would not be applicable to another. We will have to search over a great deal of territory to find such another woman as Queen Elizabeth. From what we can

learn of her history she was said to be by one historian a very bad woman, and by another a very good one; but by looking on the organization of Queen Elizabeth we can see what she was, and the evidences are there of her having been a very bad woman. But outside of history we can readily find a great many better women and a great many worse. We venerate the names of all good and industrious women, from geniuses like Mesdames Roland, De Stael, Nightingale, De Souza, Guizot, De Lafayette, De Krudner, De Remusat, De Duras, De Servigne, etc., etc., down to the shop girl; but we have no respect or patience for the flash girl and intriguing woman of the period.

May God protect and love all, whether man or woman, is the wish of every earnest physiologist.

LECTURE FIFTEENTH.

MORBID ACTION.

[Reported by James Robson, Phonographer.]

The subject for our consideration this evening, gentlemen, is more purely medical than phrenological, because we have to deal with morbid cerebral action, and this expresses, to an extent, the facts that have been given us by pathology and anatomy. From these sciences we learn that the brain is just as subject to disease as any one of the organs of the human body. We, however, learn that the major

portion of these diseases have been involved in mystery, and that the therapeutical agencies given for cerebral relief have been in the main non-successful. The brain being so much more delicate than the body, we need not wonder that physicians are not so successful in treating its diseases. How can men treat the various diseases to which the human brain is subject without having a sufficient amount of 'pathological and physiological data to work upon. Shakspeare recognized the fact that the mind is subject to disease, that each faculty and each attribute of the mind was apt to become deranged, affected morbidly, and exclaims in one of his plays,

“ Can'st thou minister to a mind diseased ? ”

Every man of genius and talent, in every age of the world, has been called upon to contemplate some terrible, morbid action of the brain, and in silent submission bowed down and said, not only to himself, but to those around him—“ beyond the reach of medicine.” What is more singular in these diseases of the brain is, that wherever there is a disease it is bound by a law of sympathy to transmit itself to other portions. We have general diseases of the brain as well as special diseases. Doubtless the majority of men suffer more or less from partial disease of the brain. When it is an absolute disease, involving most of the surface and interior portion of the brain, then, gentlemen, we have an absolute case of insanity. Insanity is undoubtedly a disease of the brain—not mind. I am satisfied from

my own knowledge of anatomy that so long as the cerebrum is in a normal state just so long will the mind's acts be normal and rational. These little net works of the brain are liable to become not only partially, but fatally, deranged; hence you should give as much attention to the right direction of the phrenological organs and faculties as you give to any other portion of your body, and possibly more. An uncommon disease is that of water upon the brain. Very few men are subjected to this; however, all who do possess it suffer to a great extent from deficient intellect. It not only impedes the action of the faculties, but, for the time, seems to obliterate them. "Softening of the brain" is a still more deadly malady.

Your brain, gentlemen, depends for its life upon the circulation of your blood, the condition of your digestive system, the action of your parotid sublingual and gastric glands. In short, it is dependent for its manifestation upon the physical body, and the physical body in its turn for its absolute electricity on nervous force and vital energy. I believe a man's vitality to be entirely located up in the occipital portion of his head, and I believe there is sent from that region a subtle force for the purpose of animating and strengthening each fibre, gland and tube. The brain, then, is certainly the seat of life, as well as the seat of thought, and intellect. Separate brain from organization and organization is nothing.

When we see men day after day visiting the gilded saloons and expending from twenty to thirty—

nay, even one hundred, per cent. of their earnings for poison to take away what sense they possess, we look upon men who are morbid, whose brains are in a pathological state. When we see young men in a den of prostitution for the avowed purpose of taking to their arms a lewd wreck of humanity, running the risk at the same time of a disease for other generations that will follow after them, we will find in their cases a morbid state of the brain. When we look upon a man obliterating every trace of nobility and grandeur of soul for the purpose of furthering his pecuniary interest, if we could throw back the skull and note the pulsations of his brain, we would also discover a morbid state. When we note a man delving amid the realms of science from early morn till the midnight hour, abusing his organic and physical system, if we could look into his brain we would find a morbid condition. When we see a man totally wrapped up in the study of mathematics to such an extent as to lose sight of all other sciences, we also know from these exhibitions the brain is in a morbid state. When we listen to the fervid orator, whose language flashes over an immense amount of intellectual territory, only touching here and there a mere principle in nature; when we note his mind wandering higher and higher amid the speculations of the chain, giving no ideas, facts or phenomena, we are also satisfied that there is a morbid condition of the brain. If we hear a man hurling epithets at the woman whom he has taken to his embraces for life, it shows a morbid state of the brain. Where a man's mind is centered on one object, and on one object

alone, it promises certainly to be a morbid condition of the brain. It is normal action of the brain that develops normal thought, or natural thought. It is the abnormal action of the brain that causes your friend to attempt to plunge a dagger to your heart. It is a morbid condition of the brain that compels a young woman to depart from the path of rectitude—a young woman just blushing in the first radiance of girlhood and of feminine beauty. In short, gentlemen, it is a morbid condition of the brain that leads to adultery, murder, theft—everything that is foreign to natural mental action. Thousands of overt acts, gentlemen, are being committed every day, not only in civilized life, but also in barbarous, through the reflex action of abnormal organs. When a man's digestive apparatus is carrying on its functions properly there is always more or less aerated blood coming to the brain; there is likewise a more or less feeling of comfort. Disarrange the apparatus of digestion and the brain immediately sympathizes with it. Where insanity seems to have taken complete possession of the mind we think that if the brain could be exhibited to the eye of the philosophical inspector he would discover traces of morbid action in each convolution and volute. Natural action of mind, of brain and of body is undoubtedly what the God of Nature intended; but when we look around the world and see that it is really a grand theatre of disease and despair—see thousands of men living a life so false, so contrary to the dictates of intellect—see men plunged amid the darkest scenes of dissipation and crime, we see at once that God's wish is not be-

ing fulfilled. Although we must recognize man as a free moral agent, instead of going away back to the Deity and blaming him for our organization we have simply to blame ourselves, as human beings, for not making the most of our mental and physical natures.

All the great writers on medical jurisprudence—Amos, Dean, Dr. Beck, Taylor, and others—have used and are using the facts we have alluded to. These facts are introduced now in the courts of the United States and Europe for the purpose of either defending a culprit or prosecuting him. In short, criminals now are being tried in the spirit of science rather than in the spirit of prejudice. What the jury demands to-day is not whether this man is guilty of an overt act, but the motive which prompted the act.

I claim, gentlemen, that we are reaching a very grand point when the judges and lawyers are taking into consideration the pathology and anatomy of the human brain for the purpose of unraveling a mysterious case of arson or of theft.

Morbid conditions of the occipital regions affect a man's domestic nature—his procreative nature—to such an extent as to produce false conditions and cause complete insanity in this special direction. Morbid action in the coronal organs of the brain, if allowed to continue, will produce the most absolute insanity of the faculties pertaining to this region; and when these morbid states send reason tottering from her grand and lofty throne, then, indeed, we have a picture which is altogether too lamentable and sad to contemplate. Nothing is so sad and spirit-

disturbing as for the sane man to contemplate the insane. We contemplate insanity with sadness, with the most profound grief. Every man who has sent into this world a genius has witnessed morbid action in his child long before it reached maturity. In the very nature of things there must be morbid action in order to manifest genius, for bear in mind that every genius that ever flashed a pen across paper was more or less morbid in one or more intellectual organs, but not to such a degree as to produce absolute monomania on the one side or insanity on the other. All of the great reformers of the world possessed morbid conditions of the brain, and in the nature of things it is necessary to have certain organs in an abnormal condition to produce grand, lofty and lasting results. Dick, Cromwell, Byron, Poe, Julius Cæsar, Brutus, in fact all men who have stirred up the world of tumult or the world of action are illustrious examples. Inspect closely the characters of these men and the motives that propelled them, and you will discover either one or more faculties predominating so over the rest that such and such results were produced.

Now, a man in the natural state is a man of talent—not of genius. A man of talent acquires all that is to be acquired in the world of facts and of ideas. He uses this acquisition for the purpose of surrounding himself comfortably and attending to the welfare of his family and of his friends. The action of his mind is regular. You will find in this case that each of the faculties seems to be harmoniously in unison with the other faculties; there is a regularity

throughout the entire brain, and, as a result of that regularity in a man of talent, we have natural phenomena in the domestic, moral and ipseal regions, from the beginning to the end; but those men who flash out in a distinct and peculiar direction—who run riot in the world of imagination—who paint pictures that they only realize with the pen—who day-dream and dally in a world of metaphor—are in a morbid state. In short, such a man as Schiller, in his youthful days, can not be termed a man of talent, but a man of genius. Genius, then, is a morbid condition of the brain, while talent is natural, or rational action of each separate, as well as collective, organ of the brain. Self-esteem can be thrown into a morbid state, so as to produce in a man the most overbearing, domineering expression of face and action in the world. Firmness may be in such a morbid state as to produce the most terrible stubbornness on the part of the possessor. Veneration may be of such a character and in such a state as to bring down derision upon the head of the owner. In fact, every one of the phrenological organs are subject to this morbid state of action. The artificial imbecile, or he who brings on imbecility by overt acts, may become a rational man. Why is this? Because, in the latter case, you have a capital to commence with. The conditions of the idiot, however, are too shallow, the fibres are too meagre, the circumference of the brain too small and the texture too coarse. As nothing can spring from nothing, nothing can be expected from an idiot; hence that

class of subjects are not subjects for future rewards or punishments.

Were I to teach Anthropology for a thousand years I would insist upon every man cultivating his domestic nature in a purely rational manner. Send an immense amount of blood into that region wherein we locate destructiveness and combativeness, and allow the individual at the same time to possess by nature these organs 6 or 7 in condition, then bring to bear some impression on that man that is further calculated to increase a flow of blood to the parts, and if he has a knife or pistol in his hand he will murder you.

I will not enumerate the many diseases to which the brain is liable, because to do that would require ten or fifteen special evenings. It is one of the most extended fields in the entire subject of Anthropology.

EXTRACTS FROM DR. PAYNE'S LARGE WORK
ON THE
REPRODUCTIVE SYSTEM OF MAN.

“TO THE PURE ALL THINGS ARE PURE.”

The topic to which I shall invite your attention in this lecture is one that should be passed over by persons of “morbid modesty” and deficient common sense. It is altogether uninviting to the “fastidious,” and hence, with few exceptions, it has been avoided by popular lecturers, preachers, physicians and writers; and owing to this society has presented in every age of the world the most revolting forms of solitary and public sensuality. There exists in every “center” of civilization a horrible vice, which is sapping the life blood of thousands and poisoning the souls of the young; yet humanitarians and teachers are too modest to speak of it, or attempt by word or deed to remove the cause or counteract the effects. Masturbation is the cause—the deadly “nightshade” or “Upas tree” of all nations, and will continue to be until men of science and religion unite and calm the dreadful storm. Glance in whatever direction you may the ghostly wrecks of humanity appear. They troop up before you from every strata of social life; from the mountain and

the plain, the hamlet and the city, the cottage and the hall, each showing the hideous work of masturbation, each stamped with the perverted seal of am-ativeness. Perversion of the sexual system produced through the mediumship of masturbation breeds the second, third and fourth "generation curse;" while the natural use of the sexual apparatus breeds the blessing and the hope. The putrescent record of the first exhibits disease, guilt, shame and gloom; the pure, white record of the second, health, innocence, frankness and joy. Even the atmosphere of the first produces disgust in a mind of acute sensibility, while that of the other produces peace and pleasure.

Parents! the tongue of the deadly cobra di capello will do your children less harm, however favorable the chance, than this fascinating vice of self-pollution, because the poison of the first enters into the vital circulation rapidly, thus producing instant physical death; while the other, by a slow, soul-destroying process, permeates the mind of the boy or girl, man or woman, and drags them unresistingly along the rugged gullies of a lingering sickness to the damp vaults of a terrible death. The stake, the guillotine, the rack of the inquisition, the rushing winds, howling beasts, falling, crashing timbers, the red hot, forked lightning, should not be more sedulously avoided than this growing vice of youth and oftentimes of manhood.

Acton, an eminent English writer, says, "In a state of health no sexual idea should ever enter a child's mind." All its vital energies (it is obvious from this

statement) should be employed in building up the growing body, in storing away external impressions, and in educating the brain to receive and hold them. Owing to certain hereditary predispositions, bad companionship or other bad influences, sexual feelings are often excited at quite an early age, and too frequently with consequences of the most distressing character. There are special physiognomical signs indicative of this lamentable predisposition, but from motives of respect for "unfortunates" I will not describe them. Infancy, youth and early manhood should be accompanied by partial or complete repose of the generative functions. If you find a premature development of the amative power in your child, see that it is immediately repressed. It would be much better for future progeny if the reproductive organs of infants, children and youth remained totally in a state of quiescence until puberty, and equally favorable to the health and happiness of offspring if they were not so frequently used and sadly abused in the days of maturity. Many persons render themselves impotent for life by indulging injudiciously the organ of amativeness when quite young and delicate. It is astonishing to discover how early in life this power—no, not power—this desire for sexual enjoyment is developed. I have observed its manifestation in children of three, four and five years of age, as indicated by the congested and erected condition of the penis. In such cases cold water should be used on the base of the brain, morning, noon and night, and heavy, rich, highly-seasoned food banished from the child's table. I look upon

children's dancing schools, as at present conducted, as perfect hot-houses for the undue, precocious and dangerous ripening of this power. The graces and accomplishments can be readily taught outside of them, and I hope that every mother who reads this will be especially careful on this point.

The immediate and remote exciting causes of morbid or unnatural amativeness and its sequence, masturbation, are many, but my space will not admit of citing them all. First, I will specify hereditary descent as being one of the leading causes of sexual precocity. Through physiology we learn that children from birth inherit a peculiar conformity of features, frame and mind from the male or female parent, and sometimes from both; and as in body and mind, so in sexuality. If the parents of a child are excessively amatory they will be apt to entail the fatal disposition on it, and so on for successive generations. No doubt vicious sexual natures are often acquired, but I am sure that, whether acquired or not, moral, mental and physical diseases and peculiarities are transmitted to the progeny, and in the courts of law, crime and lechery we have abundant proof. In the production of extreme sexual passion we have what are termed immediate exciting causes, and I propose now to mention some of them, and at the same time indulge in a little rational hygienic advice; but before doing this permit me to quote a brief passage from an ingenious writer of the Louisville, Kentucky, Medical School:

“When the glittering water descends gradually, with a low, hoarse, gurgling murmur, and ripples

through the valley and over the greensward and pebbles and wild flowers, it enriches and adorns the scene; but when it rushes down in a roaring, impetuous torrent it carries devastation in its course. So, when the amative passion is subjugated to reason, it adorns and casts a radiance over the entire character; but when allowed to rage with unbridled fury it commits fearful ravages on the person it was intended to exalt." As amateness was instituted by the Creator for a definite purpose, and the "law of use" for purposes of utility, I can feel no sympathy in behalf of prudes and falsely modest men for ignoring the one and treating with disdain and contempt the other.

Among the exciting causes of diseased amative action are hot, heavy suppers, beds of down, illy-ventilated sleeping rooms, late hours, kissing parties, fashionable dancing parties, tight dressing, unclean habits, yellow covered literature, obscene books, obscene photographs (one artist in New York by prostituting his talents realized ten thousand dollars in one year from the sale of the latter), libidinous conversation, sedentary habits, costiveness, nervous irritability, inflammation of the bladder, heated cerebellum, irritation of the parts by sympathy occasioned by the presence of worms, tissual fever, and other morbid surroundings and conditions too numerous to name. Lallemande says that "smegma, a peculiarly irritating secretion under the prepuce, is a leading cause of masturbation among boys." The truth of this will readily be perceived when we remember that the prepuce in youth entirely covers

the glans penis and thus keeps it in a partially congested state, owing to the close contact of the two membranes. Right here let me observe that I would fain imitate the Jews—that I believe in the moral and physical good results of circumcision; for so long as the boy can not draw back the foreskin he can not keep the parts clean, and cleanliness is next to godliness, according to the Bible and common sense. The Jews are almost exempt from sexual maladies.

Ricord says, "A long, undrawn foreskin is a much more frequent source of 'evil habits' than medical men would at first believe." This being the case, children should be educated to remove the perspiration and collection of foreign matter from the genitals just as carefully as they are taught to remove dirt, etc., from the face and hands. For the life of me I can not see anything so immoral and repugnant to the sentiments of refinement and propriety in this subject. God made the genital apparatus and endowed it with specific offices, and doubtless demands that as much cultured attention should be devoted to it as to any other portion of the animal economy. Banfour remarks that "the prepuce is the silent cause of much mischief, as it affords an additional surface for the increased excitement of the reflex action, and, in the present state of society, aggravates an instinct rather than supplies a want." Give to children plenty of out-door exercise, plenty of ventilation, plenty of water, and you will save lives innumerable. Reading obscene books is a prolific, exciting cause of masturbation. The lascivious

scenes described and the suggestive pictures presented awaken the dawning passion before it is fully ripe. Shun these books, young men, as you would shun the liquid of hemlock. You need not imagine you can read these "French productions" without injury. They were a leading cause in producing the downfall of Lord Byron, and through them his name has been injured since his death. Remember that these horrid books have led into captivity minds of great calibre. Remember this. Shun them! Fear them!!

If you are in the first, second or third stage of sexual lassitude or sexual impotency, never trust to the false voice of a quack, never answer quack advertisements, never take quack nostrums, etc., but cease the "habit," bathe the person every night, live by my rules and take my prescriptions, and pour plenty of cold water on the back of the neck and cerebellum every morning. Don't buy any of those miserably contrived "mechanical assistances to sexual strength," as they are called, but rely on habits of purity and cleanliness and rational treatment. Never associate with or countenance "women of the pave, demi-mondes, mock widows, etc., as thousands of brilliant young men have been horribly diseased by so doing, and then horribly butchered by "quack doctors." Young man, if you expect health and happiness, save all your life-giving element, your rich spermatozoa or seminal fluid, for legitimate and permanent marriage.

CHAPTER II.

SPECIAL REMARKS, CONTINUED.

Self-preservation is the first lone star law of nature, reproduction or propagation of the species the second, and on these two laws the destiny, nay, the very existence of nations, tribes and individuals hinge. Every object possessing life is sexed, from the lowest groveling worm, moth, limpet, mollusk, beetle, up to the highest formed vertebratæ. Right direction of this sexuality produces health, happiness, longevity; wrong direction, disease, misery and death. Show me sexual excess and I will show you sexual disease. Show me legitimate sexual moderation and I will show you sexual health. Remember, husband, a diseased grain of corn, a diseased stalk; a diseased acorn, a diseased oak; a diseased husband and wife, a diseased child. By a *mandate* "from on high," the ante-natal state of parents decides, to a degree, the constitutional health or disease of children, and no married couple can use their sexual natures to the exclusion of higher and nobler duties without stamping on their offspring the dreadful curse of lust. Remember, man, the "Universal Cause" acts not by partial, but by general laws. These same laws, which sweep through the animal kingdom and through the vegetable realms, permeating, shaping and developing the same, equally act upon you in so far as you are dependent on the same. In no respect, save one, are you exempt from nature's inflexible "general laws," and this relates

to your "individualized mentality," which admits of peculiar and specific laws.

Every flower, plant, star, after its kind; every man after his kind; in short, like produces like in seven cases out of ten. In view of this, then, be especially particular in the selection of a matrimonial mate. Just so certain as a man marries a woman who possesses a deformed pelvis he will (if capable of reproducing life) look upon a still-born or deformed child. Just as certain as a woman selects a man of "blotched" and sexually dissipated habits, she will note poisonous blood gliding along the arteries and veins of her child. Oh, man! oh, woman! Stop, and think! Do not permit wealth or station to decide this case for you. It does seem sometimes to the human physiologist that man hath forgotten his compound nature and woman her materiality. He spends his "spermatic fluid" without stint or restraint; she lives and laces herself in such a way as to indorse De Balzac's declaration, "Woman of modern times, thou art an invalid."

Physiologic science fully acknowledges the Bible saying, "The sins of the parents shall be transmitted to the children to the third generation"—nay, even to the twentieth generation. I examined, phrenologically, a short time since, one among the most gifted of American statesmen, a man, indeed, of unusual brilliancy and drive, both in the departments of "law" and "finance;" yet underlying all his excellences was a miserably avaricious, grasping, disquiet mind. The counter-currents of his nature seemed to be at war with each other. One day he

would find legitimate professional ambition in the ascendant, the next, his morbid craving for gold. Wrought up one hour to a high pitch of intensity by his idealistic and philosophic faculties, and goaded onward the next in the path of money and treachery. After giving him a delineation of himself, he remarked that I was singularly accurate in every point relative to his character, and then made the following statement:

“My father married at twenty a lady of eighteen. Being ambitious, he was anxious to enter the political arena. Poverty, however, checkmated him, and reason pointed to the channel of commerce. He immediately started in business, first on a small scale, and finally on a larger one. For the first five years of his married life every mental and physical power was concentrated to the focus of wealth. During that period my mother gave him all the assistance at her command, being also exceedingly economical the while, and during that time I was born. From boyhood up I manifested an accumulative disposition, and would trade knives, tops, kites, skates and other play things to advantage, and found, also, but little difficulty in the process of education. Soon, however, I discovered myself debating whether I should be a man of wealth, or of learning, and from that period to this I have never been able to decide.” It seemed to me that fate had decided in his favor in both instances.

I found, in this case, acquisitiveness developed to the degree of 7; causality, language and comparison to the degree of 6 1-2; ambition, 7; while con-

continuity was 4 1-2, and conscientiousness 2 1-2. This combination rendered him, in connection with large secretiveness, altogether paradoxical, inconsistent, and at war with himself. His only brother, who was conceived some ten years later, when both parents were leading a quiet, domestic life, surrounded by literary and home comforts, was marked by great intellectual precocity, passionately fond of study and books, and died before he reached his maturity. Hundreds of similar examples could be given.

In the lion, lamb, on up to man, a new being is formed as soon as the semen of the male comes in contact with, and impregnates the egg or ovum of the female. Sever or benumb the testicles of the male, and pride, power, and beauty will vanish. Sever or injure seriously the ovaries of the female, and intellectual vivacity, grace, pliancy, and receptivity will be no more. Take the eunuch, castrated horses, impotent men, or a spayed female animal, for example. As a better illustration, look at the natives of Lavanti, a province of Sardinia. They, by their excesses, prematurely exhaust their sexual powers before manhood, and this is what renders them so timid and worthless. Poor, degenerate sons of men, by wasting their spermatic fluid, thereby numbing their testicles, they fall by that terrible malady, "generative syncope." Gaze upon the depraved countenances of the Hindoo and the Sandwich Islander, and mark well, young man, the flabby muscle, the unelastic mind, the unambitious eye, and halting, dragging step, and see foreshadowed your own case if

you continue to tamper viciously with your "genital organs." I met a gentleman, a few weeks since, who gave me a verbal history of these last mentioned people. Syphilitic disease runs riot among them, and they are inveterate masturbators.

Three conditions in man and three in woman are essentially necessary to form a physically healthy babe. In man, first, the erection; second, the power of ejaculation; third, a due amount of well elaborated spermatozoa. In woman, first, a highly oxygenized state of blood; second, repletion of the cellular tissues, together with normal secretions from the entire mammary and glandular systems; third, a fully developed and uninflamed ovum. How few of our sex bring these first requisities to the bridal chamber. Alas! alas! how few of the opposite bring the second. If people but knew how many favorable circumstances it required in order to develop a healthy, happy child, there would not be in our world so many children "scarce half made up"—poor, miserable epitomes of semi-living death. Pardon me for relating the following:

Whilst lecturing in the interior of "York State" I made the acquaintance of a physician of more than ordinary powers of observation. He met me in the street one day and remarked that if I would accompany him he would show me a decided curiosity. We reached the house. On entering the room my eyes immediately fell upon the cradle and its contents. Oh, horror of horrors! What a wretched specimen of malformation! Hands, feet, arms, neck, trunk of body, and center of brain, a regular

embodiment of deformity! A ghastly, prematurely old looking face. Its little soul seemed to flicker along the facial nerves and muscles and say: Father, mother, God has given me the divine, quickening principle termed mind, but by your double acts, whilst I was lying in embryo, in the matrix, it never can be displayed on earth. The windows of my soul are closed by water and mucus on the brain. Each portion feels so full, so heavy, and so tense, that I pray, I pray, oh God! do give my body death! What was the cause of this baby's monstrosity? Why, by the father's own confession, the excessive vengery of himself and mate during the entire period of her pregnancy. Yes, sad to say, nightly intercourse from the moment of conception to parturition. Some ladies become very amative during the latter weeks of gestation, while others are quite the reverse. Husbands, note this fact, and act accordingly. A lady of the first type should be treated with double attention and affection, but not sexually gratified and further inflamed. A lady of the second should be left entirely alone. Yes, let her rest in sexual quietude, and she will return (after child-birth) to the arms of her husband, pure and vigorous.

It would be much better for society at large, as well as individuals, if all men of vitiated constitutions, strumous diathesis, or depraved blood, were castrated, or at least they should be prevented from sending second editions of themselves into a world already overcrowded with fragmentary pieces of manhood. There is much I would like to say to

husbands and wives, to young men and ladies, on the momentous theme of marriage—on the bad results growing out of physiological incompatibility, etc., but this I will reserve for my large book on “Special Physiology.”

The horrible crime of abortion has become so frightfully common, owing to the physiological stupidity and ignorance of women and the vicious and luring advertisements of heartless quacks, that if some bold, educated physician does not speak out so as to be heard by the public at large native reproductive power will be comparatively unknown in America, and we will be dependent on Europe for population. It is a fact—it is my experience—that five fashionable ladies out of ten resort to abortion, and that three of the husbands out of the five know it not. Ah, if the sisterhood but knew beforehand the physical agony, the mental depression following in the wake of this greatest of crimes, they would never commit it. May God forgive them! “They know not what they do!”

CHAPTER III.

SPECIAL EXTRACTS CONTINUED.

The “sexual system” of man is formed by the testicles, which secrete the seminal fluid; the vasa deferentia, which convey the semen from the testicles (the vasa deferentia is the anatomical name of the tubes, the functions of which are now fully un-

derstood); add to what we have already mentioned, the seminal vesicles, prostate glands, ejaculatory canal, urethra, penis and bladder, and you have the main anatomical frame-work of man's "generative apparatus."

More special knowledge of man's reproductive system has been gained within the last ten years than ever before. Learned men seemed to shun the subject until recently, and in consequence of this criminal neglect thousands of persons of vast natural intellectual ability have wrecked themselves on the shoals of pernicious habits. The laws of the sexual system have been disobeyed in every age of the world by the majority, and passional perversion has ran riot through every fibre of society until men of science have become aroused to a sense of their duty and are now attempting to stay its deadly march.

