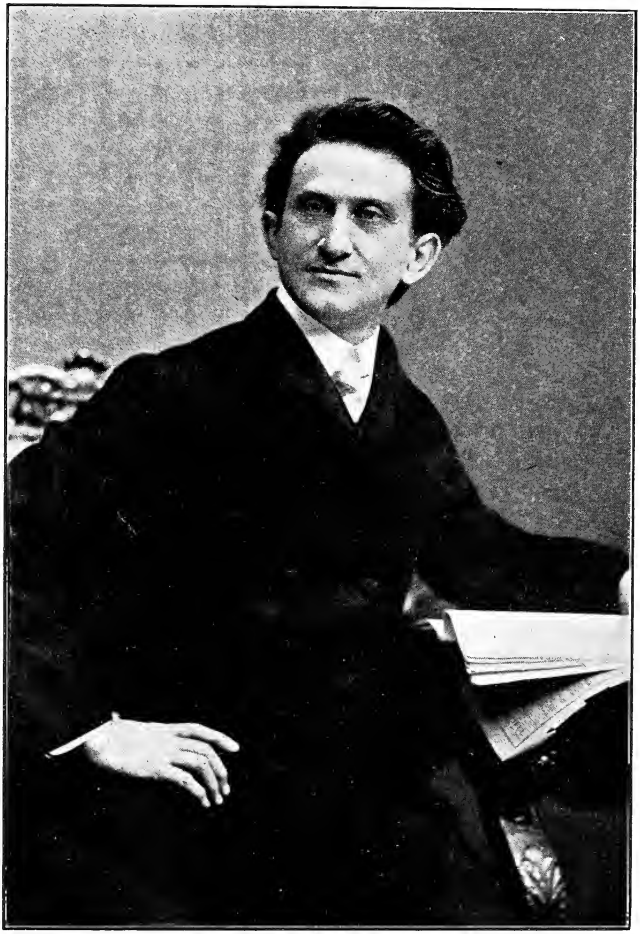
The Mastery of Mind

Henry Frank



HENRY FRANK

The Mastery *of* Mind
in the
Making of a Man

By HENRY FRANK

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THE MASTERY OF MIND.

CHAPTER I.

The Mind.

SOME day Psychology will become a practical science reduced to the daily needs of man and included in the regular curricula of schools and colleges. The Psychology that at present is studied is an academic pursuit, prosecuted chiefly to add to the curiosities of knowledge and the gratification of intellectual thirst. We are taught to regard the mind as an abstract faculty of the soul, or as an aggregation of faculties, each of which is controlled by metaphysical causes, beyond the apprehension of the ordinary man. The mind, they say, is the seer, the feeler, the thinker. The mind is the aggregation of the phenomena of consciousness. The mind is the stage on which all the inward forces play their several parts; where the great drama of being is set and the ever-changing scenes are shifted. Yet how it works, by what law

it is controlled, what deep-laid energies may be conjured for daily use, how it may be made a tool and not a mysterious agency at which we marvel but which we cannot apprehend, this the Psychology of the universities does not yet teach us.

We are still too much within the grip of ancient and traditional philosophy; we are still studying man as a marvellously and wonderfully made being, entranced by its mysterious formation, but paralyzed into ignorance by its overawing complexity. Thus we read in Sir William Hamilton's "Metaphysics": "Mind is to be understood as the subject of the various internal phenomena of which we are conscious, or that subject of which consciousness is the general phenomenon. Consciousness is in fact to the mind what extension is to body and matter. Though both are phenomena, yet both are essential qualities; for we can neither conceive mind without consciousness nor can we conceive body without extension" (Chapter viii).

From this definition we are forced to conclude that there is a vast background of existence, an abysm of being, which does not fall within the realm of mind, because it is beyond the plane of consciousness. We are continually aware of things happening, the source of which seems beyond our grasp. We are, so far as our conscious mind is concerned,

but an open door through which mysterious visitors and messengers approach us by the corridors of the feelings, perceptions, thoughts, etc., like ghostly presences that come and go, which we can neither conjure nor despatch. What is this deeper realm of which each individual is instinctively conscious, yet which he cannot instantly apprehend. Is it no part of mind, because it rises not into the objective plane of conscious activity? Is it some strange, sublunary sphere which surrounds our conscious orb of being, and floats like a *fata Morgana* on the shores of self, ever but to amaze and confound us? Can we be satisfied with a Mental Science or a Psychology which omits the interpretation of so vast a section of one's organity, and presumes to study only what is apparent on the surface of the self, yet leaves to vague conjecture the deeper source of all? And if, perchance, we shall be permitted to catch a glimpse of this deeper realm, shall we discern it but to our confusion, or will we there learn of laws whose apprehension may be turned to our daily benefit and practical application?

Unless we shall find some secret underlying the laws of life which we can utilize in our daily activities there is but little value in a knowledge, in itself so gratifying to curiosity and pleasing to one's conceit.

MIND ANALYZED AND DEFINED.

The problem we must meet and conquer, if we can, is how Mind and all its wonder-workings can effectually operate in the realm of the body and yet leave mind and body virtually independent. If the mind is simply the plane of conscious action, then has it no counterpart in the action of the body, registered betimes in the very substance of the brain, inditing its history in its cells and fibres? The old philosophers used to teach us that the mind is a thing apart, an insubstantial presence incorporated in the physical body, yet so superior to it that by its very nature it could not coalesce. Thus Descartes says: "The idea I have of the human mind, in so far as it is a thinking thing, and not extended in length, breadth and depth, and participating in none of the properties of the body, is *incomparably more distinct* than the idea of any corporeal body" (Meditations). Yet such an interpretation troubles us. For if it is a thing so far apart from the body that it participates in none of its properties, is not to be measured or construed by the working forces of the animal organism, then how are we to apprehend it at all, and of what value to us is such a definition?

If the mind, as thus defined, becomes but the product of the imagination, without body and without

parts, it is utterly valueless for practical application to life's necessities, and might as well be relegated to the limbo of inexplicable mysteries. Were it not that modern psychology could release itself from the limitations of this ancient construction it would cease to be worth the time necessary to spend in its pursuit. But we have found that indeed the mind, as incorporated in a human organism, is not only not absolutely separable from its corporeal enclosure, but that its existence is wholly dependent upon it, and without it its activities would be utterly unknown. We find that the vast abysm of the self from which our conscious life emanates is after all not a mysterious realm, void of physical relationship, but that it too is inwoven in the physical tissues of the corporeal frame. Were it not so; were we to reach the inescapable conclusion that all the insubstantial forces, which play upon our being and so often cause the action of our conscious minds and our physical bodies, were beyond the apprehension of scientific study, then it would be useless to seek practical value in the pursuit. But because we now learn that what seems to rise within our beings, like a wandering phantom penetrating the sanctity of our self-seclusion, is not a visitor from some sublunary sphere, but a momentary response to latent forces in our physical forms, we perhaps have found

the secret of a science that is both philosophical and practical.*

The Mind, as we shall learn, is indeed the master-builder of the man. Yet were it an irresponsible architect, working without our knowledge or the limitation of our control, we would indeed be but wafting waifs on the ocean of eternity. If the mind be the absolute architect, then the man is the unwitting product. But if, after all, the man though made by the mind is its superior and having learned its laws can control its energies, then there is hope that he may so guide it as to build to some desired destiny.

* "The law of concomitance demands that there shall always be structural modification of the nerve cell when there is mental phenomenon; there is chemical reaction, production of heat and electricity, expenditure of force and fatigue, all physical phenomena, which, if one considers the reaction in itself, would seem to interdict all differentiation between the mind and the body.

"But the distinction is born again and clearly established when one analyzes the stimuli which have determined the reaction, and when one examines whence they come and whither they tend. To be sad is a mental state; it is, therefore, a psychic manifestation, but we recognize in it a physical substratum, since every act of consciousness must have a corresponding cerebral state. In its essence the phenomenon is psychological, as is everything that takes place in our mentality. But the expression of it is psychic, [physical?] it is translated by discouraged words and by abnormal volitions."—Dubois's "The Psychic Treatment of Nervous Diseases," p. 86.

The popular mind, still bound by ancient tradition, is easily shocked by novel conceptions. It starts and retreats at terms that suggest surrender to an enemy. For so many ages the two opposite camps of the materialist and the spiritualist have been mustered against each other in frequent conflict, that either denounces a conclusion which seems to forestall victory for the other. Hence, if a definition of mind is rendered which seems to be materialistic, it affrights the spiritualist; and, if the contrary, it appals and disgusts the materialist. But Truth is "no respecter of persons" or parties. The mind, whatever else it may be, is a force operating within the body, and through the body into outer space. It is a force whose activities are registered in the physical framework, and which can be detected only by physical instrumentalities. We may discover, for instance, that a mind-activity projects beyond the body in which it is engendered, but its apprehension by another mind is likewise only through the body in which that second mind operates. Unless, indeed, the second mind is associated with a brain which is susceptible to the registration of the vibrations that emanate from the first mind through its brain, intercommunication is impossible. If, for instance, I speak, the speech is the reflex of will-energy which I inwardly experience. Such

speech will affect another human being only if it be so constructed that its organs are receptive to the vibrations which emanate from my lips, which vibrations are themselves the reflex of a mental effort. If the other person be deaf, then the speech is ineffective, because it cannot vibrate on the instrument of the ear that will awaken similar vibrations in the brain of the receiver. So with all the organs. But one says, this may be true when we regard physical acts which respond to mental efforts; but what of pure mental effort void for the time being of apparent material association? The supposition is that a mind, by pure thinking, is void of physical relationship. This is erroneous; there is no thought without a brain vibration; no impulse without a nerve discharge or response. Hence, the very act of thinking itself is a physical effort; and if the vibrations which emanate from it into the ethereal atmosphere shall impinge some brain responsive to it, the second brain will by reflex result catch the wandering thought of the original thinker.

Thus when Swedenborg sitting in a room many miles from Copenhagen saw distinctly the glare of flames that were consuming a portion of the city, his mental vision could be explained by the law above stated. The thrilled and anxious minds of the Copenhagen friends who were being endangered might so

have cast their vibrations hence into the ether as to have impinged his brain, at that moment naturally in a susceptible mood.

The mind may be compared with the sun, with its disk, corona, and photosphere. The common eye discerns naught but the golden disk of the orb of day as it rides through the heavens and sinks in the west. But to the keener eye of the telescope it reveals the flaring crown of incandescent splendor that flames its brow, encircling it with a sea of licking tongues of fire. And to a still keener vision, the luminous photosphere that envelops the glorious orb and constitutes the surface from which his effulgence glows, is discerned.

Thus the mind reveals to the ordinary observer only its objective phenomena which play upon the stage of common experience. But to the closer student it reveals two opposite realms of activity, the one above and the other below the plane of conscious experience. The one above, the impalpable emanations which float from it into the invisible atmosphere, and constitutes an unrecognized aura of influences, may be likened unto the sun's photosphere, while the one beneath, the unexplored realm of the subconscious self, may be likened to the flaming but ordinarily unobserved corona. And as it is the sun's incessant conflagration which consumes

and thus illuminates the more refined and dissipated elements of the photosphere, so it is the constant activity of the objective and conscious mind which sends forth the less palpable emanations of its activity into the invisible realms of space. The active mind is little aware of these emanations, and little realizes their tremendous influence. Just as one might be imagined to be seated in the sun's inmost centre and be wholly unaware of the incandescent emanations which pass from it into the flaming envelope beyond.

We are all ever aware of the palpable disk of the sun, just as we are ever aware of the activity of the conscious mind. But how seldom are we considerate of the volatile mental particles that float from it into the sensitive atmosphere which surrounds it and carries its effects infinite leagues beyond their origin. We too who look upon the sun's golden disk by day are little conscious of its red heart of fire which glows within the molten gold of its surface. Likewise we who catch but a passing glimpse of the active mind little discern the inner depths of ceaseless energy which constitute the sleepless source of life's infinite promptings.

But not until we realize the threefold phase of the mind's experiences do we grasp its tremendous potency or our responsible relation to it. Ignorance

of this law has brought untold suffering to individuals and the human race. Mothers, fathers, teachers, rulers, legislators, void of a knowledge of this penetrating principle of life, have wrecked characters, individuals, kingdoms, while ignorant of their own sinister instrumentality.

Little realizing the mental photosphere one's thoughts, passions, predilections generate, how many mothers have been unconscious murderers, slaying not the vital force but the moral principle of their offspring. Had the mother of George Gordon, for instance, but understood that by slow stages she was poisoning the natively pure and ethereal sources of inspiration that welled in the breast of the future Lord Byron, she might have made his life as beautiful as his verse, and his soul as pure and pellucid as his liquid lines. But suffering puerile jealousy and bitter passion to seize her in the presence of her child till she learned, for no cause he gave her, to hate the fruit of her heart, she envenomed his soul and made him callous, heartless, cynical, and self-indulgent.

How often have rulers caught in the swirl of a mental maelstrom been swept to their destruction, carrying with them the ruin of a nation, little knowing the force that overpowered them. Had Louis XV. but known that to subject himself to the insinuating blandishments of feminine minds, whose seductive

emanations enervated his manhood and from whose grip he could not finally escape once he became their victim, he would have scorned the insinuating approaches of a Pompadour and escaped a Du Barry's scandalizing embraces. However, these subtle influences as often make for good and glory as for unhappiness and defeat. Howbeit, the refined and recondite cause is seldom discerned. Sometimes a mere word, a chance acquaintance, a casual suggestion, weaves an unseen web of power around one's life that alters and defines its destiny. Had not Peter the Great, while yet an inconspicuous hereditary ruler, met Le Fort, the Swiss genius who inspired him with a thousand new ideas and passionate resolves, he had never been known to history as the immortal forerunner of Russia's reformation and the masterful builder of a gigantic empire. Some of the greatest achievements of art and literature owe their existence to this subtle law, of which so few are aware. Once the mental atmosphere is created around a life that lends to it inspiration and exultant hope, it may be lifted from dullness and obscurity to achievement and glory. It was the fortune of George Eliot to fall within the compass of that splendid mental environment which hovered round the life of G. H. Lewes that awoke within her the inspiration to create literature which is now immortal. A cas-

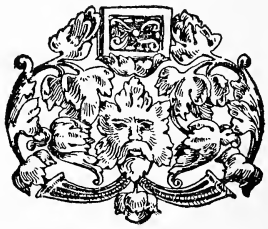
ual conversation between Colonel Ingersoll and General Lew Wallace in a passenger coach while travelling across the country touched a chord in the heart of the latter that vibrated into the glorious drama of "Ben Hur," whose epochal career was one of the sensations of modern fiction.

The first law, then, which we must observe in the study of the Mind, is that of mutual response or the reciprocity of environment. Each of us is clothed with an invisible aura composed of the mental emanations that float from our habitual thoughts and daily actions. He only succeeds who works with or against this influence, as it affects him for good or ill. Just as the swimmer betimes floats at ease upon the surface of the water and safely trusts the current to carry him toward the shore, so one who buffets the waves of life's sea may at times implicitly trust the current of some force that sweeps over him from the shores of other minds. If he has found them soothing, genial, exhilarating, he knows they are friendly and need not fear. But if by sudden contact their approach chills, unnerves, affrights and weakens, let him beware; the swifter he buffets the opposing waves and makes for the shore of personal safety the wiser he proves himself by discretion over valor.

Each mind is in some way attuned to every other.

Either harmonious or inharmonious are the mutual chords. If they respond to peace, they are attuned to harmony and happiness. If to discord, they jangle out of tune, and their note resounds with warning and approaching hazard.

Each may test this law for himself. He who chooses wisely walks safely.



CHAPTER II.

The Mind—(*Continued*).

 ECAUSE the mind is not an impalpable, insubstantial quantity, wholly independent of the body, its influence on our lives is the more marvellous and stupendous. As the mind and body are so essentially correlated that no action in the one leaves the other without an impress, the permanency of their mutual activities is the more apparent. The movement of the mind does not merely glance athwart the surface of the brain, and thence fly off into space, as a sun ray seems to sport with a struggling plant. But precisely as the sun ray deposits in the growing vegetable some of its own substance and thus builds up its framework, so the glancing thought sinks into the material substance of the brain and fashions its form and essence. And precisely as the substance of the sun ray can never again be demolished, but will continue to exist in some form even after the

vegetable is dissolved, so the thought that the mind impresses on the nerve substance is never lost, but continues to vibrate even after the substance of the body is dissolved in dust. In this sense, thoughts are things, as sunbeams are substance and form. A thought never dies, as no motion ever absolutely expires. Somewhere its impetus is felt throughout the infinite, and some time will be discerned amid the vast forces of the world.

Thoughts are not only things; they are also incarnate characters. They become organized into living beings which betimes control us. The novel writer may create his characters, but, once created, they become his guide and inspiration. They speak from the pages to him and answer the problems that confront him. Like spiritual forms they make their entrances and exits to the solitary auditor who indites their deeds on the excited pages. They become to him as real, yea, more real, than the men and women he meets in the streets and shops. A literary critic was recently amazed to find a character he well knew, a demoralized poet, so literally portrayed in a current novel, that he was sure the writer must have known him. Yet he could not bring himself to believe that the woman who wrote the novel in view could have intimately known a character so degenerate and debased. Such a fact alone would comprom-

ise and defame her. Yet he made bold to ask her, for he could not imagine how the writer, an Englishwoman, could know this dreamy and unhappy wight whom she depicted as one of her conspicuous characters. What was the critic's amazement to learn from her own lips that she had never seen him in the flesh nor knew that he had a bodily existence. "Yet," she said, "he is better known to me than a man in the flesh could be—he is more real, more consciously present, than any physical being I ever knew."

HOW MENTAL IMAGES ARE MADE.

It is within this dream world within a dream world, this deeper self of ourselves, where the master tragedies and simpler comedies of life are oft enacted. Some image rises suddenly before us, not a visual form but a figment of the brain, that commands, overawes, amazes us, as without protest we yield to its approach. This mystic monitor oft prompts us to speech and deed we little contemplated. This weird abductor oft leads us astray o'er wandering and misleading paths we had ne'er anticipated. Once do I well remember, while yet a callow youth, an uncanny experience that still perplexes me. I had committed a lengthy speech, which I was to deliver before a large audience on a stated

occasion. It was my first public effort, and my teacher had coached and groomed me well for the ordeal. I had committed the piece so well that neither he nor I anticipated any treachery of memory. I succeeded in the early part of the speech admirably without a hint of failure. Then suddenly my mind became a blank; I could not recall the next sentence or any future sentence to which, in my despair, I might leap for rescue. I paused and began to feel the cold chills creeping down my spine. My instructor was sitting close behind me on the platform. Imagine my immense relief when I heard him distinctly pronounce the first word of the fugitive sentence that had so mercilessly fled from my memory! I finished then without another halt. As soon as the congratulations ceased and my teacher and I were alone I grasped his hand and thanked him heartily for his kind help. But what was my greater amazement when I learned that he was wholly ignorant of my embarrassing predicament, had not observed my hazardous pause, and disavowed having either prompted or even thought of prompting me!

Whence then came that salutary voice? What uncanny spirit hovered nigh whose blessed whispering rescued me from disgrace? Was it not a submerged thought, a past experience, a buried memory, that

seizing the moment of my mental vacuity, rushed in and smote the chords of my auricular organs, till they resounded with familiar speech? Was it not the echo of the inward voice I had so often heard in the silent rehearsals transmuted into audible resonance by the strain of the imagination?

How often long buried memories come ranging down the corridors of the mind, startling by their weird anachronism the unsuspecting soul! For years the past experience, the shape of some emasculated thought, has lain unsuspected in the tomb of oblivion, when suddenly its resurrected form appears even more vivid than at the first impression. During the Spanish-American war, General Joe Wheeler was engaged in the attack on San Juan Hill. Suddenly he saw the Americans run with a wild rush and roar up the hill clamoring for victory. Following them he shouted: "Up and at them, boys, the Yanks are running"! For thirty years the image of the retreating forces of the Union soldiers he had seen somewhere during the Civil War lay silently entombed in the mausoleum of his soul. When, suddenly, he little suspecting, the stone of the tomb is rolled away and the vivid form of the ancient experience rises before him to deceive his suddenly bewildered vision.

How this comes to pass is no longer so much a

mystery as it used to be. The fact that the mind's expressions are indelibly written in the archives of the flesh, that no wandering thought, no passing impulse, flees, without leaving its inerasable record behind, presents the clue to the solution of the problem.

It seems to be but a matter of cell-association. Once the cells are aggregated in certain shapes, certain thoughts, notions, ideas, will follow. Instantly those cells are dissociated, the notions and thoughts vanish with them. If, then, by chance, by some sudden concussion, by forcible suggestion, ought occurs to re-associate the mobile cells, instantly there flashes on the screen of the mental vision a reproduction of the forgotten experience.

We are indeed of the earth earthy, howbeit our spirits soar to heaven. The spirit is willing but the flesh is weak, is a truly physiological, no less than a psychological, law. We do often the very thing we had least anticipated, and doing it by force of mechanical habit are sometimes even ignorant of its performance. We are more often than we think somnambulists, even when we seem to be most awake.

Professor Carpenter, the author of "Mental Physiology," narrates a circumstance that illustrates this fact. He knew an eminent officer in the English army who had contracted the vulgar habit of pro-

fanity, especially while giving orders during drill. He had been many years in the army, and the habit had become a part of his very nature. But he afterwards retired and entered into business, with the resolution firmly fixed to free himself from the unhappy characteristic. For years he succeeded quite easily, till his associates forgot ever to anticipate profanity in his speech.

But on a great military occasion he was invited to command a certain squad and train them in the necessary drill. A great number of his friends, both ladies and gentlemen, of course were present, and the drill proved to be most spectacular and fascinating. After the pageant, however, his nearest friends took him privately to task for having commingled his commanding orders with a ceaseless run of unnecessary and most obnoxious profanity. Looking in rapt amazement at them, he expressed his surprise at their accusation, for he insisted that he was not at any time during the drill conscious of even a prompting to use profane language. Dr. Carpenter says that everybody knew him to be a strictly honest man, and none would doubt his word. He had simply yielded to the unconscious prompting of an ancient and forgotten custom, which found its opportunity to return to life through the avenue of the ideas that once more recalled the association of past

military experiences. We are accustomed to call this experience the result of the association of ideas; but we might as well call it the result of the re-aggregation of brain cells within certain cortical areas.

For it is this fact that we must not allow ourselves to forget, and which must lie at the basis of all mental training. All our mental activities are inerasably recorded in the fibres of the brain. If we seek to overcome unpleasant and criminating dispositions, we must not fail to take into account these invisible writings which are inscribed on the minute palimpsests of the cranial cells. How to modify these writings, how to so alter the disposition of the cells that shall associate in the manner we desire and not in the manner of past mechanical associations, is the problem we must attempt to solve. In a future chapter we hope to attack this problem with, we trust, some success.

At this juncture we shall drop the following hint. While it is true that the brain fibres constitute the physical pages on which are inscribed the mental activities of each individual, we must not forget that the mental activities are themselves, to a large degree, under the control of our desires and education. To say that the brain basis is essential to the

thought, is not to say that the thought is bound and confirmed by the brain substance.

Thought itself is a free force that percolates the fibres of the brain, conditioned only in *its expression* by the limitations of the physical organs. Thought is manifestly an energy superior to the instrument through which it is expressed. If it were not, then there would be no expanse, no growth of thought. The fact that thought evolves and expands in the individual, parallel with the higher complexity of the brain development, does not necessarily indicate that the thought exudes from the cell-formation, but rather that the thought seeks to express itself through more highly developed organs, and waits till such organs have been unfolded. "The only tenable supposition is, that mental and physical proceed together, as undivided twins. When, therefore, we speak of a mental cause, a mental agency, we have always a *two-sided cause;* the effect produced is not the effect of mind alone, but of mind in company with body." (Bain—"Mind and Body.")

VICARIOUS FUNCTIONING OF MENTAL FACULTIES.

