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CHARLES DARWIN.

A PHRENOLOGICAL DELINEATION.

To say that Mr. Darwin is a remarkable man, is only saying what everybody knows. It is also known that he descended from a family of note, his father being a man of talent.

Mr. Darwin has a remarkable organisation. He has great constitutional power. This combination of physical powers favours great activity and endurance. His vital power is sufficient to generate all the force that is necessary for an active, energetic life; but he has no surplus of vitality, probably because he is disposed to lead an active life. Besides, he has so much bone, muscle, and nerve power, that he is disposed to use up his vital power as fast as he generates it. He would be one of the most unhappy of men if he were so situated that he could not be employed.

He is peculiarly organised both in body and mind. He is not smoothly, evenly, and harmoniously developed, but has many very strong points, and some weak ones.

According to the laws of nature, there must be a peculiar and striking mental manifestation where there is an uneven physical structure, especially if the brain be unevenly developed.

The shape of his brain is most peculiar, more so than that of any other distinguished man in England. Some of the phrenological developments are so very large as to make other organs appear smaller than they really are, compared with the same organs in other men. His head indicates four marked mental peculiarities. That which first strikes the eye is the mountain of Firmness over the ears, in front of the crown of the head. Few men measure so much from one ear over to the other, according to the size of the head, as he does. According to phrenology he ought to be very tenacious, determined, and persevering, and incapable of being turned from his purpose. He would pursue an object to the ends of the earth rather than not have it. Difficulties and opposition would only make him all the more determined. Such firmness stops at nothing short of accomplishing its ends.

He would exercise this faculty along with his other stronger faculties, one of which is Self-esteem. This faculty gives him self-reliance, individuality of opinion and character, and a desire to have his own way and pursue his own course. Such a man would think for himself and be satisfied with his own opinion. He would not compromise in order to please, or because he placed a higher value on the opinion of others. Nothing but undeniable facts would make him swerve one iota from his preconceived opinions.

His very large Firmness and Self-esteem united give him an individuality of character few men possess. They make him thoroughly satisfied with his own course and investigations and enable him willingly to take the consequences of his own opinions. If his views differed from all the rest of mankind,

and he knew that they would make an entire revolution of opinion in the world, he would not alter his course one whit; but would, like Senator Benton of the U.S.A., say, "Solitary and alone have I set this ball in motion." It is the most uncompromising, self-relying, independent cast of mind, as indicated by organisation, that I have seen. Fashion, custom, public opinion, formalities, and flatteries he cares very little about, and is not influenced by them. It is possible for his large Firmness and Self-esteem to bias him too much, and make him too contented to see only through his own mediums of investigation, and not be sufficiently influenced by the investigations and opinions of others.

These two great powers of his mind, acting with his very large perceptive faculties, make him an indefatigable student of nature. His eyes are everything to him, for he has an insatiable desire to see everything that is seeable.

Elihu Burritt was almost the only man who approached him as a student of nature. Mr. Darwin has all the perceptive faculties very large, and their action give him a very great range of observation, and enable him to become acquainted with all sides and departments of nature. With such powers he has a curiosity to open every book of nature and know something of every phase of life. It is very seldom that any one man has all the knowing, observing powers so large as he has. As a traveller he would see hundreds of things on the same road that others would not. One of the largest of his perceptive organs is Order, which gives system, method, power of arrangement, and the disposition to classify. Hence, he sees everything with a classifying eye, and is disposed to make the most of his observations. All orders and arrangements of nature he would be quick to see. In a trip for the purpose of research, he would be able, on his return, to write more books and to deal with a greater variety of subjects than most men. He has a special aptitude for the study of botany, being not only very precise and definite in his observations, but remembering all he sees. He can also describe accurately years afterwards what he has seen. His knowledge is superior to his power of expressing it in words. Hence he can express himself more fully in writing than in speaking. His memory of all that he sees—of places, of associations, and of the relation and position of one thing to another—is good.

It will be more easy for him to acquire knowledge and gather facts than to weave a philosophy or theory out of them. He has an almost purely scientific, fact-gathering mind. Like Agassiz, he is a student of nature, only more so. Few men could cover a wider field of science than he.

Mr. Darwin has scope of mind and a fair amount of imagination and sense of perfection. The restraining powers of his mind are not great. He is prompt and off-hand, and acts on the spur of the moment. Such a form of brain is liable to be hasty in drawing conclusions and in deciding upon a course of action.

He has a physical and mental organisation that indicates great energy and industry; he labours with a definite object in view, and pursues that object with a single and unwavering purpose, as though his life and salvation depended upon it.

With his cast of mind he will not be liable to trouble himself about theology, doctrines, ceremonies, or any of the religious machinery of the day. He would not be likely to concern himself much about remote consequences that had their foundation in faith. He acts upon the principle that "sufficient unto the day is the evil thereof." He is disposed to teach but not to preach, and would be disinclined to join societies and associations for any other purpose than the investigation of science or the promotion of knowledge.

According to his phrenological developments, then, he should be known for possessing very great firmness, perseverance and tenacity of mind; for his great self-reliance, independence, and individuality of character and opinion; for his remarkable powers of observation and ability to acquire knowledge from the external world; for his talent to arrange and systematise his knowledge, and put in definite form the facts he has acquired; and for possessing more than ordinary industry, force of character, and activity of mind—as well as for ambition and general sensitiveness of mind, and the desire to act in strict accordance with his notions of right and duty.

Altogether it is one of the most remarkable heads to be found, and it ought to be a decided proof for or against the science of phrenology.

L. N. FOWLER.

THERE is speaking well, speaking easily, speaking justly, and speaking seasonably; it is offending against the last, to speak of entertainments before the indigent; of sound limbs and health before the infirm; of houses and lands before one who has not so much as a dwelling; in a word, to speak of your prosperity before the miserable: this conversation is cruel, and the comparison which naturally rises in them betwixt their condition and yours, is excruciating.—*La Bruyere.*

THE BRAIN AND THE SKULL.

(*First Article.*)

There are a number of popular fallacies in regard to the brain and its protecting sheath, the skull, which are continually being raised as objections against phrenology. It is proposed to treat some of the principal in this article; and in the first place it may be premised that the intelligent phrenologist does not pretend that there are no *difficulties* in the way of phrenology; he simply protests against what are merely difficulties being for ever brought forward as fatal objections to the science.

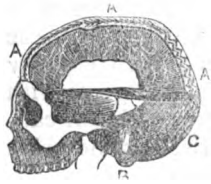
Phrenology is based on two or three simple principles. The first is that the brain is the organ of the mind, and this fact is almost universally admitted. The second is that the brain is a congeries of organs, each having a special and distinct function to perform; and the third, that, when other conditions are the same, the larger the brain the more powerful it is, and the larger an organ the stronger is its manifestation. For a long time the *organography* of the brain was denied by physiologists, who stoutly maintained that the brain as a whole did the work of the mind as a whole. Now, however, they are beginning to discover that special parts of the brain are allocated to do special work, or in other words have particular functions. But of this we shall have occasion to speak in an article on the Physiology of the Brain. The objectors it is desired to meet in this article are those who, granting these primary principles, ask, "But, supposing this to be true, how do you know that the external shape of the skull agrees with the shape of the brain? A soft substance like the brain cannot shape a hard substance like the skull. Besides the brain does not touch the skull;" and so on and so forth.

The simplest way to meet all these objections will be just to state what the skull is, and in what relation it stands to the brain. During life the brain is encompassed throughout its whole peripheral extent by a thin transparent membrane called the pia mater, which sinks down into its convolutions or furrows, and serves to convey the blood-vessels to its different parts. Immediately above the pia mater are two layers of a still thinner membrane, called, from its resemblance to a spider's web, the tunica arachnoidea. It covers the surface of the brain without passing into its folds. A fluid secretion takes place from the opposed surfaces of this membrane, by which they are prevented from adhering to each other. Above

this there is a thin but strong and opaque membrane called the dura mater, which embraces the outer surface of the brain above the membrane last mentioned, and which lines and adheres strongly to the inner surface of the skull. The brain, enclosed in these membranes, exactly fills the interior of the skull, so that a plaster cast of the interior of the skull exactly represents the brain covered by the dura mater.

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

Most parts of the skull consist of two plates, called the outer and the inner table. They contain between them a cellular or sponge-like substance, called the diploë.



The annexed figure represents a skull with the two sides cut away, down nearly to the level of the eyebrow, leaving a narrow ridge in the middle of the top standing. A A A is the edge of the skull, resembling an arch. It is represented thicker than it really is in nature, in order to show the diploë. From the centre depends the delicately-veined membrane, which separates the two hemispheres of the brain. It is a continuation of the dura mater, and is called the falciform process. The two lobes of the brain are completely separated, as far as this membrane is seen to extend downwards in the engraving. Below it they are connected by a bundle of fibres, called the corpus callosum. On reaching the point C, the membrane spreads out to the right and left, and runs forward so as to separate the cerebellum, which lies at BC, from the cerebrum. B represents the mastoid process, or bone to which the sterno-mastoid muscle is attached. It lies immediately behind the ear, and is generally hit upon by

the uninstructed as an important organ; but it is simply a bony projection, and does not indicate development of brain at all.

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

Portions of the temporal bones are much thinner than other parts of the skull; but as this is the case in all heads, the phrenologist is not misled by it. Every skull, moreover, is thick at the ridge of the frontal bone, and the transverse ridge of the occipital, and very thin in the middle of the occipital fossæ. It was a fact observed by Dr. Gall, and since by many phrenologists, that the skulls of very stupid people are exceedingly thick. In savages, too, the skull is often thick. Herodotus mentions that the skulls of the Egyptians were very thick, whereas those of the Greeks were thin. He accounts for the former being thick by their not wearing head-coverings.