God gave man reason for the double purpose, doubtless, of studying every part and parcel of himself, as well as the phenomena and conditions around him. If he does not use this reason God will certainly hold him responsible. The study of God is the most profound and highest of all studies, the study of brain, mind and nervous system next, and the study of the reproductive system next, for from the latter emanates primarily all life, all volition and being. It is now an established fact that all organized beings come into existence under the same laws, and, to an extent, under the same conditions. In other words, the sexual principles of two separate entities must come in contact in a special and pecu-

liar way to give origin to fresh life and perpetuation. Even the floral kingdom, from the blue johnny-jump-up to the blood-red rose, cast up new life by mingling their sexual principles with those of their order, genera and species. Oh, man! when will you give the same attention to the grand and lofty study of nature that you do to the frivolous amusements and trifling affairs of *sense*?

The main organs of man's sexual system are two glandular parts, technically named the testes—vulgarly known as the “stones”—which are external organs and are held in an envelop or scrotum springing from the pubic bone, which is called by many unclassical gentlemen by the uneuphonious title of “bags.” These testes are to man what the ovaries are to woman, and constitute his masculinity. When the scrotum in which they are contained becomes flabby and dangles low down from the pubic bone, a man is more or less sexually debilitated and can not be the father of so healthy a child as when the scrotum or bags are firm, compact, and closely attached to the pubic bone. The scrotum of a man who is laboring under spermatorrhœa is invariably elongated, and extends itself unduly from the lower region of the abdomen.

In some forms of gonorrhœa the scrotum and testes become greatly inflamed and enlarged, giving the patient extreme pain, and in many instances interfering with locomotion and bodily action. The mumps and several other complaints often cause an enlargement and swelling of these parts, which is absolutely terrible to behold. Mechanical injuries

are often received by the testes which disable a man for life and prevent the possibility of his ever having progeny.

As we have already remarked, the function of the testes is to produce the spermatozoa or impregnating male principle, while the office of the ovaries in woman is to elaborate the ovum or egg. Neither the testes or ovaries can perform their functions until the boy or girl has reached puberty; hence the necessity of looking after the habits of young people at this critical period. Many a promising young man and beautiful young girl take the fatal step just when nature has ushered into ecstatic life the parts mentioned. By the terrible habit of masturbation the ovaries of a female and the testes of a male are prematurely developed. It is a melancholy fact that mere children excite themselves in solitude long before the sexual system can possibly germinate the ovum on the one hand or the seminal fluid on the other. Stunted growth and early depletion of the nervous ganglions are the sad resultants of childhood masturbation. Ills too numerous to mention follow in quick succession the practice in youth and manhood.

In medical history we find cases recorded of men procreating at the advanced age of one hundred years. This would imply that the testes were in a normal state in their cases, and that a man is not liable to lose this power by virtue of age alone. When we look around among our acquaintances and discover twenty per cent. of them unable to procreate, owing to testicular deficiency, at thirty-five

and forty years of age, we feel assured that they have led false lives and need immediate light on the anatomy and pathology of the sexual system. Sound testes in a sound scrotum, appended to a sound nervous system, are the main essentials in the formation of a sound progeny.

The testicles are chiefly composed of blood vessels and little tubes containing semen. A portion of the spermatic artery comes from the lower part of the abdomen down to each teste, where it divides and subdivides into numerous scarcely visible branches. This artery brings to the testes the red, arterialized blood from the general system, which, beyond cavil, enters largely into the formation of spermatozoa. The tubes when separated from each other are found to be exceedingly minute, but when they unite they form quite a trunk and form what anatomists name the vas deferens. Some authors in microscopic anatomy claim that there are in man's testicles one hundred and twenty thousand, and others that they number by actual count sixty thousand, and measure in length, when put in a straight line, several thousand feet. Man is, indeed, "wonderfully and fearfully made." What is called the spermatic vein also connects with the testes, and conveys the dark blood, as well as takes away the refuse blood from them. Thus, you perceive that these important organs (the testes) are composed principally of arteries, veins, tubes, together with absorbents, lymphatics and solid tissue.

Each testicle is connected with the body by a spermatic cord, which resembles a sheath, of nearly

half an inch in diameter, which holds the chief portion of the arteries, veins, nerves, lymphatics, etc., etc., entering the testes, and also the vas deferens returning from them. The cord penetrates the abdomen. Besides the scrotum, the testes are protected by a fine tunic or membrane, the office of which reminds us of the functions performed by the dura mater and pia mater of the brain. It is a remarkable coincidence that the testes are protected by their envelopes much upon the same principle that characterizes the outer covering of the brain. Nature has enveloped all her vital and grand organs in protectors. The lungs have their serous membranous linings, the heart its pericardium, the brain its special linings. How beautiful, how perfect are the ways of God!

Various theories have been introduced in medical literature as to the mode in which the semen is manufactured. So far as my knowledge extends upon this point, I am led to believe that the exact *modus operandi* has not, and will not, be discovered. All well informed physiologists are aware of the nature of the elements going to form the semen, and something of the conditions necessary to its complete elaboration; but none can tell us how it is actually made. The semen contained in the seminal vesicles passes down or along a tube called the ejaculatory canal, the latter being joined to the bladder and connected with the prostate gland. By means of delicate openings through these glands the fluid is sent into the urethra, from whence it is cast out of the meatus. Through the spermatic cord the vas deferens ascends to the abdomen and reaches the

top of the bladder, in the rear of which it turns, after which it descends into the regions of the seminal vesicles. To sum up, then, the testes secrete the semen; the penis places it in the exterior sexual organs of woman; the canal conveys it to the passage-way, while the prostate gland and vesicular seminales modifies, adds to, or takes from.

As the reader is aware, the testes are two in number; the left one always, in a state of nature, being lower and larger than the right one; yet now and then three testes are found to exist, and then again none at all. The reason that one is made larger than the other is, doubtless, to prevent injury being done them when the limbs are crossed or when the owner is riding saddle-ways. Owing to this provision one will readily slide over the other. Sir Astley Cooper cites a case wherein a man had the power of drawing up the testes to the abdominal ring, and in this way escaped from being pressed into the service. There are other cases on record showing that some boys can, by an effort of the will, act upon the muscles of the scrotum and draw the testes out of sight. Yet these cases are rare, for the law is that these muscles are involuntary, and perform independent of the will. The size of the testes varies very much in different individuals. The size of the body is no criterion of the size of the testes, as small men often have much larger ones than heavy, full, plethoric men. I have had some cases under observation in which the testes were not so large as a pigeon's egg, although the persons were over six feet in height and correspondingly heavy, while, on the

other hand, I have medically examined diminutive men the testicles of whom would be as large as a good sized walnut, yet found them healthy. Inflammation of the testes, in some diseases, greatly enlarges their size. It is not a sign of disease, by any means, to see a very small pair of testes or a pair of very large ones. Yet many men have been swindled out of money by certain medical pirates, just as they were on the eve of marriage, by having an attempt made to either enlarge or decrease them. Oh, the physiological stupidity of the masses! Oh, people! what an immense premium you delightfully pay to self-assertive quackery! Be it not understood, dear reader, that there are no signs by which testicular deficiency and sexual incapacity can be detected, for there are many; but in the very nature of things it is impossible to sum them up scientifically in a hastily written work like this. For special information on the diseases to which the sexual system of man and woman are exposed, see my large work on "Special Physiology and Pathology." Allow me to remark, in passing, that the testicles of man are liable to engorgement, inflammation, wasting, withering, etc., and that the scrotum is also susceptible to various diseases, many of which can be brought about by artificial as well as natural excesses.

Man's generative system would not be complete without an appendage to deposit the sperm into the vagina of the female, and we have this want supplied in the form of that organ known as the penis, which is located immediately over the testes, and seems to be admirably adjusted to the functions

which nature calls upon it to perform. The penis is subject to a greater variety of complaints than the testes. A brief anatomical outline of it would be appropriate under this head. Previous to this, however, it would be well to examine into the testicular differences which characterize mammiferous animals, as well as other orders of organization. In the whale the testicles are long and slender; in the bull, heavy and full. All carnivorous and cud-chewing animals possess a scrotum. As an example, the horse, lion, mule, ape, tiger, etc. The whale, together with the various species of fish, do not. The testicles of the beaver are contained in the perineum, and in the muskrat in the abdomen, while in the woodchuck and bat they are drawn up into the belly during coition. The opossum, kangaroo, elephant, giraffe, and certain other animals, keep the testicles always in the abdomen, both at the time of rut and after. The location of the testes of the porpoise when under sexual excitement attains immense proportions, being five times as large during that period as at any other time. Comparative anatomy is very interesting, and I regret I have not the leisure to present a chain of zoological facts.

The penis is an organ characterized by sponginess and hollowness, through the center of which runs the passage called the urethra, the purpose of the latter being to emit urine and semen, and other secretions. When in a state of repose it is small and flabby; when excited, full, turgid and comparatively hard. In one disease it loses the power of erection, and in another the erections are almost con

stant, and often extremely painful. Anatomists divide the penis into two separate parts, and dissect accordingly. The upper portion of the penis is usually much larger than the lower portion, and is found to be very porous. The title of corpus cavernosum is given to it by dissectors in order to distinguish it from the lower portion, which is entitled the corpus spongiosum. These parts branch from the pelvic bones until the glands and meatus are reached. A partition separates the corpus cavernosum. Both the inferior and superior portions of the penis are attached to the frontal bones of the pelvis by two organs named the crura. This important instrument, the penis, is beautifully and artistically protected by a fine envelope, which, in its turn, is also protected by the outer covering called epidermis or surface skin, and in this way many internal injuries to which the penis is liable are prevented.

The foreskin is called the prepuce, and is the recipient of various unpleasant complaints. The operation of circumcision is performed on the children of the Jews, and if I had my way I would have all children circumcised, because this prepuce is the source of vast mischief to the "Gentile race." The prepuce is so sensitive in many men that the slightest exposure or mechanical rubbing will lacerate it. Syphilis, that terrible malady, always strikes this vulnerable appendage first. While the clitoris in woman seems to be the active seat of sexual sensation, it is easy to account for the absence of desire in one lady and the fullness of desire in another. A

lady in whom the clitoris is found to be short and small will not have the native sexual passion that would distinguish one in whom the clitoris was long and large. The glans in man sustains the same relation to sexual passion as the clitoris does in woman, fully developed glans being accompanied by more instinctive passion than small ones. Nerves of sensation ramify themselves all over the sexual system of both man and woman. Repeated acts of coition between husband and wife inflame the parts to such an extent ultimately as to produce morbid desire, and in some instances completely ruins the erectile ability of the man and the reproductive power of the woman. By the deep love you experience for each other, if not by the warning voice of science, shut out the demon of marital lust, respected wife and devoted husband! Be reasonable, so that you may experience the same ecstatic thrill at sixty that marked the tender and melting embrace of the bridal night.

The prepuce is attached to the under part of the glans by means of the frænum or ligament. This ligament when too short produces great inconvenience to the person, and in one stage of gonorrhœa developes a painfully diseased action called chordee. Sometimes it bursts asunder, owing to the morbid erection of the penis, and bleeds profusely, occasioning great agony. The cavernosum and spongiosum are percolated with countless diminutive blood vessels, each little cell being independent, yet intimately connected with each other and also with the principal portions of a special artery and a partic-

ular vein. When a man's sexual organs are tranquil these blood vessels are nearly or quite empty, but just so soon as he becomes fired up, blood from the grand artery is rushed into them and causes immediate enlargement and powerful erection of the penis proper. In old persons the blood goes into the cells with less rapidity than in youth, but flows back more readily, which makes their erections very slow in the beginning and subside very quickly at the close of sexual excitement.

The shape of the penis differs widely between men and also between animals. In the cat it is covered with what are termed spires, and occasions great pain to the female, if we are allowed to judge from the noise she makes during coition. In the dog the erectile tissue is so peculiarly constructed as to produce elongation and swelling at the end, which renders it decidedly difficult for the two animals to become separated at a very interesting period of their instinctive act. Just at the climax, it is not safe to attempt to part them, as every school-boy knows. Certain birds have the penis only in a very rudimentary state, which renders it impossible for them to associate with the female by actual erectile contact. Some singular freaks of nature are often witnessed by medical men, such, for example, as a double penis; a bent or crooked penis; a penis of half an inch, two inches, on forward to one of twelve inches. These peculiarities are often noted by men of observation, and they exist irrespective of the bodily size or smallness of the individual thus marked.

The numerous chronic and acute diseases to which this organ is subjected, if care be not taken of it, has caused deeply read physiologists to write essays within the last few years bearing directly on its structure, uses and abuses. In order for every man to attain to a healthy and normal condition and action of the penis, he should permit the spirit of morality and science to guide him; and to those unfortunate young, middle-aged and even old men, who have already reached some one of the distressing maladies to which the sexual and nervous systems are exposed, I would respectfully say, come or write to me, for all may yet be well.

CHAPTER IV.

S P E R M A T O R R H Œ A .

SPECIAL EXTRACTS—CONCLUDED.

Spermatorrhœa has doubtless existed in every age of the world, known possibly by another name. I am not of those who believe that it is peculiarly a disease of the nineteenth century, yet I am free to confess that not until this century did physiologists know anything definite about it. The numerous quack publications now flooding the country on this subject are doing more harm than good, as they contain nothing but garbled extracts from scientific works, foul confessions, overdrawn pictures, and disjointed conclusions. The main object of the au-

thors of said books is to frighten young men into the notion of taking treatment. Never in the course of my reading have I found a popular scientific statement of facts, or a correct pathology or anatomy of the sexual parts.

The majority of the symptoms of spermatorrhœa enumerated by these blatant quacks are found to characterize various other complaints to which the human body is liable, while the letters appended to the main body of their books are fanciful compositions written by some talented but seedy author, of literary proclivities, whom they hire at a mere nominal sum. I have visited quite a number of so-called "specialists," and with rare exceptions have found them shamefully low in morals, deficient in native intellect, and indescribably brazen and impudent, some of them not knowing the difference between a muscle and a nerve. It is no wonder to me that their incomes are derived from the ignorant, excitable and credulous, for their style of medical literature is well calculated to cause fear on the one hand, and credulity on the other, to vibrate up to the paying point.

To write candidly, the term spermatorrhœa is applied to all cases where emissions of seminal fluid take place in an unnatural way, without the consent of the will of the person afflicted. The semen is found, by inspection, to be stored up compactly in the vesicular seminales, near certain small ducts, which convey the semen into the urethra. When these ducts are weakened by excess or masturbation, and have become very much debilitated, this

valuable fluid escapes in various ways, sometimes diurnally or nocturnally. Any undue dilatation of these ducts involves more or less seminal loss. A slight degree of pressure on weakened ducts will cause the escape of imperfectly formed semen. As an example: the full contraction of the bladder at the time of emptying itself of urine, or hardness of the fæces in passing along the neighborhood of the rectum.

Physiology shows us that the vesicular seminales are located between the rectum and bladder, hence the injury these ducts sustain from costiveness and the pressure on the delicate vesicles by the passage of fæces. All should shun costive habits and drastic drugs. In a spermatorrhœal patient the same pressure is experienced when the bladder is contracting for the purpose of expelling the urine, and a ropy, slimy mucus, mingled frequently with pure semen, is found at the meatus of the penis.

In the third stage of this disease no pressure is necessary to force away the fluid, as it will escape as it arrives from the vas deferens, it not being held in the seminales, but passes immediately into the urethra, either making its exit there or passing backward into the bladder, there mingling with the urine. The complaint, doubtless, in the most of instances, arises from masturbation, yet sometimes it is brought about by other causes. Frequently the disease makes its appearance long after the habit has been abandoned. Such cases if properly treated invariably recover. Aside from the main cause of spermatorrhœa already mentioned I might enume-

rate others, such as bleeding piles, long prepuce, acrid secretions under the foreskin, late hours, heavy suppers, soft beds, illy-ventilated rooms, alcoholic drinks, gonnorrhœa, venereal excess, and now and then total continence, undue lifting, straining, intense study, mental perplexity, hot, stimulating food, too much clothing over the region of the sexual parts, etc., etc. In a state of sexual health the generative system is constantly forming fully developed spermatozoa, and if a man is joined to a sexually healthy woman their progeny can not be anything else than fine specimens of physical beauty.

Dr. Carpenter, the illustrious physiologist of England, claims that when the generative organs are in a normal condition they re-absorb, as it were, the seminal fluid and transfer it in some peculiar manner to the nervous system and blood, thus producing an immense amount of the vital force. The seminal fluid is controlled by the nervous system, like many other secretions of the body, when the ducts are strong. A mental impression will often start perspiration, hurried breathing or the reverse, and will also operate just as fully on the sexual apparatus; hence the importance of every one keeping his or her mind free from lecherous contemplations, the reading of obscene books, the witnessing of vulgar spectacular dramas, picture presentations, etc., etc. The more frequently the generative organs are used the more they demand, until absolute debility sets in; then, of course, the act can not be repeated without great exhaustion. A very common practice among men of wealth who have rendered

themselves slaves to lust is that of stimulating their passions with every conceivable libidinous art production that can be bought, together with peculiar mixtures dashed into wine, whipping and lashing themselves into the unholy fires of passion by false and artificial means, until nature sinks down overpowered, paralysis sets in, and insanity caps the climax.

Entirely too much seminal fluid is wasted in the present artificial state of society. Another class of men get into the reprehensible habit of dallying, kissing and hugging young ladies, for whom they claim to have great respect; and I am sorry to say a large percentage of the fair sex love the bold, amative movements of their male friends to such an extent as not only to permit these overt acts, but also strive to excite them to renewed exterior exertions. This habit works fearful havoc on the mental and physical constitution of the male and has a bad moral effect on the female, although her physical system may not feel the shock so sensibly. A man can weaken the ducts to a frightful degree by stirring up passion within himself with a virtuous girl and not gratifying it in a natural way. Countless unfortunates, now cursing, bickering and leading a life of shame, can readily trace their downfall to this one miserable habit of allowing men the privilege of handling, chafing and rubbing their charms and covering their lips with friendly kisses. Look out! young girl; retreat from a young man as soon as he makes improper advances, and you will always retain that which every husband is pleased to

find, every genius pleased to poetize, and every good philosopher loves to praise.

As you value your mental power, young man, do not indulge in exciting your passions when in company with your lady friends; because you, in so doing, deplete your own constitution and tempt a sweet girl, possibly, to take a step that will forever blast her hope and happiness. Think of your pure-minded sister when you are prompted to do wrong.

I firmly believe that if a person could retain all the seminal fluid elaborated in his sexual apparatus from puberty to manhood, he would be characterized by fifty per cent. of additional procreative and mental power. Newton, Pascal, Walker, and other great men, each claim that the semen builds up the most important tissues of the body, and adds largely to the capability and brilliancy of the mind.

In the present state of civilization it would be impossible for any youth to save all of this life-giving secretion; hence it is useless to occupy space under this head; yet he has the power of subjecting all lecherous inclinations to a rational control.

As I have previously stated that the majority of spermatorrhœal cases have their origin in masturbation, a few flashes of thought would do no harm as a warning, guide, and admonition to my patrons in this and other cities. Remember the admonition in the Bible, "Do not waste thy seed upon the ground." Remember, also, the scientific statement that one ounce of pure semen is equal to forty ounces of blood, and that a certain portion of your life force is lost at every artificial orgasm or act of solitary

vice. All sexually exciting causes should be avoided in youth, so that the semen would be fully elaborated at manhood, and the nervous and sexual centers compactly and firmly built. One drop of semen contains, according to the testimony of the microscope, thousands of animalcules which seem to be full of mobility when the semen is healthy. Some reputable authors claim that one single spermatozoon will impregnate a susceptible ovum. Of this I could not speak authoritatively. Yet, to the faculty of reason, it seems probable.

What a marvelous invention is the microscope! Philosophers, naturalists, and all who love to ponder the problems of life vegetable, life animal, life sexual, now have ample opportunity. This beautiful instrument throws a flood of light upon many a hitherto obscure subject. We can scrutinize with it the swarms of vitalized atoms which teem in the leaves of every forest, the lips of every flower, the exterior of every bush, tree, feather, skin, grain, rootlet, and branch, throughout the realm of our immediate observation. It was by this instrument that the existence of spermatozoa, or "living animalcules," were discovered.

In a man, laboring under a severe case of spermatorrhœa, very few, if any, fully matured zoosperms are found. In the seminal fluid of the sexually sound man the mysterious little entities are discovered in countless numbers. The semen of a sound man is rich and thick, while the semen of a man sexually unsound is thin, blue, and at times watery. In the confirmed masturbator, of many years' stand-

ing, the germinative element of the semen loses its power, and can not impregnate an ovum, however matured and healthy the ovum may be. Many a husband, however, is charged by his wife with incompetency when the fault is not his own, but originates from some one of the many causes which often engenders barrenness in women.

In my private lectures on the "Reproductive System" of woman, I make an attempt to account for numerous deficiencies and peculiarities of the clitoris, nymphæ, the labia pudendi, the labia majora, fallopian tubes, vagina, womb, and ovaries, etc., but I deem it not altogether prudent to insert any physiological points appertaining to the opposite sex at present. That woman is as guilty of disobedience to organic and functional law as man every person of observation is thoroughly convinced.

Thousands of women are suffering to-day from various sexual troubles engendered by false methods of living and reprehensible practices in girlhood. Woman does not confess this fault as readily as man, physicians often having great difficulty in diagnosing her complaints owing to her extreme modesty and spirit of evasion. I have known of some young ladies being on the brink of ruin before they would tell their family attendant the primary cause of their maladies.

That peculiar discharge emanating from the interior of woman's sexual apparatus, which she awakens and casts out at the climax of passional excitement, is almost as valuable to her as the seminal fluid is to man. Repeated acts of masturba-

tion will affect seriously her entire interior nature, although the effects are not so horrible (as a general thing) in her case as in that of the male. While masturbation produces spermatorrhœa in man, it equally produces nervous and vital prostration in woman, and I think I do not exaggerate when I state that as many evils flow from this source in the female sex as in the male sex. All who are sexually depressed, enervated and sick, should call or write and get my "Eight Rules" and medical treatment. I pledge you that you will never regret accepting this invitation.

As the symptoms of spermatorrhœa are numerous and extremely varied, and differ in different cases, I deem it proper to place them in a tabular form. In order to make this tabulation fully understood I divide the symptoms into "Local," "General Bodily" and "Mental." Local symptoms appertain to affections of the generative organs; general bodily symptoms to the muscular, circulative, nutritive and respiratory systems; mental symptoms to affections of the nervous centers.

LOCAL SYMPTOMS.

Pollutions* accompanying expulsion of urine.

Pollutions accompanying defecation.

Erections and emissions upon slight excitement, such as the mere presence of females, or juxtaposition of their dress, &c.

Emissions under similar circumstances, unaccompanied by erection.

—*The terms "pollutions" and "emissions" refer to involuntary escapes of seminal fluid.

Nocturnal pollutions, with or without erection or consciousness.

Diurnal pollutions.

Spermatic urine.

Contraction of the foreskin.

Spasmodic or dull pains occasionally in the organs.

Variocele, or varicose veins in the testicles.

Pimples on shoulders and forehead.

Premature emission during coitus.

Priapism, or erections apparently without any exciting cause.

Decrease of sexual desire or enjoyment.

Sanguineous emission.

Diminution in size of the penis and other organs.

Want or imperfection of erectile power.

CLIMAX—*impotence*.

In reference to *general symptoms* it is necessary to observe that many, if not all, of these symptoms *may* occur in and denote forms of ordinary disease ; but if produced by spermatorrhœa they will be aggravated in degree, and will not yield to treatment known to be eradicated of them in ordinary cases. This fact could be illustrated in a variety of instances, but one may suffice. In an otherwise healthy person an attack of indigestion, originating in inattention to diet, will yield to gentle purgatives, tonics and other well known means ; but if the symptoms of indigestion exist in consequence of the impairment of the nutritive functions by seminal losses, the ordinary remedies for such symptoms fail to produce their usual effect, as until the *primary* cause of the symptoms be removed the effect will not only con-

tinue, but increase. In like manner, disorders in respiration and circulation may arise indifferently from spermatorrhœa or from other causes. In the latter case the remedies usually indicated for such symptoms will remove them, but not so if they be caused by spermatorrhœa; and it may be mentioned that it has been clearly ascertained that there is no single function of the animal economy but may become deranged by long continued involuntary seminal losses.

GENERAL SYMPTOMS—BODILY.

Muscular, Respirative, Circulative and Nutritive Systems.

Increased appetite or voracity (in early stages).

Gnawing, and heat of epigastrium.

Uneasiness, sinking or faintness before taking food, followed by disgust or nausea afterward.

Want of appetite for plain kinds of food.

Weight in epigastrium.

Quickened pulse.

Flushed face.

Acid eructations.

Acrid heat at the upper part of œsophagus.

Alteration in secretions of liver and pancreas.

Evolution of flatus.

Colic.

Griping.

Difficulty of breathing and cough.

Distension of stomach and intestines.

Muscular flaccidity.

Excessive mucous secretions.

Irregular action of the heart.
Apoplexy.
Liquid and unnatural stools.
Diarrhea.
Inflammation of rectum.
Constipation.
Loss of substance.
Cadaverous appearance of skin.
Hollow or sunken eyes.
Extreme sensibility to cold.
Rheumatism.
Loss of hair.
Pulmonary catarrh.
Indolence, or indisposition to exercise.
Lassitude.
Fatigue on slight exertion.
CLIMAX—*confirmed debility*.

GENERAL SYMPTOMS—MENTAL.

Nervous System.

Restlessness.
Sighing.
Sensation of congestion.
Want of energy.
Uncertainty of tone of voice.
Nervous asthma.
Vertigo.
Want of purpose.
Dimness of sight.
Weakness of hearing.
Aversion to society.
Blushing.

Want of confidence.
Avoidance of conversation.
Desire for solitude.
Listlessness and inability to fix the attention.
Cowardice.
Depression of spirits.
Giddiness.
Loss of memory.
Excitability of temper.
Moroseness.
Want of fixity of attention.
Disposition to ruminate.
Trembling of the hands.
Sudden pallor.
Lachrymosity.
Tremor from slight causes.
Pains in the back of the head or the spine.
Pains over the eyes.
Disturbed and unrefreshing sleep.
Strange and lascivious dreams.
Hypochondriasis.
CLIMAX—*Insanity.*

BIRD'S-EYE VIEW

OF

PRACTICAL AND POPULAR

ANTHROPOLOGICAL SCIENCE.

BY W. A. PAYNE,
PROFESSIONAL PHYSIOLOGIST AND PHRENOLOGIST,
*Author of a "Special Work on the Reproductive System," and various articles on
Matters of Art and Literature.*

CINCINNATI:
PUBLISHED BY THE AUTHOR.
1868.

Entered according to Act of Congress, in the year 1868, by

W. A. PAYNE,

In the Clerk's office of the District Court of the United States, for the
Southern District of Ohio.

STEREOTYPED AT THE FRANKLIN TYPE FOUNDRY, CINCINNATI.

INTRODUCTORY.