The fact that thought or mental agency, however, is a distinctive force which operates upon, although in parallel lines with the physical organs, is illus-

trated by what is known as the vicarious office of cell-systems, which take up the work that has been dropped by other organs which have been mutilated. If one sense has been impaired, it frequently follows that another of the senses will be intensely magnified to compensate the loss. The blind who still retain their hearing, have a phenomenally acute ear. Or if they be dumb their sense of touch is extraordinarily developed. I once found a deaf, dumb and blind man, who prosecuted a most successful retail stationery business. In early morning he sold the papers and never made a mistake. If he were given a bill he felt it for but an instant and easily distinguished its denomination. He felt the difference between a two and a five dollar bill; between a ten and a twenty dollar bill. He was an old man and had been deaf, dumb, and blind almost all his life, yet had so cultivated the phenomenal sense of touch as to make it substitute the offices of the deprived senses of the eye, the ear, and the organ of speech.

Men have been known to do marvellous works of penmanship and draughtsmanship, with their toes, having been deprived of the use of their arms and hands. Even in experiments tried on frogs and chickens, where portions of the brain have been excised, and thus the animals have been deprived of the use of certain organs, it has been observed that,

after awhile, some other organ or nerve centre will appropriate the work of the deprived centre by vicarious adaptation.

If this be true, then it is apparent that the mental energy, which at one time was exercised on a certain brain centre, having lost the instrumentality of such a centre, does not cease to exist, but manifests its continued existence by the appropriation of another cell-centre. The mental agency is thus shown to be a free force or energy, which moves among the fluidic substances of the nervous system and the brain, and adjusts them to its particular requirements. However, though a free force, it is not so free that it can be operated absolutely void of material association. But the fact that it is a force which can be made to exercise its presence on the material substances of the brain and body, affords us the clue to its cultivation and adaptation to our daily necessities.

Let the thoughts be so guided and controlled that they shall effect such cell associations and physical substrata, as shall be for our benefit and highest culture. If we have by habit and ill-usage accustomed certain physical aggregations in our cell organisms, why shall we despair because of our bondage and not rather set about to reorganize and develop other cell-formations that shall effectuate our happiness.

THE POWER OF PERSONALITY.

There is no cause for despair in the fact that our mental energies are operated through a physical machinery. That by no means proves that the machinery itself is not still subject to our control, manipulation, and reformation. The body is still the slave of the mind, if the mind so wills it. The cell-centres are still subject to the command of the will, if the will so determines. If physically we are not free-agents, *logically we are.* For though apparently limited by the flesh, we are conscious of the capacity of the will to move and decide as we determine. If we are not in fact free agents, we nevertheless act as *if* we were. And practically that makes us the free agents that we feel ourselves to be. Whatever physiology, psychology, or philosophy may say to the contrary, each of us acts his part in life with the conviction that his battle is fought out by himself alone, and that nothing predetermines victory or defeat.

> "And so I live, you see,
> Go through the world, try, prove, reject,
> Prefer, still struggling to effect
> My warfare; happy that I can
> Be crossed and thwarted as a man."

It is true that we are whelmed and moved by forces that flow into us. We think the thoughts that

are thought into us. We do not originate thought, but thought awakens our thinking. The infinite is replete with multifarious ideas or mental impulses that have floated down the centuries, since the primal fancies of primitive man were conjured by passing wind and boisterous elements. We are born into this sea of thoughts. As a fish thrives only in its native watery element, so the mind of man thrives only in a sea of mental phantasms. What we are and become is the result of what mental currents we meet in the vast ocean of being and the effect they have upon us.

But because we are thus environed by an invisible ocean of mental forces, is not to conclude that these forces become the absolute moulders of our being and makers of our destiny. While we are surrounded and invaded, we must remember that within ourselves there is aggregated a vast number of individualized forces which constitute our personality. These are the opposing powers we may bring to play on sinister and obnoxious forces that would o'ermaster us. There is no authority in the stars, whatever possible truth there may be in astrology, to command our destiny, be we but opposing and obstreperous enough to parry with it and assert our independence and confident assurance. The stream of influences which has swept down the centuries and entered the chan-

nels of our blood, is not sufficient of itself to shape our character or complexion our wills, be we but conscious of the resident forces we may conjure, to drive away the pernicious intruders. When we shall learn so to adjust ourselves to the forces that play upon us, that we shall compel them to be our benefactors and not our foes, we shall have learned the secret of life's success. But why should we not be able to apply such a law in the growth of human character as well as in the growth of plants? We know that every agriculturist and horticulturist improves the product of the soil, not by adding a single force to what already exists in nature, but merely by learning how to readjust those forces to the seed or plant he is cultivating, so that the desired growth shall be enhanced. One of the most ingenious inventors of our day, Mr. Orville Leach, of Providence, claims that he has created wonders in the growth of plants by a simple application of this law. He conceived that radio-activity is a principle of all material substances, and that by learning how to adjust this interior force to any growth desired it could be immensely enhanced. He believes that the mutual use of heat and cold by rapid succession generates the force known as radio-activity, and using this theory he claims to have produced startling results. He covered the ground around the plant so that the

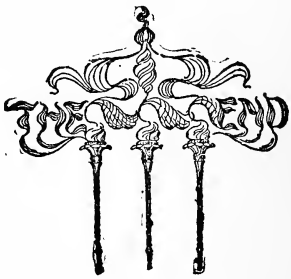
heat of the sun could not penetrate the soil, keeping it cool; the plant itself he grew against a red brick wall, whose reflection of the sun's rays, condensed chiefly in the red, so the hottest of the sun's rays would strike directly upon the plant and thus intensify its heat. As a result, he claims to have immensely quickened the growth and expanded its size beyond the normal proportions. Whether Mr. Leach's theory be correct or not, what he did was merely to utilize such forces as exist in the plant and in the environing elements, and so mutually adjust them that their inter-functioning would result beneficially to it and not to its injury.

This is precisely the law we must learn to utilize in human life. Just as all the forces essential to the largest growth of the plant are inherent in it, and will be exercised to its highest advantage, be they but properly adjusted to the external environment, so within ourselves there exist all the forces essential to our noblest unfoldment and stoutest requirements, whose achievements depend only on our intelligence in their discernment and use. We have no just complaint against Nature. She has built up within us the sustaining energies, as she has evolved an intelligence sufficient to apprehend their existence and application. If we fail to utilize the law, we criminate ourselves. Nature indeed is good, for all her ten-

dencies are toward harmonious growth and mutual harmony. Else there were no world, no cosmos, no universe replete with mutually functioning spheres, which act like organs in an infinite body. If ill comes to us, it is but the result of our own perverse use of what was convertible to our good.

Nature teaches us *how* to carve our destiny; but too oft we accuse her of compelling what we ourselves have invited.

"Our remedies oft in ourselves do lie,
Which we ascribe to heaven."



CHAPTER III.

The Heart.

IN the subsoil of the mind the seeds of awakening thoughts are planted. In the subsoil of the heart lie deeply-concealed the propulsive powers of the soul that make for character and compelling action. Long ages antecedent to conscious thought invisible powers have worked secretly on the sensitive chords of the heart, leaving inerasable impressions on the responsive strings.

Thoughts are themselves creators of thought, as one sea-wave generates another in its path of agitation. But the primal mother of all thought is the emotion from whose travail leaps some child of the throbbing brain.

Only when the heart burns is the mind luminant. Only when the breast is writhed or elated is the brain quickened with the living thought. To think keenly one must first have felt deeply. Myriads of thoughts that now swarm through the realm of the conscious brain are but the lingering wraiths of

ancient emotions that have lain long in the limbo of oblivion. Some sudden incident—the glimpse of a forgotten face, the touch of a tender hand, the angle of gabled roof, the flit of a bird, the bark of a dog,—stirs again the smouldering flames of the heart and calls into being a thought that points as a guide-post on the highway of some life.

THE SECRET SPRINGS OF DESIRE.

We are so curiously made that we can but little tell what effect an experience will have upon one's entire career. We are divided, so to speak, into various compartments, and each of these constitutes almost a distinct personality, so that one consciousness lies upon another, as the various strata of the earth are conjoined. Seldom do we experience consciously more than one personality which we regard as ourself. But sometimes we are suddenly aroused from the continuity of our self-conscious existence and are seized wth an impulse that seems to be foreign to our nature.

Sometimes such sudden awakening wholly changes the quality of our characters, acting like a dam against the waters of life, and diverting them into an unfrequented channel. We have not been made aware, perhaps, for years of the revolutionary effects

of such experiences, but when least suspecting they suddenly gush forth from the nether spiritual depths, like the bursting of a subterranean fountain.

Horace Fletcher, the eminent Optimist, narrates an incident in his life which illustrates the sudden energy of a new idea that wholly transforms one's future. A Japanese Buddhist had said to him: "You must get rid of anger and worry." "But," said I, "is that possible?" "Yes," he replied, "it is possible to the Japanese, and it ought to be possible to you."

"On my way back I could think of nothing else but the words, 'get rid,' 'get rid;' and the idea must have continued to possess me during my sleeping hours, for the first consciousness in the morning brought back the same thought, with the revelation of a discovery, which framed itself into reasoning, 'If it is possible to get rid of anger and worry, why is it necessary to have them at all? I felt the strength of the argument, and at once accepted the reasoning. The baby had discovered that it could walk. It would scorn to creep any longer. From the instant I realized that these cancer-spots of anger and worry were removable, they left me. With the discovery of their weakness they were exorcised. From that time, life has had an entirely new aspect. . . . . ."

Doubtless deep in the heart of this man, who has since his Japanese experience proved himself so useful in awakening the hope and prosperity of many a despairing soul, there had lain the seed of many past experiences that promptly responded to the new idea the Japanese Buddhist had inculcated in his mind. Long had he become ashamed of his anger and worry, as many of us so often do. Long had he felt that he must rid himself of them, yet never dreamed such a possibility was within his powers. When he meets the teacher who assures him others have really done what he had so long hoped to attain, but never felt strong enough to attempt, the subterranean waters of his soul rise at once to mingle with the new stream that trickles through his consciousness from a foreign source.

Here, again, is another great soul who according to his own confession was his mother's dear child, yet till almost full grown had "never gotten from behind the stove." His heart burns to do something of importance for his age, yet the way is not clear. It is Pestalozzi. He tries law, theology, but of no avail. He fails; such pursuits are distasteful to him. But suddenly he falls on Rousseau's "Emile," and with eyes reddening and flooded he reads what calls up the dead ideas of his buried past, that throng the palace of his soul with a thousand inspirations. He has

found himself; he must be a teacher—a teacher of the natural method. His whole life is changed. His work and fame are already immortal.

Our lives hang sometimes like a slender cord in the wind, easily moved whithersoever the first breath shall direct them. The heart is often like a flickering flame fed by some invisible substance. We cannot tell on what it feeds and grows, but from some mysterious source it gains its sustenance.

Trembling in its profound depths are feeble and unorganized emotions, appetites, desires, yearnings, which need but the guiding hand of some potent idea to muster and discipline them into formidable activity and rational coherence.

THE DANGERS OF DESPONDENCY.

The chief cause of despair to all ambitious souls is the indecision of character which necessarily hangs upon the uncertainty of life's objective end. They feel the proud impulse of some noble ambition, yet its call is indistinct and inarticulate. They feel it feebly, a faint and fading echo of a distant call that rings far down the avenue of life. They feel the urge, as one who desires to enter the lists at the race, but is uncertain of his capacity, and fears the too great distance of the goal. They have not yet

found themselves. The pall of self-fear hangs like a blight upon them.

They feel that life is worth while, because of an instinctive, elemental prophecy which agonizes them by its colorless vagueness, yet shrink from accepting its serious import, because they cannot clearly decipher its meaning. Many a soul seeing thus far—peering out into the impenetrable darkness of a blank and undecipherable future—has fallen on the dagger of despair and thus silenced the thousand confusing voices that challenged him to frightening adventure.

There is scarcely a conspicuous figure in history whose life has not at one time been dragged across these bloody crags of disappointment and threatened with self-destruction against their jutting sides.

Such was the melancholia of Leo Tolstoy when he strung the long cords from the ceiling and arranged the noose against his bed-post so that by self-manipulation it would grip his throat and let loose the chafed soul within that yearned to flee as a bird. In his case, the gloomy aspect of life was the result of ancient theological teachings which, somehow, like the witch's broth, conjured vague and dreamy figures in his consciousness that killed all hope and scourged him with whips of desperation.

"I felt," he says (see James' Variety of Experi-

ences," p. 153)," that something had broken within me on which my life had always rested, that I had nothing left to hold on to, and that morally my life had stopped. It cannot be said exactly that I wished to kill myself, for the force which drew me away from life was fuller, more powerful, more general, than any mere desire. It was a force like my old aspiration to live, only it impelled me in the opposite direction. It was an aspiration of my whole being to get out of life. . . . And yet I could give no reasonable meaning to any actions of my life. And I was surprised that I had not understood them from the beginning. My state of mind was as if some wicked and stupid jest was being played upon me by some one. . . . Yet while my intellect was working, something else was working in me, too;—a consciousness of life, as I call it, which was like a force that obliged my mind to fix itself in another direction and draw me out of my situation of despair."

Here we see a clear exposition of the dual powers, both the result of antecedent teachings, environment and craving, that occupied different planes of Tolstoy's nature. The one, the first, infantile, youthful, initial thirst for life—the deep, overwhelming, maddening joy of mere existence. This was the natural, innate, pagan impulse, born with life itself,

and uncolored with a tinge of thought that begloomed its unfoldment.

The other, the second state of consciousness, the almost equally strong impulse to fly from the day into the eternal dark, to gouge out the eyes of the soul that it might never again behold the false lights of the deceiving skies, was begotten by thought that sprung from the heart's profound disappointment with all of life's primal and inspiring promises.

Clearly, the heart is the reservoir of the myriad emotions that so often play upon the mind, and sink, we know not where, into the mists of the speechless night. Yet their tongues are not forever silenced; for when occasion comes they speak again, sometimes with stronger accent than when first outspoken. Little do we know what visitations we lay up for ourselves on some unsuspecting day, when with clamorous voices old and forgotten guests, we once thoughtlessly or with passionate embrace entertained, return and cry for the old, familiar welcome. Not always, indeed, are they welcome when thus like Banquo's ghost they sit an uninvited guest at the banquet of life. How eager are we, far more so than the distracted Macbeth, to drive them from our eyes, bringing now as they do confusion and bewilderment.

All the impulses of the heart, anger and joy, love

and hatred, peace and worry, hope and despair, purity and licentiousness, kindliness and embitterment, are but bubblings from an ancient fountain whose waters have long swelled with the streams that have flowed into it from the passing emotions of the breast.

Too reckless are we of what visitors of the mind we entertain. They sit too vulgarly, often, on the cushioned seats of our heart, to leave behind the infectious impress of their presence. We receive them oft too cordially who conceal the stiletto that invites us to our unhappy end.

We do not often enough convince ourselves that thoughts and feelings pile up with swift increase, like the playful snowball of our childhood, till they assume the vast proportions of the ghostly snow man that haunts us in our dreams, nor fades from our wakeful imaginings.

The heart is cut through with myriad canals into which the swift waters of past experience wildly flow, nor cease till new canals are cut of deeper beds to tease away the ancient waters. Old friends will ever return unless they are barred by the advent of the new. If we have long suffered ourselves to welcome the ruffled visage of anger till he is so much under our hypnotic spell that a mere twitch of a muscle or blink of an eye conjures him, not until

kindliness and love have been made so long the habitués of our hearts that instinctively they approach at the sign by which formerly anger was summoned, shall we be free from the domination of the latter.

In the following pages we shall hope to disclose something of the mechanical instruments with which a human being is endowed whose intelligent use may assist him to master the tyrants that sometime have usurped the throne of the heart. For we are so made that if we but rationally employ the mechanism of our bodies, we may overcome faults that seem purely spritual. The mutual reflexivity of soul and body, mind and heart, are so absolute that one will surely fail who considers but one side of the shield to the exclusion of the other. The heart is the seat of the emotions, but the emotions spring from the mechanism of the flesh. To understand the seemingly mysterious workings of the heart, we must know whence spring the forces that operate its organs.

For the purpose of these essays let us classify these emotions that relate to mankind, or natural relationship, as seated in the heart; and those that relate to man's craving for the Infinite, or extra-natural, as seated in the soul. The emotions that relate especially to man we may enumerate as follows:—

CLASSIFICATION OF ETHICAL IMPULSES.

GOOD QUALITIES:	BAD QUALITIES:
SYMPATHY.	INDIFFERENCE.
KINDLINESS.	ANGER.
FORGIVENESS.	HATRED.
HONOR.	JEALOUSY.
TRUTHFULNESS.	MENDACITY.
TEMPERANCE.	SENSUALITY.
SELF-RELIANCE.	SUPERCILIOUSNESS.
TRUSTWORTHINESS.	FAITHLESSNESS.
SINCERITY.	DECEITFULNESS.
TIDINESS.	SLOVENLINESS.
MODESTY.	IMPUDICITY.
HONESTY.	STEALTHFULNESS.
SELF-RESTRAINT.	CRUELTY.
PROTECTION.	DESTRUCTION.

A mere glance at these opposing columns enables a normal person to choose at once which he would prefer as qualifying his moral characteristics. It is also at once apparent that each of these qualities has its rise in the experiences of the heart. Each is the symbol of some emotion sometime felt by every normal human being. Why then are some persons easily distinguished as possessors of the qualities in one column rather than in the other?

Why as a rule cannot a single person be possessed equally of the qualities in both of the columns; or why not of some of the qualities in each of the lists

arranged? Manifestly, because the qualities in both columns are mutually antagonistic; they cannot blend or be made to harmonize.

Kindliness can by no possibility abide with hatred; peace cannot find a home with anger. Modesty and impudence cannot be residents of the same breast, nor shine forth in the same countenance. Trustworthiness and deceitfulness are mutually neutralizing, and if the one is ascendant the other must needs disappear. Self-restraint and cruelty cannot simultaneously prompt the heart nor find expression in the self-same act. Sympathy and indifference cannot coincide, nor can refinement be housed beneath the same roof as slovenliness. Truthfulness vanishes when mendacity conquers as temperance flees before the grossness of sensuality.

HOW THE MORAL CHARACTER IS MADE.

Each individual is characterized by his emphasis of the qualities classed in either list. But only when the distinctive quality has been sufficiently cultivated to establish its permanence does it build the character which it symbolizes. Incidental indulgences do not necessarily carve the final lineaments of character. Habit is the chisel that cuts the moral marble into the shapes its promptings pattern. Once

the disposition is indulged it has dug a channel, howbeit at first but faint, for its return, and, oft repeated, flows freely through its deepening bed to the heart,—the source whence it sprung into being.

Thus we observe that love is the commonest of all human feelings and most easily conjured in the human breast. For by love is the child begotten, and in love brought forth. The mother's love is the first stimulus that awakens the consciousness of the young soul and the kiss the first symbol of life's meaning which the child discerns. From pre-human sources love springs instinctively in the loving breast. The mother animal conceives in love the offspring that shall nestle beneath her shadow, and by that same love is the child succored and defended when tempests beset it or foes pursue. For countless ages has this emotion been wreathed around the human heart till its very tendrils are braided into the throbbing fibres and death almost ensues if they be sundered. Love so long entertained and cultivated springs spontaneous in the human breast. It is the easiest emotion to arouse; there is no human being who is insensible to its approach. Could we but realize this, we should cease to multiply criminals by a mistaken system of justice and seek rather to cure than to curse the unfortunate.

Hate comes late into the human heart. No child

hates persistently. If hate ever visits his young heart it is to amaze and frighten. The child rejoices when it vanishes and leaves him free again. Not as he instinctively welcomes love on its approach, does he rejoice when hate intrudes. Instinctively he feels hate is an enemy, while love is a friend. He cannot analyze his feelings or explain his reasons, but he knows that hate augurs ill for his young life and love is the harbinger of happiness.

They only are worthy parents who recognize this law and instead of inflicting needlessly severe punishment that hardens the heart of the young, seek by gentleness to conjure into life the smitten and dying love of the trembling victim. Could there be more mothers like the ancient matron Cornelia, and more judges like the conspicuous Lindsey of Denver, the homes of mankind would be purer and prisons would cease to be purveyors to the lords of hell.

When angry, hateful feelings are engendered in the young heart, its native love soon flees and evil thoughts obtrude to steal away its peace. Had Byron's mother been a sincere and noble-spirited woman he would have given to the world perhaps a character as delicately and exquisitely moulded as his symmetrical lines. But because his mother was selfish, narrow-minded, jealous, and contemptuous, she expelled from his young heart the natural love

that first awoke. Long indulged, the evil feeling grows till, like the Upas tree, it overshadows and blights with its poisonous breath all that it approaches. At first, by a single forceful energy of the mind, it can be banished; but once it is lodged in the seat of habit—the sub-conscious realm of activity—it waxes strong and defiant and can be overthrown only by most strenuous effort.

We are deceived by our evil impulses because they suggest to us their friendliness. We believe they have come to help us, and though our reason may rebel we find it difficult to resist their sweet persuasiveness. This is the unfailing sign of auto-suggestion or self-hypnotizations. Once in that state we cannot force ourselves to believe that the evil impulse is sinister or malicious. We are assured that it is a benignant and gracious visitor from the skies.

When Othello first hears Cassio's insinuations he is roused into furious denunciation. He would not believe the accusation and in spite of his trust of Cassio would spew it from his mouth.

> If thou dost slander her and torture me,
> Never pray more; abandon all remorse;
> On horror's head horrors accumulate;
> Do deeds to make heaven weep, all earth amaz'd,
> For nothing canst thou to damnation add
> Greater than that.

It had been easy, had Othello persisted in this state of mind, soon to dispel the malignant fever that consumed his blood. But though at first he saw aright that suspicion was a foe and not a friend, ere long the vision changed, and to his mind it appeared a gracious visitor from heaven come to bless and succor him. At length by long brooding, and a willing ear to jealousy's insinuating words, suspicion has so honeycombed the foundations of his heart that its triumph is assured. Completely captured by the apparition of his wife's unfaithfulness, his entire nature changes, and what formerly breathed for love now is aflame with bitterness and revenge.

> O, that the slave had forty thousand tongues;
> One is too poor, too weak for my revenge
> . . . . . Look here, Iago
> All my fond love thus do I blow to heaven;
> 'T is gone.

Then the fires of hell consume his soul, and he plunges into its black depths to gratify the perverse desire of his heart for grief more grievous still. But there is a bright side to the picture. For as by indulgence evil grows, so by a like law goodness expands and multiplies. All the virtues may be so emphasized and repeated that their action becomes me-

chanical, and the character finds it impossible to resist them.

When once character is fixed, it persists along lines of least resistance. So long as no great crisis overtakes one, whose convulsions shatter the continuity of one's consciousness and split it in twain, the formation of character may be considered established when mature years are attained.

But all the education of childhood and youth should be directed to the guidance and development of the nobler emotions that when they shall have become full grown they shall be the climax of a full and rounded life.

By the law of accumulative energy, indeed, the cosmic forces build in the human consciousness the conserving forces of the social life. Society would still be chaotic and the individual remain a savage, were it not that by slow degrees, through the nameless centuries, the primitive impulses have been sloughed off and substituted by those of refinement and philosophical prowess. Thus have sympathy, association, kinship, and nationality been established. Thus has man risen from satyr to saint, from a Caliban to a Columbian. Thus has the primal impulse of revenge softened into the passion for forgiveness. Thus has savage tribalism merged into national patriotism; and thus is selfish patriotism

slowly passing into world-unity and human brotherhood.

In the meadows of the heart spring the flowers that promise the peace of humankind. "One touch of Nature makes the whole world kin."

CHAPTER IV.

The Soul.

INCE man began to think, speculation concerning the soul has been rife. That man *has* a soul, has long been a disputed and unsolved proposition. That man *is* a soul has long since been demonstrated by history and the growth of individual life. If we think of the soul as a transient visitor of the body which shall make good its escape at the first opportunity; which is imprisoned in this form of clay and ever restive in its confinement, we shall doubtless contemplate something that is inexplicable.