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

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

There are, however, some difficulties in the way of arriving

at an accurate judgment as to the amount of brain present in all parts; and these, by opponents of phrenology, have been made the most of. The sutures, for instance, interrupt the absolute parallelism of the interior and exterior tables of the skull. Only one of them, however, the lambdoidal (so called from its resemblance to the Greek letter lambda Λ) presents any difficulty to the student. In some individuals it presents, at the part where it passes over the organ of Concentrativeness, a bony excrescence, which may be mistaken for a large development of that organ; but the projection is generally sharp and angular, whereas the contour presented when the organ is large is one of fulness and roundness. The sagittal and frontal sutures, extending longitudinally from the back part of the crown of the head forwards and downwards, sometimes to the top of the nose, occasionally present a narrow prominent ridge, which is sometimes taken for development of the organs of Self-Esteem, Firmness, Veneration, and Benevolence. It is easily distinguishable, however, by its narrowness from the fuller and broader swell of cerebral development.

The mastoid process—in anatomy projecting bony points are called "processes"—has been referred to. Another process, called the spinous process of the transverse ridge of the occipital bone, is sometimes mistaken for the organ of Philoprogenitiveness. But its sharpness and angularity are such that it need present no difficulty to anyone. It is generally sharply developed in those who are active on the feet.

The only part of the skull where any real difficulty exists in judging exactly of the size of the subjacent parts of the brain from external configuration, is in the frontal bone immediately above the top of the nose. Here a divergence from parallelism is sometimes produced by the existence of a sma cavity called the frontal sinus. The annexed cut shows the position of the sinus. It is sometimes larger, but generally smaller, than the proportion here represented. It is formed between the two tables of the bone, either by the outer table swelling out, or by the inner table sinking in a little. In such cases of course the external surface does not indicate the exact degree of brain development beneath. This sinus has been made a bugbear to deter persons from studying phrenology, many opponents going so far as to argue that the existence of a frontal sinus presents an insuperable objection to the science in general. Intelligent phrenologists never attempt to blink the difficulty of the frontal sinus; all they contend is that, granting that it presents an obstacle to ascertaining the development of the

organs over which it is situated, in ordinary cases, it interferes with but a few, namely, Individuality, Form, Size, Weight, and Locality, though it may in some cases extend to Order; but that, even though it should at times include all the perceptives, it no more stands in the way of an accurate estimate of the other organs than the occultation of Sirius prevents our seeing all the other stars in the firmament.

Phrenologists acknowledge the difficulty of the frontal sinus, but the most experienced assert that by practice the difficulty is reduced to a minimum. In the first place it is not everybody who has a frontal sinus, and those who have it is easy to discover. Combe says that "below the age of twelve or fourteen the sinus, if it exist at all, rarely extends so high as the base of the frontal lobe of the brain." In adults, he says, it often occurs to the extent represented above; while "in old age and in diseases such as chronic idiocy and insanity it is often of very great extent, owing to the brain diminishing in size, and the inner table of the skull following it, while the outer remains stationary."

These cases are not difficult to judge of. "A skilful phrenologist," says Mr. Fowler ("Objections to Phrenology"), "can generally judge when it is developed by an observation upon the condition of the general system, as accurately as the physican can decide upon the state of the stomach of a patient. We rarely see it in the skull of a woman, unless she is very masculine in organisation. When it does exist we regard it as the exception rather than the rule. A person who has a clear, sharp, shrill voice, that can be easily heard and distinctly understood, has but little of the frontal sinus; and, so far as my observations upon thousands of heads have gone, I have usually found that those men who have a heavy frontal sinus have manifested the perceptive faculties in their character, and hence I conclude that it is a portion of the brain that has protruded the skull in the direction of the sinus."

THAT the different colours of the spectrum have an influence on vegetation, has long been known. Plants grown under green glass soon die; under red glass they live a long time, but become pale and slender. Mr. Yung of the University of Geneva has placed the eggs of frogs and fishes in similar conditions, and found that violet light quickens their development; and blue, yellow, and white also, but in a lesser degree. Tadpoles on the contrary die sooner in coloured light than in white light. As regards frogs, Mr. Yung has ascertained that development is not stopped by darkness, as some have supposed, but that the process is much slower than in the light.

PHRENOLOGY IN THE FAMILY.

What has phrenology to do with the family? What aid can it give to parents? Much in every way.

The family is the basis—the foundation and beginning of society. As is the family, so to a very great extent is society. The imperfections that exist in society at large exist also and have their origin in the family. In order to improve and perfect society, therefore, we must begin with the family, and with the individuals forming it. As the perfection and beauty of a piece of rock-crystal depends on the perfection of each separate crystal, so the amount of harmony in society is in direct proportion to the harmonious development of each of its individual members. Hence the importance attaching to the proper training of children.

The child's mind grows and expands according as it is inclined or bent—the same as the twig of a tree grows as it is inclined when young and tender, and continues to grow in the same way through life, unless some great pressure be brought to bear upon it. It is a noticeable fact that the language children use and the habits they form early in life cling to them through youth and manhood into maturity. A child that is treated roughly is very liable to grow up with rough ways. When a lad is allowed to grow up dirty and ragged, his mind becomes hardened against everything clean and nice; he will often mar the beautiful in order to have things in harmony with his own state of mind. He will spoil the looks of a fine, fresh bill upon the wall by throwing mud upon it. He will soon tear and wear his new books at school, and if disobedient at home, he will be noisy and boisterous at school. If he learns to talk ungrammatically at home, and does not receive a thorough discipline and education, he will continue to use slang and incorrect language.

If children, however, are properly trained and disciplined at home, and taught to put away their things, and encouraged in habits of cleanliness and correct language, they will require but little teaching on these points as they grow older. Many parents leave all the teaching and the training of their children to the teacher, and then frequently undo at home the work that has been accomplished at school. Some parents delight to teach their little ones to say naughty and saucy things, because it seems so cunning, and they think it denotes a sign of "smartness" in the child; but when he is older and says the same pert and saucy things, he is punished for doing

so. A great many parents do not know or feel the vital importance of early training up their child in the way it should go. They allow it first to go astray, do wrong, violate the laws of life and health, form bad habits, and then endeavour to lead it aright afterwards, and wonder they do not succeed better in managing it.

Phrenology teaches us very many important lessons about the proper discipline of children, especially in relation to their minds. It shows us the absolute necessity of starting right at the beginning of life. It also endeavours to make parents better acquainted with the natural dispositions, tendencies, and capacities of each individual child, even before the child is old enough to show them; as well as to explain the different powers of which the mind is composed. Every parent should know about the various faculties of the mind, and then through the help of practical phrenology find out what powers predominate and what are deficient. By this means the parent will be able to call out all the faculties according to their natural action, and at the same time encourage the development of the weaker organs and guide the strong ones, so that they will not become perverted.

Parents should inform their children about these different faculties, by showing them for what purpose they were given and how they are to be used. When children are correctly instructed in these matters, they will do much towards rectifying and building up their own characters, just as when they are told about the different organs of the body and their use, they will learn to take better care of themselves physically. All children cannot succeed equally well in the same callings with the same education. When a lad has no special talent, then it does not much matter what work he does, provided he does something. When, however, a youth has a combination of faculties, that could make him master of a certain kind of trade or calling, the earlier those faculties are set to work and acted upon the better. Every child should be taught to do something well.

Phrenology aids the young to understand their own minds better than they would if left to find out all the workings of the mind by themselves. Without the aid of phrenology we know ourselves positively only as faculties are called into action, while with the aid of phrenology we are forewarned and forearmed.

As parents value the welfare and success of their children, and want them to rise up and call them blessed, and do them honour, they should do everything in their power to set them on the right track; and help them to understand as early as

possible how to use their powers to the best advantage. If they understood phrenology they could account for many of the peculiar traits of character their children show, especially if they unite therewith a knowledge of the known influences of heredity.

Two children were brought to my rooms to be examined: brother and sister. I described the boy to be like the father, and the girl like her mother. Contrary to the general rule, the girl was wanting in Veneration, inclined to be disobedient and disinclined to say her prayers. The boy was large in Veneration, was obedient, serious, and worshipful, and disliked to be disturbed when he said his prayers, which his sister was fond of doing. The parents said the remarks were perfectly true. I then examined both parents, and found the father to have an inferior base to the brain, with strong reasoning and moral faculties, and especially active Veneration. The mother possessed a strong executive brain, and business turn of mind, a practical intellect, a great amount of worldly ambition, and small Veneration. The husband said to me, "The greatest difference between us arises from our different opinions about religion. I want family prayers before breakfast, but my wife says, 'What is the use of having a cold breakfast every morning?' and she objects to having them afterwards, for she wants to go directly and wash up the dishes, and get the work out of the way; or in fine weather to be out in the garden, and see how the crops are getting on in the fields. I could not understand before why she and her daughter were lacking in respect and reverence for sacred duties; but now I see that it is through having a strong practical business turn of mind, and not sufficient Veneration to give moral balance. That makes her say: 'Do up your praying when the weather is too bad to be out of doors.'"

Phrenology explained to him what, if he had known before he married, would have enabled him to select a mate more congenial to his religious opinions; as it is he will be annoyed during life by an irreligious wife and daughter.

Another similar case that came under my notice was that of a gentleman who possessed a high, broad forehead. He married a fine-looking young lady, large and well-developed in body, with apparently a finely-formed frontal lobe, with a large and bony arch to the eyebrow, giving large perceptive faculties. Her youngest son had the same form of forehead as his mother. He is now thirteen years old, and is very backward in his studies. He is unable to understand a subject or comprehend a principle or the meaning of things. He can only pick out his words slowly, and has

shown no aptitude for anything. His parents came to ask me what to do with him. I told them that he had two defects—a want of application and connectedness of ideas, and a want of Causality, which gives power to understand and think. I also said that these deficiencies were inherited from some of his mother's ancestry. Therefore the child was not to blame, and they must treat him according to his organisation. I advised them to take him out of school and put him to some simple kind of business that required observation ; for this power of his mind was quite prominent, also order and capacity to retain and repeat what he saw.