As many of my friends in different portions of America and the British Provinces have often expressed a desire that I should write something on the sciences to which I have been, for a number of years, calling the attention of the people, I have concluded to do so, knowing, at the same time, that my talents in the writing line are quite limited, being altogether an off-hand or inspirational speaker—depending on the magnetic influence of my auditory instead of that deep individuality and continuity which ever distinguishes the polished and profound writer. On several occasions I have delivered twenty lectures on general science in the same city, fully surrounded by a large and sympathetic assembly, that acted upon my mentality like a charm, producing a result ten-fold more beautiful, systematic and powerful, possibly, than any writing effort I could make amid the arduous everyday practice of my profession. My engagements are such that I can only give a brief part of my time to the preparation of this manuscript; yet I hope that points and suggestions will be made of practical importance and

utility to the young and middle-aged of both sexes. Nearly all of my manuscript of a large work, entitled "Practical Physiognomy, Phrenology, and Physiology," was lost, and I unfortunately find myself so situated that it would be impossible to reproduce the work at present. The gallery of portraits, sketches, and physiognomical and phrenological analyzations of character which I proposed publishing last winter in Chicago, will not be issued until next spring, owing to the failure, thus far, of obtaining certain photographs of distinguished European poets, philosophers, inventors, artists, etc. The growing interest evinced by the principals of State universities, law schools, commercial colleges, library associations, etc., for information on the laws of mind and organization, hygiene and specific education, as first hinted at by Gall and Spurtzheim, and taught by Combe, Vimont, Fowler, and others, speak more definitely than words of mine of the ultimate popularity of such studies. I have invitations to lecture in one or more institutions of learning in at least fifteen States, embracing every degree of American longitude, thus proving that taste for this kind of knowledge is not confined to any particular locality, as many supposed in times past. Not ten minutes since, I examined the mental characteristics of an eminent physician and superintendent of an insane asylum, and after he had acknowledged the accuracy of the description, he remarked, that "until the principles of cerebral pathology and phrenology were fully recognized and followed stead-

fastly, we need not expect to prevent people from becoming maniacs, monomaniacs, etc., or escape from seeing the world filled with partially-developed men." Allow me to add that until physiology is made a study by our young girls, thousands of graves will be peopled long before their time, and the women of America will become a race of invalids, as the major portion of French women are to-day. An indisposition to study physiology, owing to sentiments of overdrawn refinement, is a marked feature of American girls. They claim that the plates and designs are such as no lady should look upon; and seem to think it quite the thing to exhibit perfect ignorance in relation to their anatomic and physiologic structure. Some men are verdant enough to suppose that innocence is the never-failing accompaniment of female stupidity and mock-modesty, and that a well-posted woman is necessarily dangerous, and should be shunned. Just the reverse is true. Watch the fashionable, physiologically ignorant, dainty prudes! Sensible women, who study the mysteries of their own nature, can take care of themselves.

Respectfully,

W. A. PAYNE.

PARLOR No. 8, BURNET HOUSE, }
CINCINNATI, June 19, 1868. }

OUTLINES OF PRACTICAL AND POPULAR SCIENCE.



CHAPTER I.

GENERAL STATEMENTS.

IN order to understand thoroughly the real nature of man, in all his complex relations, it is indispensably necessary for the student to be conversant with the leading principles and facts of six specific branches of science, namely, anatomy, physiology, phrenology, ethnology, physiognomy, and organic and inorganic chemistry. By the first, we learn the location of bones, tendons, muscles, cartilages, heart, lungs, glands, tubes, follicles, cerebrum, cerebellum, medulla oblongata, nerves of sensation, motion, conveyance, etc., and their mode of attachment and connection. By the second, the peculiar functions of each is plainly revealed, and the difference between normal and abnormal action exhibited. In short, physiology embraces nearly all of man's organic and functional relations and conditions, and is rightfully regarded by many emi-

nent thinkers to be the most important and fascinating science within the reach of human reason. By the third, you discover the mutual relation sustained between the mind and brain, and the especial duties assigned to each portion of the frontal, occipital, parietal, temporal, and coronal mass, together with the laws governing thought, volition, and mentality. By the fourth, you find the effects of climate upon human character, and learn the natural history of the human race—differences existing between tribes, nations, and individuals, manners, customs, etc., of various nations—all of which is deeply calculated to expand your mind, and give you correct views of men in general. By the fifth, you learn the meaning of the numerous inscriptions on the face, as all of the passions, faculties, powers, etc., are legibly written there by the hand of God. You can, with practice and culture, read the hypocritical from the honest, the bright from the stupid, the gay from the serious, the philosopher from the poet, inventor from the merchant, etc., every time. By the sixth, you discover the wondrous chemical laws of bodily life, the mysteries of the ultimate elements, such as potassium, aluminum, magnesium, calcium, iron, copper, oxygen, carbon, hydrogen, nitrogen, phosphorus, sulphur, chlorine, silicium, etc. This last is a grand and illimitable study, and, like its twin sister geology, brings to its altar men of marked and profound understanding.

Now, reader, it would be perfect folly for the author to attempt to give even a full "bird's-eye view" of these

beautifully-connected sciences. All he can do, under the circumstances, is to strike at the bold outlines. Do not expect any orderly or systematic arrangement of matter, as this is written only for popular reading. If I had the patience to write, and the public the desire to read, I would like to write up these sciences as they should be written—for popular fireside entertainments. Thousands of the common ills of life might be obviated if they were but partially known, and many of both sexes escape premature graves. When all the above studies are linked together, they form the superstructure known as anthropology, or "science of man;" and this, gentle reader, is what I claim to be, namely, anthropologist, or student of human nature, as revealed by physical and mental science, and a student of man in all his varied phases of activity, passivity, perversion, and purity.

Eight years of constant travel, practice, and observation throughout America and the Provinces, has vividly impressed the fact upon my mind that moral and social reforms can never be successful until the leaders of the people introduce among them practical lecturers and books on mastication, digestion, respiration, circulation, ventilation—in short, on mind and organization, so that they may know how to live according to the law of God.

Ethnology can be divided into three departments; in fact, this is the best way of presenting the subject, namely, general, special, and comparative. The first treats in general of the five grand divisions; the second, of their sub-

divisions made up of tribes, clans, races; third, of the difference existing between one nation and another, and the cause, together with the difference that exists between the branches of the same paternal stem. Anatomy is also general, special, and comparative. The first, relating to the mere outline and configuration of all animate creatures; the second, to the description and naming of localities and parts; and the third, to the difference that exists between animals, birds, insects, etc., in structure, size, mobility, density, brittleness, or toughness of bone, etc.; whether of the same order, specie, genera, or not. Physiology, general, special, and comparative—the first giving the functions executed by the various organs of animals; the second, relating exclusively to the duties executed by the bodily organs of human beings; third, the difference in the amount and quality of respiration, deglutition, digestion, absorption, excretion, etc. With these three sciences as a basis, mental philosophy is being erected, and neither the advance of years nor the skepticism of the age will ever effectually resist its onward and upward march.

CHAPTER II.

SPECIAL ANALYZATION.

MIND is the primitive power of the human system, and is an eternal entity and fact, and to it every other fact, simple or multiform, must ultimately come. It molds, forms, and informs the material organization from the first flushings of life to the dull monotonous of garrulous imbecility. Yet to manifest, while on earth, its full power and beauty, it must have a proper medium. Good hereditary conditions, with rational culture, will always produce a good cerebral medium. No mind can possibly act with any great degree of power, purity, and symmetry if placed within an imperfectly developed brain. God seems to have established fixed organic laws, and so long as mind is conjoined to matter, it will be effected, to a great extent, by them. By evidence, both positive and analogical, I infer that the mind is a single operative principle, giving rise to a series of separate faculties by its contact with a multiplex system of brain organs. A mental faculty may be defined as a simple effect produced by the combined action of mind and brain, while a cerebral organ is a material instrument through which, and

by means of which, the mind exhibits a particular or special power.

Brain, on the other hand, is the center of man's spiritual, animal, mental existence. It is the grand pivotal center, through which, in the language of *Vimont*, every effort of the will, every leap of the understanding, and every glow of the affections, and every flash of the imagination is evinced. It is in the brain a person thinks, prays, loves, hates, feels, and curses; in short, it is the temple of all earthly life, and every function of mind is influenced by it. Through its convolutions must float every thing relative to life, death and destiny, and just in proportion as to the solidity, quality, and quantity of the brain, other conditions being equal, just in proportion will there be symmetry, strength, and scope of mind. The brain and physiological marks indicate, to the practical phrenologist, a man's character in full, because the mind underlies and shapes the brain, the brain underlies and shapes the skull, and, in conjunction with nerves and muscles, gives the face expression. Some sensible persons, as well as some natural-born fools, imagine that so soft a substance as brain could not make an impression on so hard a substance as bone. All analogy teaches, however, that such is the case. Take, for instance, the covering of a tree, the bark of a hickory nut, the back of a turtle, the external coat of a craw-fish—in short, take a view of the entire animal and vegetable kingdom, and you will find the external always giving way to the internal.

“The shape and size of the brain is measured by the shape and form of the skull, and undergoes constant change from birth to death.” Without entering upon the anatomy of the brain, permit me to remark that it is formed by all those parts of the nervous mass contained within the cranium. To outline them, they are called the cerebrum, cerebellum, and medulla oblongata. The first is situated in the frontal and coronal portion of the head; the second, in the occipital region; the third, at the summit of the spinal cord, from which “spring the fibers which constitute, in their full expansion, the hemispheres of the cerebrum, termed, in the aggregate, the corpus-collusum.” Little transverse fibers branch off and connect the hemispheres of the cerebellum, and are called, by anatomists, pons-varoli. The cerebellum, or little brain, is near seven times less than the frontal or cerebral region, and is separated from it by the tentorium, a thin, tough membrane fastened across the posterior portion of the head. The brain substance is gelatinous, and of but two colors, white and gray. The latter lies at the surface, the other in the interior. The ancients supposed that the gray substance contained within it the elements of thought, and thus mind was thought to be a chemical operative something. I don't know as the savans of the nineteenth century are much in advance of the Egyptians, so far as facts relative to the essence of mind are concerned.

The brain is beautifully and thoroughly protected by

finely-wrought coverings, termed arachnoid piamater and duramater. These are protected in their turn by the bony outer covering, called the skull, which is made by the conjunction of eight bones, and rests on the spinal column, which is composed of seven cervical, twelve dorsal, and five lumbar vertebra. The bones of the face are fourteen in number, each differing widely from the others in structure. In the language of Dr. Buchanan, a deeply-fascinating and profound writer, I will not insult your understanding by arguing that the brain is the organ of the mind, the dome of thought, the palace of the soul, for that proposition is freely admitted by both the liberal and scientific. All physiologists know that it is not the eye that sees, the nose that smells, the ear that hears, the tongue that tastes, the hand that feels, the heart that loves. Yes, these are simply instruments used by the brain in its communication with external nature.

What we wish to impress upon your minds, in this article, is, that the human, as well as animal, brain is a plurality of distinct organs, and that the science of life and mentality commences right here. Although this doctrine of separate and numerous organs has been shunned by some and disbelieved by many, it claims the indorsement of the leading metaphysical minds of the seventeenth, eighteenth, and nineteenth centuries. But as it is a boyish mode of proof to cite the belief or unbelief of great minds in support of any theory, I pass immediately to the facts.

In the days of "Lord Jefferies," and other contemporary "ante-plurality" writers, it was boldly stated by the opponents of phrenology, that the mind was an ethereal essence, totally disconnected with matter, and was in no way dependent on brain for manifestation. The doctrine was ridiculed so greatly by the critical writers of "eminent reviews," both provincial and metropolitan, that the people soon learned to associate great imperfection of mind to the man who had the courage to preach plurality. Now, however, there is not a scholar in Europe but what recognizes the truth of it. As there are a few persons yet who believe in "Scottish Bards and English Reviewers" (la Byron), and, consequently, that the mind is distinct from, and not in any way connected with, the brain, I throw forward these points. First, then, I make no attempt to analyze the essence of mind; that is beyond the reach of the finite; I only examine the effects of mind while it is acting through organization. One person's mind may be as good as another's previous to its coming in contact with brain, but of this I know nothing, and it is foolish to conjecture. Some say that the mind of an infant, first launched amid the thorns and gloom of an earthly and blended existence, is as active and powerful as that of an adult, yet owing to the non-development of the brain, the child can not exhibit it. Others go one step further in the same track, and declare that the "mind proper" of an idiot, or drunkard, or maniac, is as free from weakness or disease as the mind

of a "Bacon, Plato, Hunter, Galen, or Selden," but, from the fact that the nervous systems of the first are either constitutionally or temporarily deranged and illy constructed, their minds have no outlet—the windows of their souls are shut. This is all speculation, however, for did not "gifted Pliny" search amid the moldering archives of the past unsuccessfully? The problem was never solved by him. Did not Orpheus, Lucretius, Seneca, Virgil, and Aristotle strike and ponder this subject in vain? Did not Spinoso, Darwin, Hobbs, Bruno, Gassendi, Grandville, and other savans, from the fourteenth to the eighteenth centuries, touch the "gilded wire" of wonder, imagination, and reason in vain? Did not the knife and scalpel of the anatomic dissector, guided by the hand of experience, search through the different volutes of the brain, year after year, in order to be able to solve the question—alas! alas! as remarked by the lamented George Combe, "they found no slumbering sentiments in the fibers, or half-formed ideas leaping from their folds," and have only demonstrated a partially admitted fact, that man will never fathom nature's deep store-house in the aggregate, or unravel those mysteries of mind which the Supreme Architect of space, time, and eternity intended should remain hidden.

We can, however, by treating of the body and mind as compound, and of thought and volition, passion and imagination, as the result of the two acting in unison, disclose important points to the young. You who have

studied history will readily perceive how utterly impossible it is for men to discover the primitive constituents of mind, or talk satisfactorily of what the mind was before it became blended with matter. History points to hundreds who have failed, from the days of Lycurgus down. Therefore I will say but little more about it. The atheists say the mind is a "peculiar force," growing out of bodily changes; while the idealists say that it is a refined entity, so ethereal that it is devoid of the power of acting on or through matter. Both positions are evidently wrong. The experience of every hour contradicts the first assertion, while a slight quantity of a common drug obliterates the other. A little morphine will steep the entire congeries of the mind in sleep and dark forgetfulness, thus proving that mind is inseparably interwoven with brain. A slight physical shock, even, will often turn the current of thought; while sickness of a nervous character will quickly prostrate the most gigantic intellect. Albermarle observes, in his "Philosophic Meditations," that the lowering clouds depress the mind, that the roaring thunder will enervate it, and that a blow on the head will often change the most gifted persons into raving maniacs, causing their lips, previously innocent and pure, to utter the most revolting blasphemy. It seems, then, from this and other available testimony, that mind can not be considered a separate entity, "in no ways connected with matter." In man's present state, the coöperation of both mind and

brain are essential to every intellectual process. Professor Dod's, psychological lecturer, says "thought, reason, and understanding are not mind," but the effects of mind. Mind is something higher than these. Mind is "that something" which has innate, living motion, and the result of that motion is thought, reason, etc., electricity being the medium through which it acts on the brain.

I believe that when the body falls, the five senses perish with it, together with all those propensities common to animals. Yet, only for a short duration, they undergo new forms; pass through various chemical revolutions, and assume new states. No "vain poetry is this," says Michelet, "but literal truth." Every physiologist knows that the body changes within seven years; undergoes a complete and radical change of all old particles. And even this constant death of the tissual structure, this perpetual death of the exquisite organs of sense, is, after all, but a return to vegetable life. We find very little solid tissue in man's physical organization. This transforming envelope, named body, possesses chiefly fluids instead of solids, which rapidly evaporate at death, and then is taken up by the calm herbs of the field and leaves of the forest, and exhaled by them in return a "soul-inspiring, life-giving oxygen." The poisonous exudations of the dead, rank with carbonic acid gas, are nightly and daily absorbed by all the flowery kingdom. The little violet, johnny-jump-up, and the blood-red rose flash their beauty under the rays of the sun, and exhale their fra-

grance on the passers-by. Oh, man, think of it! You give up your physical life to the world of plants and vegetation; and they by the mandate of the "Omnific Ruler," they give theirs in return. Not so, however, with the higher powers of the human mind, which are capable, when properly directed, of running "coeval and commensurate with space itself." Science and religion both intimate that they are subject to endless extension, and will, if properly controlled on earth, eventually ride high among the uninterrupted joys of a better existence. "These higher powers we define as being in the aggregate, the 'Bible man,' he of corruptibility, who shall put on incorruptibility." They constitute, in their full expansion, his immortality, and "lead him to infer, no less than revelation commands him to believe, that he is the favored creature of a never-ending progression." Here allow me to observe that the whole range of science is undergoing gradual, though constant development. Phrenology, geology, botany, chemistry, astronomy, anatomy, physiology, ethnology, zoölogy, physiognomy, etc., are but fragments of a grand, stupendous unity. Every bold and original thought, whether emanating from Fin, Goth, Alan, or Hun, or from the living oracles around us, should find a willing reception in our minds. Listen to the facts of the present, learn the hints of the past. To man's mind, if judiciously trained, all things are subservient, and every truth will center to it, just as the radii of a circle tends to its center. Illustrious men of

every age have taken a few steps in the right path, while turning the wheels of progress. The founders of phrenology certainly did in theirs. So with their followers. Yet it will require the united efforts of centuries and of nations to sound the extended depths of man's complex nature. Boy, with the Grecian or Roman face, read, observe, meditate; and there will surely come a time when some meager hint, fact, or pale suggestion will glide athwart your spirit-vision, and lead you through the variegated realms of art, literature and science. A hint from the past formed the basis of the most luminous and astonishing discoveries of Descartes, and to these little hints, suggestions, and partially-developed facts, the "immortals," Gall, Newton, Humboldt, Combe, Swedenborg, Kant, and Schiller, owe their undying fame.

Science will yet teach her children more than mundane dreamers can ever predicate, and cause them to sing the song of Pope, and honestly believe it.

"Look 'round the world; behold the chain of love,
 Combining all below and all above.
 See plastic nature working to this end,
 Atoms to atoms; clods to crystals tend.
 See dying nature life sustain,
 See life dissolving, vegetate again;
 All served, all serving, nothing stand alone;
 The chain holds on, and where it ends, unknown."

Fifty years hence the sentiments of charity, love, faith, hope, etc., will be much better understood than now. But to return to my argument. Intellect is, doubtless, reared

upon man's animal nature, as "a temple is reared upon its base;" and, to use a figure of speech, darts its sparks through his cerebral centers, like a flash of linked-lightning through a porous box. For every motion of it, for every ray which betokens genius; for every glance which penetrates mystery; for every passage of the mind to the world without from the world within, brain agitation is required, and animal nervo-vital force necessary. Nor need this view lead to materialism, for inasmuch as God has provided the human mind with earthly apparatus here, it follows as a logical sequence, that He is capable and willing to supply it with a celestial apparatus there. The stupendous system of worlds upon worlds, which astronomy reveals, plainly indicate, that whatever the universal principle of mind *wills*, that He can surely do. It is evident that He has willed that matter should be subjective to mind, and that brain should be the instrument of mental communication while in the body; and that special parts of it are used for special duty. Now for the proof. First, by analogy; second, by observation; third, by experience.

Did you ever examine the base of the brain and spinal marrow? If so, you have noticed the large number of nerves which branch off from it and spread out over the body. Now, so far as understood by anatomists, each one of these nerves perform a different function. For example, when we converse, there is one nerve whose duty it is to move the tongue, another which communicates sensation,

while a third conveys a knowledge of what is going on in the physical system to the brain. If you sever or benumb the nerve of "motion," the lingual duties will, in your subject, forever cease. Sever the nerve of sensation, and all feeling will cease. Sever the nerve of conveyance, and all sympathy between body and mind will cease. We find, further, that the olfactory nerve, over the living membrane of the nose, takes up impression of odors, and transmits them, while the optical nerve, running along the internal chamber of the eye, takes up various impressions of pictures and objects, and sends them over to the seat of thought. If you sever the olfactory nerve, the sense of smell will cease; sever the optical nerve, and the power of vision will cease. Then, again, the auditory nerve extends through the apparatus of hearing, and transmits the various impressions of sound; while the facial nerves branch off from the brain through an opening situated near the meatus auditorus externus, and ramify over the regions of the face, thus forming a channel by which the mind is enabled to give the varied shades of physiognomical expression. Sever the auditory nerve, and all hearing would cease. Sever the facial nerves, and the countenance would be a blank. . . .

Lavator taught that each of the mental organs connected with a facial nerve in such a way as to produce poles. These nerves connect with each other by means of filaments, and act and react on each other, as one can very readily realize who may be laboring under the tooth-

ache. Every physical and mental organ has its magnetic center stationed in a given portion of the *face*, and when they display disease or healthy action, the countenance shows it. The sympathy and correlation existing between the mind and face gives birth to the science of physiognomy. By this we read character in two ways; first, by the action of facial nerves and muscles; second, by the comparative prominence of facial development. Presently we will look to the leading facts of physiognomy and apply them. Aside from the analogical proof, deduced from the structure and functions of the nervous system, we have abundant reasons for concluding that the brain is not only the organ of the mind, but also a plurality of organs.

In the animal economy we notice that different organs are required for the exhibition of different functions. The heart propels blood, the liver secretes bile, the lacteals absorb chyle, the lymphatics remove the waste matter, the larynx performs the vocal function. In short, each muscle, gland, tube, follicle, membrane, and nerve executes an office peculiar to itself. The work of the veins could never be executed by the arteries, nor could the duties of the flexor muscles be discharged by the extensors, for localization and individualization of function is a law of all organization. Separateness of duty is ever accompanied with separateness of form, and it would be exceedingly strange if the brain was an exception to this universal law. A celebrated metaphysician says: "Let

it be granted that the cerebral hemispheres are the seat of the higher psychical activities; there are distinctions of kind, which, though not definite, are yet practically recognizable, and it can not be denied, without going in direct opposition to established philosophic principles, that these more or less distinct kinds of mental activity must be carried on in more or less distinct parts of the hemispheres of the brain. To question this is not only to ignore the truths of physiology as a whole, but especially those of the nervous system. Either there is some arrangement, some organization in the cerebrum, or there is none. If there is none, the brain is a chaotic mass of fibers, incapable of performing any orderly labor. If there is organization and arrangement, it must consist in that same division of labor in which all organization consists, and there is no division of labor, physiological or otherwise, which does not involve the concentration of special kinds of activity in special places." In the name of common sense, if the body and every other machine of which we have any account, gives rise to a number of separate and distinct organs, why not the brain? Can it be that the brain performs less important work than a physical machine or human body? Certainly not, for all attainable evidence, whether primitive or analogical, proclaims that the body, as well as extraneous material, is subservient to the brain; while the knife of the dissector plainly reveals that it is decidedly more complicated in structure than the body, and complexity of structure

always indicates variety of duty, whether in an animate or inanimate being. Yet some of the old school anatomists don't believe it, because dissection don't reveal it. The fact is dissection, after the old method, was brimful of error. The human brain was never dissected properly until the days of "Gall and Vimont." Up to that period anatomists sliced it, like a butcher would a piece of common beef. Of course they could make no discoveries. After that period the brain was delicately, scientifically, and artistically unraveled: convolution after convolution, by the skillful hands of Spurtzheim and Gall, and distinct centers found for every distinct faculty. Dissection, without the aid of experiment and observation, however, could never have reached the case, as it is quite difficult to make dissection alone profitable.

Very little is learned by experimenting and groping among the cerebral organs of dead men, and the immortal Gall realized it, and confined himself chiefly to observation. A brilliant medical writer says: "No man can, by dissection alone, tell the function executed by the optical nerve; yet, by observation, the facts are gained." No man, I add, by a dissection of the retina, could infer as to its office. No man, by rushing a steel-blade through the layers of the brain, could discover that thought was elaborated by the action of the whole brain, or by a part of it. Yet observation has given us the facts in both instances, which are as demonstrable as that the propensities of man are at the base of the brain, and reason at

home in the frontal lobe. Van-Helmont claimed that the soul was located on the "pinal gland." I don't understand that, as I conceive the mind to be the soul, and know it to roam at will around the volutes of the brain, without a central habitation. I quote from memory what some writer says about the brain: "The brain of man is a delicate, mystic, and wondrous machine, and it is very difficult for the most gifted, outside of the regular students of human nature, to say where deficiency ends or excellency begins, and where eccentricity ends and insanity begins. In the best of brains we often discover some delicate and exquisite string of the mazy material instrument broken, shattered, or congested, and then we behold the strange response of a definite monomania. A man may mingle with the world, perform properly the duties of the hour, pursue connectedly the routine of everyday affairs, yet have a streak of insanity permeating a convolution, or flashing or dashing along a fiber of his brain, and he may pass on to the grave without his case attracting comment or notice." The above is the substance of the article, although it may not be in the exact words of the author.

Take history, scientific or descriptive, and through it examine the inhabitants of Europe, America, Asia, and Africa, and without a particle of proof from the animal frame-work you will be convinced of the existence of the "law of plurality of brain." Cast your eye in whatever direction you may, and you will behold a diversity and

variety which could not exist if the brain were not a number of distinct organs. On mountain and in valley, on sea and on land, everything points to this fact. Indeed it must be complex, with numerous specific centers in order to give origin to the countless manners, customs, laws, and religions of humanity. Look at the marked difference existing in the social habits of different nations. That which is altogether socially agreeable, for instance, to a Frenchman, is totally repugnant to an Englishman. Look at the war-loving Roman, and art-loving Greek. Compare the diet of nations, the gesture, the cookery, the articulation of nations, then tell me, how could this wide diversity exist were it not for the law of plurality? Hundreds of languages, hundreds of religions, hundreds of your marital laws and moral forms, hundreds of ceremonies and special mental attributes, and yet some of you believe the brain to be a single organ, and that "all brain is alike, only modified to an extent by culture." Granted that culture develops brain, it does not recreate or change altogether the primary characteristics of a people. You can not keep an Anglo-Saxon in slavery, nor can you, by every system of education, make the four other divisions of the human race equal in mental power and versatility to the Caucasian. And why? you ask. Simply because brain is a plurality of organs, and is the instrument of thought, and is found in the latter race to be more perfect, full, and active, than in the others.

We notice in each nation a striking coincidence

between cerebral development and character. Compare the low flat brain of the New Hollander with the finely arched brain of the Scotch Lowlander, then read their respective mental traits, from the page of history, and the legible inscriptions written upon their skulls. The first is low, groveling, and unambitious; the second, fiery, elevated, and powerful. The peculiar formation of the brain of the Hindoos show them to be ignorant, superstitious, worthless, cowardly, and unreliable; while the brain of the Englishman proves him to be of a race active, enlightened, and brave. The brain of the Frenchman is versatile, energetic, and distinguished by great vascular excitability, while that of the China-man is dull, sleepy, and dreamy. The Wyandott and Cherokee Indians are beautiful, intelligent, and elegant, whether on foot or on horseback. The Digger and other tribes of Indians inhabiting certain portions of California and New Mexico, are just the reverse of this. In fact I have observed as much difference of character between the many tribes of American Indians, as I have ever observed existing between other nations. The New Zealander is vain, cunning, while the Brazilian is humble, indolent, and unsuspecting. The man of Maine is different from the man of Alabama; the man of Eastern Canada from the man of Canada West. In short, take the "five grand divisions of the human race," together with their sub-divisions, Caucasian, Mongolian, Malayan, American Aborigines, Ethiopian, etc., then contrast one with another and you

will at once recognize the truth of the proposition "that the brain is a number of separate organs, for the manifestation of separate powers."