Concerning this foreign soul Plato wrote entrancingly, and philosophy and religion have ever charmingly discoursed. Nevertheless, its contemplation has been vague and fanciful. Because it has been conceived as a being indigenous to another world, its presence in this world has ever been regarded as that of an interloper. One who realizes its ham-

pered residence in this house of clay bemoans its fate and yearns for the hour of its escape. It is here not only a prisoner, but a sick, cadaverous patient. It eagerly awaits the hour of its rescue from forbidding bondage. "All the days of my appointed time," it cries, "will I wait till my change come."

This theory of a separate, mysterious soul, temporarily abiding with the body, has led to much mystical and mystifying speculation, which has afforded but little profit to the race. Plato conceived it as the embodiment of fixed Ideas, a sort of mystical mould into which the life of man is poured or according to which it is patterned. Leibnitz thought man "existed in our ancestors as far back as Adam, in the forms of organized bodies." The Egyptian priests taught that the soul passed through the bodies of many animals and returned to the form of a human body only after wandering thus for three thousand years.

Some taught that the soul existed somewhere as a sort of psychic embryo and was carried by a bird, generally the stork, and implanted in the breast of the mother from whom the child was to spring. Others thought that the great Creator himself generated each soul, out of hand, and directed its development in the life of each human being as He determined. Again, still others thought that the soul

has always existed, co-ordinately with the beginning of the world, and that it passes through millions of different lives to return to itself in some final period when it shall attain the knowledge of all its past incarnations and rest forever from its laborious migrations.

However beautifully these theories have been elaborated, and in whatsoever noble religions they may have been evolved, nevertheless always have they been vague, mystifying, and beyond the clear comprehension of the human mind.

When Mahomet was asked by the rabbins who were testing the truth of his supposed revelation of Wisdom, "What is the Soul"? he begged of them for three days to reflect. Then he returned and asked the rabbins if they knew what the sun is or whence came its light. They could not tell him. "Neither can I," he replied, "tell you what is the soul. It is a mystery, of which God has reserved to himself alone the knowledge. Man can only know what God vouchsafes to teach him."

There have, however, always been keen thinkers who sought to free the mind from the mysterious notion of the soul by many curious explanations. Thus Aristotle made the soul but little more than a faculty of the physical body. He claimed that it resulted from the organism of the body, as the "ax-

ness" of the axe necessarily exists because of the axe. In modern times Huxley ridiculed this notion by speaking of the holority of the clock and the aquacity of the water, as if they were distinct entities essentially associated with these bodies.

All these confusing ideas were richly set off in metrical verse by a quaint writer, (Sir John Davies, "*Nosce Teipsum*") thus:

"One thinks the soule is aire; another fire;
Another blood, diffus'd about the heart;
Another saith the elements conspire,
And to her essence each doth give a part.

Musicians think our soules are harmonies;
Physicians hold that they complexions be;
Epicures make them swarmes of atomies;
Which doe by chance into our bodies flee.

Some think one general soule fills every braine;
As the bright sunne sheds light in every starre;
And others think the name of soule is vaine,
And that we only well-mix'd bodies are."

THE FORCES THAT COMPOSE THE SOUL.

Seeing, then, that there has ever been such confusion in human thought concerning the soul, we may justly relinquish the hope of acquiring any practical value from any, even the most ingenious, speculations regarding it. As this book is written wholly for practical purposes, we shall of course not pursue

such vague ideas any further, but undertake another interpretation of the soul which shall aid us more effectually in planning for the success of this temporal life. We shall not therefore study the soul as an embodied organism, we shall not regard it as a personality, either organized or unorganized, spiritual or material. We shall merely undertake to apprehend the soul as an aggregation of forces that are associated in each living organism, and whose presence impresses upon such an organism a distinctive character and career. All forces are impalpable, invisible, hidden, and we can apprehend them only in their effects. So far as we know, there is no difference in their natures between the force we call sunlight and the force we call horse-power, but the two appear very different to us because of the wholly different kinds of work they perform. Therefore we define them as different forces, though their essential natures are wholly unknown to us. However, we can readily see that one of these forces is much more refined and impalpable than the other. The horse we see in his movements and can quite well understand the laws of physics by which he performs his work. The feet of the horse act as a fulcrum and the breast as the lever, so that the capacity of the leverage may be easily calculated. But when we speak of sunlight, it is more difficult for us to discern the law

by which it accomplishes what it does. It too has a pulling power, as evidenced in the tides and the growth of plants and animals. But its fulcrum and its lever are not clearly perceived. Hence the force by which it operates is more recondite, less visible, that is, less material, apparently, than the force that operates in the work of horse-power.

Electricity is another force that works according to laws which are even less manifest than those of the chemical work of the sunlight. So recondite, occult, are the laws of electricity that man has as yet but superficially discovered them, and for many millions of years man had not even a conception of their existence. There are still finer forces, even, than electricity, such as the X-ray's and those of radio-activity, of which we have as yet but the vaguest conception.

Clearly, then, the farther we remove from the plane of coarse materiality the finer and less visible becomes the operation of the forces that prevail. When we enter the realm of the soul, therefore, we are not surprised to come in the presence of forces which are so impalpable, recondite and refined that they easily escape the apprehension of the keenest intellects. Indeed, only in the present age have we been permitted to think of the operation of the human mind, in the shape of thoughts, as the work-

ing of a force akin to the powers of the physical forces. Once such an idea would have been regarded as coarsely material and proven so repulsive as to have been denied even decent consideration by the elect. But to-day we are not so disposed.

SOUL FORCE MEASURED IN FOOT-POUNDS.

We can easily contemplate the workings of the mind as the manifestation of a force. For now we know we can compute in foot-pound measurements the result of such workings. It has been shown, for instance, that when a person is thinking the blood rushes quickly to that particular portion of the brain which is especially exercised by the thought that may be present. So true is this that an instrument has been invented by which the delicate displacement of the blood from one part of the brain to another, as the result of contemplating different thoughts and moods, is clearly revealed. Even in ordinary experiences this fact is disclosed. Why is it that the blood rushes to the cheeks when we blush; that fever sets in the breast when sad or distressful news is brought; that the efferent nerves compel the muscles of the arm to move and grasp an object; that indeed every volition of the will is revealed at once in physical performance? Manifestly, back of each

physical effect a thought had been exercised; and the exercise of that thought revealed itself in a specific sort of physical work. Hence, it is evident, that Thought is a force. It is as distinctly a force as chemical affinity, sound, or electricity. We are able to detect any force only by the work it does. There is no physical work without a motory force. Wherever there is work there is the evidence of force; wherever a force exists it reveals itself in work. Hence, when we see the work of an organ of the body, of a cell or fibre of the brain, of a nerve agitated by a neural current, we know that a force must be in operation.

We also know that we can easily detect the difference between the working of a force caused by the action of the mind, that is, by a thought, and that caused by any of the other forces of the world. For instance, when metabolic action sets in, that is the chemical consumption of the nerve force resulting in the destruction of the cells of the body, releasing the energy that is to result in other cell-formations, we speak of the force as physical or chemical. But when we witness the neural discharge that results from a mental agitation, either in the form of emotion or pure thought, we distinguish the force that causes the discharge as psychic or mental. The thought force may either precede or act simultaneously with

the chemical force, but there is no difficulty in distinguishing them as distinct and separate forces. (We are not at the present time contemplating the philosophical unity of all forces, hence we speak of forces as separate and distinct.) All the leading psychologists and scientists are now agreed that what we may call mind-force (thought) is easily distinguished from other phases of nervous energy. (See Wilhelm Ostwald's "Natural Philosophy," Ernst Haeckel's "Wonders of Life," etc.)

Mind, then, is the effect of the operation of certain forces upon the human organism that results in some form of consciousness. Soul is an impersonal force. Mind is the effect of this force expressed in terms of personal consciousness. Soul is always impersonal. Mind is always personal. "Mind is that part of the life of the soul which is connected with thought and consciousness, and, is, therefore, only found in the higher animals which have intelligence and reason," says Haeckel.

We may contemplate the soul as the atmosphere that envelopes the earth. In this atmosphere there exists in solution all the chemical elements which ultimately associate to constitute this visible and compact globe. When the earth was still in a gaseous state, ages before it cooled and crystallized in its present form, the same elements, that now disport

themselves in specific forms of matter and in organic bodies, floated through the gaseous sphere. The earth, when finally evolved, consisted of nothing more than the aggregation of these elements in compact relation. So is it with the soul and mind of man. The mind consists of nothing that did not always exist in the soul. The soul, primarily, was nothing but the chaotic association of the multitudinous thoughts, ideas, and notions of mankind floating in a vapory and unstable state around an individual. The work of the soul is to develop the individual. But the individual develops only as the soul passes from its primary, impersonal, cosmic nature into personal, compact, individual consciousness.

The conscious mind is begotten by the unconscious soul. Man becomes himself as he is able to distinguish his own soul from the world-soul. In other words, just in proportion to a man's ability to separate his self-consciousness from the vague state of existence, observed especially in the lower animals, and recognized as mere automatic response to environment, does he pass from impersonal soul-life to conscious mental life.

Therefore the career and character of each individual will be complexioned by so much of the soul-life as he permits to penetrate his mind or conscious life. The mind, slowly developed from the soul, be-

comes itself the master of its own fate by determining the quality of the soul-force which it desires to acquire. We may better comprehend this idea of the soul and its bearing upon the mind-life of the individual, if we contemplate the work of an inventor. At some period in his life he realizes that something is seeking admission into his consciousness which at first he cannot fully understand. It is an idea so vague, vapory, and impalpable, that it distresses him. Ere long his mind is agitated and his heart agonized. He feels the idea growing slowly into consciousness, yet he cannot fully compass it. Suddenly it takes form; it stands out clearly as a statue before his mental eye; he is then thrilled and overpowered by it and produces the material copy of what he saw with such spiritual clarity.

The soul is the residence of the myriad ideas, notions, feelings, desires, that have exercised the minds and hearts of mankind from time immemorial. The soul is the seat of all the mental forces that ever were in this or any other world, with which this one may be psychically connected.

That we may reduce this study to practical use we shall attempt to classify, as far as possible, the various ideas and influences that play their parts in the soul-life and seek to merge with the mind-life of every individual.

CLASSIFICATION OF SOUL FORCES.

Such a classification must necessarily be imperfect and crude. Yet it may have a suggestive value in education that will prove profitable. If it is studied carefully, and if each term in the classification of opposing qualities be thoroughly apprehended and construed into a clear idea by the discerning mind, the exercise will prove valuable, and that not only for purposes of mental discipline, but in character-building as well. I am here introducing the classification merely to show the subtle realm of influences which surround the mind and which, for good or ill, affect the lives of each of us.

The first division will represent those forces which in the form of ideas emanate especially from our contact with the physical world, but merge in the moral forces that mould our characters:—

PHYSICO-MORAL FORCES.

FEAR.	HOPE.
COWARDICE.	COURAGE.
ANGER.	PEACE.
PAIN.	JOY.
HATRED.	LOVE.
ENMITY.	FRIENDSHIP.
QUARRELSOMENESS.	AMATIVENESS.
INJUSTICE.	JUSTICE.
CALLOUSNESS.	TENDERNESS.
HARSHNESS.	MERCY.

UNPITYINGNESS.	PITIFULNESS.
DISHONESTY.	TRUTHFULNESS.
TREACHERY.	PROBITY.
HAUGHTINESS.	HUMILITY.
WAYWARDNESS.	SELF-CONTROL.
SELFISHNESS.	SYMPATHY.
IMPUDENCE.	RESPECTFULNESS.
IRASCIBILITY.	CALMNESS.
MELANCHOLY.	CHEERFULNESS.
SECRETIVENESS.	CANDOR.

I have so arranged the terms that they may be observed as race-influences which bear upon each life as it is engendered on the earth. Each human being lives over again the entire life of the race, just as the embryonic form in gestation reproduces the image of each preceding physical phase of the animal world. Manifestly then the path of development is to ward off the baser influences, such as those enumerated in the left-hand column, and to encourage the free play of those influences indicated in the column on the right. As we proceed in these studies we shall present a plan whereby these influences may be conjured and guided in the development of human character.

The next classification will enumerate those qualities which we may distinguish as more directly psychical than those just tabulated, yet which emanate almost wholly from the ethical effects in the human mind of influences that bear upon it.

ETHICO-PSYCHICAL FORCES.

DISCORD.	HARMONY.
IGNORANCE.	KNOWLEDGE.
SUPERSTITION.	RATIONALITY.
BIGOTRY.	TOLERANCE.
BONDAGE.	FREEDOM.
CREDULITY.	INCREDULITY.
IMBECILITY.	INTELLIGENCE.
FOLLY.	WISDOM.
CAPRICIOUSNESS.	PERSEVERANCE.
OBSTINACY.	REASONABLENESS.
IMPULSIVENESS.	ORDERLINESS.
IRREVERENCE.	REVERENCE.
WRONGNESS.	RIGHTNESS.
BADNESS.	GOODNESS.
DULLNESS.	PERSPICACITY.
INDIVIDUALITY.	UNIVERSALITY.
ANTHROPOMORPHISM.	PANTHEISM.
HUMANISM.	DEISM.
INDIVIDUALISM.	FRATERNALISM.

Thus is each human being whelmed in an ocean of invisible and subtle influences from which he must either make his escape, or to which, by staunchest allegiance, prove his loyalty. On the one hand, if he listlessly permits them to submerge him, he will be foundered in the tumultuous sea of life. On the other hand, if he command them, selecting those which shall be auspicious and rejecting those that accurse him, he will have seized the mystic powers that lie latent in his soul and invite him to the mastery. *To attain, we must struggle to draw into*

our habitual consciousness such of these soul-influences as shall tend to our ennoblement and highest development. They lie round about us like the overtures of awaiting angels. If we want them, we can by an effort of the will and persistent struggle possess them. We must shut our eyes to those elemental forces of evil that emanate from our animal ancestry and contemplate those only that enlighten, soften, and ennoble. But we shall make mistakes. Sometimes we shall draw to ourselves those baser psychic and ethical forces that make for undoing. The victory lies not in bewailing such missteps, for by doing so we but intensify the evil that besets us. Turn the mind away from the influence that deceived and defeated, and fix it fast and long upon the nobler and more edifying element which wisdom dictates that we should conjure. "Even as one heat another heat expels, or as one nail by strength drives out another, so all remembrance of a former love is by a newer object quite forgotten."

If, at some period of life, circumstances drive to discord and disharmony, till all the chords of our being twang with distress, seek swiftly such occupation as shall invite harmony to the mind and rest to the nerves. Why dwell on thoughts that make one miserable, knowing how they precipitate disease in the body and disaster in life? By force of habit con-

jure such ideas as generate hopefulness and courage. Let occupation wait on appetite. Let what interests be the guide to what we do.

Seek freedom. This comes by enabling the mind to expand its consciousness into the larger soul-influences that surround it. But in seeking freedom one must seek such freedom as shall make the life better and truer. By studying well the qualities specified in the left-hand columns above presented one may judge of the influences that tend to belittle and degrade the individual. By contemplating those on the right, one may revive the subtle powers whose presence uplifts and ennobles. Yet whatever may have been one's mistake in unfortunate mental association with evil powers it behooves us never to despair, but once more to arise and buckling on the armor of the higher attributes set forth, like another Sir Galahad, in search for the Holy Grail.

"What thou hast done ; thou hast done: for the heavenly horses are swift;
Think not their flight to o'ertake;—they stand at the throne even now;
Ere thou canst compass the thought, the immortals in just hands shall lift,
Poise and weigh surely thy deed, and its weight shall be laid on thy brow;
For what thou hast done, thou hast done."

PART II.

The Physical Instruments.

I. The Brain.
II. The Nerves.
III. The Body.

CHAPTER V.

The Brain.

THE mind is the segment of the soul which is circumscribed by consciousness. The circumference of consciousness includes as well the subliminal, or the subjective, as the actual or surface consciousness. The mind or the plane of thought is both conscious and unconscious. The brain is the instrument of the mind; therefore the brain possesses the machinery that registers the impressions of both conscious and unconscious mental activity. There is never an activity of the mind, whether the subject is aware or unaware of its exercise, but makes a physical impression on the nervous system or the brain. There is never a sensation, whether perceived or unperceived, which does not produce its reflex response in the mind, either conscious or unconscious. Mind and body are mutually responsive, and each reflects the passing status of the other.

If Nature had not developed in man the marvel-

lous machinery of his complex brain and nervous system, he would not be possessed of the high intellect he enjoys. There is no such thing as a thought without a brain. There may indeed be forces in Nature, which are logically related, and which interact with responsive intelligence, but such forces become what we know as thought only when they operate through the organ of a brain.

This we see clearly demonstrated in the animal world. Just in proportion to the higher and more complex development of the brain, in the different orders of the animal kingdom, are we able to trace higher phases of intelligent activity. The size of the brain, or even its weight, has nothing to do with its acting as the instrumentality of intelligence.* The

* The average weight of the human brain is from forty to fifty ounces. The brains of females weigh five ounces less, on the average, than those of males. But the ratio of the brain-weight to that of the body is the same in both sexes; consequently, the difference of weight in the brains of males and females is due to the lesser body-weight in the woman, and not to inferior cerebral development. Thackeray and Cuvier had brains weighing fifty-four and fifty-eight ounces, or less than the average boy of seven years. Byron's brain weighed sixty-eight ounces, and Dante's fifty. Simms found an idiot boy with a brain weighing fifty-nine ounces, and an ignorant laborer whose brain weighed seventy-eight ounces. This would seem to prove absolutely that the weight of the brain is no guide to the intelligence of the individual.

Simms in "Physiognomy Illustrated" (p. 82) presents a hand-

elephant has a big brain, it is true, because it has a big body, and is very intelligent. But the ant is also intelligent, and yet has a very small brain, a mere dot—because it has a small body. More depends upon the fineness and complexity of the brain-tissues than upon its massiveness. But this fineness is the result of ages and ages of development. That is, as the brain substance was more and more impressed with varied experiences it developed into a finer and more tenuous element. Thus when the brain substance of a highly sensitive man or woman is examined it is found to be of the most delicate and sublimate consistency. The grey matter of the brain is supposed to be the physical seat of intelligence. It constitutes the physical area of consciousness. That is, Nature has so built the brain that while many of its myriad cells are set apart for the reception of sensations and other impressions, only a few thousand of them are reserved as the instrumentalities of intelligence. The numerous functions of the brain

some picture of an idiot, Charles Skinner, whom he describes as follows: "A congenital idiot, being neither epileptic, rickety nor hydrocephalic, yet he has the boldest, widest and highest forehead the author ever saw on a human being, his head immediately above the eyebrows and the tops of the ears has the enormous horizontal circumference of twenty-six and one-half inches. This idiot possesses more than Goldsmith's "garnish of brains if we judge by the size of his head."

are localized. The especial areas set apart for sensation, sight, hearing, smelling, motion, etc, are all mapped out in the grey matter of the brain. Destroy one of these areas, and at once the physical capacity which it controls is paralyzed. If, for instance, the cells which must always be called into action when speech is invoked are stunned or destroyed, the capacity for speech ceases and the man becomes dumb. Nor, indeed, does the work of depletion have to go so far as the final destruction of the required functional cells before the effect is perceived. A weak condition of the cells is speedily revealed in the weaker functioning of the faculty. If, for instance, there is not a sufficient supply of blood to all the areas of the brain that superintend the office of sight, hearing, etc., the organs will soon reflect the condition in weakened vision, approaching deafness, and proportionate inactivity elsewhere. Fainting or a loss of consciousness is the result of the temporary suspension of circulation. If a portion of the skull is removed and pressure is brought upon the brain, total consciousness for the time being is destroyed. If the grey matter of the brain is inflamed, delirium ensues. If there is a too large flow of blood to the brain, stupor and apoplexy follow. The white fibres that radiate from the brain cells are the avenues for the expression of the will and, if affected, evidence the

fact in a parallel physical result. Too much blood flowing into them produce a torpor in the muscles and a decline of the will-power.

THE BUILDING OF THE BRAIN BY MENTAL ACTION.

In fact, the whole atmosphere of life, as we see it through the windows of the soul, is colored by the physical condition of the tiny cells of the brain that act like so many million batteries generating or withdrawing our intellectual activities. We are optimistic or pessimistic too often proportionately with the rhythmical or irregular flow of the circulating medium. Our energy, our hopes, ambitions, are often but the issue of the free flow of fresh, red, well-oxygenized blood through the avenues of life. When the entire system is well-poised and every part of the body tingles with the electric thrill of cellular activity, life looks so good, and true, and promising to us. But when we feel the sad and depleting depression of the mind that makes the world look like a gloomy prison and the future black with ill-foreboding, we too often forget that what we see is but a spiritual reflection of our physical state. Better air, more nutritious food, change of occupation, and mental activity, rapidly

alter the moods of our spiritual skies. Heaven and hell, indeed, are within us, in a physical sense as well as spiritual.

Not only are our spiritual and mental conditions frequently the issue of our bodily status, but the awakening of so-called psychical forces is also much dependent on it. Visions, the apparitions of momentary reverie, the floating phantasms of the mind that so often affright the ignorant, may sometimes be traced to the quantity of blood in the brain. Who has not seen tragic scenes in dreams o' night that cause his eyes to start from their sockets and each individual hair to stand on end? Yet how frequently do such tragical dream-dramas prosaically originate in the indigestible piecrust with which we retired. I remember once dreaming of seeing my own father rushing towards me, and before I could cry for rescue plunge his long bony fingers into my chest and angrily draw forth my dangling and bleeding heart, which he flaunted before my eyes with his blood-clotted hand. I had eaten a very hearty meal and fallen suddenly asleep upon a couch before bedtime.

Who has not been harassed by waking visitors of the brain in early morn, that come from some airy world, all wrapt in mystery? At one time in my life I was annoyed for many months by strange, af-

frighting psychic forms, which hovered round me as I awoke in the morning. If I closed my eyes, they became so vivid that I was startled from my bed and arose earlier than I desired. I noticed finally that they always came when I lay upon my back; if I turned on my side they instantly vanished. What mystic power did my lateral attitude possess that it should exorcise the monsters which waited on my supine lucubrations? "Blood, Iago, blood"! It was indeed, merely, a matter of blood, and the channel it sought in the different avenues of my brain.

There is one remarkable fact that has recently been learned. The brain, as it now exists in the body of a highly developed man, was of slow progress and reached its culmination only through ages of growth. But while it was ascending to this supreme stage of unfoldment it paused on the road of its progress in temporary stages that long prevailed. The fact that man, virtually, has three brains, the top brain, the middle brain, and the back brain, is highly significant. The back brain, the brain of the medulla, we learn, is the organ of the sensations. The top brain is the organ of the intellect or the mind proper. But the middle brain, the brain as yet the least explored, seems to be the seat of involuntary or unconscious action.

We have inherited each of these brains from our

animal ancestry. There was a time when the back brain was the highest brain development in certain forms of animals. Those animals could not do any thinking or reasoning. Their whole mental capacity lay in receiving external impressions. If we descend to still lower forms of life, the uni-cellular, we find that they did not yet have even a back brain; but the whole organism was a brain, so to speak, which was not as yet divided up into specialized functions. Yet, in that primal cell there was already the complete prophecy or forestallment of the entire future history of brain development. When the single-celled animal began to unite with other single celled animals, organized brain began its existence. It travelled on in the course of its age-development, gradually building nerves, or numerous thin strings of fibre which radiated throughout the system.