If the husband had understood phrenology he would have selected a lady with a higher degree of the nervous temperament and less of the vital—one with sufficient Causality to have good judgment. If the teacher had understood phrenology and physiology he could have taken advantage of the child's greater vital and physical temperament and small mental capacity by educating him with the hand and eye, by blackboard illustrations, pictures, and maps ; for this is the only way such organisations can learn.

A mother brought her daughter, twenty-two years of age, to find out how she could earn her livelihood. The mother said she had no control over her mind, and her thoughts, though bright and distinct, had no connectedness about them. She was excessively nervous and undecided, and could not make up her mind upon anything, set herself to work, or finish work she had commenced. I asked the mother if she could account for this deficiency of intellect by referring to her own state of mind and health previous to the birth of her daughter. She said she could not. I then asked if her husband was intemperate. She replied, "Yes, very ;" and at once took the hint and left without further conversation.

A little girl three years old, was brought to me to ascertain whether she would be crazy as she grew older, for it took one person's whole time to look after her. She had no fear or distinct observation, and did not care where she went or what she did, and yet she was affectionate and respectful. Her Veneration and Friendship were large. I asked as to the cause of her state of mind. The ladies who brought in the child said they could not tell, and the mother of the child was dead. I asked if the father did not drink to intoxication ; the ladies looked at each other knowingly and said, "Yes, he did."

Such children are not in the ordinary groove, and cannot be treated like others, either in school or in learning a trade. There ought to be schools and asylums expressly for the children of parents who have *fated* them by their intemperance.

There is a cause for all imperfect, deranged, and crazy children, and that cause needs to be understood before the mind of the child can be acted upon correctly.

A girl was brought to me to see what could be done with her. She was sixteen years old; was dull at school, and more so at home. She had no spirit to set herself to work, and did nothing but sit still and appear indifferent to what was going on around her. Her father was a strong, physical working man, with not a high type of mind. Her mother was feeble, and this was her last child. The girl had a low tone of mind, a weak nervous system, a feeble pulse, an inferior quantity of blood—and that not very arterial or vitalised by full respiration—and soft muscles that easily wearied. She had a fully-developed forehead, large Benevolence, and large Conscientiousness. Her affections were not developed, and she lacked Self-esteem and Firmness, Hope and Destructiveness. She was kind and tender-hearted; but lacked pride, decision, enterprise, and energy. Such children cannot be forced to do anything, but should be helped by encouragement. Such characters never get started in earnest till they get in love with something or somebody. They must be worked up from within, and called out by the interest they take in something adapted to a strong faculty of their minds. In this case it would be Benevolence or love of children, or, possibly, reading some entertaining book, calculated to stimulate the imagination, that would call her out of herself.

The more we study character and organisation the more strongly are we confirmed in the views embodied in the above—perhaps somewhat disjointed—remarks and instances. If children are depraved, wayward, slow of development, or altogether enfeebled, they are the result of conditions that human thought and foresight might have obviated. These are failures resulting from pre-natal conditions, and nothing can much improve them. But for children that have started with better organisations, training can do much, and nothing aids the parent and the teacher so much in directing and developing the youthful mind as a knowledge and application of phrenology.

L. N. F.

CHARACTERISTIC OF HEROISM. — The character of a genuine heroism is its persistency; all men have wandering impulses, fits and starts of generosity. But when you are resolved to be great, abide by yourself, and do not weakly try to reconcile yourself with the world. The heroic cannot be the common, or the common the heroic.—*R. W. Emerson.*

A NOVEL THEORY OF THE BRAIN.

In a recent number of the *Morning Light*, a Swedenborgian organ, there appeared an article entitled "The Brain and its connection with the Soul and the Body." The author, Mr. R. L. Tafel, states that his object is to make known some of the leading theories which have been set forth by Swedenborg in Part III. of his great work on the Brain, which has recently, for the first time, appeared in an English translation. The article is so curious and suggestive, apart from the interest attaching to it as representing the views of a great and original thinker, that we give it nearly entire, omitting only a few paragraphs that do not interfere with the sequence of the argument.

The fundamental principle of Swedenborg's presentation is that the soul is the cause of the body, and that the soul, by the brain, produces the body. As the soul, however, is invisible to the eyes of the body, so he holds that those parts of the brain-substance into which the soul immediately flows are likewise invisible to the eyes of the body. These invisible parts of the brain-substance which receive the influx of the soul, Swedenborg holds, are the inmost principles of the grey or cortical substance which under the microscope appears as vesicular, or glandular, and the greater part of which is lodged on the exterior surface of the cerebrum.

This grey substance, however, exists in great abundance, not only in the cerebrum and cerebellum, or in the larger and the smaller brains, but also in their appendages in the medulla oblongata, or in the marrow of the head, and in the spinal marrow, where it forms the central axis; wherefore the primitive form or the primitive germ of man, according to Swedenborg, consists of this grey substance. By the influx of the soul into the grey substance, little threads or fibres are pushed forth from that substance, and these fibres, when massed together, produce the white or medullary substance of the brain and of the spinal marrow.

From this white substance of the brain, which consists of mere threads or fibres, are produced the nerves and the blood-vessels of the body, and out of the fibres which compose the nerves and blood-vessels the whole texture of the body is formed in time.

The generation of man, therefore, according to Swedenborg, is analogous to the creation of the earth.

In the creation of the natural earth there is the formative spiritual sun, acting with its full power on every particle of the natural sun, and causing it to generate from its bosom atmospheric vessels containing within them the solar fire in the form of the solar rays.

The analogue of the sun in the human form are the little round vesicles or glands of the grey substance of the brain, and as the spiritual sun presses upon every particle of the natural sun, with a

view of creating by its means the planetary system, so the soul in man acts with its full power on every particle of the grey substance for the purpose of producing the human body.

And as the sun, by the energy of the spiritual sun pressing upon it, generates from its bosom atmospheric vessels which bear within themselves the heat and light,—the life-giving principle of the natural sun,—so every particle of the grey substance throws out vessels or fibres which contain the life-giving essence, which is elaborated in the grey substance of the brain.

According to Swedenborg, therefore, every fibre of the body is a most minute and refined vessel or tubule, containing the life-giving essence which is generated in every vesicle or glandule of the grey substance.

Each of these little vesicles or glands of the grey substance, however, is different from every other little vesicle or glandule, even as every star in the natural universe differs from every other star in size and in intensity of light and of strength. And yet, as all the stars gravitate towards one another, and mutually hold one another in their respective place and position in the heavens, so also the various particles of the grey substance in the brain and in the spinal marrow are related to, and conjoined with, one another, and they form together the natural substratum of the infinite number of spiritual forces which constitute the human soul. As the human soul, however, is a unit, so also the immense number of vesicles of the grey substance form a unit, and a compact whole, although each of these little bodies is separated in space from every other little body or vesicle, even as the stars are separated from one another in space.

But why are these little vesicles or glands separated from one another in space? Because each of them is a little diminutive brain by itself, and because it must have room wherein it may perform its vital motion.

For, as the natural sun is in a state of highest commotion and activity, and as by its own activity it throws off its rays invested with atmospheric sheaths or envelopes, so also every particle of the grey substance is in a constant state of motion, and by this motion throws out of itself that vital essence which it constantly generates in its own bosom, and which is received and carried to every part of the body by the vascular sheaths of the fibres.

On this account Swedenborg calls every one of these little particles of the grey substance a corculum, or a little heart, because it not only has an expansive and constrictive motion like the heart, but also a vital essence, which it forces into the fibres, just as the heart drives its blood into the arteries.

As there are, however, two sets of blood-vessels,—the veins and the arteries,—of which the former convey the blood to the heart, and the latter carry it away from it, so also there are two sets of fibres, each of which is filled with the vital essence of the grey substance, and in one of these the vital essence rushes back to the grey substance, while in the other it flashes forth from it. Those fibres by which the vital

essence is carried away from the grey substance terminate in the various muscles of the body, and by the constant expansive and con strictive motion of the grey particles vital essence is conveyed by these fibres evenly to all the motive organs of the body. Presently, however, the soul, which dwells in the inmost principles of these grey particles, wills that the body should perform a certain action, and then the will of the soul enters into those particular grey particles, the fibres of which terminate in those muscles which are required to act, and the muscles are stirred into action by the extra amount of vital essence which is forced into them from the grey substance.

Those fibres, however, which tend towards and terminate in the grey substance, and in which the waves of the vital essence rush backwards towards the grey substance, and not away from it—these fibres, which are softer and of a more passive nature, emanate from the various organs of sense,—from the eye, ear, nostrils, tongue, and from the skin all over the body,—in order to convey sensations to the grey substance. For it is not the eye which sees, nor the ear which hears, nor is it the nose which smells, nor the tongue which tastes; but all these sensations are received by the soul, which resides in the grey substance of the brain, and the soul receives these sensations by the fibres of the various nerves which lead from the various organs of sense to the grey substance of the brain.

So, for instance, on reaching the eye, the optic nerve is broken up into its component fibres, and these fibres, each of which leads to a different particle of the grey substance, are rooted in the retina. When the retina receives an image consisting of various shades of light and darkness, each of these little fibres is affected by the light and shade in a different manner, and this difference it imparts to the vital essence within the fibre. By this, as well as by the vibrations of the sheath of the fibre itself, this variation of light and shade is telegraphed to the grey particles of the brain. On these particles, which correspond to the various forces of the soul, these impressions remain stereotyped, and out of the general state of all the grey substances which have become affected by the image of the retina the soul gathers up and reconstructs an exact likeness of this image.

As the optic nerve on approaching the retina is resolved into its constituent fibres, so when it enters the white or fibrous substance of the brain, it is likewise resolved into its constituent fibres, and each of these hastens to its native grey substance, in order to report there what it has seen. As each of these fibres, however, is in a state of tremiscence or vibration, it communicates on the way its tremiscence to all the fibres with which it comes into contact, and as in the white substance of the brain these fibres are wonderfully interlaced with one another, the impression which has been received by the retina is by-and-by communicated to all the host of fibres in the brain, and carried by them to every particle of the grey substance, so that the whole grey substance is affected by every impression of the senses, no matter by what organ of sense it may have been received. This, however, by no means excludes the idea that each sense centres in a particular province, or in a particular convolution of the brain.