Some writers attribute human diversity, whether relating to structure, thought, action, or habit, to climate. But of this read a former article of mine on the "Cerebral Development of Nations." I will say, however, in passing, that climate has much to do in the matter of physical and mental national characteristics; but to believe that the mental and bodily powers are cramped and stunted in one climate, and awakened and developed in another, irrespective of primary constitutional conditions, would be the very summit of ethnological absurdity. No doubt the climate has much to do in making the Patagonian and Caffre tall, and the Laplander and Esquimaux short; the body of the Georgian lady symmetrical and globular; that of the Mogul Tartar, flat and angular; the cuticle of the Mingrelian of an exquisite "rose and lily," that of the tropical negro, just the opposite; the form of the ancient Roman one style, that of the ancient Greek another; the mold of the primitive Egyptian of a certain cast, that of the modern Italian, another; but it has not made the wide difference we observe between the Jew and Gentile; between the Druid and Dane, Scot and Fin, modern German and Irishman. These differences are mainly congenital, from the fact, that a Jew, Italian, Englishman, Milesian, Celt, etc., never lose their native characteristics *in toto*, no difference what climate they happen to inhabit.

If you trace the zoölogical chain of being from the polypus or microscopic animalcule up to man, you will find that as the being becomes more complex and perfect in its structure, it also becomes more intelligent. For instance, the nervous system in reptiles is very small, and simple in structure, the same of fishes, less so, and still less so in quadrupeds. Then, as the brain is given up to be the most complicated piece of organization, it is reasonable to suppose that its duties should be of a high and complex character. Are they not? Yes, indeed, necessarily so, to display the innumerable actions of the mind.

Observation further says, that which proves true of nations also proves true of individuals. Have you not noticed how one person will naturally excel another in mathematics, yet be his inferior in polite literature?—how one will excel another in oratory, yet be his inferior in mechanics?—how one will excel another in poetry, yet be his inferior in commercial pursuits?—how one delights in the description of battle-scenes—nay, even loves the roar of red-mouthed cannon, the whirl of shell, the *hiss* of shot, the rattle of deadly musketry, and the clash of steel, while another loves the greensward, or the peaceful grove or grotto, where he can listen calmly and with joy to the dulcet murmurings of nature's varied voice?—how one grasps with trembling hands the glittering gold for selfish purposes, while another only views it as a means of relieving the sufferings of men?—how one gives tokens of an exquisite appreciation of music, while another is totally

insensible to the most ravishing concord of "soul-inspiring sounds?"—how one manifests a warm and continuous love for the opposite sex, while another is cold, reserved and coy?—how one is tender, devoted, and attentive to children, while another is unkind, exacting, and fault-finding?—how one is distant and indifferent to the world, preferring solitude to society, while another is social, communicative and friendly?—how one exhibits the most wonderful metaphysical power, while another can not follow an abstract idea to a greater length than his nose?—how one clings to his early home and memories, while another roams far away, only happy when amid new minds, new scenes, and new faces?—how one admires the grand, magnificent and great, while another experiences no taste for the romantic, wild, majestic, and infinite?—how one is almost consumed by the goadings and burnings of sensuality, while another is always contemplating the beauties and harmonies of nature? So on through the nature of individuals, diversity is the universal feature. That which stands good in relation to individuals of different and of the same specie, equally holds good in relation to the individual. Select a man or woman from the circle of your acquaintance and note what a marked contrast is shown between the absolute development of particular faculties. This may be termed phonographic style of proof, for it comes immediately home to every one's observation. A man may write with the polished seductiveness of an angel, yet be unable to connect three forcible sentences

together when before an auditory. He may possess a remarkable talent for generalization and classification, yet be sadly deficient in verbal memory and language. He may be a star of royal magnitude in the theatrical world, yet be a perfect sap-head in matters of natural science. He may be a full-orbed encyclopedia as respects geology and astronomy, yet be lamentably deficient in artistic ability. He may be a distinguished judge of law, yet be unable to defend a case properly. He may be a good theoretical physician, yet a villainous and dangerous practical one. He may be excellent in making a bargain, yet be unable to speak the King's English correctly. He may be exceedingly fascinating and humorous when in the company of ladies, but grievously dull and leatherly when in the company of men. He may possess a splendid talent for making money, yet be able to manifest but few ideas above those of a gnat. So on throughout the realm of mind, God has given men special gifts, each differing from the other as the stars differ in glory—some one talent, some two, some ten, etc., and it behooves every person to know what is the character of the gifts which he or she does possess. Who can tell with scientific certainty? We answer, the "practical anthropologist or phrenologist!"

All diversity and peculiarity of both national and individual mentality emanates from a plurality of brain-organs in different degrees of quality and development. Each conception, desire, and act takes shape while on earth from organization, or from the special centers of

the brain; and here lies all the difference, or the principal difference, that is found to exist between one nation, one person and another. Insanity, also, offers considerable testimony in favor of this doctrine. You seldom behold in lunatic rooms a patient totally deranged on more than one subject. If you do, you will also find that the entire brain is in a diseased condition. What we term diseases of the mind are nothing more nor less than abnormal, organic action of the brain. Cure the instrument of mind, the brain, and all mental irregularity will cease. Some men become insane while studying the abstruse sciences; that is to say, by overtaking the faculty of causality they become cerebrally diseased, and lose the power of logic. Others become demented by overtaking the oppoive, revengeful, or destructive powers. Others by an over-excitation of the social, amative, musical, ethical, acquisitive, or poetical faculties. This being the form that insanity generally assumes, it would be well for educators and physicians to look to it.

When the mind of an individual is altogether disjointed in its operations, the knife of the anatomist will show you that each fiber, layer, and convolution of the brain is badly diseased, thus giving origin to all those irregular and discordant actions common to insanity. To illustrate: If you bring the full, hot rays of the sun to a focus, through a single medium, the object acted on will be injured. On the same principle, if you cause the mind to continuously dwell on one subject, or act through one

organ of the brain, you germinate disease within that organ. For example, if the entire force of the blood should be cast to a given artery by the propulsive power of its ventricles and valves, the function of that part would be instantly destroyed. A very slight non-equilibrium in the circulating fluid will sometimes produce an unpleasant action of the physical and mental organs. The phenomena of spectral illusions and hobgoblin dreams, as remarked by Magendie, all point to the fact that the doctrine is founded in nature. Partial genius and partial idiocy both harmonize with the theory. For instance, a man of genius will often show several powers of the mind with an extraordinary degree of energy, yet be unable to take care of himself. Take Poe, Goldsmith, and Ben Jonson for example. On the other hand, an idiot will give no evidence of intellectual possessions, yet manifest more morality and finer sentiments of obedience than many a gifted and garnished poet. Take the history of the humble idiot Bazin, and contrast it with that of Lord Gordon Byron, for example. In fact, there seems to be as many distinct types of idiocy, talent, and genius, as there are ordinary types of men. Some of the best mimics in the world are almost idiotical, while the poorest mimics are usually found among statesmen and philosophers. I will not have space to present the facts in relation to this doctrine, gathered from experiment and consciousness, but will conclude by saying that man is a vast storehouse of special organs of sense, wherein the integrity of

one can not be maintained without the mutual assistance of the other. An unbroken sympathy pervades them all, thus "forming a beautiful and complex structure, made up of equally beautiful and complex parts." The brain is a vast library, containing within each of its furrows a distinct and separate intelligence for each distinct and separate subject; and if these facts were generally known and recognized in the halls of legislation, thousands of the ills of life would be swept at once into the receptive vault of oblivion.

"Lulled in the countless chambers of the brain,
Our thoughts are linked by many a mystic chain;
Awake but one, and lo! what numbers rise;
Each stamps its image as the other flies."

The whole science of mind must, in part, be built on a correct pathology and anatomy of the brain.

CHAPTER III.

THREE-FOLD BEING.

MAN, as he exists on earth, is a three-fold being. By his inferior qualities he stands related to the animal kingdom, and this portion of his nature, being earthly, resolves itself into its primitive constituents at the death of his body, with the capability, however, of assuming new forms. Through his five senses, ears, nose, eyes, etc., he holds intercourse with the material universe. These instruments of sense are also earthly, as they spring from physical organization, and the very conditions of organization imply and necessitate change of form and structural decay. By his superior faculties he holds communion with the internal world, or world of ideas. This part of his nature, as can be readily demonstrated, is capable of indefinite expansion, and constitutes, in its full growth, man's immortality, "and leads him to infer no less than revelation commands him to believe," that he is the favored creature of a never-ending progression. Owing to his possession of these higher powers, he is rendered a proper subject for future as well as present rewards and punishments, in spite of all declarations of a panthe-

istic, deistic, and atheistic character. Physically, he is composed of eight grand systems, termed solids and fluids, which act and react on each other, by virtue of mutual attraction and sympathetic repulsion. To briefly describe these :

First, the skeleton, or frame-work, consisting of two hundred and forty bones, with their ligaments, giving shape to an extent, together with power of motion and solidity. Second, a muscular system, composed of five hundred and twenty-five muscles, with tendons attached, by which various mechanical duties are executed. Combine these two systems and you have what the phrenologists call the motive temperament. Third, cellular system, formed by countless interwoven fibers which, in the aggregate, produce tissue and give symmetry to the body. Fourth, a lymphatic system, which counterbalances the vessel of nutrition, thus preventing plethora. Combine these two, you have the indolent "phlegmatic temperament." Fifth, an arterial system, through which the red blood is carried from the heart to every portion of the animal economy, thus supplying the requisite sustenance for brain, nerves, each and every organ. Sixth, a venous system, with the peculiar property of returning the blood from its most remote corners, by capillary attraction, back to the heart. From these two the sanguinous temperament is compounded. Seventh, a "nervous system," consisting of the cerebro-spinal center, together with round and flat cords, called nerves, which branch

off to all the textures of the body. From this originates the "mental temperament." Eighth, an "organic system," embracing heart, lungs, liver, stomach, kidneys, spleen, pancreatics, and all those internal organs contained within the trunk of the body, which create energy and strength. From these springs the "vital temperament."

Four lectures would be necessary to the proper analysis of the temperaments, but I am not lecturing, remember.

Mentally a man is composed of three systems: First, a number of propensities common to animals; second, a number of faculties common to intellect; third, a number of spirit-powers common to religion and intuition. Like the eight grand systems of the body, these mental systems are separate and independent, although agreeably related and sympathetic; yet the office of one is never performed by another. For example: the faculty of "ideality" can not perform the function of calculation, nor can "sublimity" evince power in the realm of "mirthfulness," nor "veneration" in the department of "concentration," and owing to this, it is the limit of imbecility, for teachers and others to attempt to cultivate the mind promiscuously. Yet we have thousands of scholastic gentlemen, who imagine, nay, really teach, that a man can develop his power of logic, for instance, by the study of Greek, and the power of imagination by the study of numbers. Although educational conditions are much

more favorable and progressive now than ever before, much yet remains to be done in order to give each boy and girl the highest, special, practical, bodily, and mental training of which they are susceptible. It is very unpleasant to the practiced eye of the man of the world to see how often the natural talents of a child are perverted by a narrow-minded teacher or parent, and in the course of time obliterated for the want of proper mental nutrition. If a boy possesses a "natural talent" for drawing, making wooden boats, life-boats, wagons, tops, etc., he will probably be whipped or reprimanded a dozen times within a session, and compelled to pitch indiscriminately into villainous Latin, perplexing Hebrew, or useless Greek. In a few months the boy is a failure in the dead languages, and, sad to say, a failure in inventive and mechanical skill, of which he promised, in youth, so much. Thus is God-given, natural power repressed, and often quenched, and artificial, hardly-acquired nothings engrafted. The absurdity of the "popular proposition," that the study of mathematics develops general power of mind, is obvious to every philosophic mind. Yet as many hold to it, because it emanated from a college hall, I will present a little evidence. In the first place, I claim that each part of the brain, like each part of the body, is the seat of a special power, and can only do the duty assigned it. We all know that imagination and reason are two separate entities, and that the operations of one can never be mistaken for the other; further, that the

eye and ear, the heart and lungs, the ventricles and auricles, etc., are separate solids. Now, when you can show an eye that can be improved by the cultivation of an ear, or a heart that can be developed by the cultivation of a lung, or a ventricle that can be strengthened by the cultivation of an auricle, then I, as a direct and analogical debater, will confess that the proposition of the school-men is right, and the declaration of physiologists wrong.

As the organs of respiration and digestion require their particular aliment, so the faculties of the mind demand theirs, and when the needful food for them is not found, or not in proper quantities, then we have either partial or diseased mental manifestations. To make this perfectly plain, if your muscles are weak, you don't cultivate your optical nerves with a view of solidifying them. If the intercostal muscles of your chest required development, you would never think of exercising the leaders of your ankles with a view to making them strong. No, you would take a pair of wooden bells and make an immediate appeal to the exact locality of weakness, and thus ward off consumption or ill-formation of chest. Yet, on this same principle many of you are educating, or trying to educate, the multiplex and mystic attributes of the human mind. For the sake of humanity, truth, and success, forever cease it, and see that each faculty has its proper nutriment. Never give, for a muscular derangement, a nerve remedy; for a heart disease, a liver rem-

edy; for a pancreatic complaint, a kidney remedy. Never feed "imitation" on the food of "constructiveness;" never feed "acquisitiveness" on the food of "benevolence;" never feed "destructiveness" on the food of "adhesiveness," nor "hope" on "caution," nor "firmness" on "approbation," etc., but give to each their requisite stimula. In remedy, exercise nutriment and disease; in thought as well as deed, present just such ingredients to the faculties of perceptivity, intellectuality, trunk of body, and center of brain, as the nature of each would seem to warrant. Give to the faculty of language, synonyms; to locality, places, geographical scenery; to comparison, the world of analogy; to causality, the realms of cause and effect; to sublimity, the roaring, dashing torrent and craggy steps, the lowering clouds, and crashing thunder, etc., and I guarantee that if you possess a fair hereditary cerebral endowment, with such culture you can safely take your daring flight up, up the hill of fame. If one of your faculties is too active, restrain it; if too sluggish, cultivate it. Is the pulsation of your heart too active? decrease it; too slow? increase it by exercise; liver torpid? awaken the secretions; brain stupid? heat it up. Create activity by speech, study, and manipulation; muscles weak and flabby, and nerves very respondent, as is usually the case, go to work on your muscles. Increase, also, the circulation of your blood, and quit thinking so much. Sleep more; throw up and down, backward and forward, your arms; chin the rail, swing your body by catching

hold of something safe above you ; go hop, skip and jump ; box, wrestle, and avoid, by all means, vicious habits.

Then, again, as I have already remarked, the faculties of the mind ; like the bodily organs, are sympathetic, and interlinked and governed by the law of innate correspondence and fellowship. First example : The brain can not perform properly its offices without the heart keeps up its regular supply of arterial blood, nor can the stomach secrete the gastric juice without it is supplied with blood, nor can it be supplied with the requisite amount of rich blood without the materials of nutrition are furnished in proper quantities ; nor can the function of digestion be carried forward to completion unless the sublingual, parotid, and gastric glands loan their assistance. And so on throughout the entire mechanism of animal formation, you behold an elaborate circle of dependencies and sympathies, each portion, whether composed of solids or fluids, acting and reacting on the other ; yet, like a brick in a house, each separate and distinct, and each required to form in full the massive building. On this same principle the faculties work, whether they are primarily of divine origin, with the attributes of the Deity in each, or but an emanation of nervous, organized matter. The following is a simple example : If the passions are unduly influenced they transmit their irritating influence to the intellect, which, in its turn, is thrown into a state of activity, and instantly communicates its impressions to

consciousness, which sits in judgment over all the jointed as well as disjointed actions of the mind. Consciousness, then, examines the evidence as exhibited by the different faculties and propensities, and renders a final decision, whether for good or evil. An artist, in the production of a portrait, could not fill up the design by the use of "color" alone, although color is a leading ingredient in painting, and could not be ignored without making futile his attempt. He, with a view to perfecting his picture, will invoke the aid of form, imitation, constructiveness, ideality, etc., for each of these stand necessary to the completion of his work, yet none could do the work of the other. No man could possibly be a philosopher if the faculty of causality was deficient, nor could he be one if causality was seven in degree, coupled with an active temperament, unless the faculties of continuity, individuality, and comparison were called in conjunction. No man could be an orator by the reflex action of language alone, but by adding sublimity and ideality to the extent of seven in degree, oratorical effects are invariably produced. This style of example could be run throughout the entire chain of the mental powers. Here is another illustration, taken from the physical structure:

If some extreme portion of the body (the finger, say) becomes diseased, the sore extends its irritating influence to a nerve of sensation, which passes the feeling to a nerve of motion, which, in its turn, transmits a knowledge of what is going on in the body to the brain or mind,

wherein all the transactions of life are represented. The brain being the seat of justice and intelligence, now commences the complicated though perfect action of the entire mental and physical machinery. The vital forces are in full play on the spot diseased. The nervous energies obey the mandates of the *will*. A little motor cord moves the tongue so that the sufferer can speak, while another gives sensation, so the mind may know where the pain is located, while still another runs from one portion of the body to another, carrying information. Thus a slight hurt will bring into requisition all the diversified powers of our nature, showing up, in unmistakable colors, the law of sympathy, correlation, and attraction.

CHAPTER IV.

SUGGESTIVE.

I PROPOSE in this chapter to deal in general observations, rather than confine myself to any particular department of science. When we take a "bird's-eye view" of a vast throng of men as they pass through a crowded metropolitan street, and note the diversity which invariably exists, in reference to physical structure, facial expression, configuration of head, and style of temperament, we are immediately reminded of "Young's Apostrophe," in which he says:

"How poor, how rich, how abject, how august,
How complicate, how wonderful is man!
Surpassing wonder! He who made him such,
And centered in his make such strange extremes
Of different natures, marvelously mixed
Connections exquisite of distant worlds;
Distinguished link in being's endless chain,
Midway from nothing to the Deity;
A beam ethereal, sullied and absorpt;
Though sullied and dishonored, still Divine!
Dim miniature of greatness absolute;
An heir of glory; frail child of dust;
Helpless, immortal, insect, infinite!
A worm, a God! I tremble at myself,

And in myself am lost. At home a stranger.
 Thought wanders up and down, surprised, aghast,
 And wondering at her own how reason reels,
 Alternately transported and alarmed. What joy! what dread!
 An angel's arms can't keep me from the grave,
 Legions of angels can't confine me there."

In Pope's ingenious "Essay on Man," we find words also calculated to make us ponder well the nature and destiny of man. In one portion of the book he says :

"Awake, majestic mind, leave all meaner things
 To low ambition and the pride of kings.
 Let us, since life can little more supply
 Than just to look about us and to die,
 Expatiate free o'er all this scene of man—
 A mighty maze, but not without a plan;
 A wild where weeds and flowers promiscuous shoot:
 A garden, tempting with forbidden fruit;
 Together let us beat this ample field,
 Try what the covert and the open yield:
 The latent tracks, the giddy heights explore,
 Of all who blindly seek or lightless soar—
 Eye nature's walks, shoot folly as it flies,
 And catch the manners living as they rise;
 Laugh when we must, be candid when we can,
 But analyze and hold in check
 The wayward mind of man."

As I have no copy of Pope convenient, I quote from memory, and it may be the "brilliant" poet suffers in consequence.

Why one man so coarse, another so fine; one so nimble, another so clumsy; one so bright, another so dull; one so

wise, another so foolish; one so poetic, another so practical; one so domineering, another so submissive; one so suave, another so surly; one so stingy, another so liberal; one so social, another so distant; one so progressive, another so snail-like; one so tender, another so vicious; one so spiritual, another so sensual; one so diplomatic, another so transparent; one so game, another so timid; one so enterprising, another so indolent; one so serious, another so gay? In brief, why long ears, short ears, lop ears, thick ears, thin ears? Why sparkling eyes, stupid eyes, beady eyes, squint eyes, open eyes, gray, black, blue, etc.? Why dimpled chin, flabby chin, round chin, sharp chin, angular chin? Why pointed nose, flat nose, crooked nose, straight nose, celestial nose, pug nose, le grand nose, le contemptible nose, no nose at all, and nose beyond limit? Why clear-cut brow, lowering brow, shaggy brow, arched brow, etc.? Why thick lips, thin lips, compressed lips, curling lips, loose lips, tight lips, etc.? Why big-mouth, little mouth, coarse mouth, delicate mouth, catfish mouth, lobster mouth, sucker mouth, and snappish, wolfish mouth? Why brown, red, black hair, etc.? Why different degrees of fineness and stiffness? Why does climate, water, living, modify a man's disposition, either for better or for worse? These, and countless questions like these, it is the province of anthropology to expound. For a series of generations the mysterious connection existing between mind and body, life and death, hope and fear, demand and supply, God and man, formed a theme of

the most exalted and intense interest. Philosophers, poets, moralists, and divines, made this a leading and favorite study during the days of Socrates, Pythagorus, Democritus, Plato, Aristotle, and others, but owing to the incompleted state of the physical and mental sciences, very little progress was made in the premises. Many years elapsed before the subject was again taken up with the same degree of energy and talent that characterized the Grecian and Roman attempt, and when the time did roll around for men to grapple, for the hundredth time, with the great problem, which includes within its inquiries nearly all relative to the moral, political, social, physical, intellectual, ponderable and imponderable worlds, they found that chemists, botanists, geologists, physiologists, phrenologists, etc., had developed, by their united efforts, a substantial basis for future operations and explorations in this field. The world of scientists have given this study a name which is now recognized throughout the civilized nations of the earth. "Anthropology" is the name, and I claim for it the highest seat in the estimation of those who are above the dust of bigotry and passion, for it is indeed high above all other questions of debate. In spite of all the anathemas which were formerly hurled against it, every liberal, scientific man of the nineteenth century looks upon it as the key to all correct legislation, morality, national and general advancement.

Anthropology, defined, means "the science of man in

toto, considered in his organization, derivation, and multifiform relations." Antecedent to its development, scholastic men in general were in the habit of treating of man from a very meager and fragmentary stand-point. One class of metaphysicians treated of him as being all body, another as being all spirit, another as an electric battery, another as the sum total of the "animal creation," another as the joint effect of the atmospheric mineral and vegetable regions, and so on without limit. According to the views of the first, life, memory, thought and volition come from organization, and being purely physical phenomena, would surely cease to exist at the death of the body. Deductions drawn from the tenets of the second class lead directly to the interminable realms of idealism, which doctrine teaches that our existence consists of nothing more nor less than a number of spiritual impressions, there being no such thing as a material object, as chair, book, etc. Consult Bishop Berkeley as to this theory. According to the third, the faculties and passions are wrought and made manifest by the flashings of electricity up and down the nervous system, and through the ganglionic centers of the brain. According to the fourth, man is but the "king of beasts," possessing the five senses in a somewhat higher and more perfect state of development, yet forever limited to this terrestrial sphere. According to the fifth, morally considered, man is an "organic puppet," drawn here and there by invisible strings originating, doubtless, in some one or more

of the sublimated stratas of the "mystic kingdoms." And thus we might proceed, but deeming this sufficient in the line of the visionary and absurd, we pass to something of more importance, saying, however, *en passant*, that anthropology embraces what of truth there may be in any of the above partial views of man.

In some of these metaphysical fragmentary theories of man, laws have been framed and governments instituted, and owing to this fact, the theater of life has, in every age of the world's history, presented an unbroken scene of moral, mental, and social desolation. Thousands of the ills with which humanity suffers, and has suffered, can be traced beyond the bloody gate of war, and the iron gate of prisons, and the rude grip of law, to one or more of these perplexing, speculative productions of the unscientific, metaphysical school of authors. We may expect to be unable to legislate successfully, and govern the masses properly, so long as we hold to abstract dogmas, and listen not to the voice of "science and reason." Men are, and will ever be, in a state of partial ignorance and confusion with respect to their three-fold natures, and will so remain until lashed into the study of themselves, by the demands and spirit of the age. Men make up society, and society teems with crime, misery, and hypocrisy. At present, as in the past, they study the surface of the earth, together with its effects, the imponderables of air, and even the "starry dome" above, yet seldom attempt to analyze the structure of their own bodies, or the complicated and in-

structive mechanism of their own minds. So ignorant, indeed, are they of their aptitudes and deficiencies that they fail in the selection of their vocations seven times out of ten, and more than two-thirds of the human race vote life stale, flat, and unprofitable, as Shakspeare has it, from the fact that they heeded not the admonitions of the great ones long since gone, embraced in—

"Know, then, thyself;
Presume not God to scan;
The proper study of mankind is man!"

What is the method by which one gains self-knowledge? you ask. We answer, through the mediumship of anthropology. What is modern anthropology? It is an embodiment and classification of all those various links in the nature of man, which are revealed, to an extent, by every other collateral branch of science. In its immediate and remote practical application to the affairs of life it is almost illimitable, and the progress of time and advance of knowledge will only render it more thoroughly believed, more highly venerated, more boundless and perfect.

By whom were these connecting links and facts discovered? By every scientific mind from the twelfth to the nineteenth century. Of late years Humboldt, Jean Paul, Göthe, Bacon, Mallebrauch, Newton, Agassiz, Owen, Locke, Stewart, Read, Spinoso, Brosais, Combe, Gall, Spurtzheim, Vimont, Magendie, Bell, Walker, Wells, Buchanan, Gregory, McNish, Mann, Beecher, Fowler, etc., have each done their share.

Gall, the greatest of all, should be worshiped by the others, with all the glowing enthusiasm with which the primitive Egyptians were characterized in their adoration of "Osirus," their dominant "Sun-God."

Anthropology has not jumped from darkness to light at the first bound, but, like astronomy, slowly by the path of observation and deep reflection. It covers the entire ground of man's original and acquired constitution, thus treating of him socially, morally, physically, and intellectually. It points out with undeviating certainty the hypocritical from the honest, the immaculate from the impure, and explains systematically and accurately the laws of life, mind, immortality, and what ethical and material conditions harmonize and what disagree. It also treats of quality, quantity, solidity, as indicated by the size, shape, and texture of the brain, thus mapping out what forms of head and temperament are required for the exhibition of special traits of character and talents. Of what importance is it? Why, it teaches you whether to shun or court this or that vocation, how to cultivate this or that organ or faculty. In brief, it is the key that will unlock much which is enveloped in deep mystery; it will instruct you as to the treatment of the insane, the blind, the deaf, the imbecile, the drunkard, the criminal. It will tell you what kind of partner in business to select, what kind of a wife is best adapted to you; in what line of business you'd best excel; how to increase the power of all your religious elements; how to become imaginative; how to become log-

ical; and how to read every man and woman flaunting by.