Then those strings became twisted into knots at certain sections of the system, making ganglia—the primitive brain-centres. These ganglia became the mechanical organs which carried out the brain functions. They operated in the work of gathering and assimilating food, of responding to or withdrawing from external influences, of breathing, moving the muscles, operating the digestive organs, etc. These separate ganglionic brains scattered through the body, and at first acting independently, gradually

came into communication, and together built up a central organ from which they could receive their commands and to which they could communicate their wants. When the history of the brain had reached this stage it paused for a long time, for the spinal cord and the medulla brain were thus built up. This was all the brain that certain animals needed for countless ages. They did not require thought, either as forethought or hind-thought, their wants did not call for extraordinary caution or selection. They were safe in following the instantaneous signal of the danger call, and by reflex response filled all the requirements of their natures. The skulls of all such animals are very flat and often long, for they require but a small room for the enclosure of the brain they possess. The top brain had not yet been built. Their brain, or what they have of one, is longitudinal, like their bodies. But gradually as the body rises from the earth, ascending from the reptilian to the quadrupedal and duopedal forms, the frontal or high brain begins to take on shape, and the skull is accordingly carved with a higher crown. Not until the brain becomes more perpendicular, and at last in man and the higher animals, demands a high-browed skull for its residence, do conscious intelligence and will force come into expression. But at last when the high brow and the

frontal brain are formed, they do not abrogate the lower brains, which have descended to man from his inferior ancestry, nor are their functions nullified.

The back brain remains as the seat of the sensations, and the middle brain as the seat of the unconscious action of the mind. Here we enter on a marvellous stage of brain development that bears closely on the moral history of the race. If it is true, as now all physiologists admit, that every impression of the mind leaves an indelible registry of itself on the cells and fibres of the brain and nervous system, then, as our bodies and brains have descended to us from the far past, they must retain the myriad impressions of a world of beings which have long since passed into oblivion. Within this back brain, then we possess the invisible remains of age-forgotten physical and mental conditions, which in some vague way subtly affect our daily lives. Here are the relics of the warring passions, the lusts and cravings, that once welled in the breasts of beasts and savages. Here are the impulses and appetites that mechanically acted upon the wills of prowling hyenas and stately lions in some far-off, forgotten jungle, that stir again within our flesh, to be obeyed or conquered as the character is colored. When anger, and the gnashing of teeth and the clawing of flesh possess us in a momentary frenzy, we have suddenly permitted

atavistic tendencies to seize us, which have long lain latent in the fibres of the medullary brain.

Were we still animals, possessed of only this brain, we would without compunction yield to the impulse of the warring passions. But as a higher brain has been evolved in us, our heritage from the ages, we suddenly lift ourselves into the realm of the higher consciousness it grants us, and, looking down upon the undesirable actions of the lower brain, regret our weakness and condemn ourselves for our disgraceful fall. We are thus able to rise superior to the animal impulses because we have a more highly organized and sensitive brain that affords a channel for the expression of loftier impulses and ideals.

But we must remember that the brain itself acts in response to conscious commands only when it has been so well developed that it is susceptible to the impressions of the will. If by long usage, by judicious education, we have not cultivated the habit of the higher brain to respond to the nobler impulse, then the reflex tendency of the lower brain will seize us unawares and bring us to shame. Indeed, this is precisely what is constantly occurring in our lives. We fail in our pursuit of happiness and self-esteem because we have as yet so little educated the impulses of the upper brain to respond to the demands of our higher ideals that the latent reflex tendencies

of the baser brain master us ere we are aware. The lower brain is a tremendous force for evil, a gigantically charged battery of dangerous impulses, because it is nothing less than the storage of the habits that once prevailed in the lower orders of the animal world. They seize us through our instincts and mechanical impulses, and we can save ourselves only by the most attentive and persistent education. But the education must be that of the will, as the chief functional agent of the mind. The will may be defined as the culmination of desire. When the desire is sufficiently powerful to compel a discharge of nerve force that establishes the physical or mental state demanded, the will has asserted itself. If then the Ideal be set before the mind, and the demand be made and importunately proclaimed, ere long the desire will have developed into a volition, and the brain will respond to the conscious will.

What we desire, therefore, that is good and true, virtuous and pure, noble and uplifting, becomes our Ideal. This constitutes a magnet, which by long contemplation draws us toward it. At last it transmutes the desire into a mental action that compels its own realization.

"Whatsoever things are true, whatsoever things are reverential, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely,

whatsoever things are of good report; if there be any virtue, if there be any praise, THINK ON THESE THINGS!" Here Paul lays down no less a true law of psychology than one applicable to the religious life. To dwell upon the thought is to awaken the desire; to arouse the desire is to compel the will; to compel the will is to convert the thought into an Ideal and become the joyful subject of its power.

There is, however, a hidden and long-overlooked brain-centre which plays a most important part in every human life. I have called it the middle brain: the seat of unconscious cerebration or mental action.

Nature has so happily constructed the mechanism of the human body that it is especially adapted to the usages of the mental forces. It called for the labor of countless ages ere this "fearfully and wonderfully made" organism reached its ideal completion. But, when finished, it was as adequately and perfectly adapted to the operations of the human mind, in all its marvellous capacities, as could possibly be conceived. As man first receives his impressions from the outer world, and all his fund of knowledge is dependent on the access of phenomena through the five gateways of the senses, we have seen how through the lower brain these impressions enter into human consciousness. They travel up the various avenues of the specialized nerves, pass the ganglionic centres

and pause at the base of the brain, thus controlling the motor and sensitive centres of brain-activity. Passing beyond these primitive centres, the vibration, if continued, reaches the higher group of brain cells that constitute the upper or cortical layers, and institute that state of mental activity which we call consciousness. It was the mind's struggle to reach what might be called self-realization that gradually constructed, through countless centuries, these upper and more complex cell-groups which made possible the state of mind we call self-consciousness. Were not the cell-organisms so constructed that by their peculiar grouping the effect of consciousness could be produced, we would be but automata, moved by external forces, yet intellectually unresponsive to their influence. We shall a little later enter more specifically into the actions of the higher mind through the processes of the upper brain.

HOW THE BRAIN PHOTOGRAPHS THE MIND.

But first we must emphasize an important truth. We have observed that every mental action leaves an inerasable impression upon the brain substance. Each stir of a muscle, each impulse of the will, each craving of a passion, each yearning of an emotion,

each pictorial impression of an imagination, each abstract reflection of philosophical reasoning, leaves somewhere in the nervous and brain structures of the body indestructible residua, which abide as latent forces of the soul. These might be called the spectra of temporary and flitting sensations, emotions, thoughts, and reflections of the mind's constant activity. They are the momentary visitations of the soul, which come suddenly and seem as suddenly to depart forever, yet leave behind their spectral forms to be conjured when occasion calls. But though I refer to them as spectral forms, I do not mean that they shall be regarded as spiritual substances beyond the reach of the flesh. They are indeed fleshly spectres of flitting mental forms. They lie deeply buried in the secret recesses of myriad cells, subject to recall into conscious activity when the proper energy musters them to action. "As the thought passes from consciousness, something remains in the cerebral substratum, call it what you will—trace, impression, residue. What the precise character of these residua may be, is perhaps questionable, but it is impossible to deny their existence in some form consistent with the cerebral structure and activity. All thoughts, feelings, and impressions, when disappearing from consciousness, leave behind them in the nerve substance, their effects or residua, and in this

state they constitute what may be called latent or static mind." (Youmans' "Scientific Study of Human Nature.")

It is of this latent or static mind, which we now wish to speak. As the conscious dynamic mind has an especial organ in the brain through which to express itself, namely, the cortical groups, so the latent or static mind has its especial organ. The organ of the conscious mind is the upper brain; the organ of the latent or unconscious mind is the mid-brain. The secret of the acquirement of knowledge, of the unfoldment of character, of the pursuit and achievement of success in life, depends in the end especially on the ability of the individual to bring this mid-brain into proper action when required. Memory, imagination, will, and reflection, all find their sources of energy in this secret or middle brain of man. What is memory? It is the recall to the mind of an objective experience now passed from consciousness. But what is the recall of the experience? It is merely the re-association in the brain of the same cell-groups that conformed for the presentation of the first experience. How shall those cell-groups be brought again into a similar association with what existed in the desired experience? That is, how shall the cells be so reorganized as to call back to the mind the thought or idea or name or scene that

has been lost to consciousness. It cannot be done by will. No matter how much we determine to remember, the elusive thing will escape us. All we can do is to surrender to the mercy of certain forces that prevail within us, to manipulate which is the real secret of successful living.

Knowing that the association of cell-groups came by a process of mind-action, we must endeavor to trace over again the steps by which those cells were originally mustered into play. If we can do this, we can recall the name or the event. The entire discipline of memory lies along this line. Like a thread thrust into a solution of salt, once the crystals begin to form about it soon the entire thread is covered. So once the thread of the desired memory can be thrust into the solution of the latent minds that reside in the individual cells, one by one they will begin to cluster round it till at last the grouping will stand out as a single mental state we call memory.

So, with imagination. We have here the most efficient faculty of the soul, which is not, as many suppose, merely a plaything of the mind, to be used for pleasurable purposes only. The imagination, the image-making soul-faculty, is really the creator of the mind, conjuring into being powers for good or ill. This capacity lies at the base of all systems of

mental therapeutics. Once the mind can image forth to consciousness the state of physical equilibrium and health of mind and body desired, if vivid enough, the reflex bodily effects will ensue. This stands to reason. For the mind is the subtle force that generates cell-activity and nervous discharge. How often do we burst out laughing to ourselves, when we but recall a previous comical or ludicrous experience! Why? Because for the moment the experience is as vivid to us as it was at the original occurrence. We forget that it is a past experience, and realize it for the moment as immediately present. Yet it is present only in the mind. Thus showing that the mental image formed in the silent self is the real dynamic force that dispels and musters the cell groupings that constitute the basis of our consciousness. To control this faculty then must at once be seen to be one of life's most important achievements.

Likewise with the Will. As has already been said, the will is not a distinct organ or faculty, but a mental state ensuing on the strain of a desire or craving. But what is the desire? Physically, it is the tendency of certain cells to form distinctive groupings. Just as there is a chemical affinity inherent in certain planetary elements, so there is a fixed affinity between the various cells of the body. When there is a disposition of these cells to group,

either as the result of previous groupings or because of possible association, there comes to the conscious mind the state known as desire. When these cell affinities have become so polarized that they draw each other powerfully, the desire in the mind has developed into a volition. Then the cells rush together and the will is expressed.

The law that we must learn then is the control of the desires, and thus in the regulation of the will so to group or arrange the cells as to permit of only such volitions as shall be for our good. For instance: A young man is thrown among certain associates. He observes that they indulge certain habits whose moral value he questions. One of two things will follow. Either he will emphasize his first impression and thus pull himself away from what he believes to be temptation; or he will become lax in his convictions and gradually merge in their habits. If he believes the indulgence is vicious, he permits the entrance of a dynamic mental condition that draws together certain cells which associate to form the thought of opposition. If he persist, these cells will continue to be propitious, and will call on more kindred cells to add to their nervous energy and, if not interfered with, will in time become so strong that they will make a physical framework for the mental determination which shall prove his rescue.

"The activity of the vesicular neurine of the brain is the occasion of all these capabilities. The little cells are the agents of all that is called mind, of all our sensations, thoughts, and desires; and the growth and renovation of these cells are the most ultimate conditions of mind with which we are acquainted." (Dr. [Sir J. C.] Bucknill.)

But the point here to be emphasized is that the soul is continually leaving its inerasable impressions on these cell tissues, which in turn become the latent factors of mental energy. These factors of latent energy constitute the physical basis of the unconscious mind or the sub-self, which is the fundamental basis of our character and life. These latent mental factors are resident in the middle brain.

We shall see later how much this middle brain is depended on in the requirements of health and happiness. We shall see that we ourselves are responsible for the store of misery or joy, of optimism or melancholia, which we inherit from previously invited visitors of the air.

The upper brain is controlled by conscious thought. The middle brain consists of the residua of the impressions left by the passing thought once resident in the consciousness. Thus the middle brain is the product of the upper brain. But only so in part.

For, as we are at present constituted, myriads of impressions leave their residual effects in the middle brain in which the upper brain has no part. The dynamic or active mind is the motor of the upper brain. The latent or static mind is the motor of the middle brain. As the middle brain results largely from the activities of the upper brain, so to a very large extent the static mind is subject to the control of the dynamic mind. Hence, the conscious thoughts we entertain are themselves responsible for the sub-conscious forces that prevail. If the conscious mind undertake seriously to hold in its leash of power the activities of the latent mind, it may cause the subconscious or subliminal energies to respond to its commands and make for the good, the health, and the happiness of the individual. Of this we shall speak more in detail in a later chapter.

CHAPTER VI.

The Nerves.

T one time we thought the mind resided only in the brain. We still feel that we think in the head. If one pauses to observe one's thinking one will see that the thought is directed at the fore brain. It seems as though we performed the act of thinking there. In point of fact, the feeling agrees with the truth. For we do think in the fore brain. However, this is only the higher form of intellectual activity. When we reason, will, imagine, reflect, we use the frontal brain.

But there are various strata below that high layer of thought. These strata of mind-activity are exercised as we have seen on lower strata of nerve and brain cells. As all the nerves are in some manner connected with the thinking activity of the brain, it is not an exaggeration to say that there is no portion of the body in which mind does not exist in some form.

The nerves are spread so thickly and completely over the surface of the body that should the flesh be dissolved, and the nerves left intact, were such a thing possible, we would behold a transparent, viscous phosphorescent shape, modelled exactly like the body, yet far more refined and subtle. Had we the eyes to see, we would behold a thousand currents of neural energy flying back and forth across this lace-work of tenuous matter, like vivid flashes of lightning. There would be no particle of this nerve-framework, however small, that would not vibrate ceaselessly responsive to some stimulus. Nothing can enter the body that has not found the thread of Theseus which will guide it safely through this complex labyrinth. Like spectral sentinels, these tiny nerves stand guard over the temple of the body refusing admission or egress to any intruder or deserter that cannot wend his way among the maze of fibres. These tiny guards watch the attempts of outward forces to invade the realm of the mortal frame. If these intruders cannot touch the chord that shall vibrate throughout the inner centres of the body, their attempt is futile. Should they smite the fibrous threads with a force pitched too high or too low, they cannot find an ingress, for this complex series of throbbing fibres is only sensitively respon-

sive to a certain range of ether waves, amid the infinity of waves that beat on the shores of eternity.

A low, dull humming sound, will so affect the nervous threads that in time they will vibrate to the sluggish motion of the sound, and produce in the brain a sedative state which may result in stupor or sleep. And yet a sound identical in volume, but pitched far beneath, though duller, deader, and more sluggish would have no effect at all, because the fibres had not provided a gateway for its entrance. Likewise, a series of ether waves of such high frequency that they can awaken no response in the nervous avenues will merely pass over the body, leaving it unaffected. Thus electricity of a limited number of volts, but of high potentiality, will kill a human being; whereas an electrical current of infinitely greater voltage and of higher potential power will pass through it without meeting any opposition or arousing any friction.

But it becomes apparent that the numerous series are in some way associated because they bear a general relation to the entire body. There is one supreme centre at which all these systems converge and into which and from which they throw and withdraw their accumulated energy. This centre is in the brain, or the residence of the mental force. Thus we see that every form of energy which moves

out through the nerves from the brain or passes into the brain through the nerves is a phase of mental activity. The nerves are so distinctly and absolutely related to and coöperate with the activity of the mind, that they might be said to be distinctive mental instruments or avenues of mental action. If we had no nerves, we would have no capacity to exercise the mind. For the mere impression of mental force on the brain would be wholly ineffective in its results if there were no nerves through which the brain might execute its mandates. Not a muscle is moved, not a fibre is contracted or relaxed, not a drop of blood flows through the veins, not an iota of air is breathed into the lungs, not a crumb of bread is digested and converted into living fluid, not a single organ of the brain performs its distinctive function, unless it is goaded to its work by the discharge of neural energy upon it.

We might almost say that the nerves are materialized mental activity. True, they receive communications from material sources, but, no sooner are they aware of the communication than they instantly inform the brain that the mind may be informed. Directly the mind is informed, the nerve responds to the mental command and executes its decision. There is absolutely no way for the mind to affect the coarser realms of the body except through

the operation of the nervous system. The nerves are so much more delicate and tenuous than the ordinary material of the body that they respond with greater freedom and elasticity to the mental energy.

HOW NERVE-SUBSTANCE RESPONDS TO THOUGHT FORCE.

The nerve-substance approaches, more nearly than any of the muscles or bone substances of the body, the simplest or primary nature of life-substance or protoplasm. Nerve-substance itself seems not to be complex, as it used to be imagined. It is very simple, and most easily affected by elemental conditions, such as temperature, moisture, concussion, etc.

The high utility of the nerve-substance in the intelligent processes of the body is made possible by the complex systematization of the nerve-radii. The substance of the nerves itself consists of phosphorized fats in a weak solution of salts (Snyder). While the general substance of the body consists of about 70° or 75° of water, the nerve-substance consists of full 85°. This shows how much more easily the nerve-substance can be affected by heat, cold, atmosphere, etc. Indeed, late discoveries have almost proved that the substance of the nerves is acted upon by varying degrees of temperature almost like

water. If the nerves are hot the substance dissolves or melts—that is, the fatty substance gets thinner by scattering more thoroughly through the watery element. It acquires more of the consistency of molasses or jelly. But when the nerves grow cold, the water gradually freezes up, so to speak, and the nerve-substance hardens—that is, the fatty substance gathers together out of the solution and forms a more solid condition.

So much has this been shown to be a fact that it is now known the nerves respond speedily to electrical charges with varying degrees according to the heated or chilled conditions. Apparently, when the nerve substance is heated, the fatty phosphorous elements are more scattered in the solution, and the electrical charge cannot affect the nerve so well as when the nerve substance is more chilled. Hence, when the nerves are heated or excited, they are less subject to electrical stimulation than when they are cold. Many very interesting experiments have been made along this line by some of the most prominent biologists of modern times. The work of Dr. Matthews and Professor Loeb is especially noteworthy.

But we know that a mental action is electrical in its nature. Whatever else a thought or an effort of the will may be, we know that on its physical side it is simply an action or a mode of motion. We

know that when we think, we set certain cells in operation. So well has this been proved that the localization of the specific set or group of cells that must be called into action for distinctive mental processes has been mapped out in the brain areas. When we see a ray of light, what happens? The vibrations of the disturbed ether strike against the retina of the eye and set up a responsive series of vibrations in the optical nerve, which, in turn, agitates a certain portion of the brain whose action results in what we call sight.

This is proved by the fact that when that special brain area which responds to the impulse of the optical nerve is injured or destroyed, blindness ensues. On the contrary, if the retina and optical nerve are atrophied or injured, so that sight is impossible because vibrations from without cannot affect them, it has been shown by laboratory experiments that if the cortical area which responds to the action of the optical nerve is electrically agitated a flash of light will be apparent even to a blind man.

It is unnecessary to present further illustrations to the intelligent reader, but all the rest of the cortical areas are affected in like manner, such as those that have their functions in speech, hearing, smell, etc. Now all this goes to show that when the brain is affected by a nerve impulse it responds to some

physical activity or mode of motion. If, then, nerves are so affected by motion from without, and if their affections correspondingly set up certain motions in the brain, it must be apparent that whenever and however the nerves and brain are affected it is in accordance with the same law and method. Therefore, when the brain and nerves are affected inwardly, or by thought, will, and reflection, the same physical process must be set in operation, with this difference only, that the impulse comes from within rather than from without.

Now when we further discover that the nerves react most instantly, almost we might say automatically, to an electrical impulse from without, it is scarcely carrying the office of the imagination too far to assert that when they are affected by inward impulses those impulses must be electrical in nature. The effect of the mind, then, or the will, is in the nature of an electrical discharge.

For a long time a materialistic philosophy claimed that all nerve action originated within the nerve cell—that it was a sort of spontaneous electrical battery, and that whatever effect its activity had on the muscles and the body in general sprung from its own spontaneous electrical activity. But this is now shown to be false. (See Schofield on "Unconscious Mind.") As remarks Dr. D. Hack Tuke, "The

Will determines, but the automatic apparatus executes." The Will, then, or the mental action, must be of the nature of an electrical disturbance. Its action correspondingly upon the nerves, and the law and method by which it can be induced, must be identical with the law and method of external electrical agitation. Let us then attempt an application of these principles.

We saw that the nerves, if in a heated or excited state, were less easily affected by an electrical impulse, because the fatty substances were so dissolved that the electrical energy somehow could not find it, to speak vulgarly. Is not this true of the mental energy? When a person is in an agitated, angry, hysterical or nervously disturbed condition, is it not next to impossible for such a person to receive a direct impulse from a mental action? Can such a person think, reason, or will? Are not the nervous tissues in such a condition that if one attempts to use them as agencies for rational action they become the more disturbed and fly all apart into scattered elements?

The physiological reason for this fact seems to be that the nerves are too hot, that is, they are too melted, to receive the electrical energy of the mental action, and hence the failure of any rational effort in their behalf.

RATIONAL TREATMENT OF THE INSANE AND HYSTERICAL.

This fact shows how utterly nonsensical, yea criminal, the former treatment of the insane was. Indeed the lesson must still be enforced, for there are many who think that the insane can only be controlled by physical restraint and force. Undoubtedly the reason they are not amenable to rational mental action is because their nerves are so heated or melted that any effort mentally to control them is physically impossible. This is also true of hysterical and all kind of excitable people. Let the nerves get cooled down. The fact that there is a certain sort of smell, very vague and subtle, that accompanies insane persons, which an expert, it is said, can detect, seems to indicate the fact that a peculiar sort of nerve-dissolution takes place in their bodies.

Manifestly, then, the only scientific way to treat the insane is first to so affect them that their nerves will be calmed and cooled, and kept in such condition, till the power of the reason and the kindly affections can overmaster them. There occurred somewhere in the west an incident which illustrates this law in a most interesting fashion. It was in the summer time. A woman sat upon the veranda of a

country house knitting some socks when she was suddenly approached by a raving and frenzied man who made incoherent demands upon her. Being a woman of calm and self-restrained nature, she fortunately was not frightened and did not fall in a faint. This same man had passed a neighboring house a short time before and had attracted the attention of its inmates by his wild ravings and strange manners. One of these inmates slowly followed him, with a gun, thinking that perhaps he might attempt to harm those whom he might meet unprotected. As this man drew near the first house mentioned he saw the madman accost the woman, and, surmising that her life was in danger, ran hurriedly to her with the gun. But the heroic woman motioned to him in the distance to drop the gun and not to approach. By that time she had succeeded in attracting the calm attention of the madman by her gentle, soothing, and friendly voice, to such an extent that he paused in his senseless howling. She had so far mastered him, simply by her voice and gentle manner, that she induced him to come quietly through the gate and take a seat on the porch. Having thus calmed him, she enjoined him to eat some food, which he did without the usual suspicion of the insane. She then informed him that she thought it would be enjoyable to take a

little ride. He consented. The buggy was prepared and brought to the gate; quietly he suffered himself to be led by the woman, who had so mysteriously conquered him, into the carriage where he remained at her side till she drove him to the authorities where he was cared for.

Thus by the simple use of a calm mind, a quieting manner, and a fearless spirit, the woman performed a wonderful scientific experiment with marked and extraordinary success. By her gentle manner, that is, by the use of correct mental effort, she had caused the discharge of certain electrical impulses in his brain and nerve centres which hardened the nerve-substance so that it became susceptible to the mental currents.

We learn from this simple law how foolish and needless, yea, how criminal, is worry or unnecessary mental agitation. It heats and dissolves the nerve-substance, making it unsusceptible to necessary electrical impulses, and thus destroys their value as mental instrumentalities.

By this law, too, we discover the physical benefit attaching to the cultivation of a meditative state of mind, to calm contemplation and studious introspection. How instantly are the nerves affected by the cooling zephyrs of the morning, the vibrant, bristling winds of October, the hot, enervating airs

of the summer solstice, or the frigid days of an arctic winter. But why may they not be as well affected by corresponding mental states? Have we not all the seasons and atmospheres, all the temperatures and humidities, within our mental spheres as well as in the outward physical world? Do we not often suffer the summer solstice of dissolving lassitude, when each mental effort floats away in an airy solution of mental fascination? when to think is impossible, to work is a wearisome endeavor, to endeavor is but to drudge? Or, possibly, we are not innocent of such mental temperatures as are too heated for calm contemplation, for earnest effort, for sincere friendship.