You see, therefore, the important part which the vital essence in the fibres has in the production of action through the motory fibres, and in the production of sensation through the sensitive fibres, and I think you will be curious to know what modern science says concerning this vital essence of the fibres. Modern science, as distinguished from the science of the last century, doubts whether there is any vital essence of any kind within the fibres. Until recently modern science refused to acknowledge altogether that the fibres of the brain and of the nerves are hollow; now it speaks of nerve-tubules. It therefore admits that some of the fibres are hollow, but it still is in doubt and uncertainty about the nervous force contained within them.

Dr. Todd, in his treatise on the Brain, says that "the nervous force is a polar force, resembling electricity in the instantaneousness of its development and in the rapidity of its propagation, but differing from it in several important features." Yet this idea of Dr. Todd is by no means generally accepted by the men of science.

Among the organs of the body there are some over which man has complete control, and again there are others which carry on their economy entirely independently of man—that is, so far as his volition and his consciousness are concerned. Such organs are the heart, the stomach, and the various viscera of the body. The fibres of which these organs are composed, according to Swedenborg, are all derived from the cerebellum, or from the spinal marrow, which is the vicegerent of the cerebellum in the body, and the fibres which terminate in these organs report their impressions and their condition to the spinal marrow and cerebellum, and through the grey matter of the cerebellum to the soul—that is, to that portion of the soul which governs the natural functions of the body.

In order to analyse the function of the cerebellum, Swedenborg carefully followed up the direction of its fibres, noticing clearly into which nerves they entered, and then he drew his conclusions.

Modern science depends on vivisection. It slices off portions of the cerebellums of living pigeons and hens, and from the fact that pigeons and hens after the excision of the cerebellum lose the control over their motions, modern scientists declare that the function of the cerebellum consists in "the faculty of *combining* the actions of the muscles in groups" (Carpenter, § 550). This is all that modern science has to say of the cerebellum.

The cerebrum or large brain Swedenborg defines as the organ of volition and conscious sensation, and he holds that the interior operations of the human understanding, such as thought, judgment, willing, and intention, are carried on in the interior principles of each vesicle of the grey substance of the cerebrum.*

But the whole of the grey substance of the cerebrum or large brain is not devoted to sensation and volition. These operations are mostly carried on in the anterior and superior lobes of the cerebrum, and in an auxiliary capacity they are also carried on by those organs of the cerebrum which are called the *corpora striata*, or the streaked bodies, and the *optic thalami*, or the chambers of the optic nerves. Through these bodies the cerebrum despatches those

of its fibres which are sent to the eye and nose, to the ear and tongue, and to all the organs of motion of the body. And these fibres for the most part are derived from the anterior and superior lobes of the cerebrum.

Yet in the lower part of the cerebrum there are a number of organs which directly have nothing whatever to do with sensation and volition. These organs are situated around the various ventricles or cavities of the brain. For in the bottom part of each hemisphere of the cerebrum, or large brain, there is a large cavity called the lateral ventricle, and in the middle between the two lateral ventricles there is a third ventricle which terminates in a kind of funnel, yet without a visible outlet. From these cavities or ventricles a passage called the aqueduct leads towards the cerebellum, between which and the medulla oblongata there is a fourth ventricle; and between the aqueduct and this fourth ventricle a door is placed, so that no liquid can pass from the cerebrum to the cerebellum. Near the entrance of the aqueduct there is a mysterious body called by the anatomists the pineal gland; and another enigmatical body called the pituitary gland is below the funnel-shaped body underneath the third ventricle.

If you ask modern science what is the use and purpose of these organs, it will acknowledge that it can tell you nothing; for it admits only two functions of the brain, those of volition and sensation; and with these two operations, it frankly confesses, these organs have apparently nothing whatever to do.

Swedenborg alone solves the use and purpose of these organs, and he defines them as the *chemical laboratory* of the brain: there, he says, the spirituous or living essence of the blood is prepared, to which the blood owes its liquidity, and its power of being resolved into minute, transparent, white particles; in fact there is the workshop of the transparent white particles, into which each red blood-globule may be divided. The workshop of the *red* blood-globules is in the heart and lungs; but their constituent white particles to which the blood owes its life and power are manufactured in the chemical laboratory of the larger brain.

The chemical retorts where this precious fluid is prepared are the two lateral ventricles. These ventricles are surrounded by solid white bodies composed of fibres from the posterior part of the brain and its lower surfaces; these bodies are called the corpus callosum or the opaque body and the fornix or the vault; and from these bodies, especially the latter, the fibres empty their spirituous contents into the lateral ventricles; as the liquid of the fibres, however, is spirituous and hence gaseous, it requires to be fixed, so that it may not evaporate; wherefore we find in each of the lateral ventricles a wickerwork of arterial vessels, called the choroid plexuses, out of which there constantly trickles a pure lymph. This lymph seizes upon and embraces the spirit of the fibres; yet in order that it may do so effectually the ventricles require to be in a constant state of commotion, just as is the case with the heart. Wherefore it is a

fundamental principle of Swedenborg's theory of the brain, that just as every particle of the grey substance has an expansive and constrictive motion, so also the brain at large, formed of these millions of throbbing little bodies, has likewise an expansive and constrictive motion. By this motion, which is synchronous with the motion of the lungs, the spirit of the fibres in the lateral ventricles is married to the lymph of the blood, and by foramina or holes, which are partly ignored by modern science, this precious liquid is conveyed into the third ventricle in the middle; and hence through the invisible pores of the funnel it is forced into the pituitary gland at the bottom of the brain; from this, finally, through the so-called petrosal sinuses it is conveyed to the jugular veins, and thence to the heart.

The course of analysis by which Swedenborg establishes the existence in the brain of this chemical laboratory of the purer blood is simply marvellous.

This same expansive and constrictive motion of the brain which Swedenborg calls animatory, prevails in the cerebrum, cerebellum, medulla oblongata, and spinal marrow. And this same animatory motion is of the greatest importance in the economy of the whole nervous system; for, as acknowledged by modern science, each nerve, upon being dissected, is found to consist of strands or fascicles, and each of these fascicles is composed of primitive fibres, that is of those fibres which are generated from the particles of the grey substance.

Now in order that these fibres and nerve-strands may not coalesce or concrete, and that they may be able in freedom to undergo their tremiscence or vibration, they have to be bathed in a pure lymph; and the lymph which bathes the nerve fascicles or strands, according to Swedenborg, is derived from the cerebro-spinal fluid, which is secreted from the blood-vessels in the brain, and which fills up all the interstices of the brain both on its outside and also in its interior; and this fluid through the medium of the fourth ventricle, or of the ventricle of the cerebellum, receives its necessary supply of vital essence from the fibres of the cerebellum, so that it may be forced without the least difficulty through the intervals in all the nerves of the body.

The cerebro-spinal fluid, according to Swedenborg, fills especially the cells and passages of the arachnoid membrane which floats around the whole brain and spinal marrow, and through the agency of this membrane which Swedenborg calls the lymphatic coat of the brain, this cerebro-spinal fluid is derived between the interstices in the nerves.

The active power, however, by which this fluid is thus forced through the interstices of the nerves is the expansive and constrictive motion of the whole brain.

This animatory motion of the whole brain is entirely ignored by the modern text-books on physiology; and yet no scientist dares to deny it; on the contrary, its existence is proved beyond the possibility of confutation. But why do they pass over it in silence? Be-

cause this animatory motion of the brain is inconvenient to them. For if they admitted it frankly and honestly, the next question would be, Why is this motion? Because everything in the body serves a definite purpose. The only purpose, however, which an expansive and constrictive motion of the brain could serve is to force a refined liquid through the body. But the existence of such a liquid modern science doubts; nay, it still doubts that the fibres and the nerves are hollow.

Yet the fact that the cerebro-spinal fluid, the existence of which is admitted in general by modern science, is actually forced into the interstices between the fibres of the nerves, is most satisfactorily proved by the researches of two of Swedenborg's countrymen, Dr Axel Key and Dr. Gustaf Retzius, whose labours on some functions of the brain are most praiseworthy, and who in their plates drawn from life, prove most unmistakably that there is a fluid forced by the brain through the interstices of the nerves.

According to Swedenborg, there is therefore a compound animatory motion of the brain. There is a motion of the individual vesicles of the grey substance, by which the animal spirits are driven through the fibres of the brain and of the nerves; and there is a general animatory motion of the whole brain, which on the one hand is instrumental in conveying to the heart the purer white blood manufactured in the chemical laboratory of the brain; and which on the other hand forces into the interstices between the strands of the nerves the cerebro-spinal fluid, which is the genuine nervous juice.

SPINSTERS: THEIR PAST, PRESENT, AND FUTURE WORK.

(*Second Article.*)

Phrenology clearly points out that the brain power of woman is equal to that of man. "How can that be?" you ask. It is an acknowledged fact that man's peculiar power lies in the superior size and force of his brain, and what is lacking in refinement is made up for by size. Woman's dominant power lies in the quality of her brain, the compactness of her organisation, and the intensity of her temperament, and what is lacking in size is made up for by refinement. According to the evidence given by the most eminent phrenologists and physiologists, the power conferred by refinement of organisation and quality of brain, is of a higher order of power, more purely intellectual and more akin to the spiritual than power conferred by force, size of brain, and constitution,

It is the object of this article to examine the results achieved

by this refinement of intellect, and to see if it can cope with man's superior size of brain. The question has been asked, "Will it be worth while for women to enter the lists with their brothers in competitive examinations?" In answering which I will say, that female ambition in matters of collegiate competition—as in every intellectual sphere—must of course be based upon mental capacity; where that capacity exists—as in the case of Miss Scott, of Girton College—let women be tested with their brothers. If it had never been necessary for women to support themselves, if they had continued to believe that, for one half of the human race, the highest aim of civilisation is to cling to the other, as ivy clings to the wall, she would still be possessed of the right, nay more, a divine compulsion to cultivate the intellect and powers God has given her; and if she ought to cultivate them then it must be conceded she ought to turn them to some good account. At the present day it has become a moral sin for capable women to devote all their time and energies to the massacre of Old Time by pricking him to death with the crotchet hook, strumming him deaf with piano-playing—not music—and cutting him up with morning calls. The time is coming, says a contemporary, when the work of life will be re-distributed; and it is because we see such a large proportion of the human race—women—thrown entirely upon their own resources, that we hail the day with interest.