What is its province?—Its province is to group together in a systematic and compact form all the diversified phenomena of man, so that the student of nature can make such deductions as the relative strength and quickness of his perceptive and reflective faculties will admit, and to this point he can proceed safely by the light of observation, experiment, and analogy; but all beyond is wrapt somewhat in speculation and darkness, and the student who strives to penetrate the exact peculiarities and wonders of the unexplored country, without either map, compass, or chart, will, sooner or later, receive a shock of the most deadly kind.

In view of the points presented, I feel no hesitancy in recommending anthropology to the favorable consideration of all.

CHAPTER V.

ON THE DIVISION, LOCATION, AND FUNCTIONS OF THE MENTAL ORGANS.

THE human mind may be regarded as a simple operative principle, giving rise to a series of separate faculties, by its conjunction with a multiplex system of cerebral organs.

What is a mental faculty?—It is a simple effect developed by the combined action of brain and mind.

What is a cerebral organ?—It is a material instrument by means of which the mind manifests a particular or special power.

How are the powers of the human mind grouped?—Under three leading heads.

What are they?—Intellect, sentiment, and propensity.

To what do they refer?—The first has reference to the reflective, perceptive, recollective faculties; the second, to the intuitive, domestic, and aspiring; the third, to all those varied impulses of man common to animals.

Where are the intellectual organs located?—In the frontal lobes of the brain.

What portion of the brain do the sentiments occupy?—
The crown of the head.

*What portion the propensities?—*The posterior and side regions of the brain.

*What are the names of the intellectual organs?—*Causality, comparison, individuality, eventuality, language, sublimity, ideality, locality, form, size, weight, color, order, mirth, time, imitation, calculation, tune, and constructiveness, and continuity.

*What is the office of causality?—*To reason, analyze, and investigate. It is the fountain of abstract ideas, and when large and duly cultivated, gives a man a penetrating and philosophic cast of mind. Conjoined to comparison, eventuality, and language, it makes the polished and acute debater. Data for reasoning is furnished causality by means of the knowing group. For example, in the discussion of a given theme, eventuality furnishes facts, historical events, and minor details, while comparison points out their identity, analogy, or difference. Causality, then, analyzes the data in proportion to its volume, and draws conclusions. Take two persons, one possessing large eventuality, but deficient causality, the other large causality but deficient eventuality, and explain to them the construction of a given piece of mechanism one day, and ask them about it the next, he in whom eventuality predominates will remember exactly what you told him about it, yet be unable to grasp the principle, while he in whom causality predominates will not

recollect your description, yet be a perfect master of the principle. If we look over the portraits and busts of Terense, Virgil, Horace, Ovid, Milton, Pope, Young, together with all the great thinkers of all ages, so far as they are handed down to us, we behold the exceeding prominence of this organ. Every deep thinker in America possesses causality large. Take the heads of Horace Mann, Daniel Webster, Ralph Waldo Emerson, and a host of other American worthies, and you will note an exact coincidence between the development of causality and the strength of their reasoning abilities. Take the busts of Locke, Bacon, Shakspeare, Gall, Combe, and Magendie, and you will observe this God-like form of head, and are not their writings in unison with this fact? Yes; for no man can be a clear metaphysician without this configuration, and we point to the living heads around you, and to the history of the great ones, long since gone, in proof of the assertion. If the organ under consideration be very deficient in an individual, he will find it very difficult to follow up a chain of reasoning, and will be much better pleased in some subordinate sphere, than in one in which profundity of thought is required.

What is the office of comparison?—Through it the mind detects resemblances. It is quite different from causality, and is never productive of sound logic. The mind through it reasons altogether by analogy, and often tries to convert an illustration into an argument. It forms a leading ingredient in the study of comparative anatomy and

physiology. Through the organ of individuality we survey the external world. It is located in the lower part of the forehead, immediately above the nose, and when duly cultivated renders its possessor exceedingly sharp in observing objects and substances. When naturally large it gives an aptitude for acquiring the mere facts of physical science. It seems to be the most prominent organ in the study of botany, geology, and mineralogy.

Through the organ of eventuality we take note of changes and events. It is situated just above individuality, and when large gives to its possessor a splendid memory of details. It is the leading element in the brains of ordinary politicians, as it enables them to present a vast realm of historic knowledge to an auditory, which is often regarded as the emanation of genuine talent. Some men build up a permanent reputation as a stump orator by the simple action of this organ. Teachers and parents foster this power in their scholars and children too much, and make memorizers out of them when they should make debaters. It paralyzes the intellectual processes very much in a person who is forever spouting the ideas of other men.

Through the organ of language, we express in words the feelings and conceptions by a certain faculty or combination of faculties. It is located in the posterior part of the upper orbitary plate. When large it gives the eye quite a projecting appearance, and renders its possessor a fluent and copious talker.

Its action is altogether unpleasant and irksome when not toned down by good sense. Through the organ of sublimity we appreciate the grand and infinite. When too large it leads to *bombastical* expressions, and confers on its possessor a wild and ungovernable passion for the romantic, majestic, and boundless. Through the organ of ideality we are brought in relation to the beautiful and perfect in nature and in art. When expansive it gives splendor and elevation to all the other faculties, and renders a person tasty and refined.

Sublimity, ideality, constructiveness, and imitation form the leading artistic group. They make the thorough landscape painter, the finished engraver, the exquisite penman; in short we have a genius for mechanics. If conjoined to large causality, we have the gifted poet and elegant essayist. The two organs last considered produce a glowing imagination, a passionate fondness for the magnificent, a fervid love of oratory, dash, good style, vim, poetry of motion, beauty of expression, and often develop the highest order of refinement as well as the highest order of sickly sentimentalism. Through the organ of locality we recollect places. When large, a place once seen is never forgotten. It forms vivid and distinct impressions of scenery. Persons in whom this organ is predominant are passionately fond of contemplating every variety of pictures, whether upon the brow of a mountain or upon canvass. It is the leading ingredient in the finished geographer.

Through the organ of calculation the mind is brought

in relation to figures; when large, it confers tact and quickness in casting up accounts. Those who possess it in an eminent degree, take great delight in the studies of arithmetic, algebra and geometry, but experience but little pleasure, as a general thing, in literary and philosophical pursuits. The Jews have this organ very large in conjunction with full acquisitiveness, and there is no race on earth that can excel them in the book-keeping or money-making line. Through the organs of form and size, we stand in relation to magnitude, breadth, thickness, length, height, depth, etc. A person who has these organs predominant can distinguish, with remarkable accuracy, the width of a board, the size and height of a horse, or the difference, physically, between one man and another.

Through the organ of weight we have a knowledge of the laws of gravity and motion.

Through the organ of color we perceive the relation of different tints, their harmony or discord. Some persons are almost destitute of this power. They are called color-blind, not being able to distinguish green from blue, or brown from red, or black from gray. Their defect is attributable to imperfect vision, caused by a diseased condition of the retina or eye-ball. This is a mistake, however, for we find that imperfection with reference to color arises from the non-development of its organ, and the imperfection of the optical nerve.

Through the organ of order, the mind is brought into relation with the harmonious and inharmonious arrange-

ment of different objects. Some housekeepers keep every thing about them in a very precise and elegant style, while others scatter books, chairs, tables, etc., all round the room, and have every thing in utter confusion.

Through the organ of time, the mind takes note of the lapse of minutes, hours, days, months, years. Some possess this organ to such a degree that they can tell the exact time of day without recourse to a clock, or tell the exact time in which any thing of an unusual nature occurred. Others have no power in this way, and take no pleasure in remembering dates or time.

Through the organ of tune, the mind is brought under the influence of melody. Large tune will give an individual a fine appreciation of music; yet, if it is not coupled with ideality and time, it will never render him an accomplished performer. The busts of Thalberg, Mozart, and many other eminent physicians, show a remarkable development of this faculty.

Through the organ of mirth, we have a perception of the absurd and ridiculous. When large, it gives a disposition and ability to joke, make fun, and laugh at whatever is improper or ill-timed.

Through the organ of constructiveness, we are enabled to use tools with dexterity. If large, it gives fine mechanical skill.

Through the organ of imitation, we are enabled to assume the gestures, movements, and looks, of others. When large, it gives a talent for acting, and is the pre-

dominating organ of all celebrated artists, comedians, and pantomimists.

Through the organ of continuity, we are enabled to fix the mind on a practical or abstract theme, and keep it there, until the problem, whatever it may be, is solved. It imparts to a man patience, and causes him to dwell on a subject with connectedness and amplification.

*What are the names of the sentimental or religious elements?—*Hope, or faith, spirituality, conscientiousness, veneration, and benevolence. Where located? *Answer.* In the coronal region of the brain.

*What is the office of Hope?—*Through the organ of hope, man is put into relation with futurity—he thus being enabled to experience cheering expectations of a higher life beyond.

Through the organ of spirituality, man is enabled to trust to prophetic whisperings of the light within, and perceive things independent of the senses.

Through the organ of conscientiousness, man is placed in exact relationship with truth, justice, and the eternal and angel-like sentiments of equal rights to all men, and the greatest good to the greatest number.

Through the organ of veneration, man is placed in direct receptivity to the grandeur, illimitableness, and perfection of God and his works.

Through the organ of benevolence, man is placed on the plain of sympathy, kindness, and humanity, and is thus rendered a self-sacrificing being.

What are the names of the propensities, and where located?—They are located on the side and base of the brain. Lowest in the occipital region we have amative-ness. Through this organ, man, by nature, is attached to the opposite sex, and desires to love, be loved, and mated. It is the grand central reproductive organ of the animal system.

Through the organ of parental love, man is rendered fond of his own offspring; in fact, kind and considerate to all children.

Through the organ of adhesiveness, man is rendered a social being; through the organ of inhabitiveness, a home-like, home-loving being; through vitativeness, a life-loving, death-resisting being; through combativeness, a determined, courageous being; through destructiveness, a harsh, destroying being; through alimentiveness, an eating being; through aquativeness, a drinking being; through acquisitiveness, a hoarding, saving, amassing being; through secretiveness, a politic or diplomatic being; through caution, a provident, watchful being; through approbateness, a character-regarding and ambitious being; through self-esteem, a dignified, composed being; through firmness, a tenacious and persevering being, etc. So in all God's departments of organic and functional life, means, organs, or instruments are used for the accomplishment of every purpose.

CHAPTER VI.

LOVE AND MARRIAGE.

THE subject of love is one of extreme delicacy, although of vital importance and illimitable in its range. An attempt to define it in the abstract would show great ver-dancy on the part of any lecturer. And why? Simply because every person of mature mind has a definition and a limit corresponding to previous experience.

Victor Hugo and De Stäel defines it in one way, Lola Montes and Shelley in another. Modern poets, philosophers, and lovers, seem to be about as chaotic and uncertain as to the true definition of love as were Plato, Pythagoras, and other classical sages of antiquity.

It would appear, then, that every individual possesses a peculiar or individualized conception of this term, which is derived from organization, habits of thought, and mental surroundings. The term love is of Saxon origin, and was called "*Lupu*" by the primitive Asiatics, and was supposed by them to be the motive force underlying all good, and the quickening spirit of all mentality.

To prove to the reader that all the definitions given, until recently, are purely arbitrary, we have but to make a few quotations and contrast the definitions given by

Calgula, Drusilla, Tourrette, Montmorency, Michalau, Catiline, Orestilla, Alfieri, Aristotle, Mohammed, Brigham Young, Queen Elizabeth, and others.

Webster says love is an affection of the mind, excited by beauty and worth of any kind; the opposite of hatred. Oliver Ledana does not regard it as a distinct entity in human nature, but defines it to be an effect produced from the combined action of esteem and selfishness.

Poetical lovers, how do you like this latter definition? Jean Paul says love is the rapport existing between magnetic organizations similarly constructed. Swedenborg resolves it into a spiritual sympathy, while St. Prosper says it is the discovery of our soul's antitype, the meeting of an opposite whose nerves vibrate with the exquisite vibrations of our own. Thus, you perceive, that the view of Swedenborg is spiritualistic; that of St. Prosper materialistic.

Fenelon says love is a religion, because God is love, and religion is a part of God. Tennyson, even now in the days of his sere and yellow leaf, resolves love into a kiss, and makes the soul subservient to it by saying:

"Last night, when some one spoke your name,
Thro' my swift blood there went and came
A thousand flashing darts of flame,
Quivering in my mental frame.
Oh, love! oh, fire! oh, Clio Drew!
That nectar kiss drew my soul through."

Sir Wm. Hamilton calls it a study of endless mystery,

beauty, and propriety; and De Wolf, after acknowledging the same, winds up thus:

“Oh, royal love, though offspring true of an aspiring age,
Well worth the poet's praises high, the study of the sage;
Let many nations value thee, for wondrous is thy plan,
Thou provest the study of womankind is as it should be—man.
All hail to the platonic love! all hail the essence grand!
'T were better if this world of ours would know and understand;
The infidel would then forget his doctrines, cold and drear, [fear.”
And husbands would daily learn the more their wives to love, not

Have any of you lovers yet realized the beautiful lines of Pope, as modified by Dr. Mason Goode as follows:

“Look round the world, behold the chain of love,
Combining all below and all above;
See plastic nature working to this end,
Atoms to atoms, clods to crystals tend;
See dying vegetables life sustain,
See life dissolving vegetation gain,
All served, all serving, nothing stands alone,
The chain holds on, and where it ends, unknown.”

The Greek Moschus describes love as an embodied substance, thus:

“The boy has many marks that thou may'st tell
From twenty others; heed them well.
Not black his skin, but of a fire-red hue;
His eyes like flame, keen, sparkling to the view;
A mischief-making fellow; a talker, very sweet;
His thoughts belie what his soft lips repeat.”

The artists have taken up the notions of Moschus, and

painted a dumpy, round, chubby, dimple-chinned boy, with a handful of slender, sharp-pointed darts, ready to be hurled at any young gentleman or lady who may chance to become his victim.

They have christened him Cupid, and he stands in all the galleries of art. Concerning him a poet has said:

“Fair, curling ringlets cluster round his head,
Tiny his arms, but far his darts are sped;
E'en to the banks of the Acheron
They wing their feathered aim,
And strike the queen and king.”

And now, with these remarks, we are prepared for the discussion of our theme in a practical manner, and invoke the light shed upon it by the physical and mental sciences of the nineteenth century. Love is a compound affection, consisting of admiration, esteem, benevolence, animal and social desire. The reason, then, why all sensible men and women love is because they detect in each other certain qualities, material, intellectual, and moral, which communicate pleasure of a three-fold nature; and just in proportion as they are intuitive, unrestrained, and unperverted, they can, with scientific certainty, tell their affinity. Do not understand me as holding to the mischievous doctrine of affinity, as taught by the high-pressure philosophers of La Belle France and mercurial Boston; for, undoubtedly, this blind searching after affinities has rendered many a peaceful home desolate, and opened the flood-gates of misery to many a happy mind.

Love is not only a compound element, but it is also susceptible of division. One division may, with propriety, be called general love, the other special love. The first implies a passion of the human mind for some external object, such as a tree, plant, flower, book, state, or nation; the second implies a passion for some one of the opposite sex.

The sequence of the cultivation of the first is information; of the second, matrimony, a conjoining of the masculine and feminine qualities, so that there will be "two souls with but a single thought, two hearts which beat as one." It is with the second division we have to deal in a treatise on marriage.

Marriage is said to be ordained by the Maker of all things, and, of course, is looked upon by the people of every Christian country as a divine institution. Some wild visionists declare that every marriage on earth is preordained in heaven; that is, that there is a matrimonial destiny "which shapes our ends, rough hew them as we may." If this be true, we can not but say that the heavenly contractors are not so very highly skilled in the art of match-making, for we behold every day matrimonial wrecks and ruins, individuals of both sexes laboring under the horrors of a terrestrial hell, simply by virtue of being mismatched.

And thus it will ever be until people cast their false theories into oblivion, and use properly their reasoning faculties, with science as their basis. No man should

ever think of entering the matrimonial relations without being able to give a triple reason for so doing. He should scout the idea that love is a single essence, and as blind as the poet portrays it. Love is not a blind passion, but a compound affection, capable of being clearly and safely guided over the shoals and quicksands of life by intellect at the helm.

Intellect is the first, love the second; hence the latter should be subservient to the former. When somewhat younger and inexperienced than at present, I believed the doctrine that love is blind and emotional, without a spark of genuine mentality mixed with it, and went so far as to tell the fair young Evangelines, Helens, Cleopatras, Minervas, and Hebes, that the very moment a young man proposed marriage, and at the same time seemed gifted with speech sufficient to give his reasons in a connected manner, that very moment they should beware, because love and reason are incompatible, and the one can not exist but in total absence of the other. My premises at that time were false, hence the fallacy of my deductions. The best proof of an ardent and manly love is shown when he can detect blemishes, point out excellences, mark well your various attributes, and analyze from cause to effect, even while your love-betraying eyes are swimming with tears of joy.

But to the selection of companions. How can you secure a congenial spirit, a harmonious organization, a mind whose tones strike in unison with your own? We

answer, first, by attention and obedience to the laws of physical structure; second, to the laws of emotion; third, to the laws of affinity. Physiology throws light on the first, phrenology on the second and third, and psychology on the fourth.

Nature is always struggling for an equilibrium, and this is a characteristic feature in all her special departments. Man and woman form no exception to this universal law. Let us consider, briefly, the law of physiological adaptation, as physiology forms the basis, or, at least, the facts made known by physiology should be the foundation of every marriage. Our basilar theory resolves itself into this: A thin, spare, nimble, nervous lady, should never conjoin herself to a thin, spare, nimble, nervous man. A full, compact, stocky, plethoric man should never marry a woman of a similar nature; a black-haired and purely bilious person should never marry one of a like temperament; a nervo-vital man should not marry a nervo-vital woman. Blue eyes and thin skin should never join hands. Projecting or lobster-eyed people should never mate. Persons with large feet should always select those of small pedal extremities. Gaunt, angular men, with large osseous formation, should select short, stocky, deep-chested women. A man with a small cerebellum should select a woman of large cerebellum. Persons of deficient respiratory power should look for the most robust pair of lungs in a mate attainable.

If your heart beats too rapidly, try to secure a com-

panion of uniform and slow pulsation. If your brain is too active, and you suffer from wakefulness, secure a "slow coach" of a woman. There are plenty in the world. In short, physiologically speaking, marry your opposite, and remember there will always be a dashing blonde for a stately brunette. Be certain to enter the matrimonial market with a sharp eye to physiological incompatibility, for just as sure as you do n't, and marry a person of your own temperament, good by happiness, terrestrial and otherwise—come gloom and Chicago divorce.

The next feature that you must study will be the shape of the head. If your sweetheart possesses a high, narrow forehead, like your own, do n't, do n't pitch in, however deeply you may be enamored, for such a similarity of forehead can never produce contentment. Instead, rush to the side of the girl of the broad Germanic type of frontal lobe, make the proposition, other conditions being equal, and take your chance of being floored or accepted. If you are thin over, along, and around the ears, select a lady full in that region. If you are depressed about the vertex of the brain, the center of esteem and firmness, select a lady full in that part of the head. If your occipital group of organs are small, marry a woman who possesses them full. If your coronal group is excessively large, let the same of your wife be comparatively full, just enough to tone down and modify your own.

The temporal region should differ in husband and wife,

so the parietal, ethnoid, and superciliary ridge. As to the special developments of the brain of each, they should approximate sufficiently to produce not complete but partial congeniality. Taking the scale from one to seven, a husband and wife (taken for granted that they are cultivated) should run about thus: Moral brain of husband 6, wife 5 or 6; domestic brain of husband 5, wife 6; perceptive brain of husband $6\frac{1}{2}$, wife 5 or $5\frac{1}{2}$; intellectual brain of husband 5 to 7, wife 4 to 6. Then to specify "imitation," in the wife should be 6, the same in the husband, 5 or 6. Husband's "ideality" should be 5 or 6, that of wife $4\frac{1}{2}$ to $6\frac{1}{2}$. Acquisitiveness should be possessed by the husband from $4\frac{1}{2}$ to 6, by wife from 3 to $5\frac{1}{2}$. The husband's hope should range from 4 to 6; that of the wife from $3\frac{1}{2}$ to 5. Bear in mind, also, matrimonially-inclined reader, that there should never be too great a disparity in the relative weight of the husband and wife. Forty or fifty pounds at the farthest should be all the difference. Say the wife weighs 150 pounds, the husband should weigh 190 pounds, or wife 100 pounds, husband 140 pounds, etc. And, lastly, young man, if you are poor do not marry a woman of means. I have never known an intelligent poor man to marry a rich, vulgar woman, but what he deeply regretted it. A woman of a naturally coarse organization, with a plethoric bank account, will always take the inside track of the brightest intellectualist, and beat him at the "game of faro" every time. Don't marry into a consumptive

family, nor what the "vulgar rich" call an aristocratic family, nor a family of "great expectations," nor a family of "has beens," the most villainously disagreeable style of "blow hards" in the world. Do not select a girl who loves to gaze on the "pale Diana" while her venerable mother is industriously engaged in household duties; nor the girl who takes such exquisite delight in proclaiming her total ignorance of the culinary department; nor the girl who languidly deplures her lack of energy; nor the girl who "hates" the physical sciences; nor the girl who is forever saying "what she'd do if rich;" nor the girl who talks "horse," or "opera," or "minstrels" all the time; nor the painted, flaunting girl; nor the abbreviated, distorted, religious-deriding girl; nor the girl with a young dry-goods store hung on her little pinched up, rib-destroyed anatomy; and last, but not least, gentlemen, never, oh! never, as you value your life, marry the girl who winks out of the left corner of her right eye, dips snuff with her ear, speaks one thousand words per minute, and weighs one thousand pounds, and vice versa. Excuse brevity, it is late at night, and I am tired.

CHAPTER VII.

ETHNOLOGY.

ETHNOLOGY is the science which describes the different races of men, including their manners, customs, modes, and religions. It is almost boundless in its grasp, as it includes all nations, all races, all tribes, order, genera, species, and scientifically accounts for the vast discrepancy known to exist between them. This science, when fully developed, will gleam on the world of letters as brightly, regularly, and powerfully as the sun on the surface of the earth, and eclipse all other specific branches, as greatly as doth the lordly, silver-sheened salmon eclipse all other fishes of the waters. I have not sufficient leisure or space to enter into the literature or history of ethnology; suffice it to say, that Cuvier, Blumenbach, Prichard, and Maltebrun accomplished more for it than all previous authors combined. The literature of ethnology is just as varied as are the types of men. By it we learn that the "human race is divided into five grand divisions, each of which being susceptible of almost innumerable subdivisions."

First, the Caucasian variety, regarded by naturalists as the primitive stock. This variety was cradled at the

base of Mount Caucasus, in Central Asia. The subsequent migration of the Caucasians in quest of more eligible abodes, together with their acquired habit of intermarriage with other blood, developed new bodily and mental characteristics, and new surroundings. This portion of the human family embraces the majority of the inhabitants of ancient and modern Europe, excepting the Laplander and Finish people; also, the present residents of Western Asia, to the banks of the river Obe, and Caspian Sea, namely, the Assyrians, Phenicians, Scythians, Parthians, Philistines, Persians, Armenians, Arabians, Georgians, and Mingrelians, and probably some others, which the limit of my knowledge of physical geography prevents me from mentioning.

The Caucasian race is distinguished from the other four, by finer and more globular heads, more energetic and persistent activity of the moral and intellectual attributes, and a higher degree of physiological and facial beauty. The Caucasians, doubtless, have been, from the remotest periods of antiquity, the pioneers in science, the princes in commerce, the kings in literature, the leaders in mechanics, the heroes in war, the brilliants in art, and the unquenchable motive-force underlying all rational progression, ever turning the wheels of national life, and ever pointing to man's ultimate, immortal destiny.

From this venerable parent Caucasian stem emanated the lightning-like, Anglo-Saxon, centralized branch, which is now striking skillfully upon every harmonious cord

of the universe, and awakening slumbering truths, and producing music in general thrice-fold as dulcet as ever leaped from the quivering strings of the harp of the Grecian Orpheus.

The Anglo-Saxon invented printing, the "greatest boon to man," first plowed the crested deep, first transmitted thought along the telegraphic wire, thus enabling brothers and sisters to converse with each other when separated by an ocean, or five thousand miles of land, first guided the fiery rushing car across the wide expanse of field, and underneath the earth, and through the rugged forest; and will, ere long, by parity of argument, navigate the air and dash through space. Land, lake, river, and ocean will be at *our command*. Long live the bold Britons, meditative Scots, earnest Germans, imaginative Celts, volatile French, and dashing, accomplished, ingenious Americans. Long live these lineal descendants of the red and rapid blood, to do, to dare, and to further the interests of mankind.

Amid the roaring turmoil of public life, the commotion of the elements, the depreciation of currency, the cells of poverty, the interminable acts of God's material and spiritual creation, the Anglo-Saxon will always be found struggling, and although his energies may, for the time being, be crushed, he, like the famed and wondrous Chrysalis, will finally burst the integuments which bind him, and mount high above all other men.

Among the eternal signs of the Anglo-Saxon, or, more

properly speaking, the Caucasian, are white skin with a dash of the rose and lily, or, perhaps, a slightly brown tint. Their hair is usually a soft, silken brown, worn, in many instances, very long, and often inclined to wave. The cranium of the Caucasian is large, face and features small, finely chiseled, and aristocratic. Eyes either blue, gray, or brown, more often blue, anatomic outline oval and straight, frontal lobe expanded, hemispheres of the brain full, lips thin, chin round, mouth small and narrow, and rather aquiline nose, together with general symmetry of body.

The Georgian ladies are said to be the most beautiful and graceful persons in the world; they represent the very highest physical type of the primitive Egyptian or Caucasian race. I have not time for special descriptions. The best artists, poets, inventors, sculptors, orators, authors, mechanics, dramatists, actors, merchants, warriors, historians, naturalists, bankers, and I might with truth say, lovers, etc., were and are of Caucasian origin. The recognition of this should not make any one of my Anglo-Saxon readers "vain-glorious," nor cause them to look with contempt on the other races; rather let this admitted superiority produce a feeling of charity and kindness in the breasts of each for their more unfortunate brothers.

The next variety is the Mongolian, regarded by naturalists as the second family of men. The Mongolian type comprises nearly all the nomadic tribes inhabiting the northern part of Asia, some of whom are the Mongols,

Calmucks, Burats, Mantchos, Coreans, Kamtschatadales, Chinese, Japanese, Samoïdes, Yukaques, Tungoosees, and other tribes who occupy Bootan, Ava, Thibet, Cambodia, Laos, and Siam, together with the clans of Esquimaux inhabiting that strip of country between Behring's Straits and Greenland.

The Mongolian is not greatly distinguished for intellectual attainments, inventions, and the refinements of life, yet the natives of China are the most egotistical people on the globe. Every Chinaman imagines that his nation is the grand pivotal center around which all other nations whirl. He calls China the Garden Spot, the flowery land, the incomparable Eden of dainty spices, sweet nutmeg, and fragrant clove, while all the rest of the world, to the "miserable little cuss," is a howling wilderness, blasted Sirocco, or a vast, solitary, desolate desert. I doubt very much whether John Pigtail's equal could be found, in self-laudation, outside of the classic city of Boston, the Athens of America, and, by request of some of her modest citizens, the "Capital of Heaven." John Chinaman looks on the European and American people as common heathens. Bright Boston looks on the people of the West in much the same light. I met quite a number of Chinamen while on the frontiers last spring.