At such times we need a mental change of climate, as when we rush from one section of a country to another for more congenial seasons.

To withdraw from the agitated surroundings of nervous excitement and nervous strain to the quiet retirement of one's own solitude, either in the crowded streets or in the private closet, is but to invite the operation of a natural law that cannot but conduce to peace, happiness, and physical rehabilitation.

At such moments of quiet, we return to the infinite source of all power, and, permitting our nerves to be restored to a state of physical equilibrium, we

prepare them for the higher currents of mental energy that assure us the strength and happiness for which we yearn.

EDUCATION OF THE NERVES AND ETHICAL CULTURE.

Following the law which has been suggested in this chapter, we should be enabled to make some useful applications of it to our conditions of health and ethical development. As we have seen, when the nerves are in a state of excitement, that is, when overheated, they become poor conductors of electricity. Mental action, as has been argued, is a species of electrical activity; therefore, when the nerves are in a state of excitement they can be but little affected by a rational mental effort, because they are poor conductors of the electrical discharge. Hence, what we desire to accomplish in the way of culture that shall result in the improvement of our mental attitudes, our moral habits, and our general characters, must be attempted in moments when the mind is freest from agitating excitement—when we can command the largest calmness and sense of sobriety.

At such times, if we desire to rid ourselves of unhappy mental moods and moral habits, we should

send over the wires of the nerves the mental impulses that will plow such an electrical path through the nerve substance as will invite the desired condition when occasion calls for it. As for instance, let us assume we wish to overcome a disposition to anger, whether inherited or acquired. Certainly if we attempt this control in the moments of fiery excitement, while the electrical currents are running wild over the nerve wires, and instead of pursuing a direct path are shunted and flying off in all directions, we shall be able to effect but poor results.

But if we direct the desire at which we aim over the course of the nerves while the mind is composed and the nerve-substance is in the right state, that is, chilled and responsive to impressions, then the desire will build for itself a pathway through the nerves. By repetition of the expressed desire the path will deepen so that ultimately the thoughts or emotions which we wish to express will spontaneously rush through the new nerve-paths which we have made, and thus rescue us from the evil disposition that formerly prevailed.

Hence, when we have given way to anger, when we realize its conquest, we should attempt to overpower it by some such plan as this:—

First let the mind dwell upon the shame and degradation of the angry outburst. Let it contemplate

all the injury its indulgence is apt to inflict on the individual life; how it estranges friends, and belittles one's capacities; how it often drives its victim to the execution of deeds which in sane moments would be most appalling. Having thus convinced itself of the enormity of the evil habit, let then the will exercise its prerogative by determining that never again shall the mind suffer its electrical currents to flow in the old channels through which the angry impulse passed, but will build other and happier pathways for its expression. This may be accomplished by the mind asserting the following thoughts with vigor and intense authority: "I send forth only calm and composed impulses through the nervous paths;" "I am conscious only of a sense of perfect composure and restful peace;" "I harbor only kindly feelings toward all my neighbors, friends, and acquaintances;" "I can conceive of no circumstance that would agitate me or cause my mental currents to become confused; I am ever calm, composed, kindly, gentle, loving and sweet in my thoughts and disposition;" "I am immovable by aught that anyone may say or think against me; nothing disturbs or angers me; for I am the very quintessence of peace and gentleness."

Now this line of thinking, not merely momentary but intense and persistent, often indulged, will in

course of time plow a new series of paths through the nerve centres which will ultimately evince their force in the renewed disposition of the individual, his rescue from the evil habit he has learned to deplore, and the restoration of his peace and happiness.

The same principle may be effectively employed in the acquirement of any desired mental or ethical capacity. We need but recall that, according to the law, the mental expression is an electrical discharge, and that the nerves become the best conductors when freest from over-heating excitement, to learn how easily it may be applied. One, for instance, desires to make of oneself a good mathematician. If there were not already a preparatory state which Nature had provided for the cultivation of the capacity, there would, of course, be no desire awakened. Hence the existence of the desire intimates that Nature has already laid the foundation for its possible cultivation and achievement. Therefore, the thoughts should dwell long and often on the ambition; not only when engaged in its cultivation, but when the mind is less excited with its contemplation; in moments of retirement and reverie; ever should the thoughts return to the ambition conceived and nurse it into being and re-awakened confidence.

Mental and ethical habits are acquired according

to the same law as physical or muscular habits. Exercise is the one constant necessity. The mind exercises itself in the disposition known as thought. The body exercises itself in the disposition known as work. The mind's working is thinking, the body's working is acting. Now when a baseball player desires to develop himself into a skillful performer, he achieves his ambition only by persistent application and practice. But he engages in two processes, one of which is apparent and the other concealed. He exercises both the mental and the bodily work. Unless he persistently thinks on his ambition and on every available occasion puts his thoughts into action, by exercising the body in the manner necessary to achieve his end, he will never become a successful player. But if he do both of these things, he will ultimately become one.

So when the mind desires to acquire a purely mental or emotional quality it must exercise itself in the consummation of its purpose precisely as the body must be exercised for the purpose of acquiring any desired skill. Any brain centre can be developed which we desire if but we apply ourselves. The stupidest men have become great scholars, scientists, thinkers, and world-leaders, by mere persistence and application.

Demosthenes was ill-made by nature for an ora-

tor. His brain centres were distorted, resulting in feeble capacity in the use of his tongue. But he determined to become an orator, and by the proper exercise of his vocal chords he succeeded in so changing the quality and association of his brain-cells as to restore his power of unstammering speech and cause him to become one of the greatest orators among men.

Mental exercise does not mean mental laziness. Mere thinking will not consummate ambition. Thought must be exercised as well in action of the body as in action of the mind. Forced blood-flow to brain centres, whether by external or internal electrical application, will not of itself build up the brain or increase its capacity. There is but one natural and effective way to draw the necessary blood to any organ of mind or body. That is by such efficient exercise of the organ as to compel such usage of the nerve cells as shall demand a constant new supply of food. Then by properly nourishing the body with what nutriment it requires, and with ample quantities of fresh air and pure water, the blood will rapidly flow to the centres that need it, and thus keep the physical basis of the mental organs in an efficient working condition.

CHAPTER VII.

The Body.

 OW much is the happiness, the peace, the misery, or the woe of life dependent on the crude instrument of the body! How little has man learned its control! How still is it the master of his morals, his ambitions, and his prowess! How often has it dragged him to the gutter and besmeared him with the mire of infamy and vice, making of him who is "a paragon of animals,—in apprehension, a god"—the veriest libel on his Maker!

Yet man is conscious of his self-responsibility, because he can by an effort of the mind separate his personality—his self-conscious integrity—from its immediate relationship with the form it inhabits. Man cannot physically remove himself from his house of clay; yet he can soar on mental wings so far above the miasmatic atmosphere in which too often it abides, that he can become conscious of the regnancy of his soul, and its absolute dominance of

the body. Because he has so often failed in this, he has fallen to the estate of the damned and bitten the dust in his disgrace. The control of the body—its appetites, passions, habits, predilections—this is the one supreme necessity of life and the mandate of ultimate success. For the want of it, the myriad go down to the hell of self-disappointment and suicidal despondency; and the few who win are yet but partial victors, for they have set the golden head of genius on the clayey trunk of a clown.

Edgar Allan Poe wrote some of the most exalted and inspiring lines that ever leaped from the pen of man. He lived a genius among the gods. His lips were touched with coals of fire from the altars of true inspiration. Yet how unhappy the ill-control of that body, which dragged him to an inebriate's grave, if not to the verge of insanity!

Letting go the reins, by which he should have restrained the appetites of his intense nature, Daniel Webster, a Jove among statesmen, sank from the high estate of a master-genius to a paltry politician, cajoled by cunning, and disappointed in his loftiest ambition. Even the great Charles (Charlemagne) the shadow of whose superlative prowess hangs over all Europe even to this day, the founder of a dynasty, the maker of an empire, was unable to control the petty kingdom of his body and yielded to an indul-

gence that dragged him to the grave of a suicide. He became enamoured of a simple rustic maiden, whose mysterious charms so overpowered him that he could not disentangle himself from the entrancing network, but forgot his dignity, his throne, his family, his reputation, and lost himself in her embraces. Even when she died, he caused her body to be carried round through the cities and followed it in dumb adoration, till, losing his mind, he sought an end of his life.

Oscar Wilde and Byron are further illustrations of the strange want of physical control in minds of superlative capacity. True, such mental kings won a certain favor from the gods, in spite of their unhappy ill-control of self. How much, though, could they have left as a heritage of their genius to mankind had they but restrained their physical tendencies and conserved their wasted strength for some still more masterful achievement!

Yet where there is one genius who wastes his body, and thus debilitates his mental force, there are a million who do likewise who are endowed with but a mediocrity of talent. When they lose themselves in their appetites and vicious physical dispositions, they leave no other heritage to those who mourn them than a wail of despair and an unhappy memory.

To have a good, healthy, happy, well-endowed body, and well under the control of common sense and judicious restraint, is, then, one of the first requisites of a successful career.

One need not, however, be discouraged if not rightfully dowered with physical strength and proportion. There have been disfigured men and women whose very natural misfortune has been the inspiration of their effort and achievement. Not the dwarf-like and repulsive figure of Pope could prevent him from pouring forth the wisdom of verse and prose, till the splendor of his mind's achievement so far overshadowed the disfigurement of his frame that one forgot to observe it while marvelling at his genius.

Elizabeth Barrett Browning was not dowered with health, beauty, or a fund of physical force. All her years she lay upon her invalid bed, and, almost deserted by her body, caused her brilliant mind to display such starry glories in the firmament of literature that she conquered in spite of her exhausted body. Sometimes the very force of the mind itself is so effective that it prolongs a life of which Nature had prophesied but a short duration, with death already written in the cradle. Such was the secret of Samuel Johnson's long life of seventy years and more, although physicians and friends

had anticipated sudden death at any moment. Boswell informs us: "His figure was large and well formed, and his countenance of the cast of an ancient statue; yet his appearance was rendered strange and somewhat uncouth by convulsive cramps, by the scars of that distemper which it was imagined the royal touch could cure. . . . He had the use of only one eye, yet so much does mind govern and even supply the deficiency of the organs that his visual perceptions were uncommonly quick and accurate. So morbid was his temperament that he never knew the natural joy of a free and vigorous use of his limbs: when he walked it was with a struggling gait like one in fetters; when he rode he had no command or direction of his horse, but was carried as if in a balloon. That with his constitution and habits of life he should have lived seventy-five years is a proof that an inherent *vivida vis* is a powerful preservative of the human frame."

But one fact stands out with startling and preposterous certitude. It is this: that the human race is ridiculously short-lived. In the animal world it cannot at all compare with the alligator, the elephant, or the tortoise. The latter may live hundreds of years. Elephants reach an age of a hundred and more, and the average life of many animals is far in excess of that of humankind. Ah! but one says:

These lower forms live longer, first, because their structure is such as to permit of extended longevity, and, second, because its use is so far less wearing than is the use of the human frame. To the latter objection there may be much force; but its edge can be materially worn off by recalling the fact that it is the ill-use of the human frame that exhausts and destroys it rather than the mere use itself. A thing properly made wears off but little of its essential nature by judicious usage. This is true of all machines, and it is still more true of the human machine. But to the first objection there is no force at all.

The truth is, judged by the quality of vital tenacity, physical proportion and adaptation to environment, the physical frame of man is better dowered than most of the lower animals, and is indeed constructed with an apparent design of enduring the wear and tear of life for at least a couple of centuries. Dr. Hamilton, who made a most cautious and serious study of longevity, assures us that man could easily live to be a couple of hundred years old if he used his body rightly. Indeed Metchnikoff, who leads the world's biologists to-day, feels quite certain that by a proper dietary there is no need for death to enter the human race at all, and that in time we shall learn to prolong our years on this

planet for centuries by merely understanding and appropriating the scientific laws of life.

It behooves us, therefore, in studying the "Mastery of Mind," that we learn some of the simple principles which underlie the achievement of efficient health and the acquirement of a sufficient physical prowess for the battle of life. Let us, then, proceed to study the following physical pre-requisites:

Regularity in Habits.
Rest and Sleep.
Rhythmic Breathing and Nerve Response.

I. Regularity in Habits. Habit is one of the arcane laws of human life. It is both physical and psychical. In the physical realm it is accentuated by the characteristic energy of the nervous force that operates in all the activities of the body. As a current of electricity is sent over the operating wires to communicate intelligence to some distant point, so over the slender threads of the nervous systems of our body are discharged the neural currents that cause them to throb with action and intelligence. These neural discharges cut, so to speak, distinctive channels through the nervous tissues, and like a stream of water that will flow into the deepest

bed accessible, this discharge ever seeks the channels that have been cut the deepest by continuous usage. Therefore, a mental or physical act first attempted is less easily accomplished, because the fluidic discharge of the nerves must plow through unaccustomed passages. When one first attempts to shave off a portion of deep-grained wood, the initial effort is always difficult. But when once the first slice is severed the knife moves easily and the grain yields like a conquered servant. So frequent and repeated attempts to perform an unaccustomed physical or mental bit of work becomes with each attempt easier and easier, because the passage through the nerve fluid has been deepened and widened and the flow of the discharge is, as a consequence, facile and favorable.

This is the reason that, for instance, when one first attempts to play upon a musical instrument, as the piano or the violin, one finds it almost impossible and is easily discouraged. But when the attempt is persisted in and the sense of discouragement is not submitted to, ultimately the fingers, through mental guidance, so completely master the instrument that the performance becomes mechanical and approaches perfection.

This feat is accomplished because of the fact that the mental effort has been transferred from the con-

scious to the sub-conscious plane of activity. The first effort demands extraordinary attention and courage, because the mind is conscious of resistance: it feels the tug, the push, the urge, the tension of the effort. It must battle its way through the unfrequented nervous region as the pathfinder must blaze through the thick and unpathed primitive forests. But once the path is cut and the road is paved how easy the access and travel. Thus we see there is an occult physical and psychic law at work in every mental effort we put forth. The physical occult law is that of the discharge of the electric fluid of the nerves through the neural substance upon which it must impress its presence. The psychical law is the substitution on the plane of activity of the unconscious for the conscious faculties.

This teaches us the necessity of regularity in the habits we cultivate. For the unconscious mental plane is of the mechanical nature, subject wholly to the superintendence of the superlative self-consciousness, and receives its orders wholly from that source. But once the superlative consciousness relinquishes its authority and relegates all duty to the inferior consciousness, then the mechanical action sets in and the habit is established.

If we desire that the body should attain its highest capacity, we must endeavor to habituate it to

perform its activities as far as possible always at the same periods of time and under the same mental environment.

Our bodies become decrepit and worn out chiefly because of want of order and method. The confused mind creates the distempered body. A calm mind will always generate a harmonious and self-contained physical frame.

One well acquainted with this law would be able to read almost any character from the apartment it occupies, from its physical surroundings and visible temperamental conditions. Tidiness of body is one of the first requisites of health and success. A clean and neat body is a profitable medium of exchange. Poor old Oliver Goldsmith found the trick of this truth and proved it very available. Always a pauper and finding it compulsory to depend for his stipends on the good-will of his friends, he learned early in life that favors are often granted commensurately with the appearance of the seeker. Hence, when he determined to call on a wealthy neighbor for a loan, he invariably borrowed a coat of fine velvet, clean shirt ruffles, and neat, new slippers with gold buckles, from some accommodating friend. For, he said, one is ashamed peradventure to refuse accommodation to a prosperous man, though a beggar is easily disposed of.

Money makes money, riches are contagious, and so are happiness, health, hope, and good cheer. Therefore the grumbler is always unwelcome though rich as Crœsus, while the wit, with his volatile *bon mots,* is always sought for and favored. But all these qualities are only acquired by the institution of established habits of the body which generate them.

If economy be desired in the achievements of the body, then regularity is of the utmost importance. By reason of the occult laws above indicated it is evident that if one wishes to do one's very best one should always attempt the same kind of work at the same hours of the day. This law is especially important to students and mental workers. But it is no less true of physical workers. So true is this law that sometimes the body will refuse to respond with its accustomed willingness if the time be inappropriate. How often have we attempted a task at an unaccustomed time, and though the body is not fatigued yet the effort fails. While when the hour arrives in which we were in the habit of performing the desired work almost spontaneously the body yearns for it, and it is accomplished practically without conscious effort.

This law is well exemplified in the achievements of workmen in factories where by the division of

labor the highest utility of each worker is achieved by accustoming him to do but one thing and always at the same time. The result is that while unfortunately the human being is reduced to the mental condition of a mere machine, he is able to produce at least tenfold of what he could accomplish were his energies diverted to several kinds of work at variable periods of time. Says Adam Smith, "The division of labor, by reducing every man's business to some simple operation, and by making this operation the sole employment of his life, necessarily increases very much the dexterity of the workman. A common smith, who, though accustomed to handle the hammer, has never been used to make nails, . . . will scarce, I am assured, be able to make above two or three hundred nails in a day, and those, too, very bad ones. A smith who has been accustomed to make nails, but whose sole or principal business has not been that of a nailer, can seldom with the utmost diligence make more than eight hundred or a thousand nails a day. I have seen several boys under twenty years of age, who have never exercised any other trade but that of making nails, who, when they exerted themselves, could make, each of them, upwards of two thousand three hundred nails in a day. . . . The rapidity with which the operations of some of these manufacturers is performed exceeds

what the human hand could be supposed, by those who had never seen them, capable of acquiring" ("Wealth of Nations").

If, then, we wish to make the body submissive to the demands of the will—if we wish to prepare it best for all the requisites of nature and of human life, let us educate it to periodic habits of occupation.

By this practice we shall, indeed, discover that those great desiderata of human beings, Health, Happiness, and Success are largely matters of habit. If we accustom the body to awaken each morning with the conscious possession of these qualities, and not with the predisposition to complaint and misgiving, we will have forged far ahead toward the earthly paradise we pursue. If we accustom ourselves to think of the body as decrepit, full of aches and pains, and on our lips is ever a groan of despair and in our hearts a pang of self-reproach, we shall reap what we sow and end our days in sackcloth and ashes.

"Guard well the days that hurry by,
Nor backward look with heavy sigh;
All wasted are the tears that fall,
No ill-spent hour can they recall.

. . . . . .

March onward with a fearless mind,
And leave the shadows far behind."

II. Rest and Sleep. In this age of over-eager activity nothing seems to call for more serious consideration than the demands the physical system makes upon us for a sufficient period of rest for the recuperation of wasted forces. How little do we realize the expenditure of energy in the course of an ordinary day's work! Were it not for the ceaseless supply of food, drink and air, the body would speedily expire. True, the amount of food need not be so voluminous as commonly supposed. Yet, to deprive the body of some requisite fluid to stimulate and awaken the natural humors will soon bring on exhaustion; while to attempt to do without air, in a normal condition, even for but a brief period, speedily reduces the system to the verge of initial dissolution.

It is well known that the tissues of the body are in a state of constant combustion. The blood is molten matter, heated into fiery solution, and demands the constant supply of fuel, as does the oven of an operating furnace. Respiration, or simple breathing, institutes a condition of combustion. The furnace in which this combustion takes place is the lungs. The substance that it consumes is the burnt sugar. The fumes that ascend from the furnace in the lungs are vapor and carbonic acid gas. (Cooke.) The real reason, therefore, that we require so much

food, air and drink is to generate the necessary amount of heat to maintain the activities of the working organs of the body. It is the heat that keeps the body a-going. Without heat the system is speedily paralyzed, especially in its motor centres. Each human being perhaps at some period of his life has proved this fact to himself, especially if he live in a cold climate and has been subjected to arctic conditions. It is for this reason we require so much more clothing in cold regions as well as more food. We need more heat in the body, and must procure it either by natural or artificial means. Death even is sometimes overcome by the rapid application of heat, even after all other methods of resuscitation have proved useless. Animals suddenly plunged in hot water the instant that death sets in have been successfully revived (Baker).

Now in order to keep the requisite supply of food in the system imagine the immense amount of energy that must be generated. But in order to generate the requisite amount of heat an immense strain is made on the energy of the system. The amount of energy that an ordinary person is said to expend every day in the maintenance of his bodily temperature, in internal mechanical work, such as the movements of the organic muscles, the heart, the lungs, etc., and the external mechanical work, such

as locomotion, exercise, etc., has been computed at about three thousand, four hundred foot-tons. Two-thirds of this amount of mechanical energy is required to supply the body's heat; the rest is used in the organic and mechanical work performed.

That we may have some idea of what this means imagine the amount of heat it would require, say, to raise about fifty pounds of water from the freezing to the boiling point. Any housekeeper will immediately appreciate this comparison when she recalls how much wood or coal it takes to kindle a fire sufficiently hot to cause even a small kettle of water taken from the well or water pipes to reach the point of boiling. How often has her patience been tried by the constant re-supply of fuel and the long time consumed in awaiting the result. A small kettle of water contains possibly about, say, four or five pounds of the fluid. If this water were first congealed and then the attempt made to boil it, it would require about one-half more heat than when the water is merely chilled. Now imagine ten times that amount of water, frozen and brought to boiling point, and you may have some idea of what is meant by the amount of heat we must produce in our bodies to keep up the work for a single day.

But a still more vivid illustration of the amount of energy we daily consume is found in the state-

ment that if we turned that energy into the mechanical act of lifting a man up through the air, we would find, if he weighed about one hundred and fifty pounds, that he would be hoist up through eight and one-half miles toward the sun. Think what an effort it costs an ordinary man to attempt to lift a weight of one hundred pounds over his head. Imagine, then, this man being lifted over eight miles vertically into the air and conceive of the immense energy demanded. Yet that precise amount of energy we expend during an ordinary day's occupations.

Hence, what can be more necessary than a sufficiency of sleep and rest to permit the hard-worked and over-strained body to recoup its forces! The secret of the rapid increase of nervous exhaustion and neurasthenia in the present age is that people will not rest long enough to give Nature a chance to catch up with them. Their pace is faster than the flight of Mercury, the messenger of the gods. Even he would fail to keep up with a fast-striding modern American. He works all the day long with the excitement of a fire-horse rushing to a conflagration, and occupies the night to dream out in restless half-sleep the problems he cannot find time to solve in the daylight's busy moments. Then he awakes to hail the early sun, stretching, yawning, groaning,

aching, and begins again the deadly grind. Still he wonders why he suffers from headaches and why the world looks so gloomy and foreboding.

Realizing this unhappy condition of our age, we must thoroughly sympathize with Hawthorne when he exclaims, in "Mosses from an Old Manse": "Were I to to adopt a pet idea, as so many people do, and fondle it in my embraces to the exclusion of all others, it would be that the great want which mankind labors under at this present period is sleep. The world should recline its vast head on the first convenient pillow and take an age-long nap. It has gone distracted through a morbid activity, and, while preternaturally wide-awake, is nevertheless tormented by visions that seem real to it now, but would assume their true aspect and character were all things set right by an interval of sound repose."

If Hawthorne was so impressed in the last century what would be his attitude now? He lived long before the days of the electrical telegraph, the trolley cars, underground electrical tramways, twentieth century trains, and the everlasting honk, honk of the affrighting automobile! Yet even in his age of comparative composure he cried for sleep. But how much more does the present age require it. While, indeed, we need not hope that the entire race will heed the demand of Nature, we may hope that

the few who are wise will do so, and seek the shelter of some calm repose.

It is interesting to learn that there is a physiological law underlying the utility of sleep and rest which proves to us how necessary they are. "When we fall asleep the eyelids are lowered over the eyeballs which turn upward, and the voluntary muscles are relaxed, so that the whole body, and especially the face, presents a picture of complete repose. At the same time the respiration is more or less modified; it becomes slower, and . . . the amount of inspired air is considerably diminished, so that instead of seven litres a sleeping man inspires only one litre. . . . Sleep produces a weakening of the action of the diaphragm. . . . Sleep modifies the entire character of the gaseous exchange in the body; there is a decrease in the quantity of the carbonic acid eliminated; and an increased absorption of oxygen. ("Sleep," etc., M. de Manaceine.)