Strictly speaking, a person's proper sphere comprises the whole range of his duties, but, until quite recently, woman's sphere has not done this, for she has very many duties in common with man besides the household requirements peculiar to her as a woman.

"If marriage, happy and prosperous, were the ultimate of every woman's career, then might she lean upon her husband for support, who would vicariously atone for her ignorance and indifference by doing public duty for two; but so long as domestic calamity and bitter battle with the world for bread is a woman's lot as often as it is a man's—as long as marriage cannot come honestly and happily to all, and as long as responsible burdens and business toil are so often thrown upon her—she should not be denied the privilege to educate herself as far as possible for the probable necessities of the future. Man is less capable of judging the proper adjustment of women's place or sphere than she is for herself. In truth, this entire notion of regulating the position of woman by conformity to the old-established ideal of womanly character, is almost without the bounds of sober argument, and happily is fast going out of date.

But what can women do for their support besides, as being housekeepers, governesses, clerks in business-houses and post-offices, shopwomen, and so forth? The fitness and success of women as doctors have been so positive as to fully answer the question of their need in the profession of medicine. But in the study and practice of the law the woman-element is comparatively new. So little has been accomplished in this respect by women in the East as scarcely to be discerned; but in the West, where the grooves of custom are less strongly defined, enough has been accomplished to merit the name of a respectable beginning. In this, as in every profession, women are not seeking to establish a monopoly, but to break one down, that she seeks to enter the remunerative spheres so well guarded for ages by the sterner sex.

Still we read in ancient times of women being learned in Mosaic law. Roman history speaks of women chancellors; while, for a later Italian State, Shakespeare created Portia out of his fertile brain. To-day the progressive spirit of American women has penetrated the Courts of the States, so that in Wisconsin, Illinois, and Ohio, women are studying and practising at the Bar. There are, I believe, a few female attorneys in England who are commencing the pioneer work of opening the way for greater opportunities to women in this profession. Miss Lavinia Goodnell is one of the most successful woman-lawyers in the States. She is a shrewd, quick-witted, and studious young lady, fond of humour, and quite argumentative. She prepared a bill that was sent to the State Legislature, providing that no person should be refused permission to plead at the Bar on account of sex. A petition, asking for its passage, was signed by the circuit judge and every member of the Bar in the county of Wisconsin, Miss Goodnell being held in such high repute in Janesville by all the lawyers. The bill was passed; so that Miss Goodnell and her partner, Miss Angie King, were admitted to the Supreme Court of Appeal throughout the country.

Miss Kate Kane is an example of the success women have won in the Milwaukee Court. She possesses great spirit, intuition, and grip of mind, an unimpeachable moral character, and indomitable will. She was received with the utmost cordiality and kindness by all the lawyers, the sheriff, and judge of the Rock County Bar.

Among the Washington lawyers not the least clever is Mrs. Lockwood. She is particularly sharp in her analysis of subjects, clear in her criticisms, orderly in her style of thinking, and readily sees how different minds can be controlled.

In the States of Ohio and Illinois Miss Agnes Scott, Miss

Perry, Miss Martin, and Miss Macdonald are in successful practice. In Chicago Miss Alta Healet was admitted to the Bar at the early age of nineteen. When she had reached her twenty-third year she had attained considerable eminence and a well-deserved reputation, with a practice amounting to £120 a year. Her own testimony was, that in her efforts to qualify herself for the profession, she had experienced no discouragement—only help. She was never known to take a case unless she believed it to be right. When she died, the legal profession of Chicago at a public meeting alluded to her estimable character and career, both as a woman and as a lawyer. The day cannot be far distant when the moral claims of women to practise law will be universally recognised; and when that day dawns we may expect to see our legal profession elevated and morally strengthened. Humanity can ill afford to lose a particle of wise and true influence in her Courts, whether this influence emanate from a man or a woman.

In literature women have a longer history to relate, and for the last three or four centuries they have been successful competitors in fiction, as writers of books of travel, as talented biographers and historians, while a few have written ably on physiological and psychological subjects. In fiction such names as Mrs. Cowley, Hannah More, Mrs. Barbauld, and Lady Wortley Montague formed perhaps the first school of female novel writers during the Georges' reigns. Their dramatic and lucid unravelling of plots, their quick intuitive perception of human nature, combined with vigorous composition, attested their ability for the work they undertook. These writers were followed by Miss Baillie, Miss Austin, Miss Mitford, Eliza Cook, the sisters Bronté, and A. Procter; while still later by George Eliot, Browning, Hemans, Martineau, Mulock, Jean Ingelow, Sigourney, Stowe, Jameson, Miss Thackeray, and others.

Have not women made their influence felt by means of the pen in the cause of health? We might mention the writings of Miss Nightingale, giving hints to nurses in the sick room, and other similar works; Miss Sedgewick and Maria Edgeworth, who have both contributed much to the education of the masses, while Miss Martineau's contributions in *Once a Week* carried considerable weight with them in sanitary reform; and I am sure many thanks have been tendered to Miss C. Beecher for her excellent "Letters to the People."

In education women taught the following branches six centuries ago at Bologna:—Mathematics, the classics, natural science, philosophy, the civil and canonical law, anatomy, surgery, and medicine. Yes, taught when sometimes they

were obliged to veil their faces, lest the thought of the student should be distracted from the beauty of the subject to the beauty of the speaker. Who has not heard of the learned women of Bologna? Teaching is a grand calling when it inspires a person's intellectual and moral faculties, and raises the occupation into the ideal above the hum-drum of mere mechanical work. No sphere is capable of deeper or wider influence than this. Yet it is so often looked down upon, especially when women are forced to occupy places as governesses, pupil-teachers, &c. When *collegiate training*, *scholarships*, and *honours* become equally participated in by men and women in the universities, then, and not until then, will women's talents be fully recognised.

In America women can raise themselves to a higher position by teaching than in England, because the universities, colleges, and high schools in the former country have longer yielded greater advantages to women; but great praise is due to the progress made during the past few years in the scholastic facilities for learning here in England.

In 1870 about seventy-four per cent. of all the teachers in the United States were women. Horace Mann, who is an authority upon the subject, considers it a great reform, believing women to be much better adapted to the work. The exception in years gone by is now fast becoming the rule, for the salaries of teachers doing the same grade of work to be identical, whether the teachers be men or women. Teaching is an occupation, however, the most draining upon vitality, and should be highly remunerative. Many teachers who, after years of close confinement in class-rooms find the bloom of life fast ebbing away, might take a timely precaution, and turn their attention to out-of-door work, which can be made both profitable and enjoyable with proper management. One example will suffice to support the above suggestion. Failing health prevented a young lady out in California from keeping her position as principal of Clarke Institute. She thereupon turned her attention to superintend a farm of eighty acres; and last spring set 600 fruit trees with the aid of one man. She has carried her systematic, planning brain from collegiate work into garden matters. Picture 28 acres of raisin grapes, 300 apricot trees, 100 nectarines, and 400 prunes, besides the ordinary fruit trees, and you can realise somewhat her situation. But fruit does not absorb all her time. The leading magazines and papers cover her cosy parlour table, while she graces her work by charming conversation. No one watching her at this work thinks her "unsexed." She is modest and unpretending, while liberal and free-thinking; and in a physical sense this work of hers has become her salvation.

Much might be said of woman's success in the Arts and Sciences; at present we must give but a cursory glance through the long vista of her achievements in artistic and scientific pursuits. In science, the names of Somerville, Mitchell, Herschel, and Lewis are all well known. In art, the list is greatly increased, but such names as Hosmer, Rosa Bonheur, Foley, and Thompson stand prominently at the head. The two first mentioned ladies overcame mountainous difficulties in obtaining necessary tuition in anatomy when commencing their studies. The one has proved to be of no ordinary type of genius for animal painting, the other has produced grand and effective works of art in sculpture. We forget sex altogether when gazing upon the works of these artists, so complete and masterly are they. There is nothing weak or effeminate in their portraits, whether they be upon canvas or chiselled from the block; all but the life to make them move is there. The King of Spain, we learn with pleasure, has conferred on Mdlle. Rosa Bonheur a Commander's Cross of the Royal Order of Isabella, the first distinction of the sort ever granted to a woman. This is a happy augury for female recognition and reward for the future. Rosa Bonheur stands at the head of female artists of every age and country, but, according to statistics published in the *Gazette des Femmes*, the lady is only one in two thousand one hundred and fifty who have exhibited in the Paris Salon.

A short time ago, there was some talk that the Royal Academy proposed to throw open the honours of their Institution to women, with the direct object of conferring a degree upon a lady well known to fame. But, while the Academy is still in debate, the ladies have cut the Gordian knot by establishing a life-school of their own. The question must sooner or later be answered—If women are deserving of honours and rewards why should not such distinctions be conferred upon them? South Kensington is yearly sending out her *débutantes* in art in all its branches.