The external marks of the Mongolians are olive complexion, black, beady eyes, black hair, straight, strong, and thin, almost complete absence of beard, etc. Their heads are somewhat square instead of round, forehead

low and small, features commingled indescribably together, glabella flat and broad, nose flat and diminutive, cheeks projecting, aperture of the eyelids narrow, chin oblique; in brief, inferior in stature, mind, and morals to the Caucasian.

The Malay variety, supposed by naturalists to be the third family in the scale of mental and physical endowments, although there are individual tribes of them plunged deeply beneath the billows of ignorance, vice, and degradation. These people inhabit Malacca, Sumatra, Java, Borneo, Celebes, and the adjacent Asiatic islands of the Ladrone, Philippine, Mariana, Caroline groups, and other regions near the South Sea, that I am unable to name. The dominant peculiarities of the Malayan are brown, copper, or tawny complexion, considerably deeper than that of the Spaniards and Portuguese, hair black, but instead of being straight, like that of the Mongolian, it is decidedly curly. The head is narrow, bones of the face prominent, nose full and broad near the apex, and mouth large.

Baron von Humboldt remarks that the "general characteristics of this race are more imperfectly understood than any of the other four." Many fabulous reports have been circulated about it. I do not know of any author who has given a satisfactory pen-picture of the Malayan people; not even Humboldt himself, nor any of our recent writers.

Fourth, the Indian variety, known by naturalists to be

the aboriginal inhabitants of America. This branch of the human family were found many years ago, extensively distributed over the continent of North and South America, and divided into hundreds of tribes, each speaking a different language. Ah, for the power to know something definite about the origin of this strange race! Naturalists, have, thus far, lamentably failed, and the Bible throws but little light upon the problem. Unfortunately for this race, the signs of the times portend complete extermination. Civilization, not content with robbing the red man, proposes to sweep him from the face of the earth. It is absolutely shocking to learn, from the lips of those who know, to what extent agents of our Government have swindled individuals and tribes of this race. From my own personal observation, while on the frontiers, and from the statements made by creditable witnesses, I feel no reluctance in declaring that the majority of Government Indian agents and wild land speculators have been, and are, a set of infamous scoundrels; and that five of the Indian difficulties out of seven have been engendered by the maddening aggressions of "low-flung whites" and renegades from justice. Many of the Indian tribes are peaceful and well-disposed; while others are distinguished for great cruelty and tyranny, whether on or off the war-path. They are generally characterized by an erect, haughty, and stately bearing, and partial incompetency for the duties of civilized life. Although I do not believe in the extravagant and high-wrought descrip-

tions of Indian character, as given by Fennimore Cooper and other romancists of his school, less do I believe in those false, mischievous reports of heartless paid writers. If there ever existed a people who has been treated with as much deeply-venomed malice as this race, I have indeed read history in vain.

Among the external signs by which you detect an Indian, are red or clay skin, black hair, high cheek bones, features very distinct and angular, step noiseless and light, eyes of midnight blackness, lashes long, and in some of the young girls drooping and very enchanting. In the uncivilized tribes destructiveness, firmness, combativeness, and secretiveness are the leading ingredients in their mental composition. Locality, also, is a marked feature, it being impossible to lose one of them, either on the "wide extended plain," or among the trackless windings of the primeval forest. The principal civilized tribes now are the Wyandots, Cherokees, Delawares, Seminoles, Creeks, Mohawks, Shawnees, etc. Among the partly-educated, the Osages, Pottawatomies, and Winnebagoes. Among the untamed and reckless riders of the plains, the Comanches, Arapahoes, Sioux, Cheyennes, etc. Among the wretched, irredeemable tribes, we have the Diggers and Tonkaways, who would not be driven from the fortress of their horrible superstition and unapproachable indolence, even if acted upon by the melodies of Arcadia and Olympus, coupled with the magna-parens of learning, taste, eloquence, and Ionian polish and Doric severity.

Although we find a few remnants of Indian tribes in the Middle and Eastern States, the majority are to be found in Kansas, Nebraska, Colorado, Montana, Nevada, Oregon, Texas, California, Dakotah, and the "Indian Reserves" in general. I have, during the last five years, visited quite a number of tribes, and found them somewhat different, in more ways than one, than from what my readings had led me to expect. Individual Indians differ as much as individual whites, and this fact is right in the face of many would-be ethnological statements. As a race they are much more cunning than the whites, and rather more suspicious, yet less acquisitive by nature, and less double-edged of tongue.

So much has been written about the Indians, and so many conflicting versions given as to their respective characters, that I refrain from entering into an analysis; and I doubt whether I could do justice to the subject were I to attempt it. The element of mirthfulness is very meagerly and inefficiently developed in this race. While I was lecturing in Topeka, Kansas, a horse-back and comical show was given by some nomadic, itinerant circus-men, one day, which was largely attended by the Indians of several nations. They came in on their little ponies, from distances ranging from forty to one hundred miles, and with them was quite a sprinkling of New Mexicans. I was particularly struck with the remarkable difference existing between the Indians and Mexicans. When the clown was exhibiting his outlandish dress and

spinning his stale jests, and jibes, and rattling wit, the Indians remained perfectly stoical and indifferent, while the Mexicans were convulsed with laughter. The circus tent was filled with a very mongrel crowd, murderers, desperadoes, thieves, land speculators, gamblers, negroes, greasers, movers, a Mormon or two, lawyers, doctors, adventurers, rag-tags, "red-legs," jay-hawkers, sharp, fast, and knowing men, and all seemed to like the funny part better than his lordship the Indian. But as soon as the dashing male and female bare-back riders entered the arena with their gay blood-red, deep blue, and rich yellow colors and streamers, then the spirit of the scene changed, the countenance of the Indians grew illumined, and each and all of them seemed plunged in a torrent of delight. Very few mirthful fancies seem to glide unbridled through an Indian's brain, yet they belong to the "human race divine," to our order, and form another link in the triumphal chain which leads unweariedly to the resplendent tiara of immortality.

Fifth, the Ethiopian or African variety. This race inhabits the tropical country. The striking peculiarities of the physical structure of these people, have led Voltaire, Chappell, and others, to infer that they are of a distinct species, and that the human race is a plurality rather than unity. The limits of this book will not admit of me examining the various views on this subject, or entering on a discussion, however short. Among the external signs are black cuticle, black hair and eyes,

with an immense show of the white of the eyes. The national brain or skull is compressed latterly, and elongated toward the front. The forehead, as a general rule, low, narrow, and slanting. The cheek bones are angular and prominent; jaws narrow and projecting; upper front teeth oblique; chin receding; nose broad, thick, flat; nostrils wide; lips heavy and thick; knees turned in; heels turned out; feet, hands and mouth, very large. This variety comprises many tribes (only a few of the names I remember), such as the Kaffers, Jaloffs, Mandingoes, Foulahs, etc. Several of the tribes of Ethiopia resemble the monkey in physical conformation, the main features of resemblance being a relatively larger face than head, the protuberance of the teeth and alveoli, the recession of the chin, the shape of the ossa-nasi, the position of the foramen magnum, the outline of the connection of brain and trunk, the length of the ulna and humerus bones, etc.; yet, there are other qualities and conditions which lead to an opposite conclusion. Whether animals or men, they should be handled with a view of bringing to light whatever of intellectual resources they may possess. Because one man or one race is low in the scale of human development, it forms no argument in favor of their everlasting debasement, and he who will maliciously heap reproach, cast contempt, browbeat, or bodily maltreat an unfortunately organized man of any race, however obscure or vicious, should take a few lessons from the dogs of the streets.

The Ethiopians are, without doubt, much inferior to any of the other four races, and possess fewer attributes of personal beauty and intelligence; though I, as an ethnologist, feel no backwardness in stating, that wherever you find brain and nervous system, be it coarse or silken, there you can also find, after a proper amount of culture, a sufficiency of intelligence for the ordinary pursuits of life. As an honest student of natural history, I must confess, however, that in all countries, except Africa, monuments and relics of antecedent grandeur and genius have been found, but nowhere within its dismal boundaries have any footprints or inscriptions, on granite, stone, marble, in field or mountain, plain or river, been discovered, by which travelers could judge, as to her former greatness. The land of America, and the land of Europe, both give proof of a former era; of the rise and fall of temples, palaces, principalities, cities and institutions. The Aztecs of "old Mexico," have, also, left evidences of their former culture, power, and magnificence. But Africa is to-day the same sluggish and stupendous inclosure of the slimy, hissing serpent, the deadly lizard and scorpion dire, that she was six thousand years ago. Sad, very sad, that something does not speak of her once glowing youth and pristine splendor. Reader, do your part by man, and God will do his part by and for you.

The dominant, mental traits of this variety are the faculties of adhesiveness, tune, time, eventuality, venera-

tion and spirituality, and this is the combination which gives them such a rage for social converse and religious excitement when civilized.

Until ethnology is practically taught in our colleges and common schools, politics and stump-speaking will be at a great discount among literary and scientific men, and we may expect to see the world brimful of superstition and prejudice. As America represents all the world's mental, moral, and physical characteristics, she will be the theater in which the grand and final drama of life will be played. The inhabitants of all nations will here find a resting-place, and receive due compensation for their skill, appreciation for their energy, and a "big" premium on honesty—a quality at present rather scarce.

CHAPTER VIII.

AUSCULTATION

CHEST FORMATION—CHEST DEVELOPMENT.

THE importance of percussion and physical exploration of the chest, with the stethoscope, pleximeter, or respirometer, is beyond question. Yet few persons submit to an examination prior to the actual appearance of some thoracic disease, and are thus, by this reprehensible neglect, placed within the range of "fatal consumption" long before they dream of it. Not a doubt but that the major portion of incipient cases of pulmonary and bronchial affections could be entirely relieved if the exact location and character of them were known. Scientific auscultation is the method by which this information can be gained. I am fully aware that this "art" has been shamefully abused by heartless quacks and bold pretenders, and, in consequence, is looked upon with distrust by the people; but this should not keep persons from testing the skill of "practical chest examiners," who do not live by medical fees, but by discovering your complaint, and giving advice. Quacks infest every department of medicine, and will continue to do so

until physiological knowledge forms a part of the education of every individual. Ignorance of functional and organic law, and of the human system generally pays a heavy premium on quacks and quackery. Diseases of the bronchial tubes and lungs are, as a rule, exceedingly insidious, creeping along with slow, measured, yet, nevertheless certain tread, if not arrested in the outset. Now, the object of "chest exploration" is to arrest them, to ascertain, if possible, the condition of the lungs, tubes, and enveloping membranes, together with the location, age, nature, and cause of chest disease, whether acute or chronic, simple or complicated. I have practiced this art in connection with giving readings of character, talents, etc., for several years, and, am happy to state, with very satisfactory results. Physicians too often are found completely ignorant of this art, and hence it is that a patient will now and then receive wrong treatment; a remedy being given, for example, for nervous prostration, when the disease may be "deficient respiration." When I make an inspection of a man's chest I give him, free of charge, all necessary hygienic, calisthenic, and gymnastic rules by which the chest can be fully restored to its normal state. The practical bearing of this art, then, is to teach the best method of exercising the chest, and the within contained, thus warding off constitutional tendencies to consumption, and alleviating the sufferings of persons who may be laboring under thoracic disease. Certainly a very commendable enterprise.

The world owes to Laennec its admiration for discovering the latent principles underlying this beautiful and humane art, and should thank M. Barthe, Walsh, Skoda, Holmes, and Flint for developing them into a scientific system, and carving out five standard works which will live in medical literature long after the productions of Wood, Dunglison, Watson, etc., are forgotten. The illustrious followers of Laennec have indeed paved the way to a royal road of scientific light.

Before going any further let us glance at the "anatomy of the chest," as presented by Dr. Austin Flint, of New York, special teacher of auscultation, and from whom I have mainly gained my knowledge of the subject. He is a man of unusual brilliancy and scientific culture, and seems to be at home in almost any branch of medical literature:

"The chest comprises the thoracic parities, inclusive of the diaphragm; the pulmonary organs contained within the cavity; the canal, or tube, leading from the lungs to the pharynx, which consists of the bronchi and their subdivisions; the trachea and larynx, and I might add the mouth, throat and nasal passages, as they are involved in the respiratory act, although executing other functions. That part of the skeleton called the thorax is composed of the dorsal-vertebra, the ribs, bones, etc., of the sternum, forming by their union with intervening cartilages, a truncated cone, designed to protect the organs of the chest, and be subservient to certain move-

ments concerned in respiration. The bony arches, or ribs, are joined either to the breast-bone, or to each other, by cartilages, to which the walls of the chest are in a great measure indebted for their elasticity and mobility. The superior seven ribs joined to the breast-bone are the true ribs, and the remaining five are the false ribs. The two lowest ones, from the fact that they are disconnected from those above, are called the floating ribs. The elasticity of these costal cartilages is greatest in early life, and least in old age—sometimes lost in consequence of ossification. The direction of the top ribs is nearly horizontal, while the remainder have an oblique direction. The margins of the ribs are not in contact, but separated, leaving what are termed the intercostal spaces. The intercostal spaces are broader in front than in the rear, and, under different morbid conditions, are diminished in width, and sometimes increased by the accumulation of a large quantity of liquid on the chest.

“In the female skeleton the upper ribs are more widely separated than in the male, and they possess, also, a greater degree of mobility. This anatomical difference in the two sexes has relation to the greater part which the summit of a woman’s chest takes in the respiratory movements. The intercostal spaces are filled with muscular substance, which seems to be the most active agent employed in carrying on respiration. The scapula and clavicle, together with the soft parts, give to the throat shape. The partition wall, separating the chest from the

abdomen, is the tendine-muscular septum. The diaphragm springs from the lumbar vertebra, which is attached to the six inferior ribs. It forms a vaulted roof of the abdominal cavity, its upper surface having a corresponding convexity extending into the thoracic cavity on each side. The height to which this convexity rises is not equal, being greater on the right side than left. In the right side it rises as high as the fourth intercostal space, in the left to the level of the fifth rib. Thus the right side has a vertical diameter somewhat less than that of the left. Accumulation of liquid in the plural sac, and dilatation of the lungs, in cases of emphysema, may cause mechanical depression of the diaphragmatic arch; and, on the other hand, enlargement of the liver on the right side, and enlargement of the spleen on the left, together with distention of the stomach, will produce an elevation of the chest beyond the normal height. The contractions of the muscles of the diaphragm diminishes its vaulted form, thereby enlarging the diameter of the thoracic space. In this way it becomes the most important agent in the act of respiration. The parities are nearly level in persons of good health, and very irregular in those of consumptive tendencies, often approaching deformity. The right chest usually measures more than the left.

“A complete respiration comprises two acts; first, inspiration; second, expiration. In health, after adult age, the respirations are repeated from fourteen to twenty times per minute. The frequency is greater in females

than in males, and still greater in children. In bronchitis respiration is greatly increased, rising as high as thirty, forty, fifty, sixty, and even higher in number, per minute. On the other hand, an unnatural diminution goes with certain diseased conditions of the nervous system. Thus, in apoplexy and partial coma, the respirations are slow. The immediate object of respiration is to enlarge the thoracic spaces. The air fills the vacuum created within the cells, tube, and lungs. This fullness is effected by means of muscles attached to the thoracic walls and by the depression of the diaphragm. The object of expiration is to restore the chest to the dimensions it assumes when not acted upon by the dilating muscles. The diaphragmatic movements are indicated by the rising and falling of the abdomen. But in certain diseases, such as peritonitis, they are almost arrested. Under the pressure of this disease the thoracic muscles take on supplementary activity, and the mode of breathing is then purely costal. The chest is divided into three regions, named anterior, posterior, and lateral."

The modes of examining the chest are six, as follows: Striking the chest with the finger, called percussion; examining the chest with the eye to proportion or disproportion; applying the hand to the chest to ascertain its condition; listening with the stethoscope, applied over the different regions of the chest, for the purpose of discovering morbid sounds; measuring the chest, and shaking the chest. In making an inspection, I do not rely on any

one of these methods to the exclusion of the rest. To take up all the sounds, rales, and murmurs emanating from the chest, lungs, and appendages, it is necessary to examine with the instrument the post clavicular region, the clavicular, the infra-clavicular, scapular, and infra-scapular regions. Then in order to draw an accurate deduction, discriminate closely between the different sounds, as each has a special meaning. When I first began the practice of auscultation, I would often arrive at a wrong conclusion by mistaking these sounds. For example, confounding a sibilant rale with a crepitant one, or taking a dry, vibrating rale for a moist, mucous, or bubbling one; a pulmonary crumpling for a bronchical rale; a sub-crepitant rale for something else, and so on. I have reached that point now, however, by which I am enabled to tell a great deal about the condition of those wonderfully delicate and beautiful organs contained within the thoracic cavity, and thus save many children from an early grave.

Exaggerated vesicular resonance can be readily detected from diminished resonance and dullness, so trachial from cavernous respiration, shortened from prolonged, indurated from adventitious. After a person has had sufficient practice in the art, each of the sounds mentioned speaks language of intelligence to the operator. To be a good explorer of the chest, a man should understand the science of acoustics, which treats of the laws of sound.

If your chest is small and weak, exercise it, and breathe chiefly through your nostrils.

CHAPTER IX.

PHRENOLOGY.

WHEN phrenology was first introduced, it clashed with the popular theories of the day, and was derided by some and hated by others. Many of its most malignant opponents were men who had, up to its presentation, been worshiped as paragons of metaphysical wisdom, and as the introduction of this new system of mental philosophy threatened to dash these great ones down, and send to oblivion their cherished opinions, they rose in a solid phalanx against it. Men of religious aspirations would not at first take hold of it, from the fact that it was unfortunately embraced by certain atheistical writers, who would often use its facts to patch up some darkly-conceived argument in favor of their gloom-impressing notions. Pantheism, deism, and atheism, each essayed to find solace in its seemingly material realms, but as its infantile tendency to infidelity was of short duration, all attempts were finally abandoned.

Scholars of established reputation did not like to meddle with it, on account of the company in which it was frequently found, nor could we reasonably expect that

they would immediately renounce the opinions which had been sedulously and thoroughly engrafted from early childhood to the meridian of life. Such expectations would be unnatural—contrary to experience and right in the face of history. For, bear in mind that Galileo had scarcely uttered the now undoubted truth that the sun was fixed in the center of the world, without local motion of its own, until a perfect storm-shower of burning anathemas were rained upon him. He was lashed with every conceivable epithet which the perverted and maddened dispositions of the knights of the Inquisition could devise; branded as heretical and absurd, false to his race, and false to his God. And why? Because of that baneful ingredient, that inherent property in human nature, entitled *envy*! Again, the gifted Harvey, when he first made known his discovery of the circulation of the blood, was greeted with a din of senseless jeers—treated altogether with abject contempt. Reproach after reproach was heaped upon him to such a degree that, in consequence, he became poverty-stricken, and, for the time being, disgraced. Gradually, however, he arose from envy's sickening folds and slander's poisonous breath, and demonstrated the truth and importance of his position.

Now, while the names of his persecutors sleep with their bodies within the shades of a non-awakening forgetfulness, the name of the ever-to-be-remembered Harvey shines on the medical profession in all the radiance of an autumnal sun.

The famed Pythagoras had no sooner penned his accurate, though novel, opinions to the Athenians, when envy, the most bitter, and misrepresentations, the most vile, were arrayed against him. He is beyond the reach of my humble panegyric, for he taught principles and facts over two thousand years before the days of Kepler, which formed the foundation to the noble superstructure of Newton and La Place. *Yet in spite of all his merits he was rudely driven from the city of Athens.*

The immortal Socrates had no sooner demonstrated the unity of God, when he was forced to drink the juice of a deadly plant. To behold him, as described in history, the very pillow of ancient genius, bowed down in unavoidable submission to the harsh mandates of a prejudiced and ignorant rabble, is indeed adequate to call up the better emotions of our imperfect natures.

The studious Democritus was imprisoned by an unthinking herd of Abderites for having attempted to discover the cause of insanity by dissection. Now, however, the liberal and scientific look on this method as the only rational and practical one. And why? Simply because the deepest and most piercing shriek that ever sped hot and harrowing from the parched lips of a raving madman, can not be primarily traced to mind but to organization. Cure the instrument of the mind, the brain, and abnormal action will at once cease. What is the proof? The condition of the brain of a maniac after death. Where recorded? In the books of insane asylums through-

out the land. What are the facts? Nervous imperfection of the volutes and chambers of the brain, as indicated by the irregular distribution and clotted state of the parts.

Fulton, the man to whom the world yields the credit of being the first and most active in the application of steam to the propelling of vessels, was ridiculed by the people and public press of America and England, and permitted to end his days in indigence.

Columbus for years knocked at the door of wealth and learning in vain for assistance to discover our beautiful land. Nations and individuals treated him as a fool, and most of the abuse heaped upon him, *en passant*, came from the Cortes, the most enlightened body of men that Spain, or any other country, could, at that time, produce. Spain was then the most civilized portion of the globe.

The history of Christ, the celestial Mediator, proclaims that, owing to the very institutions of man, he is by nature opposed to innovations of all kinds, whether relating to art, science, literature, or religion.

Unhappily for the advancement of the human race, the masses think so little for themselves, that they are incessantly subjected to self-appointed dictators, who do them an irreparable injury by appealing to their passions and prejudices. Some writer remarks "that if the majority of men had been born in Turkey, they would have been Mohammedans; if in Hindostan, Pagans." Established or unestablished, men usually like to sail with the high tide and popular breeze, especially when the bark

of prejudice is guided o'er the breakers by forcible, unprincipled dogmatists, bigots, and great domineering scoundrels and tyrannical sap-heads, who happen at the time to occupy leading positions. This same miserable spirit of opposition to new ideas made its dash at every good man who represented a progressive idea in every age of the world. It has attempted to thrust every new invention or discovery into darkness, *i. e.*, printing, telegraphing, land railways, street railways, new agricultural processes, hot-houses, ice-houses, spring gardens, nitrous oxide gas, book-binding, sewing machines, sepia, aconite, belladonna, etc. Hypocrates, Aristotle, Galen, Esculapius, Abercrombie, Shakspeare, Bacon, Hunter, Campbell, Channing, and countless others have each in their days uttered new truths, thrown forward new ideas, which, sad to say, were trampled upon by the multitude, and caused to remain, temporarily, unhonored.

One among the most unpleasant features connected with lecturing on phrenology, is that the majority of listeners misunderstand, in a great measure, its bearings and import. They suppose it a mere "system of bumps," when it is well known to the studious that the term "bump" can not be found in the phrenological vocabulary. Phrenologists judge character by space, texture, quality, etc. Phrenology, properly defined, means "mind and discourse," or "science of brain," instead of what is vulgarly called bumps. It is astonishing to hear even the intelligent on other subjects confounding this beauti-

ful, profound, and lofty science with astrology. I have often given young ladies phrenological examinations, who were very much disappointed because I did not launch out in the astrologic field (humbug), and tell them who, when, and where they were going to marry; whether he was rich or poor, handsome or homely, etc. Others have exhibited the occipital prominence or mastoid process, and wanted to know what "*that ar' bump meant,*" etc. Now, a little common sense, observation, and study would be very advantageous to this class of people. Solly, in his recent profound work on the "Anatomy of the Brain," indorses phrenology, and speaks in very complimentary terms of phrenologic practitioners.

We have another class of men who, having unfavorable heads, denounce phrenology without limit. They pretend to their acquaintances that it is an occult something without a shadow of foundation. For the purpose of lowering it in the estimation of others, they erect a baseless fabric which they call phrenology, a contemptible phantom of their own meager designing, and then dash in, tear it to pieces, and then, complacently, take great credit for their facility in overthrowing it. A vast number of tenth-rate, quarter-educated, one-horse doctors take immense pleasure in this method of attack. Remember, young man, that it is not every M. D., who has paid his fee and purchased his diploma, that is competent to judge of the merits or demerits of phrenology. It requires something more than a smattering of anat-

omy, physiology, materia medica, and pill-making to give in a correct decision. I have had "practicing doctors," while looking over my private anatomical cabinet, to confound the organs of the body fearfully, not knowing the difference between the sublingual glands and parotids, etc. What is the opinion of such men worth in relation to this science? I have never met, however, an intelligent physician (I make a distinction between doctor and physician) but what believed in phrenology.

CHAPTER X.

HUMAN TEMPERAMENTS.

ADD to bone, cartilage, ligament, muscle, and tendon, and to these arteries, veins, and blood, and to these nerve, and to nerve brain, and to brain *mind*, and then you have the compound being called *man*. Regarded simply as an animal, he presents a higher order of structure, a higher order of physical functions, and a more recondite finish than any other of God's creation. But he is not only an epitome of animal life, a ware-room of animal organs, but also a being of wondrous organs of special sense and intellectual power. No man can doubt this while gazing on a ponderous suspension bridge, a finished watch, a landscape painting, a rushing, panting steam engine, an ocean craft, a telegraphic wire, a vast city with its immense buildings, rounded with elegance externally and finished with rich tapestry internally, a great temple or baronial castle ten thousand times heavier than the workmen who reared it, or while reading a book of genius, or listening to an orator, or inspecting a statue, etc. In the study of the animal let us not forget the immortal, and in the

study of the latter let us not forget the first. To animal life belong vital, chemical, and what are termed organic changes; to immortal life, reason, ideality, and moral sentiments. The first includes animate material structures and forms; the second includes the dynamics or forces which underlie organization and originate expression, shape, and motion. When the mind acts we have this motion, and thought, passion, volition is the result. When heat is applied to water we have this motion, and the result is steam. When a hot and cold cloud meet we have this motion, and hail is the result. When electricity acts and produces a vacuum we have this motion, and the result is thunder. In short, motion is the undying principle of the universe, and *mind* is its master, king, and creator, and is equally immortal. The contemplation of the animal part gives rise to organic chemistry, anatomy, physiology, etc.; the same of the immortal part develops systems of moral philosophy, polemical theology, and religions of various kinds. Constant attention to the animal man, to the neglect of the immortal, will render a student an atheist; reverse the case and it will render him a theorist, and, may be, an unprolific visionist. The history and biography of Hume proves the one, that of Bishop Berkeley the other. Fragmentary views of life, man, destiny, society, nature, produces fragmentary or partially developed men. Comprehensive views of the same—the earth, the within contained—produces comprehensive men.

In our grasp for the mere details and facts of life, we

are apt to lose sight of the grand outlines, and in our grasp for bold and prominent principles, we lose sight of less imposing features, thus being robbed of much equally true and beautiful. The following is the method that should be pursued in our studies :

1. Nature—the fact.
2. Science—the knowledge of the fact.
3. Art—the application of this knowledge.

Which resolves itself into material, power, skill.