By this description we learn that in sleep there is a vast diminution in the expenditure of the body's energies. Instead of giving out its forces it is imbibing unexpended energy from the air it breathes, while permitting the accumulated heat, which the supply of food has generated, to remain in the body, as evidenced by the diminution in the amount of carbonic acid eliminated.

While we have said this much about the necessity of sleep, there is an obverse side to the shield which we must also study. While sleep is necessary to all human beings, there are some people who require far less than others. It is folly for such people to be exercised as to the loss of sleep if they find that they can absorb but five hours o'night, whereas other normal people seem to demand eight or ten. It would seem that in highly self-conscious people, and people of tremendous will and mental forces, as much sleep is not required as by others. Such highly complex organisms as were possessed by Humboldt, Napoleon, Mirabeau, Schiller, Frederick the Great, and others actually consumed but a comparatively small portion of their lives in sleep. From this fact some have made the deduction that as the ages advance man will require less and less sleep till in some distant epoch man will sleep no more. This possibility, however, seems to be proved unlikely by scientists who have experimented on animals and human beings, and who have invariably found that sleep was even more necessary to life than food (de Manaceine).

It might be helpful here to enumerate some of the successful methods which experience has discovered to battle against insomnia. The cause of insomnia, we are told, is the anæmic condition of the blood in

the brain and an enfeebled consciousness. Therefore, if the circulation can be regulated, it has often been found that normal sleep can be restored. The following prescriptions have been found available. Just before retiring engage in a bit of vigorous exercise to arouse the activities of the body and stir the blood through the system. Warm baths on retiring have been found effective. The patient stands over the edge of a tub in a room of 65° or 70° Fahr. and douches the head in hot water at 100° Fahr. then the entire body is rapidly immersed in water, beginning with temperature at 98° increasing to 105° and 110°, then in a few minutes the body is removed from the tub and wrapped in blankets when as quickly as possible the patient slips into bed. A hot drink is taken and frequently a gentle and refreshing sleep follows (de Manaceine).

I have myself found that the brisk rubbing of the back of the neck at the base of the brain brings on a quiet sleep. Sometimes, especially in children, the gentle rubbing of the back down the spinal column will produce the same effect.

But psychological experiments are often far more successful. The brain conditions seem to be more intimately associated with those of the mind than any other portion of the body. If the blood beats like a trip-hammer upon the cells of the brain and

awakens its irrepressible activity, in some way a diminution of such activity must be acquired in order to induce sleep. This is often successfully done by attending to humming, rhythmic movements or sounds, to the ticking of a clock, the running of a stream, the remembrance of a soporific human voice, or by any other device that will suggest drowsiness and stupor. There is an amusing passage in Southey's "The Doctor," which sets forth the underlying psychological law that induces sleep so well that I cannot refrain from quoting it:

"I listened to the river and to the ticking of my watch; I thought of all sleepy sounds and of all soporific things—the flow of the water, the humming of bees, the motion of a boat, the waving of the cornfield, the nodding of a mandarin's head on the chimney-piece, a horse in a mill, the opera, Mr. Humdrum's conversations, Mr. Proser's poems, Mr. Laxative's speeches, Mr. Lengthy's sermons. I tried the device of my own childhood, and fancied that the bed rushed with me round and round. At length Morpheus reminded me of Dr. Torpedo's Divinity Lectures, where the voice, the manner, the matter, even the very atmosphere and the streaming candlelight, were all alike soporific; when he, who by strong effort, lifted up his head and forced open the reluctant eyes that never failed to see all around

him asleep. Lettuces, cowslip wine, poppy syrup, mandragora, hot pillows, spider's web pills, and the whole tribe of narcotics, up to bang and black drop, would have failed—but this was irresistible; and thus, twenty years after date, I found benefit from having attended the course." While from this prescription we may not find it available to send insomnia patients to church to be effectively cured, we cannot but be amused and mournfully instructed by Southey's humorous narrative, especially when we learn he was describing a personal condition which finally led him into the state of melancholic insanity.

This much at least we know, that for the overworked and tired nerves, the exhausted muscles and the wearied brain, Nature has but one restorative, and that is sweet and wholesome sleep;

> "Sleep, that knits up the ravelled sleeve of care,
> The death of each day's life, sore labor's bath,
> Balm of hurt minds, great Nature's second course,
> Chief nourisher in life's feast."

A regular life, proper food, exercise, avoidance of dissipation, a clear conscience, and the cultivation of kindly and noble thoughts toward all mankind, will often be more effective in inducing Morpheus to take us to his arms than any device of drugs or dream of theorists.

III. RHYTHMIC BREATHING AND NERVE RESPONSE.

So intimately associated are the numerous organs of the human system that they respond instinctively to one another. Especially is this true of the brain and the nervous system. What we must guard against most in order to preserve normal strength and capacity is such overtaxation of the brain activities as to cause premature exhaustion in the cells. One of the great mistakes is the setting of distinctive tasks to be accomplished within a specific period. When it becomes necessary to do this, no ill-effects result if the effort is followed by proportionally long periods of rest. Lord Brougham demonstrated this by his capacity to work for several days at a time without any sleep or relaxation from his tasks. But he had so taught himself to recuperate his lost energies that he would follow such efforts by sleeping through an equally long period immediately after. It was by observing this method, we are told, that Napoleon was able to accomplish so many of his herculean tasks. He taught himself to sleep anywhere and at any time, on horseback, in the midst of an engagement, on marches or in bivouac. His soldiers were experienced in sleeping soundly while they pursued their long marches for hours at a time.

But one of the most essential requisites for nerve and brain regulation, and an almost certain source of recuperative energy, is habitual and correct rhythmic breathing. The breath is indeed the inspirer and guide of all our labors. As we breathe we think; as we breathe we act; as we breathe we live. Persons with gasping and asthmatic, short and intermittent breaths, are incapable of deep and continuous thought. They suffer from the want of composure, loss of dignity, and absence of magnetic influence. Such people would be surprised to find how soon these qualities would be restored to them if they cultivated the proper method of inhaling the breath. Because of the extensive lung surface over which the breath is permitted to pass, the effort to be successful must necessarily be slow and protracted. While a quick breath suddenly and vigorously inhaled may reach far down to the lower portion of the lungs it does not permeate the cells because too speedily expelled. The breath should be drawn in and held for a while in order that it may percolate through all the minute avenues to which, if given time, it will find its way.

It is ordinarily supposed that breathing should begin at the upper lungs and gradually descend. This is an error, and is contrary to nature. One need but observe the breathing of babies to discover

the truth. The lungs, in early life, instinctively depress the diaphragm to make room for expansion. Only as the result of neglect does the diaphragm become in later years more rigid, and thus induce the lungs to breathe upward rather than downward. All breath should first penetrate the lower lungs and be gradually increased till the upper lungs are inflated. By this method one will be forced to breathe more slowly, gradually and rhythmically, and thus more effectively regenerate and invigorate all the cells as well as refresh and electrify the blood. A little practice will soon establish the habit, and the abdominal muscles will instinctively expand with each inhalation.

As this custom is achieved, the nerves will gradually relax, their activities will become more rhythmical, the brain will work far more easily and effectively, and the dignity and composure of the body will be much enhanced. One will be surprised to find how speedily the baser passions, such as anger, lust, envy, hatred, jealousy, can be eliminated, or at least profoundly mollified, by the cultivation of rhythmic breathing. The cause of such effects is easily discerned in the physiological conditions. The baser passions are the spiritual reflexes of the state of the nerves. If they are intensely agitated, because of the presence of an internal or external

stimulus, it means that the impulses are seeking unusual passage ways and are thus jarring and jangling the nervous threads. That is, they gyrate and swing in distorted arches, becoming, we might say, confused and intertwined. Unless we can disentangle them, get them to swing back into the proper paths, we shall not be relieved from the unhappy mental states we experience as the reflex of their physical disturbance. It will be found that when we are subject to these baser passions, our breathing apparatus is also distorted and refuses to work normally. We gasp, breathe in jerks, the breath sometimes going and coming so swiftly that almost suffocation ensues; we grow exceedingly red, sometimes partially black, in the face, our eyes are unusually dilated and the whites gorged with blood, while the salivary glands refuse to excrete and the tissues of the tongue and mouth are covered with a viscous and slimy membranous exudation. At such times, if one can but check one's self, and rhythmically inhale and exhale the breath, at the same time determining to contemplate nobler and more desirable thoughts, the victory will be easily attained. Whoever thought out the scheme of counting a hundred when angry before speaking came close to the law but just escaped it. Not merely the time is required which would be necessary

to the counting, but such period of time must be filled with the exercise of correct rhythmic breathings and the assumption of the desirable mental attitude. Then indeed will the demon soon depart, as Klingsor fled from the magic spear of Parsifal.

How are we to account for the diversity in human achievement? By what law are the happiness, health, and success of individuals established? No problem presents more troublesome intricacies, nor is more fascinating because of its apparent defiance of solution. Yet if we are to believe alienists, craniologists, and physiologists, the secret of the law is written in the very tissues of the fibres and cells of the nervous system.

It is all a matter of organization: of the possible adaptability and association of distinctive cell-groups with one another in the great central system. If one be born with cells susceptible of expansive association with other sympathetic cells, even though their weight and size be less than in other seemingly better endowed individuals, the former is destined to triumph over the latter and carve out for himself a more successful career. To a very large extent we are limited in our capacities by the adaptability of our nervous systems to the work we undertake. There are some organizations so made that by no cultivation or nurture could they possibly be fitted

for certain vocations or professions. If they attempted it, their lives would prove to be a most dismal and protracted failure. Many is the fond parent who insists on his child securing a classic or traditional education, little realizing that Nature has imperatively foreordained his utter failure in the attempt. At times parents and teachers, overruled by a conventional conservatism, have both wasted their fortunes and the unpliable energies of their offspring in the foolish endeavor to educate them in pursuits for which their organization has eternally unfitted them, and whose pursuit is little short of madness. Again the folly possesses some fond parents that only a boy should receive a professional education, whereas a girl is made only for motherhood. An old superstition long prevailed that the human female was born with a brain that made her incapable of pursuing the same studies and professions as men. This theory is now exploded. For while the brain of a woman is comparatively lighter than that of man, intelligence is not demonstrated by the brain weight, but by its finer organization and development in certain brain centres. Nature herself is the only prophet of the individual, and she does not classify her prophetic indications according to sex. I remember well a case in point of a devoted father who parented

a boy and a girl. He was determined that the son should receive the traditional education, but that the girl should attend only a girls' seminary and learn chiefly domestic and ornamental accomplishments. After wasting a fortune on the boy, who failed in all his classes and was finally expelled from college, in spite of his father's wealth and protestations, the girl took the reins of government in her hands and guided her own destiny. By dint of toil and drudgery she earned enough money to educate herself for what she instinctively felt to be fitted, and while her father cast her off as if she had been one of suspicious morals, she was finally able to laugh at him by demonstrating her ability as an accomplished and efficient physician with a large and lucrative practice.

Ah, could we before birth but choose our parents how happy we might foreordain ourselves in the uncertain vicissitudes of life. For we are born with distinctive capacities which we have physically inherited and to divine these early enough in our career is the making of life's success. While it appears fatalistic to assert that our mental capacities are not only commensurate with our cranial organization, but that we are even limited to circumscribed brain groups as the instruments of our

achievements, yet in that very fact there lies more hope than discouragement.

For Nature is not lax in revealing what she intends her children to undertake in this lowly pilgrimage. The fault lies chiefly in the prejudice and bias of tradition; in the unwillingness of parents and teachers to heed her promptings; and in the fact that there is still very much extraordinary ignorance relative to the problem, among the entire race.

But the fact that, in spite of false and ignorant education, so many precocious geniuses are found in each age, is proof of the persistency of Nature's determination in the formation of character and capacity.

If we but better understood the rhythmic action of the nervous centres, and how their mutual juxtaposition invited to distinctive phases of education, we would all make a better triumph of our careers. It is a remarkable fact that the muscles of the body which lie nearest to the brain centres with which they are connected are more directly affected than those that are more distant. As for instance, it has been found that an idiot can be educated in the use of his hands, not by direct education of the fingers first, but by instructing him how to bring the shoulder under the control of his will. Then when he has mastered the

shoulder-control to attack the muscles just below, and so on down to the finger muscles. This suggests that certain cell groups are contiguously related, and that if we but understood their exact location we could work out an almost mathematically correct programme of education for each individual.

But this much we may grasp. The nerves effect the greatest amount of work by rhythmic processes. If a set of nerves be actively employed during a certain period, and a temporary rest be given them, while another set of nerves is brought into action, it will be found when the return is made to the former group of nerves that they will respond with more vigor and pliability than when they were dismissed. Therefore, it is well to alternate the nerve groups by changing from one class of employment to another, when a sense of fatigue begins to seize the brain or body. Darwin never sought any other relaxation from his arduous mental labors than a resort to light reading, fiction, poetry, and narrative. After his brain was rested by such leisurely and pleasurable pursuit, he returned to the strained attention of his scientific labors with renewed energy and increased accomplishment.

While without a doubt we are partially limited in our successful ambitions by the restrictions of our physical organization, yet we must not fail to

emphasize the fact that to some degree such limitation may be neutralized by mental effort. We have already observed the law of vicarious interchange of activities. We have noticed that if one organ be abused or abrogated, its office, to a certain extent, is assumed by another, and to some degree its functions are thus continued. Doubtless this fact becomes possible in the development of the organs because of the close proximity of the cranial cells between the distinctive groups which officiate in the respective offices. One might ask, for instance, how it can come to pass that, if one be blind, his hearing may be inordinately acute? Why should the instrument of the ear increase its capacity for work because the instrument of the eye had been injured. An explanation of this fact may be found in the close relative positions of the optic and the auditory nerve-groups in the brain. We found that the nerves nearest the trunk were the first to be affected by the nerve impulses from the brain (as in the case of educating an idiot in the use of his fingers). So we may believe that because the optic and auditory nerve groups are so close that when the one is injured the other receives the mental impulse and takes up its work.

This is particularly true of the vicarious work which may be set up between the olfactory and the

optic nerve groups. Doubtless we have all observed that persons who do not see well have an acute smell; or at least an olfactory capacity above that of the normal. It is noticeable among cats that their vision in the daytime is poor, no less than their olfactory sense. These two senses partially obtuse, the sense of hearing is extraordinarily developed. Dogs, on the contrary, have a comparatively poor sense of sight, and an indifferent auditory sense, but their olfactory sense is marvellously acute and penetrating. The sense of vision may be tested by throwing a stick in the water. If thrown too far out the dog fails to detect it and refuses to go after it. But if a piece of meat is attached he will find it, at whatever distance.

All this goes to show the interchange of the faculties of the senses. As I have said, the vicarious capacity of the organs may be physically explained by the relative juxtaposition of the brain groups which officiate in the respective senses. Thus we may observe that the intelligence, or the mental energy, latent within the brain and urging on the specific cell groups to the performance of their functions, failing to effect results in the one instinctively resorts to another. The mind within knows no difference in the responsive capacity of any of the groups. But having become accustomed to operate

through certain distinctive groups for the execution of certain offices, if such groups be impaired and refuse to respond, the mind seeks another channel of expression, and usually persists till it discovers one.

In the end, then, while we are to a large degree limited by our physical organisms and hereditary capacities, yet we must not fail to recognize this law of vicarious response in stating the law of potential individual capacity. We are not justified in asserting that an individual is absolutely limited by his physical organism. We must first observe to what degree the individual is mentally endowed, and whence has come his hereditary intelligence, before we set the limit to his possibilities. Having discovered that there is a promising hereditary intelligence, we may justly assume, that notwithstanding the apparent physical limitation of his organization, by proper influence and education this may be overcome and the spiritual force find an avenue for its expression.

Thus often geniuses in their early years are dull and unpromising. Gibbon at school was not prophetic of the great historian he was to become. The accident of idleness in army life gave him the leisure that awoke the latent mental capacity which thus far his physical organization did not in the least

seem to indicate. A still more emphatic illustration of how the ever-wakeful though clouded mind within the organization may sometimes, under genial influence, awake to physical expression, is found in the life of William Cowper. All his younger life he gave but indifferent promise of what was in him. But under the care of the kindly Mrs. Unwin, even after his brain had snapped and he was unsound of mind, altho' full fifty years of age, he was led by slow degrees to cultivate his literary powers till he at one time resembled Milton in his achievements and at length gave to the world a worthy and most beautiful literature.

In short, the mental force within the material organization is the supreme and guiding power. Confidence in its capacity and possibility will often rouse the melancholic to startling achievement and the discouraged to a degree of self-appreciation that inspires them to bcome useful individuals. The mind is the moulder of the brain groups; it carves out the character and affects the quality of the mechanism it determines to employ. Thus by the more appreciating its tremendous potency we learn tc enjoy higher confidence in ourselves, and the more successfully rescue ourselves from despondent and demeaning attacks of self depreciation.

CHAPTER VIII.

The Parents.

TO what extent is a man responsible to his ancestry and parentage for his character and career? Like all other organized composite units of the world man is a product of natural forces. There is nothing particularly mysterious in his making if we trace all the forces that enter into it to their very beginning. It is true, man is "fearfully and wonderfully made." Science in this respect has corroborated the declaration of religion. But it requires no inspiration to reveal this truth when Nature herself affords us such ample intimation of its existence.

We say that man is fearfully and wonderfully made, but we shall not fully realize what this means till we first understand how wonderfully and fearfully made is the egg from which he is evolved. For the primal human cell, that little dot of mysterious matter, in which inhere all the possibilities of

human individuality and racial history, contains within its microscopic pages the full prophetic forestallment of the man to be. It is true that the tree is in the seed, the oak in the acorn, in a strictly literal sense. For while indeed the tree is not full-developed in miniature in the seed, it is also true that the full capacity of the tree is already potential in the seed undeveloped. In short, what the tree is to be is forewritten in the seed. Yea, more than this, what the seed is to be is forewritten in the primal protoplasmic cytode, from which the cell and seed, the tissue and membrane, the leaf and flower, the tree and fruit, shall finally evolve.

Two tremendously prophetic and startling facts greet us on the threshold of this study. The first marvel is that the germ-plasm, the primal life substance from which all forms of organic life proceed, is ever and absolutely similar and indistinguishable. No microscope can penetrate the mysterious depths of the speck of protoplasm and foretell its history. None can see within the mysterious depths of the cell what may be its prophecy, whose fulfilment shall mean a fish, or bird, or reptile or a biped. Not till the cell begins to divide itself into a multitude of cells and at length undertakes to build up an organism can we learn the tendency of its development. Here in the primal

womb of undifferentiated life lies the impenetrable mystery of the individual life.

But the second and still more startling marvel that confronts us is that the germ-plasm from which each distinctive, differentiated and individual life proceeds, which in its own time shall expire and disappear, is not itself subject to death, but has ever persisted since the first slimy bit of living substance emerged from the cosmic breast.

The life substance is found to consist of two elementary stages. The first stage is homogeneous, and as yet wholly indistinguishable. It exists without a nucleated centre. It is all alike. This is designated as the cyto-plasm. Had it never developed beyond this stage there would have been no such thing as individualized organic life on the globe. But it assumes a second stage, that is, the stage of the nucleus. When the nucleus is aggregated within the cytode, then comes the beginning of individualized life. Some mysterious force operates within the differentiating nucleus that causes the ultimate forms of organic expression to be diversified. "It is under the influence of the nucleus, that the cell-substance re-develops into the full type of the species. In adopting the view that the nucleus is the factor, which determines the specific nature of the cell, we

stand on a firm foundation upon which to build with security" (Weismann).

But so marvellous are the workings of Nature that we can almost trace the evolution of the nucleus from the cyto-plasm, stage by stage. The nucleus of Weismann is not the ultimate differentiable division of the first form of the life substance. The nucleus itself reveals another centre, the *nucleolus,* and this again reveals a source from which it sprung, the *nucleololus.* But the possibilities of the microscope are not exhausted, and who shall say that we shall not yet discover the very point at which the plasm begins its differentiation into germinal nucleated expression.

But what bearing does this have on the art of the making of a man? Much in every way. For we learn that within the primal plasm itself inhere the physical tendencies and potentialities of the entire race, in microscopic and miniature prophecy, while within the nucleus lie the profound forces that tend to separate the individual life from the composite life-tendencies of the race. So that when a plant, or an animal or a human being arrives at potential expression, in the procreation of the vital germ from the sexualized cells, it already contains within its infinitesimal form the impress of the entire history of the race, and the additional distinctive impress

of a specialized line of descent which culminates in its parental source.

THE WORKING OF THE LAW OF HEREDITY.

"Heredity is brought about by the transference from one generation to another of a substance with a definite chemical, and above all, molecular constitution. I have called this substance, 'germ plasm,' and have assumed that it possesses a highly complex structure, conferring upon it the power of developing into a complex organism. I have attempted to explain heredity by supposing that in each ontogeny a part of the specific germ-plasm contained in the parent egg-cell is not used up in the construction of the body of the offspring, but is reserved unchanged for the formation of the germ cells of the following generation" (Weismann).

By this law we learn how the species of each animal kingdom is generated and differentiated from all the rest, and how when once the species is produced each individual member maintains its distinctive characteristics.

Thus, as Darwin reminds us, "Heredity produces an exact copy of the parent in the child. We may feel assured that the inherited effects of the use and disuse of parts will have done much in the same

direction with maternal selection in modifying man's structure of body." In other words, not only does the force of the entire racial psychic energy enter into the production of a single member of the human family, but that racial force is itself modified by the special parental condition which affords the occasion for the generation of the offspring.

While the hereditary force is absolute and mandatory, yet this force does not move in a lineal direction —it does not follow a straight line. But there are counteracting forces, which though hereditary in their nature, yet mutually modify each other. The racial force is one hereditary element, but the parental force is another, and the distinctive parental condition at the time of gestation is another force, and yet again the particular mental or emotional state of either parent at the time of conception is still another element in the process of hereditary evolution. But that the child is absolutely the product of these several elemental forces either coöperating or contending with one another, is a scientific fact beyond dispute.

How that seeming miracle in Nature is achieved, that out of the countlessly myriad possible forms of life one distinctive, and one only, expression should come to pass, is one of the marked discoveries of biological science. Histology is the division of biol-

ogy that treats directly of the cells and the cellular life. In this science so many marvels have already been discovered having a most practical bearing on human life and history, that it behooves us for a moment to study its results.

We have already observed that in the formation of the nucleus, we find the origination of the future individual life. The race life lies germinally in the undifferentiated germ-plasm. The individual life lies in the slowly evolved nucleated centre of the germ-plasm. Here in embryo we have a most wonderful picture of the whole of human history.

Each individual human life is merged in the life of the entire race. Yet, though it is environed and overwhelmed by the race-life, it is capable of maintaining its individual entity intact. In truth, because of the persistent individual life the race life assumes the capacity of progress and enlargement. But this vast historical fact we find already prophetically foretold in the history of the microscopical germ-plasm and its involved nucleus. Though the nucleus emerges from the undifferentiated protoplasm, is indeed its product and without it could have acquired no existence, yet once it comes into being it super-imposes itself on the plasm and reduces it to its own use and purposes.

This is precisely what the individual human being

has done and always will do in his relations with the race. Though he indeed could have acquired no differentiated existence were he not generated by the race, yet, once called into being, his individual potency rises into supremacy, and by his regal authority the race is moulded, forwarded, retrograded, and restored.

And now this vast historical law becomes operative as the direct result of certain microscopical workings in the infinitesimal cell-unit of the individual life. For, as says Weismann, "A single cell, out of millions of diversely differentiated cells which compose the body, becomes specialized in a sexual cell, it is thrown off from the organism and is capable of reproducing all the peculiarities of the parent body, in the new individual which springs from it by cell division, and the complete process of differentiation."