I need say but little about woman's success in the art of vocal and instrumental music. The facts of the day stand out too plainly to need repetition here. As singers, pianoforte and violin players, they stand side by side with their brother competitors. This profession has certainly become a lucrative one, and will in time become more so as the mind and ear of the people become better educated and attuned to the harmony of sounds and to the true appreciation of good music. The stage is another sphere in which women have achieved great success, and the list of celebrated and clever actresses compares well with that of eminent actors. While Patti, Titiens, and Nillson have taken us away and beyond

the real, by their enchanting strains of music, Ristori, C. Cushman, Miss Bateman have held us spell-bound with amazement and emotion by their wonderful representations. Miss E. Blackwall, Willard, Becker, Anna Dickenson, Mrs. Fawcett and Livermore have struck the true chord in our hearts by their eloquent speeches. In conclusion let me say to those who have followed me point by point, that I trust woman's sphere will in the future appear to their minds—as it appears to mine—to be wheresoe'er she findeth work to do of the kind in which she can excel the best, without becoming in the least less womenly or more masculine. Grace Greenwood says that among its other manufactures New England produces the best educated girls, the truest wives, the noblest mothers, and the most glorious old-maids in the world, and that is no small boast. J. A. F.

COMMERCIAL MORALITY.

Two letters have been received from correspondents on this subject, both of which ask the question—whether the lax state of morality in trade, which has been so markedly prevalent during the past few years, arises from a growing deficiency of the organ of Conscientiousness amongst Englishmen generally, and among tradesmen in particular. One of them complains of the difficulty of meeting with strictly conscientious tradesmen, either in a small or large way of business. He certainly has, according to his statements, been very unfortunate in his experiences with shopkeepers and others; but there may be a large number of dishonest men connected with trade, and yet it may not follow that the average conscience of society is on the decrease. We should be sorry to think that such was the case, and yet the fact cannot be overlooked that something like commercial immorality on a large scale has been making itself manifest with startling frequency of late. Our second correspondent puts his question in the somewhat broader form :—"Are men less moral to-day than they were a generation ago?" and he wishes us to answer, "Yea" or "Nay," as to whether there is a lower development of the moral brain now than then.

It need hardly be said that to answer the question in this form is simply not possible. To get at the average moral calibre of society as a whole, one would have to examine the cranial developments of society as a whole, which, to say the least, is scarcely feasible. Judging from the observation that is humanly possible, however, we should say that con-

science is not on the wane, but that there is a lack of earnest thought in what regards business. Men see others get on, or as the more common way of putting it is, *succeed*, by following certain "shady" ways in business; and they are only too willing to accept it as an axiom that "business cannot be carried on on too-particular lines," and that consequently some latitude must be allowed. Men fall into the way of acting on this principle who would be horrified at the merest hint that dishonesty attached to their actions. Conscience only makes us act up to the right as we know it, and so men, who come to look upon business transactions as matters outside morals, get into the habit of acting in a way that they would scorn to do in other relations of life.

We need to look upon business more in the light in which Mr. Jas. Platt, himself a tradesman, looks upon it.—"What a scathing satire" he says "upon humanity and our institutions is the general opinion, 'that an honest man cannot succeed;' but I denounce it as an insult to the Creator to entertain such a thought. Firstly: what is meant by success—wealth, or a higher and purer nature? A man may rise, yet not succeed; succeed, yet not rise. When they tell you a man cannot honestly succeed, they mean, cannot accumulate money as fast as he wishes to, unless he does 'dirty acts.' I deny such successful men to have risen. . . . They have fallen from their manhood, and degraded themselves to the lowest faculties of their nature. . . . But I go further and say, if men were properly trained, the greatest success is to be obtained by honesty—a success that will satisfy not one, but all the faculties of the nature."

In the book from which we quote, "Morality,"—one which we cannot too highly recommend to young men who have their business principles yet to form—Mr. Platt expresses the opinion that there is apparent "a decay in the fibre of the national moral character." Whether this be so or not, one thing is certain, that lax ideas of morals in regard to trade cannot long prevail before it begins to sap the very foundations of the moral constitution. An act that is in one man merely an imitation of that of another, without a thought of conscience about it, may become in his children a lack of the actual fibre of conscience, and so the descent begins. Although, therefore, we cannot answer our two correspondents, as to the actual average development of Conscientiousness and the moral brain generally in this generation, we are fully alive to the great necessity there is for a keener sense of right and wrong being introduced into business transactions, which, in stead of being outside, are the very foundation of morals.

E.

ONLY HALF A HERO.

A Tale of the Franco-German War.

By Cave North.

Chapter III.

Meanwhile the German armies had been marching from victory to victory. The battle of Weissenburg took place on the 4th of August, and that of Woerth, at which Gottlieb was wounded, two days later. On the same day, at the extreme right of the German line of invasion, took place the battle of Forbach, or Saarbruck, which resulted in the almost complete destruction of the army corps of General Frossard, and led up to those terrible days of carnage about Metz, which culminated in the shutting up of General Bazaine in that stronghold, and led a week or two later to the downfall of the Second Empire at Sedan.

Riese received his "baptism of fire" a few days after the battle of Saarbruck. It was only a skirmish he was in; but it was sharp while it lasted, and he was heartily glad when it was over. Then came the terrible days of the fourteenth, the sixteenth, and the eighteenth of August, when so many a brave son of the Fatherland moistened the vine-clad heights of Loraine with his blood. It was on the concluding day of the triad, at Gravelotte, that Gustav came nearest seeing his last of sublunary things. In the very thick and heat of that sanguinary fight, when, for the first time, the battalion of which he formed part was hurled back by the impetuosity of the French onslaught, he stopped behind to assist the Captain of his corps, who had fallen pierced by a shot. He managed, by half-carrying, half-supporting the wounded man, to get him to the rear of the repulsed line, but it was done amid a perfect hail of chassepot bullets. Providentially, however, he was not hurt, though one shot came with a sharp thud on his pickelhaube. Having placed the wounded officer in the hands of the Knights of the Red Cross, Gustav quietly fell into his place in the ranks again, and a little later entered with his regiment the village of St. Privat, over roads and fields littered with dead and dying. Here and there thick swaths of gory corpses marked where the struggle had been the fiercest. Many a glassy eye and pale quivering lip implored help of the passing soldiery, to which they had to turn an unheeding ear. One incident the young soldier witnessed which often gave him occasion for subsequent thought. In a spot where there had been a keen hand-to-hand conflict, a Frenchman and a German had fallen

close together, and were seen in death with their right hands clasped one in the other. They had mortally wounded each other in a quarrel that was not their own, and, dying, had forgiven each other for injuries they could not help.

Well might Gustav wonder at the number of men falling by each other's hands, who, had they known one another, would have inspired mutual affection and esteem, but who, because of dynastic ambition, were brought to regard each other as foes.

But there was no time for such thoughts now, for there was still toil enough before the day's doings were finished; and when the frugal supper was at length eaten, and the hard earth-bed sought, frail nature was so wearied out that even the thought of a far-off loved one was not potent enough to bear up the bars of sleep for a little preliminary dreaming. So sound was Gustav's sleep that he hardly once changed his position, and when at an early hour the *reveillé* resounded, he dreamed that it was the Frankfort fire-horn, and that he was so tied down to his bed that he could not get up and run to give help. At the second blast, however, he made a supreme effort, thinking he saw the Durer-house in a blaze, and the start awakened him.

"I dreamed that I saw a house on fire," said Gustav to his comrade Hans Quint.

"Did you?" responded Hans. "Then you will hear of something surprising before the day is out."

And sure enough he did, for on parade Riese was publicly commended by his Colonel for the bravery he displayed in succouring his Captain on the field of battle. It had not occurred to him that there was any particular bravery in the act. It was done, as he afterwards explained to Hans Quint, in a moment of forgetfulness, and therefore could not have much credit about it.

His comrade laughed at him for his explanation, and said he wished he could forget so; but he could not—he had too vivid a consciousness of the bullets. "But," he added, "I suppose we might as well take our risks coolly and cheerfully. If it is our doom to die before our prime, our fate would have found us out if we had been permitted to stay at home just as well as on the battle-field."

"I don't know about that," said Gustav; "for my part, I wish I were at home, for if I am to die before my prime, as you say, I would rather my fate overtook me peacefully on my bed than in the midst of all this slaughter."

"That is not a heroic sentiment at least," observed Hans Quint with a smile.

"I dare say it is not; but I don't profess to be heroic, and I don't care for glory."

"There is not much glory for the common soldier," said Hans. "He has to be thankful if he can see the White Rose, and get home with whole limbs."

"What do you mean by 'seeing the White Rose'?" asked Gustav.

"Have you not heard the story?" exclaimed the other. "It is on everybody's lips."

Riese said he had not, whereupon Quint told him how, the day before, when an officer of a Berlin regiment of the Guards was preparing to go into action, a white rose was placed in his hand, by whom he did not remember, but he thought by a woman, who at the same time charged him to "wear it in the fight, and then give it to another;" how, an hour later, one of the adjutants of the same regiment, Count Pfeil, received the same from a captain named Waldersee, with the words: "Bear the rose and pass it on;" how he thought no more of the incident until the village of St. Marie aux Chênes was taken, and he and his troops advanced towards St. Privat, when he found that he had lost the flower-token; and, finally, how, later in the evening, the subject of the White Rose was mentioned, and it was remarked that nearly all the officers living and unwounded who had taken part in the battle had had the mysterious flower in their possession at one time or other during the day. Whence it came, or whither it went no one knew.

Hans narrated this legend—around which a nimbus of superstitions gathered for the rest of the campaign—with a good deal of circumstantiality; and, as even the hardest-headed Teuton has a strong love of the marvellous in his composition, Gustav listened to the story with lively interest, and took occasion to tell it to Jessica in a letter which he wrote to her on the following day.