Hence, *art* is the highest expression of the truths of nature, as they are passed through the human brain. I am indebted to my friend Judge Carter, of this city, for this idea—whether it is original or acquired, I do not know—yet I never look at his face and head without being forcibly reminded of the bust of Lord Bacon, the illustrious author of the “*Novum Organum*.” But to the temperaments. To thoroughly analyze and classify them would require more space than I have license to take. I will simply sum up, in brief, the facts in the case as at present developed. Temperament, according to the definitions of Robely, Dunglison, and Magendie, means constitutional peculiarities of body. The definitions of Esculapius, Hypocrates, and Galen, were somewhat of the same character.

The ancients recognized four temperaments, which were supposed to have their origin in the different humors of the blood, lymph, and bile, and modified the body by their action. They were named sanguine, lymphatic, choleric,

and artrabilious. The idea of the humors being the seat and cause of the temperaments was banished by the researches and experiments of Drelincourt, Vimont, and others. These latter gentlemen demonstrated that the humors, instead of being the cause, were but the effect of temperamental conditions. Vimont, with some propriety, describes four temperaments, namely, nervous, bilious, sanguine, and lymphatic—the first being elaborated by the action of the nervous system, the second by the action of the venous and biliary fluids, and the third by the action of the arterial circulation and absorbent vessels, and the fourth by the action of secreting glands. The external signs of the first—large brain, small bones, silken hair, and thin visage; of the second, angular brain, black hair and skin, firmness of flesh, and tough, angular features; of the third, florid or red complexion, hair, beard, etc., and light gray or blue eyes; of the fourth, great softness of the muscles, round form of body, repletion of the cellular tissues, fair hair, pale face, and languid action of the vital organs. S. R. Wells, Alexander Walker, and O. S. Fowler have adopted another style of nomenclature. They say man is composed of three classes of organs, which give rise to only three different temperaments—first, the “motive,” made up of the bones, muscles, ligaments, etc., of the skeleton, which give bodily motion, and constitute the frame-work of man; second, the “vital,” or nourishing apparatus, embracing the heart, lungs, liver, and all those organs contained within the trunk which create vi-

tality and sustain animal life, and resupply those energies expended by the brain, muscles, and nerves; third, "mental," embracing the nervous system and brain, the exercise of which produces thought, feeling, mind.

Dr. Byrd Powell, of Covington, Ky., wrote a remarkable book some few years since on this subject, and I think his theory of temperaments is now being generally recognized by the medical profession. He was, during his lifetime, regarded as a singular genius, and a profound, though at times erratic, writer. Posterity will probably give him the credit he deserves.

A philosopher of France resolves the different temperaments into two. The first he calls "positive;" the second, "negative." External signs of the first, great size, weight, and depth of the base of the brain and cerebellum; of the second, great deficiency in those regions.

Professor J. B. Campbell says: There are two temperaments, the positive and the negative, with their varieties.

The Sanguine and the Bilious, or light and dark complexions, in all their shades and varieties, constitute the Positive Temperament.

The Encephalic or *Nervous*, and the Lymphatic or *Watery* conditions, in all their varieties, constitute the Negative Temperament.

The Positive Temperament is *vital*.

The Negative Temperament is *non-vital*.

Indices of the Human Temperaments.—In the Positive Temperament, the shape of the forehead is broad across the eyes, contracts and recedes as it rises; the head is of medium size, rather flat at continuity (particularly if of the light shade), and large behind the ears. The hair, eyes, and complexion may be of any shade, from light to dark, as the sanguine or bilious form of this temperament predominates and *determines*. The habit of the body is *barely* full, but very vigorous. In the sanguine, or light shade, the arterial system predominates, giving quick circulation and red cheeks. In the bilious or dark shade, the muscular system predominates, giving firm muscles, rough, bony frame, torpid liver, and brown or sallow skin.

In northern latitudes the sanguine form of this temperament predominates, and in southern latitudes the bilious form.

The Positive Temperament is essential to life, and gives health and vigor.

Indices of the Negative Temperament.—The Encephalic type or form of the Negative Temperament is represented by a high and projecting forehead, *wider* above than it is across the eyes, and small behind the ears; hair fine and soft; body weak and slim; voice fine; health poor.

The lymphatic type of the Negative Temperament is represented by a large round head, large body, soft, smooth flesh, and cool, moist skin—rather indolent.

The color of the hair, eyes, or skin is not controlled by the Negative Temperament.

Negative persons can be made more *positive*, and thus more healthy by electric treatment.

When a more positive condition is needed in either of the parties to increase their compatibility, their happiness, and their health, and to insure healthy offspring, electricity will supply it.

The Sanguine form of the Positive Temperament *gives* inflammatory and scrofulous diseases.

The Bilious form of the Positive Temperament *gives* torpid liver, fever, and consumption.

The Encephalic form of the Negative Temperament *gives* brain, nerve, and mental diseases.

The Lymphatic form of the Negative Temperament *gives* dropsical and glandular diseases.

A person who is all positive, or *nearly* so, should select a partner that is *half*, or a little more than half negative, then they will be happy, and their children healthy.

A person who is *mostly* negative, should select a partner that is *all* positive, then *all* will be *well*.

In the Sanguine Positive, the hand is warm and dry.

In the Bilious Positive, the hand is hard and rough.

In the Encephalic Negative, the hand is smooth, slim, and weak.

In the Lymphatic Negative, the hand is cold, moist and plump.

In the Sanguine Positive, the pulse is quick and strong.

In the Bilious Positive, the pulse is slow and full.

In the Encephalic Negative, the pulse is weak and tremulous.

In the Lymphatic Negative, the pulse is slow and easy.

A marriage with a person of the same Temperament as yourself; no children would result.

If both parties are *all* of the Positive Temperament, there could be no offspring.

If both parties are *principally* of the Negative temperament, their children will be dead-born.

If the parties differ but *little* in temperament, then their children will be *few*, sickly, and short-lived.

If the Sanguine Positive is *overpowered* by the Encephalic Negative in *both* parents, their children will die in infancy with dropsy of the brain, or scrofulous inflammation of its membranes.

If the Bilious Positive is overcome by the Encephalic Negative in *both* parents, their children will be rickety, idiotic, and imbecile, or die in infancy with brain fever.

If the Sanguine Positive is overcome by the Lymphatic Negative in *both* parents, their children will die young of some scrofulous forms of disease. (*N. B.—This is the condition that produces scrofula.*)

If the Bilious Positive is overcome by the Lymphatic Negative in *both* parents, their children will die young with consumption of the brain, lungs, or abdominal glands. (*N. B.—This is the condition that produces con-*

sumption, that scourge of our race.) Incompatibility of parents is the main cause of weakly, sickly, and dying children, and is the first cause of most of the sickness of matured life.

And these causes are increasing to an alarming extent, overwhelming our land in sickness, gloom, and death.

Every person should make it the great aim of life to select a proper conjugal mate. Then they themselves would be happy and their children healthy and long-lived. And this can be done by a knowledge of this science.

Professors O'Leary and Sims recognize, in addition to the temperaments mentioned, the Emotional and Passional Temperaments. Prof. Capon, of Philadelphia, (and I agree with him), thinks they are abnormal conditions, rather than temperaments, arising from want of balance in the organs of the first, and a perversion of the basilar organs in the second. To sum up: the naming of temperaments amounts to but little, as the subject at last resolves itself into quantity, condition and texture. Hence, we have Fine, Course, and Moderate Temperaments, each of which is susceptible to almost countless subdivisions and various modifications. Some temperaments can be compared to silk, others to linsey; some to cotton, others to linen; some to beech-wood, others to ash; in fine, we have silken temperaments, glazed muslin temperaments, etc., and so on without limit. But for a full view of the anthropological system of temperaments, see my

forthcoming work; in it you will discover a fine distinction drawn between what are termed the nervous and mental temperaments. These two have always been regarded as one, but I will prove that the nervous is not the mental, and *vice versa*; and that the mental is specific, and emanates from the frontal lobes; and that the nervous is specific and emanates from the occipital and inferior spinal regions.

CHAPTER XI.

ON PHYSIOGNOMY:

GENERAL, SPECIAL, AND COMPARATIVE.

PHRENOLOGICAL delineators are often accused of deciphering character altogether from the indices of physiognomy. All I have in answer to this is, that in view of the usual accuracy of these delineations, physiognomy is paid a markedly high compliment. Scientifically or anthropologically speaking, however, physiognomy is a reflex or part of phrenology. The brain being the seat of thought, and phrenology the science of the brain, of course it would be the legitimate fountain from which all physiognomic science would spring. People who are constantly objecting to phrenology because they think it nothing but physiognomy, are usually ignorant of the first letter or principle in either study. I invite your attention first to—

General Physiognomy—Which means the face of nature, whether animate or inanimate—lake, sea, river, ocean, tree, flower, shrub, house, man, dog, cat, lion, tiger, mountain, valley, etc., or the configuration of any object. Now if, in any study, you can prove that differences exist

between the same order of phenomena and features, you have the basis for building up a science.

Among the distinguished authors who have written on this subject are Cicero, Cæsar, Shakspeare, Baptista Porta, Lavater, Zimmerman, Herder, Montaigne; the anatomist Camper, the ethnologist Blumenbach, the naturalist Cuvier, the phrenologist Spurtzheim, the physiologist Sir Charles Bell, the experimentalist Flourens, the physician Mason Goode; together with Roman and Grecian names too numerous to quote. But it has been left to Alexander Walker, of England, De La Sarth, of France, Von-Moulex, of Germany, Predar, of Scotland, Leroy Sunderland, Redfield, and Wells (the latter well known as editor of A. P. J.), to present the grammar rules of physiognomy, although, as observed by Ralph Waldo Emerson, "these rules are as old as the Sanskrit itself, and persons have taken to an extent the physiognomical signs as guides from the days of Confucius down to the present time."

General physiognomy has been universally recognized, from the fact that students of nature, Homer and Virgil among the rest, have written so much about the face of nature in general, and the difference existing between various mountains, oceans, plains, cities, kingdoms, etc.; hence it is that such expressions as the physiognomy of your city, or country, or village, have become very common.

Special Physiognomy is limited to the human face alone,

whether in a state of mobility or repose. A good artist is necessarily a good physiognomist, as his profession compels him to study shades of expression, lineaments, and marks of every variety. I have gained many important facts relative to special physiognomy from portrait painters and sculptors. Special physiognomy, when properly defined, means knowledge of a person's mind as indicated by the organic, nervo, and muscular expressions and developments of the face. Prof. Wells says "it teaches us the relation sustained between the exterior and interior of man; between inward mental and moral conditions and outward manifestations; between the physical system in general and the spiritual principle which animates and controls it; between the presented effects and the hidden cause. It shows what a man is, and what he might become at particular moments." This is special physiognomy as a science, and the deciphering of character by the light thus exhibited, by a professional physiognomist, constitutes the *art*.

Comparative Physiognomy deals mainly with the relation that man's face holds to animals, and shows up the resemblances which are known to exist between them. It is evident to all that there are men who resemble geese, others eagles, others doves, others mud-suckers, others sharks, others snakes, others lions, others foxes, frogs, cows, horses, mules, dogs, oxen, etc., and, moreover, that those men who resemble a given animal are more or less like the animal in actions and characteristics. Some

young ladies resemble the humming-bird, others the jay-bird, others the butterfly, others the snipe, others the crane, others the duck, etc.

Special physiognomy teaches that the muscular portions of the face are under the control of the will, and that the expression of certain portions undeviatingly indicate the acts of the mental faculties on which they depend. The faculties of the mind have poles or magnets stationed in parts of the face, and when they act the latter gives out those changes of the countenance which speak the unmistakable language of love, hate, joy, revenge, gloom, ambition, fear, recklessness, hope, etc. In analyzing the human face you should always observe the predominance of one muscular sign, or nervo-magnetic sign, over another. Compare closely the chiseling of the lips, the arch of the brow, the sharpness of the chin, etc., with other parts of the face to ascertain how they correspond.

There are some persons in the world stupid enough not to believe in physiognomy. They claim that hypocrites can throw a veil over their own hearts to such a degree as to deceive the most knowing man. Granted that "appearances are often deceitful," that does not alter the case. A man carries his mind on his face, and those who thoroughly understand physiognomy know it. A scoundrel visited a certain churchman in a certain town of Kentucky, and, by assuming the character and physiognomical expression of a religious and an honest man, managed to borrow the churchman's horse to take a little ride for his

health, as he said, and that was the last of churchman's horse. Now, if this good member of the church had understood physiognomy, the stranger could not have won his confidence and stolen his property; but he, like a great many other disbelievers in physiognomy, dolts—yes, self-willed dolts—would rather trust to pretensions or wait patiently for actions.

There is a town in a certain Eastern State where nearly all of the inhabitants seem to be consummate physiognomists, and, from this very fact, it is one among the most delightful places on the continent. Young girls are deluded, deceived, and cast off, young men ruined for life, husbands crucified, merchants bankrupt, owing to lack of physiognomic knowledge. A man should never select a partner in business, or a wife, without physiognomical guidance. There is something more in physiognomy than has yet been revealed. Do you suppose that Newton could have conceived his immortal Theodicea if he had possessed the face of an Esquimaux or Hottentot? Would La Place ever have dissected the rays of light and weighed worlds if he had possessed a face like Heenan or any other prize-fighter? Would Napoleon have shaken Europe to her foundation, if he had possessed the peaceful face, and consequently the peculiar look, of Howard, the philanthropist? Would the gifted though miserable Edgar A. Poe ever have conceived the raven if he had possessed the sanguine face and look of Hackett, the personator of our mutual friend Jack Falstaff? Would the

ingenious, dare-devil author of *Don Juan* ever have conceived such a dangerous and libidinous production if he had looked like Pollock or Cowper? Would Charles Dickens ever have produced his numerous humorous works if he had looked like a professional brewer of beer. Enough. We need no further allusion. You can follow out similar ones at leisure. The prize-fighter, the minister, the lawyer, the merchant, etc., if they understand their business, carry their professional marks on their faces. Ten laws govern the physiognomy of man—first, the law of correspondence; second, the law of homogeneity of structure; third, the law of facial, special development; fourth, the law of quantity; fifth, the law of quality; sixth, the law of temperament; seventh, the law of form; eighth, the law of separate functions; ninth, the law of latency; tenth, the law of arrested development, as shadowed forth by Dr. Oliver Wendell Holmes.

Rocks, trees, birds, insects, lambs, bears, monkeys, etc., differ in looks, and thus differ in character—no two orders, no two species, no two genera alike. Even two blades of grass can be distinguished from each other when placed under the microscope. The face of the Sierra Nevada mountains don't resemble the prairies of Kansas or Illinois, nor the highlands of Scotland, the bogs of Ireland, nor a pine-tree a beech, nor an eagle a goose. Each gander differs from every other gander, each duck from every other duck, each Mexican pony from every other pony, each black and white man from every other black

and white man; and from these differences and resemblances the science of physiognomy springs. Look on a ferocious human face, then look on a mild one, and you will be convinced of the truth of physiognomy at once.

Professor Wells says in his work, that Professor Owen, of London, can, from a single bone of an unknown animal, construct its entire osseous frame-work and, if need be, clothe it with muscles, and that Professor Agassiz is able to take the scale of a fish, and give its history, order, genera, etc. Their ability to do this is owing to their wonderful power in comparative anatomy.

From this I claim, that if certain naturalists can take the tooth of a dead animal and describe each bone of the original to the last joint, or take a fossilized portion of a toad, lizard, fish, reptile, or bird, and give you its qualities, conditions, and states, just from familiarity with the subject, other men, who make man their study, can read with equal accuracy the legible inscriptions emblazoned on the human and animal face.

I will now quote several passages from the elaborate production of Professor Wells.

“Nature is never at variance with herself; nor is everlasting order, the skillful trick of a mountebank exhibited but to deceive. We can not associate the cruel and blood-thirsty propensities of the Comanche Indian with the gentle and pious face of the Quaker. As men differ in mind, so do they differ in physiognomy. A dissipated man seldom looks like a sober one, or a sick man

like a healthy one, or a fool like a wise one, nor a thief like an honest one. A trader would never mistake a dray horse for a racer, or purchase a bull-dog with the expectations that he would perform the duties of a grey-hound.

“The farmer would never mistake the seed of the lettuce for the seed of the red-pepper, or the sprout of an oak-tree for that of an ash, or confound poplar with hickory, for every-where the indwelling life or sap determines the external quality and configuration, and brands itself on the exterior of things.

“Objects which resemble each other in nature and function, also resemble each other in shape. The delicate and tall stalk which supports the corn of the field could never support the weighty pumpkin of the ground, any more than the nourishing vine of the pumpkin could support the corn. Nor could the graceful weeping-willow, or majestic and spreading elm bear cherries. The Greeks taught physiognomy. Pythagoras and his disciples practiced it. Plato mentions it with approbation in his *Timæo*. Aristotle wrote a treatise on it, which Diogenes criticised with remarkable severity. Socrates gave the subject much of his valuable attention, and was in the habit of holding conferences with Zopyrus, the famed physiognomist.

“Among the Romans physiognomy had its professors, many of whom disgraced it by connecting it with prognostications of future events, much the same as the as-

trologers of our day degrade astronomy. Cicero was an ardent supporter of it, and defined it to be the art of discovering the surface and latent qualities of the mind by the face. Julius Cæsar was a great physiognomist in his age. Shakspeare puts the following words in his mouth when noting the physiognomies of Cassius and Antony:

“Would he were *fatter*: but I fear him not;
 Yet if my name were liable to fear
 I do not know the man I should avoid
 So soon as that spare Cassius. He reads much.
 He is a great observer, and he looks
 Quite through the deeds of men. He loves no plays,
 As thou dost, Antony; he hears no music:
 Seldom he smiles, and smiles in such a sort
 As if he mocked himself and scorned his spirit
 That could be moved to smile at any thing;
 Such men are never at heart's ease
 While they behold a greater than themselves,
 And therefore are very dangerous.”

Then again you may remember the expression of a certain Greek senator while answering his political opponent:

“Thou dog in forehead,
 And in heart a deer;
 Thou would'st strike at me,
 But thou dost fear.”

I will, much to my regret, owing to lack of space, bring this chapter to a close by inserting a portion of Professor Wells'

PHYSIOGNOMY OF THE NOSE.

Noses have been variously classified. The following arrangement, based on the profile alone, will serve our present purpose, all known noses being included in the five classes named :

1. The Roman noses;
2. The Greek noses;
3. The Jewish noses;
4. The snub noses, and
5. The celestial noses.

Between these, of course, as in all other similar cases, there are infinite crosses and mixtures, but in the side view there are exhibited only the five simple elements indicated in the foregoing classification, be the combinations as numerous as they may.

The Roman Nose—Executiveness.—This is the energetic, the decided, the aggressive nose—the nose of the conqueror. Plato designates it, from its being indicative of power, “the royal nose.” The ancient artists gave this nose to Jupiter, Hercules, Minerva Bellatrix, and other energetic deities. It loves power and dominion; seeks personal aggrandizement, and pushes onward toward its object with a terrible energy, a stern determination, and an utter disregard of the little courtesies of life. From Julius Cæsar to Lord Wellington, the character of the Roman-nosed arbiters of human destiny has been in these respects the same. For proof of this consult the biographies of Sesostris, Cato the Censor,

Lucretius, Charlemagne, Charles V, of Spain, Canute, Columbus, Americus Vespuccius, Cortes, Pizarro, Robert Bruce, Queen Elizabeth, the Earl of Chatham, Hendrick Hudson, Daniel Boone, General Daniel Morgan, Francis Marion, Andrew Jackson, Sam Houston, Thomas H. Benton, Winfield Scott, and Zachary Taylor, and we might mention twenty more, all of whom had either strictly Roman noses, or noses closely approaching that type. These were persons, though not all conquerors on the field of war, whom no hardship could deter, no fear daunt, no affection turn aside from any purpose they had undertaken, that purpose being, in most cases, pursued with a reckless disregard of personal ease and the welfare of others.

Numerous portraits, both in marble and on coins, demonstrate that the nose we are considering was very properly named from the ancient conquerors of the world, among whom it was a peculiarly characteristic feature, and who manifested in a most remarkable degree the traits of character which it indicates.

Noses of the pure Cæsarian type, in its complete development, are comparatively rare at the present day; but those which closely approach it, and which we shall call Roman, since they are of the same general form, are not uncommon among Europeans and Americans. The departure from the classical outline generally consists in a slight downward removal of the most prominent portion of the ridge.

The Greek Nose—Refinement.—Natural refinement, artistic tastes, and great love of the beautiful, whether indicated by it or not, generally accompany this classic nose. It takes its name, as is well known, from the wonderful art-loving Greeks, in whose physiognomy it was a prominent characteristic. It was not, of course, universal among them, but belonged to many of their historical characters, and especially to the women; and their sculptors gave this trait to Juno, Venus, Apollo, and all the rest of the more refined of their deities.

“The owner of the Greek nose,” the author of “Notes on Noses” says, “is not without some energy in the pursuit of that which is agreeable to his tastes; but, unlike the owner of the Roman nose, he can not exert himself in *opposition* to his tastes.” This remark is strikingly true when applied to the Greeks themselves, as history clearly shows.

Among the distinguished Greek-nosed men of more modern days we may mention Petrarch, Milton, Spenser, Boccaccio, Canova, Raffaëlle, Claude, Rubens, Murillo, Titian, Addison, Voltaire, Byron, and Shelley. Greek-nosed women have not been entirely wanting in modern days. Among the literary ones, Hannah More, Letitia Barbauld, Felicia Hemans, Mary Tighe, Maria Edgeworth, and Madame de Staël are well known. Of women celebrated for their beauty, from Andromache to Pauline de Borghese, nearly all have had noses either purely Greek or closely approaching that form. Judging

by such portraits of them as have come under our observation, such was the nose of St. Catharine, Vittoria Colonna, Isabella, of Castile, Catharine II, of Russia, Heloise, Petrarch's Laura, Dante's Beatrice, Eleanora d'Este, Beatrice Cenci, and many others who might be named. It is the most beautiful nose in woman, and agrees with her superior natural refinement of character and elegant tastes. "The Greek-nosed woman," one of her admirers says, "whether born in a cottage or a palace, makes every thing about her beautiful. Taste presides alike in the adornment of her person and the furnishing and embellishing her rooms. A wreath of green leaves or a little vase of flowers may as truly show it as a tiara of pearls or the appointment of a luxurious *boudoir*."

The noses of poets and artists, it may be observed, often have the Greek form, or show a tendency toward it. Thus, Virgil, though a Roman, had a Greek nose, like many more modern worshipers of the muse.

Alexander the Great, Constantine, Frederick II, of Prussia, Alfred the Great, Washington, Napoleon, Sir Walter Raleigh, Sir Philip Sydney, Lorenzo de Medici, Richelieu, and Wolsey, had noses compounded of the Roman and the Greek, but approaching more nearly to the former. A combination in which the Greek element predominates is not uncommon, among either men or women of culture and refinement, and forms a very beautiful and desirable nose.

The Jewish Nose—Commercialism.—This form of nose is almost universal among the Israelites, from whom it receives its common name. It is by no means peculiar to the Jewish nation, however, who possess this form of profile in common with all the inhabitants of Syria and the Syrian races every-where; and Sir G. Wilkinson proves that the nations represented in the Egyptian sculpture with the hawk-nose are not always Jews, as was once supposed, but Syrians. The ancient Phenicians were Syrians, and the portraits we have of these people on the Egyptian sculpture, as read by Sir G. Wilkinson, all exhibit this form of nose. The Arabs of the present day—descendants of Abraham through the wild son of Hagar—have features, in many respects, similar to those of the Jews. A large number of portraits of Arabs of all classes and ranks, taken by French artists in Africa, and now before us, show that the form of nose called Jewish is all but universal among them.

The author of "Notes on Noses" calls the Jewish or Syrian nose the Commercial Nose, and says that "it indicates worldly shrewdness, insight into character, and ability to turn that insight to a profitable account." This is a perfectly correct and well-expressed definition, but, as we shall show in another place, the *Commercialism* (Acquisitiveness) is indicated, not by the outline of the ridge, but by the breadth of the nose, which is almost universally great in connection with this form.

The Emperor Vespasian, his son Titus, Theodosius the

Great, Mahomet, Correggio the artist, Adam Smith, Albert Gallatin, Peter Stuyvesant, and other noted men, had the Jewish nose; and many well-developed specimens of it may be seen any fine day on Chatham Street, in our good city of New York.

The Snub Nose—Undevelopment.—The fact that this is the nose of weakness and undevelopment, as we have shown it to be, precludes the possibility of it being, through its own merits, an historical nose. Such a flattened and shortened proboscis can not, in the nature of things, have made any legible mark on the records of the world's progress. Its wearers have never conquered realms and enslaved nations, like the owners of the royal Roman nose, or built magnificent temples and adorned them with works of high art, like the Greek-nosed children of genius.

The Celestial Nose—Inquisitiveness.—Add somewhat to the length of the Snub, and give it a turn upward, and you have the Celestial nose—*le nez retroussé* of the French. It is the exact converse of the Jewish nose, being concave where the latter is convex. The noses of women often have this incurvation, and such noses in the fair sex are not without their ardent admirers. The Celestial may be defined as the inquisitive nose. It serves as a perpetual interrogation point. In little children, the Snub and Celestial noses are beautiful, because congruous with our ideas of the weakness and ductility of childhood. For the same reason, we do not find them without their

charm in woman, whom we are not displeased to have more or less dependent upon us for support and protection. This nose must not be confounded with noses of the other classes, which simply turn up a little at the end. The true Celestial presents a continuous concavity from the root to the tip.

CHAPTER XII.

RULES FOR FINDING THE ORGANS,

AS GIVEN BY PROFESSOR O. S. FOWLER.

PRE-EMINENTLY is phrenology a science of facts. Observation discovered it—observation must perfect it; observation is the grand instrumentality of its propagation.

To be convinced of its truth, nine hundred and ninety-nine men out of every thousand require to *see* it—to be convinced by *induction*, founded upon experiment. Hence the importance of giving definite *rules* for finding its organs, by which even disbelievers may test the science, and believers be confirmed in its truth and advanced in its study.

The best mode of investigating its truth is somewhat as follows: You know a neighbor who has extreme firmness in character—who is as inflexible as the oak and as obstinate as the mule. Now, learn the location of the phrenological organ of firmness and apply that location to his head—that is, see whether he has this organ as conspicuous as you know him to have this faculty in character, and if you find a coincidence between the two, you have arrived at a strong phrenological fact.

You know another neighbor who is exceedingly cautious, timid, safe, wise, and hesitating; who always looks

at the objections and difficulties in the way of a particular measure, instead of at its advantages; who always takes abundant time to consider, and is given to procrastination. Learn the location of cautiousness, and see whether he has this phrenological organ as conspicuous as you know this faculty to exist in his character. By pursuing this course, you can soon arrive at a sure knowledge of the truth or falsity of phrenological science; and, altogether, the best mode of convincing unbelievers of its truth is by means of the marked coincidence between the phrenology and character of those they know—nor is it possible for the human mind to resist proof like this.

To promote this practical knowledge—the application of this science—we give the following rules for finding its organs, fully assured that we can fill our pages with nothing more interesting or useful. Follow these rules exactly, and you will have little difficulty in finding at least all the prominent ones.