That is, once the primary cell becomes divided into two distinctive cells, mutually polarized, or correlated as is the male and the female in organized bodies, then begins the active operation of the law of heredity in the evolution of a distinctive individual life. In unicellular forms of life all lives are alike. Once the primary unicellular organism subdivides, then originates the sexualized form of life, and by

the future coöperation of these sexualized cells the hereditary evolution of racial and individual life proceeds.

Here then we come at once upon the most important problem involved in the evolution of individual character. It is this, That the young life generated by the coöperative union of the parent stock is the direct product of the physical, mental, psychic, and moral status of the procreative conditions. The child is indeed the exact copy of the parents, as Darwin says, but the conditions of the parents are at different times so variable and often so complex, that, even knowing the parents, it is absolutely impossible to foretell what will be the character of the offspring. If it were not true that the offspring are immediately affected by the temporary conditions of the parents at the time of conception and gestation, then necessarily all children from the same parent stock would be exactly the same, and each would be a stereotyped facsimile of the responsible parents.

But we are reminded, as for instance by Dr. John Cowan, that "the child's form of body, character of mind, and condition of soul, are, during the antenatal state, like clay in the hands of the potter, and can be moulded absolutely into any form of body and soul the parents may knowingly desire."

PRE-NATAL INFLUENCE ON OFFSPRING.

If parents but knew what potent architects they were enabled to become when they assume the holiest and most responsible of all human activities in the creation of a human being, there would be far more seriousness involved in the voluntary assumption of such an office.

But as a rule mankind enter into the procreative activities with apparently less seriousness and contemplation of the far-reaching consequences of their act than the inferior animals. For at least they are protected by Nature's prophetic instincts. No animal suffers copulation if it be not seasonable and in response to the demands of parental desire. So fixed is this law that its appropriation by intelligent breeders has been the occasion for the generation of the high breeds in cattle, horses, sheep, fowl and so forth with which the markets abound. That the same law is applicable to the procreation of human life has been as yet but little appreciated by the vast majority of humankind.

Too many human beings are so unfortunately parented that they come into the world much as Hamlet's inauspicious players, as though "some of Nature's journeymen had made them, and not made

them well, they imitated humanity so abominably." The only wonder is that there is not a vaster number of human misfits in the haphazard exigencies of procreative association. However there are quite enough to "give us pause," and force us to realize the abounding danger that confronts the human world. Without a doubt we are to attribute the prevalence of crime, degeneracy, imbecility, homicidal, and suicidal tendencies, to a large extent, to the mental states of the parents from which the unhappy offspring came.

"It is well known to those familiar with criminal classes, that certain appetites and habits, if indulged abnormally and excessively through two or more generations, come to have an almost irresistible force and no doubt modify the brain so as to constitute an almost insane condition. This is especially true of the appetite for liquor and the sexual passion, and sometimes is also true of the peculiar weakness, dependence, and laziness which make confirmed paupers. The writer knows of one instance in an almshouse in Western New York, where four generations of females were paupers and prostitutes.

Almost every reader who is familiar with village life will recall poor families which have criminal or dissolute members beyond the memory of the oldest inhabitant, and who still continue to breed such

members. I have known a child of nine or ten years given up, apparently beyond control, to licentious habits and desires, and who under different circumstances seemed to show the same tendencies; her mother had been a similar character and quite likely had her grandmother. The "gemmules," or latent tendencies, of forces or cells of her immediate ancestors were in her system working in her blood, producing irresistible effects in her brain, nerves, and mental emotions, and finally, not being met early enough by other moral, mental, and physical influences, they modified her organization until her will is scarcely able to control them, and she gives herself up to them." (From Brace's "The Dangerous Classes.")

I do not advocate, as many do, certain legislation for the regulation of the marriage rite, so that the production of the criminal classes shall cease to be increased. For I believe little could be done by legislation to either regulate or suppress it. If the law prohibit certain classes from intermarrying because of physical unfitness, the result would not be a decrease in the production of the criminally inclined, but an increase in the ranks of the illegitimately generated. Something higher than legislative enactment is needed. A law is utterly worthless and inoperative unless there is behind it suffi-

cient public opinion to sustain and enforce it. But when you have sufficient public opinion behind a law to sustain it then there is little necessity for the law.

The people's will is a sufficient force of itself to impress the general public without the intervention of the legislature. But what is required on this all-important phase of human life is an awakened intelligence and conscience. We should fill the columns of our press, our platforms and pulpits should constantly re-echo, with reiteration of the solemn truths that must sometime sink into the souls of the multitude. The thoughtless and unlearned suffer themselves to be but little exercised upon the subject. They affiliate in the most intimate relations, fraught with the most far-reaching consequences, with, as I have said, a less serious appreciation of their responsibility than the inferior animals.

But among the lettered and studious there is a kindred disposition to shift the personal responsibility involved to cosmic forces and uncontrollable antecedent causes. It is so much easier and far less fraught with the depressing sense of self-responsibility, to assume that the situation and conjunction of the stars is the immediate occasion for what disposition and character will evolve in the prospective

offspring, that many allay their anxiety by recourse to such imaginings.

The astrological laws are made the cosmic procreators of the mysterious life that lies within the microscopic cell, how much it may be the fruit of passing desire or magnetic impulse. Whatever truth there may be in the alleged astrological principles that overrule human life, it cannot be gainsaid that were there sufficient instruction in these principles; and were human beings taught how to order their purposes according to the stars; the fruitage of their loves would avail more for human happiness and social progress. Doubtless, in some vague and incomprehensible way, the stars and constellations do exercise some influence on human lives as they do on plants and the inferior animals.

But that the human mind has ferreted out the exact law of such stellar associations and conjunctions, so that future history and potential characters can be foretold, is scarcely within the truth. More than likely what successful prophecies have been made by astrologers are to be explained by Pascal's keen analysis of their arts than by precise knowledge of the stellar junctions. He relates, "They (the astrologers) say that eclipses portend misfortunes, because misfortunes are common, so that, as some ill-chance often happens, they are often right; whereas if they

said that they portend good fortune, they would be generally wrong. They also assign good fortune to rare conjunctions of the stars, and this is how their predictions rarely fail."

ASTROLOGICAL INFLUENCES: ARE THEY TRUE?

But the practical point of view to take of astrology, is not whether it be a true or a false science, but that whatever one believes about it, he should be so instructed that the use he may make of his assumed knowledge shall redound to his happiness and not to his misery. For, there is a higher law that prevails among mankind, and whose appropriation to one's destiny may often relieve one from misfortune and foreboding. I refer to the Law of Suggestion. Once the power of the human mind to impress its impalpable energy upon other minds be realized; once the susceptibility of the mind to impressions made by conditions, conceptions, commands, personalities, and imaginary ideas, be apprehended; a principle has been discerned whose use may be of the highest benefit to the properly informed.

This principle may be especially employed to advantage by all prospective parents. If for instance a

woman be sternly possessed of the idea that a child's future is controlled by a certain conjunction of the stars at the time of its birth, then the wise course to pursue would not be to attempt to undeceive her if one thinks she is deceived, but to suspend judgment as to her theory, yet appropriate it to the possible advantage of her prospective offspring.

The husband would be exceedingly unwise, who, not himself believing in the principles of astrology, yet having a wife whose belief therein is ardent and over-powering, attempts by argument, persuasion or force to undeceive her in the moment of her entrance upon the solemn responsibilities of approaching maternity. If she believe in it let the husband, for the sake of the children that are to be, act as if he himself also believed as she does; and let them so arrange their nuptial attentions that the child shall be brought forth at such conjunction of the stars as shall in the mother's belief assure the future success, happiness, and harmony of her offspring.

For, as a matter of fact, while the arrangement of the stars in the distant heavens, for aught we know, may have nothing whatever to do with the future status of the offspring, yet the mother's intense belief that the child's fate hangs upon the situation of the stars is a most important and available factor. If she think that Jupiter and the Sun in

conjunction will so control her offspring's destiny that he will grow into authority and the possession of a high sense of justice, while the stars may have nothing to do with the child's fate, her *thinking so* may indeed affect the child as she assumes the stars do. That maternal impressions upon the growing embryo are intimately associated with the fate of the prospective offspring may now be accepted as a scientific verity.

"There is no physical cause discovered," says Charles Kingsley (*Life,* vol. 11, p. 147—see Schofield's "Unconsious Mind," p. 321) why ova should develop according to their kind. To talk of law impressed on matter is to use mere words. How can law be impressed on matter? As seal or wax? Or as the polar arrangements of parts in a solid? If so, it is discernible by the microscope, and then it would not be law but a phenomenon. I am inclined to regard the development of an ovum according to kind as the result strictly of immaterial or spiritual agency."

The impressions of the parental mind upon prospective offspring sometimes works in a most surprising, yet convincing, manner. There is given an authentic case of a fair-haired Englishman marrying a Brazilian, dark-skinned woman. He lived with her for a time and she died. Then after an expira-

tion of twenty years he married an English lady as fair as himself, and the child born was distinctively of the Brazilian type. One writer explaining this phenomenon says, "The solution to this problem appears to me 'pyschological imprint'; that, having been deeply attached to his Brazilian wife, and having dwelt lovingly upon her memory for twenty years, the resulting offspring from his fair English wife bore the traces of long continued mental impressions rather than the result of merely having lived many years previously with a lady of darker hue." (See Schofield, "Unconsious Mind," p. 328.)

THE THEORY OF REINCARNATION IN BIRTH.

Another vain recourse to imaginary theorizing is becoming inconveniently popular among a certain class of dreamers. It is assumed by them that each human soul when it enters into the activities of the present life has not made its first entrance on this planet. That it has been here many times before, and that at each new entrance it carries into its unconscious being certain efficacious and compulsory qualities that peremptorily reveal themselves in the gradual evolution of its life.

Hence, to account for the variety of characters found in the same family and reared under almost identical environment, it is assumed that the his-

tory of the new-old soul is already written within its invisible tablets, which in time will be read of all mankind. There is much that is fascinating to an imaginary mind in the doctrine of reincarnation. But unfortunately we can find in the physiological and psychological principles, which inhere in the procreation of human lives, an all-sufficient law to account for the infinite idiosyncrasies of human character.

If it can be shown that the character is not indeed foreordained but distinctively influenced by the mental force which prevails in the parents at the time of conception and during gestation, then, Nature, being unwilling needlessly to multiply her causative energies, admits of no additional law in the premises. I believe science now accounts for variation in human characteristics by well-known physiological and psychological principles. Chief among these principles is the one already referred to. Returning for a moment to the curious mental experiences of Charles Kingsley, many at first would insist that they could be accounted for only by the theory of reincarnation.

He informs us that for many years during his early life he had not visited Devonshire, but that somehow in his soul he often experienced a most intense desire to see it. At length when the happy

time arrived that made it possible for him to seek the Mecca of his soul, he was amazed to find it all so familiar. Every nook and crooked street, every haunt and sloping hillside, seemed a place he had already visited in some far-off time. What a specific and incontrovertible proof this must be of re-incarnation!

But when we read that his mother herself sincerely believed in the possibility of maternal impressions on her future child, and purposely suffered her mind to dwell long and often on the beautiful and romantic haunts of Devon, during the waiting months in which she lovingly anticipated the advent of Charles, we can trace the psychological origin of his poetic soul. She was not disappointed, for the romantic turn of his mind, which found such enchanting expression in "Westward Ho!" and "Hypatia," doubtless owed its origin to her frequent musings on Devon's enchanting haunts.

Children should not be snatched out of the unseen by reckless amorous indulgence. Nothing more sacred, nor to which lives should mutually more consecrate themselves, is possible to human beings than the procreation of a human soul. Therefore the resolve to enter this Holy of Holies and conjure from the abysmal deeps of the unseen the wished-for visitant, should be obeyed only when two hearts in

mutual love avouch their yearning and devotion. When the proffer of motherhood is vouchsafed to man, if there be within his breast a spark of honor and humanity, he should feel that the time had come when all else in his life shall be merged in the sacred office to which he has consecrated his spouse.

If it were true that men call down from the skies embryonic spirits who, thus conjured, mature into well-fleshed human lives, one could imagine the flutter that would take place among the possible victims who hover round the sacred chancel of the home.

Each would gaze far down and cast resplendent glances through the gateway of mortality, wondering if he enters there what fate will o'ertake him! What forebodings, what hopes, what fears, what fascinations and foreglimpses would dance like marionettes through their dizzying minds, were they there, in fact, awaiting, till the call shall come. But this is indeed indulging pure imagination. We know not that there is the slightest truth in such foreglimpses of future possibility. In truth, such prophetic imaginings are vain and futile. Better that we should keep nearer to the earth and learn the realities of human life. We do indeed conjure unborn lives, but in a less mystical manner than the Oriental mind fain would surmise.

Souls come into being simultaneously with the

advent of the fleshly life. However, as the body is not full born at once, but slowly evolves during the gestatory period, till at last it comes into visible expression, nor then even ceases to grow till the hour of expiration, so is the soul a growth, an expansion, an aggregate consummation of qualities engendered in the new-born life. The soul is itself an assemblage of many souls, and its own qualities consist of the mergence and compromise of the myriad souls evoked. The qualities of character in which we are conceived and nursed from the first moment of conception till the visible form emerges from the vast void, are the framework of the soul that at length constitute the inspiration of our lives. We conjure qualities, not spirits, characteristics, not organized souls, human dispositions, not angelic, when we build in the mother's breast the microscopic home for the invited guest. Therefore it is not wise to dwell on fantastic suppositions, in the attempted solution of the origin of human beings, but to resort to scientific facts and learn the simple truth.

Our minds are the moulds into which are cast the plastic substance of yet unborn beings, which sometime shall become denizens of this sphere. Therefore when two souls are mutually consecrated to the conjuring of a new life into expression, they should learn to so cast the mental mould for its ap-

proach that its expression shall be beautiful, noble, upright, and acceptable.

Would you have beautiful children, beautiful in body and mind, surround the expectant mother's life with forms of beauty and ideals of harmony.

I once knew a couple who, when they felt the hour had arrived for the sacred excursion into the unseen, whence they would return with the unspeakable mystery, resolved that henceforth during the long period of awaiting, the home, the thoughts, the mother's occupation and surroundings, the father's attention and vocations, should all point to the arrival of a child beautiful in body, in soul, in mind, and in tendencies. The expectant mother's boudoir was hung with Correggio-like angel heads, peeping out from blue skies, the anticipating father read to her books that awakened only high and noble sentiments, the minds of both were ever active that a sluggish brain might not be builded, yet coursing on such themes as would create a brain fit for rational and practical thinking. When at length, after much waiting, the mystical mould of throbbing life oped to the garish world, there lay as beautiful, smiling, rounded a form as eye would wish to see. The limbs were of perfect mould, the skull well-shaped and harmoniously carved, the features, such as could then be seen, giving high promise of intelligence and breadth.

The child waxed strong, anon, and grew into a man of sterling character, keen mind, rational bearing, and a successful personage.

Yet these parents were not at first harmonious with one another, their lives were often strained almost to the breaking point, and apparently their mutual union was doomed to failure. But when together they consecrated themselves to the noble work of gathering from the invisible elements a form of life that should become the expression of the highest and the best in each of them, then all was changed, and what seemed to spell failure was transposed into success and happiness.

O, could all children be thus intelligently begotten and brought forth, how speedily would earth's ills and vices, woes and wrongs, be abrogated! When men shall learn the masterful power of their innermost thought, its mystical influence on the yet unborn, they will escape the crime of bringing into the world the fruit of ill-conceived and ill-mated love.

"As the most forward bud
Is eaten by the canker ere it blow,
Even so by love the young and tender wit
Is turned to folly; blasting in the bud,
Losing his verdure even in the prime,
And all the fair effects of future hopes."

THREE QUALIFICATIONS.

Three indispensable fundamentals should guide a united couple who resolve to conjure from the invisible some embodiment of their hopes and ambitions. First, they should possess healthy, harmonious, and vigorous bodies. Second, their minds should be alert and susceptible to knowledge and progressive truth. Third, their conscience should be free from offence to their fellowman and their God.

A human being who permits him or herself to become a parent when the procreating body is in a state of ill-health, or slowly dying with some repulsive disease, is an unwitting criminal, a silent but certain murderer.*

The hereditary descent of disease is now beyond dispute. Therefore, people who knowingly give to the world offspring from parental stock poisoned with some slowly consuming disease not only offend society but create a child to almost certain suffer-

*Dr. Harry Campbell in "The London Lancet" (for 1898) states that: Theft and murder are considered the blackest of crimes, but neither the law nor the church has raised its voice against the marriage of the unfit, for neither has realized that worse than theft, and well-nigh as bad as murder, is the bringing into the world, through disregard of pre-natal fitness, of individuals full of disease tendencies."

ing. Morrison says, in his "Juvenile Offenders," "The result of all recent research points to the conclusion that human beings are born into the world with a distinct bent of temperament and character which will always manifest itself in some form, no matter what process of training the individual is called upon to undergo" (p. 120).

If this be so, how dangerous it is to undertake the generation of a human soul with the instrument of a decayed, diseased, evilly-inclined and exhausted physical body. The man and woman who are addicted to excessive use of alcholics are utterly unfit for the procreation of offspring. Indeed, society should rebel against their infecting the social veins with the virus of their vitiated blood. Siccard examined about 4,000 German criminals, in the prison of which he is the director, and found an insane, epileptic, suicidal, or alcoholic hereditary taint in 36.8 per cent. Indeed, Ribot says. "Every work on insanity is a plea for heredity." Riddel, in his excellent work, "The Child of Light," says, "Careful estimates, based on the most reliable statistics obtainable in Europe and America, indicate . . . . that in 10,000 persons born from intemperate and inebriate families we should expect to find 8,250 (82.5 per cent.) defective offspring; in 10,000 persons born from the normal population we should expect

to find 4,820 (48.2 per cent.) defective offspring; while in 10,000 persons born of strictly temperate families 2,100 (21 per cent.). Thus it will be seen that 60 per cent more of the offspring of the inebriate or intemperate families die in infancy, are epileptic, feeble-minded, or inherit alcoholic, insane, or criminal tendencies, than the offspring born from temperate parents."

If parents have been addicted to the alcoholic habit, they should, by what force of will they can call into play, at least restrain themselves for a sufficient period before the determination to conjure a human being into life, and during the delicate period of gestation, for the child's sake, if they cannot for their own. How pitiable it is to see a beautiful boy or girl, whom one admires for form of body, clearness of eye and keenness of brain, suddenly develop at a certain period of life a tendency to dullness, loss of memory, indifference, or in short both moral and mental lassitude! But how doubly saddening, not to say sickening, it is, when one learns that the beautiful child at first so much admired is now manifesting in its late regrettable characteristics certain inherited traits derived from alcoholic parents, who, perhaps unwillingly enough, sent down into its little stream of life the deadening taint of a criminal heritage!

O, Man, whoever you are, if before marriage you have indulged your appetite, your lust, your fleshly craving, now that you are married, recall your duty to the race, to yourself, to your offspring, and by the might of a stung conscience swear off, and resolve to let the accursed stuff alone, so long at least as you permit yourself to become a parent. If your own life is already blasted, how can you, without experiencing the unbearable sting of an offended conscience, presume to endue another life with the vicious seeds of your own curse!

But women perhaps are more to be blamed than they imagine for bringing into the world a race of partial derelicts and enfeebled offspring, more because of their ignorance than their determination. Woman, so long the slave of the kitchen stove, now reclaimed to liberty and free opportunity, often on consecrating herself to the office of motherhood, forgets the physical duty she owes to her prospective offspring. When once the woman is conscious of the honor of possible motherhood, then all her thoughts, her occupations, her life, should be concentrated and devoted to the happiness and welfare of the child she has invited to her breast. She alone is conscious of its existence; for its little heart beats against hers, its little life palpitates simultaneously alone with hers. Therefore, as she is the temple

for the indwelling of this angel form, how needful that she keep the temple pure and clean, holy and consecrated!

But so many women, out of sheer neglect and laziness, crush the little mysterious life within, either by want of sufficient exercise, or because of a criminal mode of dress, or neglect of sufficient ablutions, or spurred by some absurd and senseless notion of immodesty.

I have known young women who, when first realizing the fact that they had become mothers, were thrown into the most appalling states of melancholy and despair. Their great anguish seemed to have been caused by the notion that they were unfortunate cynosures, whom everybody pointed out as immodest representatives of the race. The fact that the physical frame itself revealed the secret, threw them into unhappy states of mind and soul. Often children have as a consequence been either stillborn, or have come into the world enfeebled and cursed from their mother's breast.

A sense of shame seems to seize the expectant mother, as though she had committed some overt crime. This is, of course, the absurd result of a false modesty, which has too long possessed the race. There is nothing disgraceful in the natural and proper association of the sexes; and did not

Nature intend that the race should be propagated by natural methods, undoubtedly long since the genius of man would have contrived artificial methods to supersede them. But no woman need be ashamed of that conformation of her figure which in itself causes even the most brutal and coarse-grained man to pause and uncover out of respect. Instinctively men honor motherhood. It is a notable fact that in all the religions of the race, woman, when exalted into the state of motherhood, has been placed among the gods. The great goddess, whether the mother of Buddha, of Christ, the Sancta Dea of the Romans, always the same, it is the apotheosis of the mother-woman, the fountain-head of all the race.

Notwithstanding this, many young women still feel they are ashamed when motherhood overtakes them. I once witnessed a sad and most grievous illustration of this fact. A young wife found herself with child. The conscious possession of the mysterious fruit of love worked so inauspiciously upon her mind, that, as the months grew on apace, she became disconsolate, ashamed, remorseful. A sense of guilt seized her soul. She had somehow sinned against her æsthetic and moral sense. Her body had become deformed. Her beauty was shattered. Her figure was repulsive. Who could look upon

her and not blush; who could see her and not know her offence? These thoughts sank deeply into her consciousness till they became the burden of constant brooding and finally swept her into hysteria and melancholia.

She shut herself away; none could see her. Even her husband was denied her presence. Finally she ensconced herself in a dark room, where she remained for almost six months till she could not endure the slightest ray of light, shrieking with pain if the dark-green shades were lifted even an inch above the window-sill. When the hour arrived for the child's deliverence, the mother's body had so shrunk that the imprisoned baby form could not be released save by a surgical operation. This resulted in the practical slaughter of the infant; while the mother's life was preserved only by a miracle.

All this horror had come upon her because of a false sense of shame, resulting from an extremely false conception of conventional modesty. A few years later, she, freed from the temporary insanity which had dragged her mind into its gloomy depths, resolved once more to lay herself on the altar of motherhood. But now she did so with no false and foolish notion of the immodesty of the pregnant form, but with a consecrated and exalted perception of the glory of pure motherhood. Instead of shutting

herself away in a dark room and brooding on her imagined misery, she courted the sunlight and the fresh air; she subjected her body to rigid and sensible callisthenic practices; she took frequent baths, and scientific exercises in her bed before rising a-mornings and at night before retiring. She would crawl slowly out of her bed headforemost when arising, and climb up and down a flight of stairs on all fours during the day. She read beautiful and uplifting literature, avoiding everything that was morbid or unduly exciting; she frequented beautiful and romantic landscapes and communed much with Nature.

She lived a free, radiant, hopeful life, warmly and sympathetically assisted by her husband, through the long expectant months. And then the hour came for the veil to be drawn aside and the mysterious sculpture in flesh and blood to be laid upon her panting breast. When she beheld it, with tearful eyes and soft, feeble murmurings of joy, the angels must have hovered round and blessed her, for her happiness was unrestrained.

This child was the fruit of love and common sense; the former child had been the fruit of love vitiated with a perverse sense of false and demeaning modesty.

CHAPTER IX.

The Teacher.

 ROBABLY the most responsible and the least seriously appreciated office in life is that of the Teacher. The parents are chiefly responsible for the pre-natal influences cast into the plastic mould of the child in its invisible building, and for the treatment it receives in the formative period of impressionable infancy. But very soon the little bundle of possibilities is thrown off the mother's breast and led away from the fireside and the nursery into the wider world, where reigns the much-dreaded schoolmaster, who is destined to hold so potent a sway over all its remaining youthful years.