A fortnight later, as everybody knows, befel the Sedan disaster. On that memorable day Riese again had the good fortune to distinguish himself, and this time to win for himself the honour of the Iron Cross. A strategic point in one of the villages surrounding Sedan had been attacked and occupied for a short time; the Prussians being then obliged to fall back before a spirited onset of the enemy. Gustav's regiment, however, speedily rallied, and was once more led to the assault. The hamlet was again stormed; the black and white flag was seen waving from the height, and there was a lusty cheer; but suddenly the flag was missed, the officer bearing it having been shot down, and for a brief space there was a wavering in

the ranks. It was a critical moment—when a mistake would have been extremely fatal. Gustav was in the second rank of the assailing party. The front rank was some yards ahead, led by the officer who had borne the flag. When he fell, the advanced column seemed to become paralysed, and quickly fell back, threatening to throw the rear rank into disorder. Gustav saw the danger, and, rushing forward, seized the fallen flag and raised it aloft. The act was spontaneous, and had an electric effect. There was a shout and a rush, then a shower of bullets, and the position was won. But it had cost a lot of lives, especially of officers' lives, as was the case throughout the war.

Riese's presence of mind was witnessed by a staff officer, and he was commended for his gallantry on the field of battle, and the next day had the satisfaction of being told that it had pleased His Majesty, Kœnig Wilhelm, to award him the Iron Cross for intrepidity before the enemy.

Gustav was naturally greatly pleased at the distinction he had won; but for some time did not fully realise its value. He was a very simple youth, and was quite unsophisticated in the ways of the world; indeed, had he not been, he would hardly have become one of the chief actors in a story like this. It was only when his friend Hans Quint suggested to him that he might possibly be made Fahnreich, that he began to look at the thing in the light of possible promotion. The suggestion led to a train of thought.

"Possibly," he mused, "Jessica might be pleased to learn that I had been made an officer for good conduct." The thought that she would be gratified by such an eventuality made him desire it; but otherwise he had no ambition for the distinction.

"Gustav," said Hans, interrupting his meditations, "have you got a sweetheart? But I think you have; for when you write a letter to *someone*, you write very carefully, and there is something in your eyes then that is not in the eyes of other men of ours when they write home."

"You're a cunning fellow, Hans," said Gustav; "very little escapes you, even though you cannot forget the bullets."

"That's just it—I see everything, and can be unconscious of nothing. Other men can dream, and can do things dreaming; I can't. I believe that is what makes the difference between clever men and fools."

"And I suppose the dreamers are the fools?" said Gustav.

"No; just the other way," replied Hans. "Look at Hammelfleisch, for instance. Was there ever so forgetful a man, except yourself? Just consider that day at Gravelotte.

While we were sheltering behind that wall, before we were ordered to advance on St. Privat, and shot and shell were falling about us like hail, only hotter—what did he fall to doing? To scratching Hebrew or some such unnameable roots on the wall, to keep his memory in, as he said! And when a bullet caught the spike of his helmet and knocked it over his eyes, you should have heard how he confounded those French for interrupting his studies. We could not help laughing, serious as the situation was."

"It was very droll, certainly," replied Gustav; "but Hammelfleisch, you know, is a great scholar. They say he knows more about the ancient Eastern languages than any man in his university, and that if he lives to return to his studies he will become a famous man. I don't wonder he strives to divert his attention from the horrors about him by his scholarship; it must be a great consolation."

"But when you write to your sweetheart, as I suppose it is, you are just as much absorbed as he is. You appear to be right away in a dream, and seem to feel neither cold nor wet. I suppose loving must be a kind of scholarship to have such a similar effect. But tell me about your sweetheart."

"I don't know that I have one, Hans—that is, I don't know that I ought to call her by that name, although it is someone I love very much."

"Why? have you never spoken to her?"

"O yes!" replied Gustav; "and she has promised to be true to me; but I have serious doubts whether I ought not to get shot, or die of fever like others of our regiment, so that I shall never go back again."

"Now you're joking me," said Hans.

"No, I'm in real earnest."

"I don't understand; it seems to me very much like foolishness," responded straightforward Quint.

"Why it's just this. She is rich, you know, and of a good family, and educated, and I am poor and without special instruction, and it seems to me that I ought not to stand in the way of her marrying one of her own rank—one who would know how to make her happier than perhaps I should."

"I see," said Hans, "you are placed very much like me, only a little different."

"I did not know you had a lover?"

"Neither have I," responded Hans, "that is, a real one. It happens in this way. In our town there is a rich cooper, who has an only daughter, and she is very pretty, and will have all the old man's money when he dies. She has hair the colour of his golden ducats, and sings so sweetly in church,

that I became a cooper and attended church regularly because of my love for her. But she never took any notice of me, and perhaps hardly knows of my existence. If I live to go back to Muhlheim—that's where I come from, Westphalian Muhlheim—I suppose I shall go to church again to hear her sing, and to admire her golden hair, and she will pass me by as coldly and as unconscious of my liking as ever."

"I should not have taken you to be so bashful a man as all that," said Riese. "Is it the young lady's golden hair that overawes you so?"

"That and her father's Friedrichs d'or. There is nothing that awes the peasant like gold, and I am peasant-born. That's my weakness, and I can't overcome it. What's bred in the bone, you know, is not easily got out of the flesh. But if, now, I could win the Iron Cross like you, the Herr Knoblauch and the Fraulein his daughter would hear of it, and she would think of me, because I am of their town, and should be talked of."

"I wish I could help you to win the Iron Cross if that would make you happy," said Riese; "but surely you don't think that would make the Fraulein love you?"

"No, not exactly that," said Hans thoughtfully, "but it would give me a place in her mind, and a place in a maiden's mind is half way to her affection. Then, being a cooper, and having the Cross, would recommend me to the father."

Gustav laughed.

"Why do you laugh?" queried Hans.

"Because you are about the most knowing man I have ever met, and I hope you will get the Iron Cross, or, at any rate, the golden-haired Lena."

"The latter would be enough," said Hans.

"You are right, good Hans Quint," put in Diedrich Hammelfleisch, the scholar, who had approached unobserved, "the golden-haired Fraulein would probably prove cross enough for one. What say you, Riese?"

"I have heard," responded the latter, "that marriage is kreutz-zug (crusade, cross-bearing) enough for most men; but Hans is quite a philosopher. And then I don't suppose the maiden would be like the ordinary run of women, given to scolding and that kind of thing. What do you think, Hans?"

"O, as for that," said the interrogated, with a quiet chuckle, "I daresay she is pretty much like the generality of her sex; she is only unlike in being the only daughter of a rich father."

Riese and Hammelfleisch laughed, and the latter observed, in his quaint, kindly way—

"Ah, the good Hans Quint, I see, is well grounded in philosophy. He has no illusions like some of us, and I hope

he will be spared to have his life well seasoned with the Herr Knoblauch's* good things, including both his gold and his golden-haired daughter."

"To that I say 'Amen;' 'tis a strong seasoning, but a good," quoth Hans Quint.

The subject then dropped; but the Westphalian's worldly calculations set Gustav's mind revolving in the same channel. He wondered what effect his having won distinction would have on his prospects in regard to Jessica. No doubt occurred to his mind as to her constancy, but he knew the difficulties standing in the way of their ultimate union, and he knew, too, that patience and devotion equal to hers had been broken down ere then by the opposition of worldly views and material considerations. The cogitation brought him no comfort, and he finally gave it up in deep gloom.

A day or two afterwards the post brought him a letter from Sanchen, containing one from Jessica, in which that young lady expressed her pleasure at the honour he had won. "You are talked of with the others who have distinguished themselves," she wrote, "and sometimes I fear people will discover my secret from the joy I manifest on hearing you praised. At the same time I cannot help thinking that it is somewhat invidious to select a few for special praise when all show such bravery." The letter concluded with a hope that her lover would not unnecessarily expose himself to danger in his desire to win honour; "for," she added, "I would rather have you back, when the war is over, without distinction, than know you died in a halo of glory—so selfish am I."

Riese wrote a very unheroic reply. He had, he said, no thirst for glory, and he could willingly leave the honour of brave deeds to those who sought it, if he might but quit the ranks and hear no more of war; still if his Jessica would continue her kindly thought for him, he was content to soldier it on to the end, and accept the fate that awaited him, even though it were a grave on some bleak hill-side, or in some miserable weed-covered ditch,

"Unknell'd, uncoffin'd, and unknown,"

as had been the end of so many others who had marched and fought by his side. He did not exactly quote these words, but something similar, and closed with a verse from one of the last of Heine's inimitable songs:—

"All is one—for here or there
Heaven shall bend around my bed,
And at night, like funeral lamps,
Stars shall gleam above my head."

* *Knoblauch* means garlic.

The Children's Corner.

JIP'S TRIALS.

In the olden times, before this island of ours had grown so full of large towns and cities, and consequently before the fairy folk had been obliged to seek solitudes in remoter lands, there lived an old witch, who had become possessed of an unquenchable desire to eat an elf. Her name was Badwil, and, like most of her wicked race, she had but one eye.

So one day the old crone hobbled away to a quiet moonlit hill, where she knew a colony of fairies dwelt, and knocked on the hill-top with her crooked blackthorn stick, and cried out in a tiny voice, not at all like her usual one,—

"Jip, pretty little Jip, come and see the sack of cherries I have brought thee—so red and sweet!"

Badwil had often seen little Jip playing in the starlight, and had said to herself, "What a toothsome morsel he would make!"

So, knowing that fairies were fond of cherries, she brought a sack-ful to tempt him.

The little elf rushed out in eager haste.

"Ha! ha!" said Badwil, as she pounced upon him, and put him into her bag, "Take care the stones don't stick in thy throttle, my little dear."

On the way home old One-eye had to visit a place some distance from the road, and so left Jip, the fairy, in charge of a man who was cutting faggots. No sooner was her back turned than Jip persuaded the woodman to let him out, and they filled the bag with thorns. When Badwil returned, and got her treasure, as she thought, she hobbled homewards in a gay mood, thinking what a dainty supper she would have. And when she felt the thorns pricking her back, she merely exclaimed:

"Ay, ay, my lad, I'll trounce thee when I get thee home for stinging me with thy pins and needles!"

Accordingly, on reaching her hut, she belaboured the bag with her stick till she thought she had broken every bone in the little elf's body; and when she found that she had had all her labour in vain, her rage knew no bounds.