Your first observation should be made upon temperament, or organization and physiology, with this principle for your basis: that when bodily texture or form is coarse, or strong, or fine, or soft, or weak, or sprightly, the texture of the brain will correspond with that of the body, and the mental characteristics with that of the brain. But we have already discussed the influence of various temperaments upon the direction of the faculties.

Your second observation should be to ascertain what faculties control the character, or what is the dominant

motive, desire, object, or passion of the person examined—in phrenological language, what faculties predominate in action. And it should here be observed that the relative size of organs does not always determine this point. Some faculties, though very dominant in power, can not, in their very nature, constitute a motive for action, but are simply executive functions, simply carrying into effect the dominant motives. For example, combativeness rarely ever becomes a distinct motive for action. Few men love simply to struggle, quarrel, or fight for fun, but exercise combativeness merely as a means of obtaining the things desired by the other dominant faculties. Few men have for their motive the mere exercise of will. That is, firmness is generally exercised to carry into effect the designs of the other faculties, and, instead of subjecting the other faculties to itself, simply keeps them at their work, whatever it may be. And thus of some other faculties. But amativeness, friendship, alimentiveness, acquisitiveness, benevolence, veneration, conscientiousness, intellect, constructiveness, ideality, or the observing faculties, may each become dominant motives. And it requires much phrenological shrewdness to ascertain what single faculty, cluster, or combination of faculties leads off the character.

Let us take, then, for our starting-point, the outer angle of the eye, and draw a line to the middle of the top of the ears, and destructiveness is exactly under this point, and extends upward about half an inch above the top of the ears. In proportion to its size will the head be wide be-

tween the ears. When secretiveness is small and destructiveness large, there will be a horizontal ridge extending forward and backward, more or less prominent, according to the size of this organ.

Secretiveness is located three-quarters of an inch above the middle of the top of the ears. When this organ is large, it rarely gives a distinct projection, but simply fills and rounds out the head at this point. When the head widens rapidly from the junction of the ears as you rise upward, secretiveness is larger than destructiveness; but when the head becomes narrower as you rise, it is smaller than destructiveness.

To find these two organs and their relative size, place the third finger of each hand upon the head, just at the top of the ears; let the lower side of the third finger be even with the upper part of the ear; that finger then rests upon destructiveness. Then spread the second finger about one-eighth of an inch from the other, and it will rest upon secretiveness. Let the end of your longest finger come as far forward as the fore part of the ears, and they will then rest upon these two organs.

Take, next, this same line, starting from the outer angle of the eye, to the top of the ears, and extend it straight backward an inch and a half to an inch and three-quarters, and you are on combativeness. This organ starts about midway to the back part of the ears, and runs upward and backward toward the crown of the head. To ascertain its relative size, steady the head with one hand,

say the left, and place the balls of your right fingers upon the point just specified, letting your elbow be somewhat below the subject's head, which will bring your fingers directly across the organ. Its size may be ascertained partly from the general fullness of the head and partly from its sharpness, according as the organ is more or less active; yet observers sometimes mistake this organ for the mastoid process directly behind the lower part of the ears. Remember our rule, namely: a line drawn from the outer angle of the eye to the top of the ear, and continued an inch and a half or three-quarters straight back. Follow that rule, and you can not mistake the position of this organ; and will soon, by comparing different heads, be able to arrive at those appearances when large or small.

To find parental love, extend this line straight back to the middle of the back head, and you are on the organ; and in proportion as the head projects backward behind the ears at this point, will this organ be larger or smaller.

About an inch, or a little less, directly below this point, is the organ which controls muscular motion; and in proportion as this is more or less prominent, will the muscular system be more or less active and powerful. Those who have this prominence large will be restless, always moving a hand or foot when sitting, and even when sleeping—will be light-footed, easy-motioned, fond of action, and willing to work, as well as possessed of a first-rate constitution; but when that prominence is weak, they will be found proportionally inert.

Inhabitiveness is located three-fourths of an inch above parental love. When inhabitiveness is large and continuity is moderate, there will be found a prominence somewhat resembling an angle of a triangle, at the middle of the head, together with a sharp prominence at this point. But when inhabitiveness is small, there will be a depression just about large enough to receive the end of a finger, with the bow downward.

An inch on each side of this point is friendship. When friendship is large, especially if inhabitiveness and continuity are small, there will be two swells, somewhat resembling the larger end of an egg; but if small, the head will retire at this point.

Continuity is located directly above inhabitiveness and friendship. Its deficiency causes a depression resembling a new moon, with the horns turning downward, surrounding the organs of inhabitiveness and friendship. When continuity is large, however, there will be no swell, but simply a filling out of the head at this point.

Amativeness may be found thus: Take the middle of the back part of the ears as your starting point; draw a line backward an inch and a half, and you are upon this organ. Yet the outer portion next to the ear exercises the more gross and animal function of this faculty, while the inner portion takes on a more spiritual tone.

To find cautiousness, take the back or posterior part of the ears as your starting-point. Draw a perpendicular line, when the head is erect, from the extreme back

part of the ear, straight up the side of the head, and just where the head begins to round off to form the top, cautiousness is located. This organ is generally well developed in the American head, and those prominences, generally seen at this point are caused by a full development of this faculty.

To find alimentiveness, take the upward and forward junction of the ear with the head as your starting-point; draw a line half an inch forward, inclining a little downward, and you are upon this organ. Then rise three-quarters of an inch straight upward, and you are on that part of acquisitiveness which gets property. Yet a better rule for finding it is this: Find secretiveness in accordance with the rule already given, and acquisitiveness is an inch forward of the point, and about an inch above the middle of the tip of the ear. Or thus: Take the middle of the top of the ear as your starting-point; draw a perpendicular line an inch upward, and you are on secretiveness; then about an inch forward, and you are on acquisitiveness. When the head widens rapidly as you pass from the outer angles of the eyes to the top of the ears, acquisitiveness is large; but when the head is thin in this region, acquisitiveness is small.

Sublimity, ideality, and constructiveness can be found by the following rule: First, find consciousness as already directed; then pass forward an inch, and you are on sublimity; extend this line on another inch, and you are on ideality; then an inch downward brings you upon constructiveness.

It should be remembered that cautiousness, sublimity, and ideality are just upon the round of the head, or between its top and sides. Usually the head is much wider at cautiousness than at sublimity, and at sublimity than ideality. When, however, the head is as wide at ideality as at cautiousness, the subject will possess unusual good taste, purity, refinement, elevation, and personal perfection. Half an inch forward of ideality is the organ which appertains to dress, and secures personal neatness. In those who care but little what they wear, or how they appear, this organ will be found small.

Firmness can best be found by the following rule: Let the subject sit or stand erect, and hold the head in a line with the spinal column. Taking the opening of the ear as your starting-point, draw a line straight upward till you reach the middle line on the top of the head, and you are on the fore part of firmness. When this organ is large, and veneration small, its forward termination resembles, in shape, the fore part of a smoothing-iron, rapidly widening as it runs backward. The organ is usually about an inch and a half long.

Self-esteem is an inch and a half back of firmness. Its upper part gives a lofty, aspiring air, magnanimity, and a determination to do something worthy; while half an inch farther back is that part of self-esteem which gives will, love of liberty, and a determination not to be ruled.

Approbateness is located on the two sides of self-esteem, about an inch outwardly. These two lobes run

backward toward friendship, and upward toward conscientiousness.

The relative size of approbateness and self-esteem may be found thus: Place one hand, say the left, upon the forehead, to steady the head; point the finger from above directly down upon firmness; then move it two inches directly backward, and place the balls of the second and third fingers upon the points just found. When self-esteem is small, these balls will fall into the hollow which indicates its deficiency, while the ends of the fingers will strike upon the swells caused by approbateness, when this organ is large; and the middle of the second joint of these fingers will apprehend the size of that lobe of approbateness which is next to it. Or thus: Stand behind the patient, and so place your fingers upon his head that the second finger shall reach upward to the back part of firmness; then lay the first and second joints of that finger evenly with the head, and place the first and third fingers upon the head along-side of it. When self-esteem is larger than approbateness, the second finger will be pushed up farther than the others; but when the two lobes of approbateness are larger than self-esteem, the second finger will fall into a hollow running up and down, while the first and third fingers will rest upon the two lobes of approbateness. Or thus: In nineteen females out of every twenty, approbateness will be found considerably larger than self-esteem; and by applying this rule to their heads, a hollow will gen-

erally be found at self-esteem, and a swell at approbative-ness, by which you can localize these organs ; and a few applications will soon enable you to form correct ideas of their appearance when large and small.

Hope and conscientiousness are found thus : That line already drawn to find firmness passes over the back part of hope, which is on each side of the fore part of firmness, while conscientiousness is just back of that line, on the two sides of the back part of firmness, and joins approbateness behind.

As these two organs run lengthwise from firmness down toward cautiousness, and are near together, it is sometimes difficult to determine which is large, and which small. The upper part of conscientiousness, next to firmness, experiences feelings of obligation to God, or sense of duty to obey His laws ; while the lower part creates a feeling of obligation to our fellow-men.

Veneration is on the middle of the top of the head, or about an inch forward of the point already described for finding firmness ; while benevolence is about an inch forward of veneration. When, therefore, the middle of the top-head rounds out and rises above firmness and benevolence, veneration is *larger* than either of these organs ; but when there is a swell at benevolence, and a depression as you pass backward in the middle of the head, and another rise as you pass still farther back to firmness, veneration is *smaller* than benevolence or firmness. The back of benevolence experiences philanthropy and a

desire to do good and remove evil on a large scale, while the fore part sympathizes and bestows minor gifts in the family and neighborhood. The fore part of veneration gives respect for our fellow-men, while the back part supplicates and depends upon the Deity. The fore part of firmness, working with conscientiousness, gives moral decision; while the latter, acting with self-esteem, gives physical decision, determination to accomplish material objects, and what we commonly call perseverance.

Spirituality is located on each side of veneration. It may be found by the following rules: Standing behind the subject, who should be seated, so place your fingers that the first fingers of each hand shall be about an inch apart; that the ends of your second fingers shall be about three-quarters of an inch forward of a line drawn across the middle of the head from side to side, and the balls of your fingers will be on spirituality. Or, reversing your position, so as to stand in front of the subject, so place your hands that the first fingers of each hand shall be as before, about an inch apart, and the ends of your longest fingers shall just touch the fore part of hope, and the balls of your second and third fingers will rest on spirituality. This organ is generally low, so that it may usually be found by that *depression* which indicates its smallness. When it is large, the head is filled out in this region, instead of sloping rapidly from veneration. Its two lobes are about an inch on each side of veneration, and directly above ideality.

Imitation is upon the two sides of benevolence, directly forward of spirituality. The best rule for finding it is this: Standing in front of the subject, place your hands so that the first fingers of each hand shall be separated about three quarters of an inch, and the end of your longest finger shall reach a line drawn through veneration and spirituality—that is, through the middle of the head from side to side—and the balls of your fingers will be on imitation. It will be found larger in children than adults; so that the ridge usually found in their heads at this point may be taken as the location of this organ. It runs from benevolence downward toward constructiveness. The upper part, toward benevolence, mimics; the lower part, toward constructiveness, makes after a pattern, copies, etc.

We are now brought to the intellectual lobe. Take the root of the nose as your starting-point; the first organ met in passing upward is individuality; it is between the eyebrows, and when large causes them to arch downward at their inner termination, and that part of the head to project forward.

Eventuality is three quarters of an inch upward, and slightly below the center of the forehead, which in children is usually large, and in adults frequently small. From this center of the forehead, comparison extends upward to where the head begins to slope backward to form the top of the head; at which point, or between benevolence and comparison, human nature is located,

which is usually large in the American head, as is also comparison. Agreeableness is located about an inch on each side of the organ of human nature, and is usually small, so that we can ascertain its location by observing its deficiency. When both of these organs are large, the forehead will be wide and full as it rounds backward to form the top-head, or where the hair makes its appearance. Causality is located about an inch on each side of comparison, and mirthfulness about three quarters of an inch still farther outwardly, toward ideality. Form is located internally from individuality, just above and partly between the eyes, so as to set them wider apart, in proportion as it is the larger.

Size is located just in the turn between the nose and eyebrows, or beneath the inner portion of the eyebrows; and when large, causes their inner portions to project outward over the inner portion of the eyes, like the eaves of a house, giving to the eyes a sunken appearance. Size can generally be observed by sight, yet if you would test your sight by touch, proceed as follows: Place the end of your thumb against the bridge of the nose, with the lower part of your hand turned outward, and your thumb lying nearly parallel with the eyebrows, and the ball of your thumb will be upon size. When this organ is large, there will be a fullness in this region, as if half a bean were beneath your thumb.

To find weight and color, proceed as follows: Let the eyes be directed straight forward, as if looking at some

object; draw an imaginary line from the middle of the eye to the eyebrow; weight is located internally from this line beneath the eyebrows, while color is located beneath the eyebrows, just outwardly from this line. Order is located just externally to color, and time partly above and between color and order.

Calculation is located beneath the outer termination of the eyebrows, and in proportion as they are long, and extend backward of the eye, will this organ be more or less developed. Three-fourths of an inch above the outer angle of the eyebrow, tune is located. Spurtzheim's rule for finding it is this: Stand directly before the subject, and if the head widens over the outer eyebrow as you rise upward, tune is large; but if you observe a hollow at this point, tune is small. I have generally found this organ small in adults, so that it is difficult to find its relative size, but in children it is very easily found. Its decline is consequent on its non-exercise. Time and tune join each other, while time, tune, and mirthfulness occupy the three angles of a triangle, nearly equilateral, the shortest side being between time and tune.

Language is located partly above and partly behind the eyes. When it is large, it pushes the eyes downward and outward, and of course shoves them forward, which gives them a full and swollen appearance, as if they were standing partly out of their sockets, and causes both the upper and under eyelids to be wide and broad. When the eyes are sunken, and their lids narrow, language will be found small.

By following these rules exactly and specifically, the precise location of the organs can be ascertained, and a few observations upon heads will soon teach you the appearance of the respective organs when they are large, small, or midway in size. Some slight allowances are to be made, however, in calculating the size of the head, or the relative size of the organs. Thus, the larger combativeness is, the longer the line from combativeness to the ear; yet large and small combativeness do not vary this line over from a quarter to half an inch.

Probably the most difficult point of discrimination is between hope and conscientiousness, and it should be distinctly borne in mind that hope is generally placed too far forward. Between hope, cautiousness, and approbateness there probably exists an organ, the natural functions of which are discretion. It measures words and acts, and in business leads one to take receipts, draw writings, etc. There are doubtless other organs yet undiscovered, especially in the middle line of the head, between benevolence and parental love, and also between imitation and causality. Phrenology is yet in its infancy. Though it is perfect in itself, yet our knowledge of it is not yet perfected. As every successive generation makes advances upon the preceding one in astronomy, chemistry, and other departments of science, so Gall and Spurzheim have discovered only the landmarks of this science, and have left much to be filled up by us and those who come after us.

Phrenology and its Uses.

BY S. WELLS.

PHRENOLOGY is the most *useful* of all modern discoveries; for while others enhance creature comforts mainly, this Science teaches **LIFE** and its **LAWS**, and unfolds human nature in all its aspects. Its fundamental doctrine is, that each mental faculty is exercised by means of a portion of the brain, called its organ, the size and quality of which determine its power. It embodies the only true **SCIENCE OF MIND** and philosophy of human nature ever divulged. It analyzes all the human elements and functions, thereby showing of what materials we are composed, and how to develop them.

PHRENOLOGY shows how the bodily conditions influence mind and morals—a most eventful range of truth. It teaches the true system of Education, shows how to classify pupils, to develop and discipline each faculty separately, and all collectively, into as perfect beings as our hereditary worlds will allow. Indeed, to Phrenology and Physiology mainly is the world indebted for its modern educational improvements, and most of its leaders in this department are phrenologists.

PHRENOLOGY teaches parents for what occupation in life their children are best adapted, and in which they can, and can not, be successful and happy. It also teaches parents the exact characteristics of children, and thereby how to manage and govern them properly; to what motives or faculties to appeal, and what to avoid; what desires to restrain, and what to call into action, etc.

PHRENOLOGY and **PHYSIOGNOMY** teach us our fellow-men; disclose their real character; tell us whom to trust and mistrust, whom to select and reject for specific places and stations; enable mechanics to choose apprentices who have a particular knack or talent for particular trades; show us who will, and will not, make us warm and perpetual friends, and who are, and are not, adapted to become partners in business. More, they even decide, beforehand, who can, and who can not, live together affectionately and happily in wedlock, and on what points differences will be most likely to arise.

Most of all, **PHRENOLOGY** and **PHYSIOLOGY** teach us **OUR OWN SELVES**; our faults, and how to obviate them; our excellences, and how to make the most of them; our proclivities to virtue and vice, and how to nurture the former and avoid provocation to the latter.

TESTIMONIALS.

If the opinions of learned and eminent professional men, both in Europe and America, in regard to the truth and utility of Phrenology be of any account, then the following testimonials should have some weight with unbiased readers:

Let man confine himself to the phenomena of nature, regardless of the dogmas of metaphysical subtlety; let him utterly abandon speculative supposition for positive facts, and he will then be able to apprehend the mysteries of organization.—**DR. GALL.**

While I was unacquainted with the facts on which it is founded, I scoffed, with many others, at the pretensions of the new philosophy of mind as promulgated by Dr. Gall, and now known by the term of Phrenology. Having been disgusted with the uselessness of what I had listened to in the University of Edinburgh (on mental science), I became a zealous student of what I now conceive to be the truth. During the last twenty years I have lent my aid in resisting a torrent of ridicule and abuse, and have lived to see the true philosophy of mind establishing itself wherever talent is found capable of estimating its immense value.—**SIR G. S. MACKENZIE, President of the Royal Society, Edinburgh.**

For more than thirteen years I have paid some attention to Phrenology, and I beg to state, the more deeply I investigate it, the more I am convinced of the truth of the science. I have examined it in connection with the anatomy of the brain, and find it beautifully to harmonize. I have tested the truth of it on numerous individuals, whose characters it unfolded with accuracy and precision. For the last ten years I have taught Phrenology publicly, in connection with Anatomy and Physiology, and have no hesitation in stating that, in my opinion, 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.**

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, and was proved by evidence that to my mind seemed almost, if not altogether, irresistible.—**JAMES SHANNON, President of Bacon College, Ky., Prof. Mental and Moral Science.**

As far as twelve years' observation and study entitle me to form any judgment, I not only consider Phrenology the true science of mind, but also as the only one that, with a sure success, may be applied to the education of children and to the treatment of the insane and criminals.—**U. OTTO, M.D., Professor of Medicine in the University of Copenhagen.**

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 ELLES, M.D., Physician to the Lunatic Asylum, Middlesex, England.**

All moral and religious objections against the doctrines of Phrenology are utterly futile.—**ARCHBISHOP WHATELY.**

As an artist, I have at all times found Phrenology advantageous in the practice of my art; and that expression, in almost every case, coincided exactly with what was indicated by the cerebral development.—**GEORGE KENNIE, Esq., Sculptor.**

I have long been acquainted with the science of Phrenology, and feel no hesitation in declaring my conviction of its truth. In Phrenology we find the best exposition of the moral sentiments, and the most approved metaphysical doctrines heretofore taught, while it surpasses all former systems in practical utility and accordance with facts—being that *alone* which is adequate to explain the phenomena of mind. This opinion I am emboldened to pronounce, not merely as my own conviction, but as that which I have heard expressed by some of the most scientific men and best logicians of the day.—**RICH. D. EVANSON, M.D., Prof. Practice of Physiology, R.C.S., Dublin, Ireland.**

No sooner had I read Dr. Gall's work than I found I had made the acquaintance of one of those extraordinary men whom dark envy is always eager to exclude from the rank to which their genius calls, and against whom it employs the arms of cowardice and hypocrisy. High cerebral capacity, profound penetration, good sense, varied information, were the qualities which struck me as distinguishing Gall. The indifference which I first entertained for his writings gave place to the most profound veneration. Phrenology is true. The mental faculties of men may be appreciated by an examination of their heads.—**JOSEPH VIMONT, M.D., of Paris, an eminent Physician and Author.**

I declare myself a hundred times more indebted to Phrenology than to all the metaphysical works I ever read. . . . Mental Philosophy is a Natural Science. The human mind is the most important part of nature. It rests on experience, observation, and induction. It is a science of facts, phenomena, and laws. . . . This science of mind is neglected because its benefits are not immediately apparent—its attainments are not capable of display. . . . The phrenological division of faculties of the mind is far more numerous than any other; it looks to the classes of actions or functions mind has to perform, and finds faculties to perform them, as the naturalist, who could not find the ear of a fish by looking externally, looked from the lobe in the brain where the auditory nerve should terminate outwardly, and found it. . . . I look upon Phrenology as the guide to Philosophy and the handmaid of Christianity. Whoever disseminates true Phrenology is a public benefactor.—**HORACE MANN.**

We deem it right to mention that Phrenology appears to us to be true, in as far as it assigns a natural basis to the mind, and that it is entitled to a very respectful attention for the support given to it by a vast amount of careful observation, and the strikingly enlightened and philanthropic aims for which many of its supporters have been remarkable.—**JOHN CHAMBERS**, of *Chambers' Edinburgh Journal*.

The more I study nature, the more am I satisfied with the soundness of phrenological doctrines.—**J. MACKINTOSH**, M.A.

By this science the faculties of the mind have been, for the first time, traced to their elementary forms.—**ROBERT CHAMBERS**, of *Chambers' Journal*.

Phrenology has added a new and verdant field to the domain of human intellect.—**REV. THOMAS CHALMERS**, D.D.

Phrenology undertakes to accomplish for man what Philosophy performs for the external world—it claims to disclose the real state of things, and to present nature unveiled and in her true feature.—**PROF. BENJ. SILLIMAN**.

To a phrenologist the Bible seems to open up its broadest and highest beauties.—**REV. P. W. DREW**.

Phrenology is the true Science of Mind. Every other system is defective in enumerating, classifying, and tracing the relations of the faculties.—**PROF. R. H. HUNTER**.

If we would know the truth of ourselves, we must interrogate Phrenology, and follow out her teachings, as we would a course of religious training, after we had once become satisfied of its truth. . . . The result of all my experience for something over two-score years is this: that Phrenology is a revelation put by God himself within the reach of all His intelligent creation to be studied and applied in all the relations and in all the business of life; that we are all of us both phrenologists and physiognomists in spite of ourselves, and without knowing it; and that we have only to enlarge our observations, and be honest and true to ourselves, and these two sciences will have no terror for us, and our knowledge of them, instead of being hurtful or mischievous, would only serve to make us wiser and better, and therefore happier, both here and hereafter. And, in conclusion, let me say that I have never yet examined a sturdy disbeliever with a head worth having.—**HON. JOHN NEAL**.

All my life long 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. Certainly Phrenology has introduced mental philosophy to the common people. Hitherto, mental philosophy has been the business of philosophers and metaphysicians—and it has just been about as much business as they needed for their whole lives; but since the day of Phrenology, its nomenclature, its simple and sensible division of the human mind, and its mode of analyzing it, the human mind has been brought within reach and comprehension of ordinary common, intelligent people. And now, all through the reading part of our land, it may be said that Phrenology is so far diffused that it has become the philosophy of the common people. The learned professions may do what they please, the common people will try these questions, and will carry the day—to say nothing of the fact that all great material and scientific classes, though they do not concede the truth of Phrenology, are yet digesting it, and making it an integral part of the scientific system of mental philosophy.—**REV. HENRY WARD BEECHER**.

I speak literally, and in sincerity, when I say that were I at this moment offered the wealth of India, on condition of Phrenology being blotted from my mind forever, I would scorn the gift; nay, were every thing I possessed in the world placed in one hand and Phrenology in the other, and orders issued for me to choose one, Phrenology, without a moment's hesitation, would be preferred.—**GEORGE COMBE**, Author "*Constitution of Man*."

We may also mention the names of the following prominent men who have accepted Phrenology as a true science, and in various ways given it the support of their influence:

Dr. JOHN W. FRANCIS,	Prof. S. G. MORTON,	Hon. HORACE GREELEY,
Dr. CHARLES A. LEE,	Prof. S. G. HOWE,	Wm. C. BRYANT,
Dr. J. V. C. SMITH,	Prof. GEO. BUSH,	Hon. AMOS DEANE,
Dr. MCCLINTOCK,	Judge E. P. HURLBUT,	Rev. ORVILLE DEWEY,
Dr. JOHN BELL,	Hon. T. J. RUSK,	Rev. JOHN PIERPONT,
Prof. C. CALDWELL,	Hon. Wm. H. SEWARD,	Hon. S. S. RANDALL.

Phrenology being true, it should be learned and cordially embraced by all, and its benefits appropriated. It comes to mankind, not as a partisan or sectarian proposition, but as the voice of God revealed in nature to aid and guide mankind.

Phrenological Journal Office, 389 Broadway, New York.

THE FOLLOWING ARE SOME OF THE OPINIONS OF THE PRESS
RESPECTING PROF. PAYNE'S ABILITIES:

He stands at the head of his profession.—*St. Louis Democrat.*

The most accurate phrenologist we ever met.—*Kansas State Record.*

He is the nestor of American phrenologists.—*Louisville Courier.*

A sparkling lecturer.—*N. Y. Tribune.*

Dr. Payne's course of lectures have been well attended. The lecture last night on "Love and Matrimony" was a decided success.—*Cincinnati Commercial.*

Dr. Payne, the phrenologist, draws a full house every night at Gleason's Hall.—*Philadelphia Enquirer.*

The American physiognomical lecturer, Dr. W. A. Payne, is meeting with fine success here. The *Toronto Globe* thinks "he is equal to O'Leary, the Canadian lecturer." We do not.—*Chatham (Canada) Planet.*

We recommend Dr. Payne as a lecturer.—*Indianapolis Journal.*

Dr. Payne is certainly a very fluent and agreeable speaker; yet we can not subscribe to one-half of his opinions.—*Detroit Free Press.*

Dr. Payne, of New York, is lecturing to full houses at Bryant & Stratton's Commercial College, on human nature.—*Chicago Times.*

Unquestionably Dr. Payne is the best delineator of human character in the United States. Frank's Hall was crowded again last night.—*Kansas City Journal.*

Dr. Payne is a deeply-read physiologist, and an exceeding instructive lecturer and describer of nature.—*Leavenworth Times.*

Dr. Payne goes to St. Joseph to lecture. He gave decided satisfaction to our citizens during his course of one week. Success to him.—*Leavenworth Com.*

A splendid delineator of human character.—*Pittsburg Sunday Leader.*

The private lecture last night to gentlemen, given by Prof. W. A. Payne, was one of decided force, importance, and propriety.—*New Albany Commercial.*

Prof. Payne has given a course of very acceptable lectures to the citizens of Cincinnati.—*Enquirer.*

The lecturer would state that he has in his possession testimonials from many of the principals of universities and colleges, not only of the Middle States, but also of New England and the South. The respect with which he has been greeted, both by the press and people, during a career of seven years, warrants him, encourages him to continue in the same path—with this limit, however, that his professional duties will be confined chiefly, hereafter, to the four grand, young giant cities of the West.