The next day she went again with a bag of cherries to the fairies' abode, and simulating the voice of Robin Goodfellow, cried out:

"Ho! ho! my little Jip! here are rare cherries for thee!"

Out came Jip, and again he was bagged by the wicked old hag.

On the way home she left him in care of a man who was breaking stones by the roadside. Jip prevailed on him to let him go as before, and they filled the sack with stones.

"Thou little rogue!" cried the old crone, as she perspired under the burden, "I'll soften thy bones for thee!" But guess her disappointment and rage when she found the bird was again flown.

Badwil's appetite was only whetted by her repeated failures, and

despairing of again nabbing her prey in the same way as before, she assumed the shape of a pedlar, with a churn on his shoulder, and contrived to meet Jip in the wood.

"Ah, Master Redcap," quoth she, "Look alive, my little man, the fox is after thee! See! here he comes! Hie thee into my churn, and I will shelter thee. Quick! quick! or thou art done."

In jumped the elf, and "Ha! ha!" exclaimed the witch, "Thou hast scent of the fox now I'll warrant thee."

This time she went straight home, and gave Jip to her daughter, with strict orders that she should cut off his head and boil it.

When the time came for preparing supper, One-eye the Younger led her captive to the chopping-block, and bade him lay down his noddle.

"How?" qouth Jip. "Please show me how."

"Like this to be sure," cried the damsel, placing her one-eyed poll on the block.

Instantly the fairy seized the hatchet, and served her as she had intended to serve him. Her head rolled on to the floor like a big turnip. Then, picking up a good-sized pebble, Jip climbed up the chimney to see what would turn up next.

As he expected, Badwil presently made her appearance, and came up to the fire to see how her delicacy was going on. But no sooner had she lifted up the lid of the pot than "plop" came Jip's pebble right into the midst of her only eye, and put out the light of it for ever.

Then Jip skipped from his hiding-place and made his way home, glad that he had saved himself, and put an end to one bad thing in the world.

A.

Review.

Field-Marshal Count Moltke, by PROF. W. MÜLLER, of Tübingen. London: W. Swan Sonnenschein & Allen, 15, Paternoster Square.

As one who has had an immense deal to do with the destinies of Europe during the last twenty years, Moltke is a figure, the history of whose life and development cannot but be interesting alike to the one who wishes to become thoroughly acquainted with the events of his own time, and to the student of history generally. One of the two or three foremost men who have made Germany a united empire, and Prussia a leading power, and who have done it almost exclusively by sword-might, his system of waging war is of the deepest importance. His masterly conduct of the Austro-Prussian war of '66, and his display of no less striking qualities during the Franco-German war, won him the title of the greatest strategist in Europe. How this reputation was earned is ably told in the work before us. It gives us an insight into the great soldier's clear, calculating, far-seeing mind, and shows us how, by planning, and taking into account every knowable circumstance, he was able to bring about such vast results. The

chief interest of the book lies in the account it contains of the two wars above mentioned, which are viewed from the standpoint of Moltke's directing mind, rather than sectionally and in detail. We are shown how, in the hazardous game of war, nothing was left to chance that could be calculated, and with what precision even chances could be provided for. The author's style is clear and concise in the extreme, and he has found a capable translator in Mr. Percy E. Pinkerton, and an able editor in Capt. H. M. Hozier. A capital portrait of the subject of the memoir faces the title-page.

A Manual of Anthropology, or Science of Man, by CHAS. BRAY. London: Longmans & Co.

Mr. Bray is one of the few scientific men who have taken the pains to investigate phrenology, and have had the courage to avow their belief in its truth; and in the above work, which is an attempt to view man in all his relations, he regards the discoveries and deductions of phrenology as the only true basis of mental and moral philosophy. It is not a recent publication, and therefore we do not purpose reviewing it in the usual way, but simply wish to notice it with a view to making our readers acquainted as much as possible with the newest results of thought and research in the domain of mental science. Mr. Bray shows himself to be thoroughly "posted" in the views of the most advanced physiologists and thinkers, and his book, consequently, is full of matter and argument; and we can heartily recommend it to those who are fond of getting hold of new ideas, even though, like ourselves, they may not agree with him on all points. The chapters on "Man" and "Morality" are especially good.

Facts and Gossip.

MR. H. LOBB, a well-known London doctor, recommends as a soporific a breakfast-cup of hot beef-tea immediately before or after getting into bed. That made from half a teaspoonful of Liebig's extract he says is the best. It may be a fact worth knowing to those who are given to sleeplessness, more especially to those who suffer from what in London is known as "brain-fag," that a handful of grapes eaten just before retiring are generally equally efficacious in inducing sleep.

WHEN the famous Lady Mary Wortley Montague was on one occasion undressing for a Turkish bath, at Constantinople, one of the native ladies present, on seeing her stays, exclaimed to the others, "Come hither, and see how cruelly the poor English ladies are used by their husbands. You need not," said she, turning to Lady Mary, "boast of the superior liberty allowed you, when they lock you thus up in a box!" Regarding these same Turkish ladies—there were about two hundred of them at the bath—Lady Mary declares that many of them were "as exactly proportioned as ever any goddess

was drawn by the pencil of Guido or Titian," and that "they walked and moved with the same majestic grace which Milton describes our general mother with." No Milton or Titian would take the "wasp-waist," so prevalent at the present day, as a model, beautiful as some appear to think it.

A CONTEMPORARY says that, having taken some trouble to inform itself in the matter, it can state, on the testimony of a leading Court milliner, that the desire to have the slenderest possible waist, has for some time past amounted almost to a mania among fashionable women. It is said to be next to impossible to compress the waist sufficiently to satisfy the rigid demands of those leaders of society who carry on a regular rivalry among themselves in this practice of deforming their bodies. We laugh at Chinese women, but after all they only torture their feet,—a far less grave offence. How, encased as they are, many of our West-End fashionables are able even to breathe properly, much less to take wholesome exercise, is a mystery. It would appear also that the votaries of this mischievous fashion are by no means restricted to the young, but that married women, from whose ripe years one might look for something more sensible, are more imperious and exacting in this respect than even their younger sisters.

IT is to be hoped that the Henderson trust will now be allowed to rest. An appeal against the decision of the Lord Ordinary was made to the higher Court, and after being argued for two days, was finally decided in favour of the trustees, on the 25th of February.

IN a paper read before the National Academy of Sciences at Washington, Mr. Le Conte states his views on the "Glycogenic Function of the Liver," and the way in which it disposes of waste. He thinks that "physiologists do not even yet sufficiently appreciate the function of the blood as a reservoir. The blood must be regarded as a reservoir not only for oxygen and carbonic acid, but also and still more for *food*, for *fuel*, and for *waste*. The tissue food of to-day is not used for building to-day; but the blood is drawn upon for materials for this purpose, and resupplies itself from albuminoid food. The amyloid food of to-day is not burned to-day; but the blood is drawn upon for fuel, and resupplies itself from the liver; while the liver in its turn resupplies itself from the amyloid food. So also waste tissue of to-day is not mainly burned and eliminated to-day; but the blood is again drawn upon for fuel from this source, and resupplies itself from the liver, and the liver from the tissues." According to Mr. Le Conte, the three sources of vital force and animal heat are (1) the combustion of the whole of the amyloids; (2) the combustion of the combustible portion of albuminoid food excess; and (3) the combustion of the combustible portion of waste tissues. Therefore, he observes, the function of the liver is to prepare all the fuel of the body, and this fuel is only liver-sugar.

Poetry.

TO AN EARLY DAISY.

Thou constant, red-rimmed daisy,
I feel inclined to praise thee,
Beyond each other flower;
For thou dost ever cheer me,
When winter, cold and dreary,
O'er all the land doth lour.

Thou faithful flower and humble,
When coming tempests grumble,
Dost only close thine eye;
And when they're overpast, thou
Dost raise again thy fair brow
To th' fretful, wounded sky.

When fields are all forsaken
By bird and flower and brecken,
And all is lone and wild,—
And man goes forth in sadness,
The only look of gladness
Comes from thine eye so mild.

We may, perchance, neglect thee,
When, o'er the proudly deck'd lea,
So many a fair compeer
Is flaunting forth in beauty,
Whilst thou, as is thy duty,
All lowly dost appear.

But when all these have left us,
And we are quite bereft, us
Thou cheerest with thy ray,
Like one true friend, when trouble
Hath driv'n from us the rabble
That throng'd our prosperous way.

No parasite of fortune
Art thou, to aye importune
Thy cheer in days of joy,
But e'en dost bless us meekly,
When winter glooms so bleakly
All other bliss destroy.

Answers to Correspondents.

W. A. C.—It is a very difficult matter to judge correctly of the quality of the brain. We can only assume that it partakes of the same quality as the other parts of the organisation, so that if the general tone and texture be fine, we presume that the brain is likewise. We shall be referring to the subject in an article on Temperament shortly.

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LONDON, E.C., *March 25th*, 1880.

MR. FOWLER begs to inform his numerous friends and patrons that he has removed to the above commodious premises adjoining Ludgate Hill Railway Station, in order that he might have room for the extension of his publishing business, which has grown to such dimensions as could not be conveniently carried on in his former rooms. All his own works will henceforth be published by himself; and in addition, he has been appointed sole agent in Great Britain for the works published by S. R. Wells & Co., Phrenological Publishers of New York, which in itself necessitates an increase of staff and accommodation.

Mr. Fowler has also made arrangements for the publication of works coming within his province, and he hopes that from time to time there will be issued from his house such works as will sustain the good repute which the name has ever borne in connection with Phrenology.

In making his selection of premises, Mr. Fowler has had in view the possibility of arranging his extensive cabinet of skulls, busts, &c., illustrative of Phrenology, to a better advantage than he has hitherto been able to do. There has long been a felt want of a Phrenological centre in London, where the literature of the subject could be procured, meetings held, and a kind of museum concentrated.

Mr. Fowler takes this opportunity of thanking his friends and supporters for their many years of patronage, and cordially invites them, when in London, to visit his collections.

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