The child soon learns to supplant the authority of the parents by that of the school teacher. Somehow, how much soever the instinctive reverence for parents may continue to kindle the breast of the growing infant, once the formidable presence of the

Teacher overshadows its life, the seat of authority is transplanted from the fireside to the desk. The fear of the ferrule is mightier than the dread of the tongue. A mother may scold and punish, but the humiliation is nothing compared to that which follows the scorn of the schoolmaster or the smart of the rattan. Probably more lives have been ruined by incompetent and unwise teachers than by indifferent and foolish parents, though doubtless more noble lives have been moulded in the school-room than have been generated in the domestic circle. Chiefly, parents *give* children to the world; teachers build the children into what they are to become.

Therefore, the ordinary disregard with which the school-ma'am is treated in the amenities of society, her unjust and unhappy classification as an underling and a dependent, is one of the shameful and disgraceful characteristics of our as yet partially unfolded civilization. Underpaid, undervalued, under-honored, and under-estimated, the school teacher is, perhaps in some respects, the most pitiable and painful individual who performs a high office for the benefaction of mankind.

The mass of people have as yet but a diminutive appreciation of what the teacher accomplishes for the race. Once it was supposed that the teacher

had to do with nothing but the child's mind, to train it in a few minor habits of thought, and accustom it to the use of certain formulæ which shall free it from embarrassment in subsequent relations with the world. If a child were but taught the three R's, and how to write a decent English sentence, and speak without too many solecisms of speech, he was supposed to have been made an educated gentleman. But in recent years we have learned that such an estimate of the office of the school teacher is far beneath its legitimate proportions.

There is, in fact, no conceivable relation existing between man and man, no method of thought, no exercise of the imagination, no state of health or use of hygiene, no moment, indeed, of a man's life, from the hour he plunges into the arena of life's battle till his final obsequies, on which in some manner the teacher has not left an indelible impression. His work is not indeed that of the narrow schoolroom, but of the wide world itself. He does not educate minds, he moulds characters. He is not a mere teacher of alphabets, but a maker of languages. Like the artist who works in clay, out of the plastic stuff he pats and kneads and patches the final form of beauty on which his dreams so long have dwelt.

THE TRUE OBJECT OF EDUCATION.

The teacher teaches not so much how to think as how to live. "How to live," exclaims Herbert Spencer, "that is the essential question for us. Not how to live in a mere material sense only, but in the widest sense. The general problem which comprehends every special problem is the right ruling of conduct in all directions under all circumstances. In what way to treat the body; in what way to treat the mind; in what way to manage our affairs; in what way to bring up a family; in what way to behave as a citizen; in what way to utilize all the sources of happiness which Nature supplies; how to use all our faculties to the greatest advantage of ourselves and others; how to live completely. And this being the great thing needful for us is, by consequence, the great thing which education has to teach. To prepare us for complete living is the function which education has to discharge; and the only rational mode of judging of any educational course is to judge in what degree it discharges such function."

By this dictum, then, what shall we say of the ordinary teacher and of the conscious realization of his responsibility to society? Is the ordinary

teacher even half-sensible of the tremendous offices of which Spencer speaks. Is he really concerned in the actual life of the individual; does he commune sufficiently with the inner and secret tendencies of his pupil's habits? Is he, in short, his friend and companion; or a mere perfunctory officer who restrains by the lash, if decorum demand it, and disregards the effect of his actions on the after-character he is unconsciously moulding?

It is naturally most difficult for the teacher today to be also the friend and companion. In the public school system of our great cities, the classes are necessarily so large that immediate and personal intercourse between teacher and pupil is almost impossible. Notwithstanding it is the loyal thing to sustain and honor our public schools, yet each parent must decide for himself whether his own children should attend them.

It goes without argument, that if there be any psychological principles involved in the art of education, and we shall soon see that they are the most important of all the principles involved, then there are thousands of children whom to educate in the crowded rooms of our public school system is almost a crime. The highly nervous, the intense, the sensitive and delicately imaginative children, who are thrown into a maelstrom of seething, struggling,

quarrelling, inchoate and fragmentary lives, such as gather within the walls of our great schoolhouses, where frequently several thousands are assembled under one roof, are almost to be pitied as much as the wretched Christians who were sacrificed in ancient Rome to gratify the appetite of her patriotic citizens.

I will mention one case only which is typical and illustrates thousands that could be described. A young lad yet beneath his early teens was sent by his admiring mother into the maw of one of these immense institutions. His was a highly sensitive and nervous organism, gifted with keen imagination and plastic sympathy. At his mother's knee he learned with ease and aptitude. So sweetly did their two souls merge as one that what the mother's mind contained entered almost spontaneously into the mind of the child. So closely knit were their two souls in sympathy that however much patience and care the exercise called for, the tender mother never failed to command them. The child waxed strong in health, keen in mind, and clever in thought.

Yet after he had been but a few weeks in the swirl and strange excitement of the new world to which his loving mother had entrusted him, he seemed to sink rapidly in strength, his mind lost its clearness, instead of progressing he fell backward in his

studies, and had he continued under the pressure would doubtless have developed into a derelict. He was soon after removed to a private school, where the Headmaster discovered his sterling qualities, and where there were but few pupils and each could receive the personal attention of their respective teachers, with the result that he developed rapidly in his mental powers, his health improved, and he graduated with the highest honors, entering College thoroughly equipped to contend with the brightest scholars he might meet.

Taking this example as a cue, I shall proceed to analyze certain psychological principles which are manifestly involved in the art of education and to which every teacher should give serious and conscientious consideration.

First of all, the parallel development of the physical and mental faculties in the growth of a child should be intelligently observed. The very suggestive fact, that the skull of the infant is not yet hardened, but is still soft and pliable, affords food for thought. Nature must have some reason for this; or at least we may say Nature evidently has not yet completed her work in the construction of the skull, till the child is perhaps a year or two old. Why is this?

Manifestly because the new-built brain is as yet so

little developed, or grown, that if the skull were speedily locked and there were no room for expansion, the brain would not mature beyond the primitive stage of infancy or practical idiocy. The brain cells grow very rapidly and to a very large size, in proportion to the absorption of knowledge of the outer world. Some philosophers tell us that a child learns more in the first two years of its existence than in all its subsequent life. Imagine, then, what room the rapidly spreading brain cells must require, and what a disastrous result would follow the speedy locking of the bony structure which encloses the great ganglion.

PSYCHIC GROWTH OF INFANCY.

Nature's wonderful provision in prolonging the period of human infancy, far beyond that of the lower animals, is thus explained. There is so vast a world of information for the human child to absorb, that if its infancy were no more protracted than that of the horse, or cat, or dog, the brain would not be able to expand to the necessary size, and all of life's functions would be materially interrupted and at last destroyed. This is still the vegetative period of a child's life, when its education is merely reflexive, the impulses and disposition of the

child automatically responding to external stimuli.

In this period, then, the influences that may in all the future effect the child's imagination, observation, and attentive qualities, should be as much guarded and intelligently guided as at any future period. This is, however, the period during which the careless nurse girl is granted the chief disposition of the infant, subject to her caprice and uncertain, even reckless, attention. How much the child at this period should be surrounded by beauty and artistically moulding influences none knows better than the observing mother. Far earlier than we ordinarily imagine the child's future is already prophesied in its childish yearning for what time and change may present.

I remember an infant, not yet two years old, just beginning to lisp and chatter, so overwhelmed by its father's crude effort to explain an astronomical fact to it, that all its frame was aquiver with excitement. It required "no ghost" to come from the grave to inform us that woven in the very tissues of that child's brain was the passionate yearning for pure science, which its future years fully demonstrated as they approached the bloom of youth. It would have been cruel to have deprived such a child of free and full opportunity to commune with Nature and feel slowly weaving

into his mould of being the subtle threads of knowledge that shaped the fabric of his mental character. Yet how few think of what effect the passing circumstances and events of life may bring into the soul of an undeveloped infant in its cradle!

But when the babe passes from the suckling infant to the walking child, a parallel psychic stage develops with the physiological. His little mouth no longer hangs upon the mother's breast, but has learned to feed itself with the help of its own hands. The little feet and knees no longer cling closely to some sustaining article of furniture for poise, or crawl timidly upon the floor, but are now firm, independent, and can move freely from place to place. The dependent locomotion has changed to independent action. The helpless child leaves off his involuntary and unconscious activity and now acts with conscious effort and independent choice.

What a vast change has now occurred! Here begins the real school age: the age when the man is already germinally made and the roots are being deeply planted. Some authorities circumscribe this age between the period of two and seven years. What unspeakable horror a civilization presents that confines children at this most critical period of their existence in the coarse and vulgar atmospheres of industrial factories! Yet when we remember that in our own

land of liberty and enlightenment perhaps a full million of babes are thrown into the maw of this Moloch of commercialism, we cannot but fear that our future citizenship is being stunted, deformed, and de-humanized. That they will automatically reflect the conditions that surround them; that their minds as well as their bodies will be stunted and undeveloped; that they will return to society the evil with which society coercively endows them; is all too apparent to students of sociology.

The brain is furnished only with what it receives from the external world. There is no interior realm of knowledge which the mind drinks in from some invisible and mysterious fountain. The well-known case of Kaspar Hauser fully demonstrates this law. An infant confined from the first moment of its existence in a dark room where all knowledge of the outer world was withheld, and fed only by momentary attendants who furnished the food, when at sixteen years he was at length released to the world, his mind was but a vacuous and empty shell, his brain vibrated with not a single thought, his heart responded to no human emotion. He must be taught at sixteen what a babe at two years should have known. Thus we see how instinctively, how vegetatively impressionable the minds of babes and infants are, and how severely cautious we should be concern-

ing their surroundings, whether natural, social, mental, physical, internal or external.

The great, true educators of the race have ever felt the force of this pedagogic law. For ages it was forgotten or overlooked, till such teachers as Comenius, Froebel, and Pestalozzi recalled it to a selfish and unregenerate age. So thoroughly did Pestalozzi comprehend the progressive method of education, an education that followed closely the intimations of Nature, that he insists upon a sound, rounded, scientific education as only proper to the true progress of mankind. "Sound education," he says, "stands before me as a tree planted near fertilizing waters. A little seed, which contains the design of the tree, its form and proportions, is placed in the soil. See how it germinates and expands into trunk, branches, leaves, flowers, and fruit! The whole tree is an uninterrupted chain of organic parts, the plan of which existed in seed and root. Man is similar to the tree. In the new-born child are hidden those faculties which are to unfold through life. The individual and separate organs of his being form themselves gradually into a harmonic whole, and build up humanity in the image of God."

Almost always the mental quality of the child will reveal itself in response to some external excitement. Some children would look on the beautiful

colorations of a waterfall playing in the morning sunlight, and be utterly unmoved, but among them will be found a few who will be so thrilled and excited that they will reveal the instinctive artistic imagination which lies latent in their natures. A Newton sees in the fall of an apple the secret law of the universe. Yet had not his mind been trained from childhood to such meditative observation the apple might have fallen for him, as it had for millions before him, without engendering a single scientific suggestion.

Tyndall, a lad of twelve years, beholds maggots in the meat and instinctively thinks out the theory that the maggots were spontaneously generated within the bovine substance. Had not his young mind been privileged with such natural stimulants as would excite him to scientific study he would not have developed into one of the great physicists of the nineteenth century.

The secret which Nature intimates is that somehow there is inwoven into every human life a tendency to pursue certain routes of occupation, mental, physical, artistic or industrial. It therefore becomes the bounden duty of teachers to carefully observe the hints of Nature, and help the young subjects of their wills to such true education as shall enable them to compass Nature's suggestion in the practical

accomplishments of their lives. It is criminal to educate all children alike; to throw them into the same hopper and expect to grind them all out alike as useful grist for the bread of the world.

THE PERIOD OF ADOLESCENCE.

But the most serious age, and the one most fraught with future possibilities in the maturing life of the child is the age of puberty, the age that verges on manhood and womanhood. Not only is this period crowded with physical dangers to the improperly or carelessly instructed child, but its mental future is alike susceptible of most deleterious influences if unhappily guided.

It is perhaps the most shameful comment on our heedless method of education that young boys and girls are permitted to pass through this trying period without such personal and cautious information as should be theirs, and without which they cannot successfully prosecute the battle of life.

Dr. G. Stanley Hall, in his masterful and comprehensive work on "Adolescence," speaks a word of necessary warning when he says: "Sex is the most potent and magic *open sesame* to the deepest mysteries of life, death, religion, and love. It is, therefore, one of the cardinal sins against youth to

repress healthy thoughts of sex at the proper age, because thus the mind itself is darkened and its wings clipped for many of the higher intuitions, which the supreme muse of common sense at this, its psychological moment, ought to give. If youth are left to themselves and the contagion of most environments, this mental stimulus takes a low turn toward lewd imaginations, and vile conceptions, which undermine the strength of virtue, and instead of helping upward and making invulnerable against all temptation, it makes virtue safe only in its absence, and prepares the way for a fall, when its full stress is first felt." (Vol. II, p. 109.)

So few parents are as yet educated to their duty in this the most momentous and far-reaching period of the life of youth, and even where they are educated to a righteous sense of their duty are still so timid and overcautious lest their words be misinterpreted, that millions of young men and women are falling into the way of temptation to be devoured by vice and sensuality. Often a single, sensible, intelligent word will save them. As parents, because of a false racial indisposition, fail so frequently in this mandatory duty, why should not the teachers who have control of that period of young life which verges on manhood and womanhood assume the responsi-

bility and reveal to youth the ever-fascinating mystery of the sexual demands of the human organism?

Nowhere in the whole range of education is more intelligence, more caution, more seriousness and sincerity, called for than when the time arrives to impart the meaning of this profound and confusing mystery to the rapidly ripening mind of youth. The majority of parents would doubtless fail, if they undertook the tremendous responsibility involved in imparting the proper instruction, both, because of their native timidity, resulting from too little sincere companionship with their children, and because of their mental inability to shape the expressions in such a way as to be free from prurient suggestiveness and unwitting excitation.

I would therefore enter a plea that this may be made a portion of the school curriculum, so that at the proper age the children who are just approaching puberty shall be correctly, scientifically and sensibly instructed in their duty to themselves, to the opposite sex, and to the world in general. Delicate, tender, sympathetic words are demanded in such work; words and expressions which must be psychically apprehended and so sympathetically imparted that their effect shall be for the benefit, and not for the injury, of their hearers.

Teachers themselves should be instructed by prop-

erly equipped physicians and ethically guided in the performance of this most serious of all duties. Naturally, it is always better that parents or elder sisters and brothers should impart this information, if they be properly equipped for the duty; but as there is such universal disregard of this solemn responsibility in the family circle, I submit that the duty devolves on the teachers who have supervision of the tender age between youth and manhood, maidenhood and womanhood. Once the teachers were properly instructed, they would learn to detect the psychological moment when the knowledge should be imparted. It is revealed in the carriage of the body, the light and shadow in the eyes, the complexion of the cheek, the tremor of the voice. It is detected in the

> "Maiden, with the meek brown eyes,
> In whose orb a shadow lies,
> Like the dusk in evening skies."

Happy the mother who knows the sign and possesses the tongue and mind to speak correctly. It is detected in the

> Hollow cheek and lingering eye,
> Youth reveals with empty sigh,
> When some maiden brushes nigh.

Ignorance at this momentous juncture in life is in-

excusable; to refuse to act when duty is discerned, is criminal.

THE CRIME OF CORPORAL PUNISHMENT.

Because of the utterly unwarranted ignorance of teachers concerning this physiological and crucial period of the life of youth, they are incapacitated to act as disciplinarians and proper ethical guides. Because of the exuberance and physical vitality of youth their uncontrollable obstreperousness is often mistaken for wilful misconduct, and the supposed proper punishment is inflicted. Flogging and physical humiliation seems to be most necessary to the improperly educated teacher at the very period of youth when it should be least resorted to.

Corporal punishment should be absolutely and finally abolished in all the schools, first, because it is usually demanded at the most critical period of the sexual development of youth, and second, because it is usually inflicted when the teacher is exasperated and angry, and results in merely intensifying the evil-disposition of the pupil instead of reforming him. It seems to be now universally accepted by all authorities on criminal studies that flogging as a curative is an utter failure.

Too often the vital force of the child is deteri-

orated because of horrifying sexual excitations aroused by the physical punishment, of which the teacher is wholly ignorant, but which sometimes results in the complete ruin of the unfortunate victim. Doubtless in perhaps ninety per cent. of criminally inclined youth the disposition may be traced to a physical weakness or a mental deformity.

Punishment therefore should not be inflicted which will but aggravate the malady, without correcting the incorrigibility, but a curative should be administered that will prove effective. Lombroso says: "The recent researches of Dr. Warner . . . found that there is a larger percentage of abnormal children in the industrial (*i. e. reformatory*) schools than in any other class of schools. Dr. Warner examined nearly two thousand children of both sexes in industrial schools in London and the country, and of this number 591, or more than 29 per cent., presented physical or mental defects. . . . The defects noted by Dr. Warner consisted of smallness of stature, smallness of head, affections of the eyes, affections of the nervous system, defects of development, excessive paleness or thinness, and mental dulness" ("Juvenile Offenders," p. 95).

Certainly no teacher should be allowed without a physician's permission ever to flay the body of a child with the rod, nor should a physician ever per-

mit such infliction where better methods will prove more available in the child's development. I believe, if teachers always assumed the right mental attitude toward youth, punishment of a physical character would prove wholly unnecessary. An experience of my own, years ago, while I was yet but a youth myself, led me to this conclusion.

I was a young and quite inexperienced "deestrict skule" teacher away out on the plains of Kansas. Among the pupils there was a big, strapping, rawboned young man, somewhat older than myself, who had a "past" which was lurid with its record of "scraps," bloody and otherwise, and which set him apart as a formidable bully among the younger generation. No sooner had I become installed in my duties than I was forced to listen to the recital of some of his terrifying adventures with former teachers and fellow-pupils that made my blood creep and my heart begin to sink when I realized the possibility of an encounter with him. The *affaire de force* which he had had with my immediate predecessor was enough to give me pause, should I feel called upon at any time to inflict corporal punishment on him.

The teacher referred to possessed a rather irascible nature, sensitive, petulant, domineering. It fell to my rawboned friend to be signalled out by my pugnacious predecessor as a shining mark among the

embryonic criminals, of whom it would be well to make a brilliant example. He had not long to wait. The excuse for an encounter was speedily granted by the hypothetical offender. But the encounter on, the unhappy teacher speedily learned that he was grappling with a juvenile pugilist who was rapidly getting the better of him. In self-defense he laid his hand on the butt-end of a herder's whip and brought it down unmercifully on the back of the quivering lad. The blood spurted from his face and neck, and his body relaxed as the teacher disengaged himself, *sans* coat, *sans* shirt, *sans* trousers. The disconsolate but undaunted lad slipped away and returned in a half-hour with a loaded shotgun, which he recklessly exploded at the head of the pedagogue, but with inefficient aim, thus perhaps being saved from the gallows.

During the lunch hour, one warm, spring noon, I was meditating on these Wild-west narratives, while the children were gently playing in the fields, when my ear was suddenly pained with a frightful shriek. In a moment the younger pupils rushed in and informed me with bated breath that my formidable friend was unmercifully pummelling a negro scholar. It was in the days when Missouri ruffianism was still rampant in Kansas, coupled with the intensest hatred of the degraded negroes. I had audaciously

defied the school supervisors of my district, and admitted the negro into the school, a thing in that day unheard of in that region. Naturally, but little sympathy had been extended to me because of this rash performance.

The offense smelt so rank to heaven, that my young, formidable friend, I learned afterwards, had sworn he would kill the negro should I admit him. Imagine, then, my consternation, when I learned that his sworn vengeance was even now being consummated, while I was mildly enjoying my lunch! "What should I do?" flashed through my mind, which could apparently conjure no reply.

However, I flew to the door, and indeed found the lad laying blow on blow on the head and face of the affrighted negro, assisted by a youngster who was employing his foot as a catapult against the posterior fortifications of the beleaguered African. When I saw the blood flowing freely from his victim's face I called out fearlessly to the ringleader, commanding him to restrain himself immediately, or I would expel him from the school and make it impossible for him to return. Sŏmething in my voice seemed to master him, and he withdrew in a dogged and sullen fashion, permitting me to call the school to order.

When we were all seated, the pupils looked at me with dilated eyes and breathlessly began to wonder

what I would do. And I wondered too. Doubtless it was my good fortune to be acquainted with the lad's career, which naturally put a rational damper on my heated temper. Finally, I mustered sufficient courage to call the young man to the desk where I was seated. But he refused to come. I then walked quietly over to him, sat for a moment or two calmly at his side, and then merely reminded him how utterly impossible it would be to conduct the school successfully if such offenses as his were not restrained or properly punished.

I descanted timidly on the necessity of an education to every young man, and therefore how indispensable the school was to the State. I expected every moment to see him leap upon and damn me for having allowed a "nigger" in the school. But instead he slowly dropped his head and heard me attentively. Gradually, I got hold of his heart-strings and touched his better nature. He answered never a word, to my complete amazement, even though I reminded him of his unenviable record, and that if he were again expelled from school it would bring his education to a permanent close. I told him, however, that it was necessary for the discipline of the school that I suspend him for a week, after which he might, if he chose, return.

I anticipated a genuine struggle when I reached

that climax of my authority, but he seemed utterly subdued, and, for some reason, became wholly submissive to my will. He did return and became, in point of deportment, one of my model pupils, and my stoutest friend and defender in all Eastern Kansas. Here was indeed a case in which corporal punishment, rather than moral persuasion, would have been detrimental to both pupil and teacher. And this interesting experience convinced me that always, if the teacher could assume the proper state of mind and heart toward a pupil, however apparently incorrigible, he could be mastered without the intercession of physical punishment.

CHAPTER X.

Environment.

IS man the creature or creator of circumstances? Is he cast within an invisible mould of influences which shape and fashion his character, or does he consciously himself mould the forces that play upon his life? These are the problems that have ever confronted man. But perhaps in no age of the world has man been better and more intelligently enabled to solve them than to-day. In the processes of modern education we are rapidly passing from the conjectural methods to the scientific and demonstrable. We are no longer satisfied with suppositions and guesses. Tradition we cast easily aside and ask for impartial truth.

That man is really the product of his environment seems to-day, in the light of evolution and sociology, an indisputable law of life. Indeed, until we rightfully understand and appreciate this law of environ-

ment, our lives must needs be but fragmentary and illogical. If we permit influences to play upon and mould our beings, thoughtless of their nature or effects, which are at least somewhat modifiable by application, we are suicidally reckless, unless fortunately endowed by heredity.

But what is environment? Is it merely the material and visible world with which we constantly commune, consciously or unconsciously, or is it also a vast invisible plane of forces with which we are in constant contact yet of whose presence we are mostly unaware? Both descriptions of environment are true. But it is the former, or more distinctly the visible or material environment, which we more commonly regard in our studies.

"To understand the sustaining influence of environment in the animal world, one has only to recall what the bilogists term the extrinsic or subsidiary conditions of vitality," observes Prof. Drummond. "Every living thing normally requires for its development an environment containing air, light, heat, and water. . . . When we simply remember how indispensable food is to growth and work, and when we further bear in mind that the food-supply is solely contributed by the environment, we realize at once the meaning and the truth of the proposition that without environment there can be no life. Seventy

per cent. at least of the human body is made of water, the remaining thirty per cent. is of gases and earths. These have all come from environment. Through the secret pores of the skin two pounds of water are exhaled daily from every healthy adult. The supply is kept up by environment. Definite portions are continuously abstracted from and added to the organism."

This, however, refers to the purely material phase of environmental influences. We find on analysis that there are several other phases, such as racial, climatic, social, sensational, mental, and spiritual. Not until we thoroughly appreciate the force of each will we be able to guide our lives sanely or develop health and character along rational lines.

WHAT CAUSES SO MANY DIFFERENT KINDS OF PEOPLE.

We ask ourselves why are there so many different kinds of human beings in the world? Why are there so many different races; why so many different nationalities and individual idiosyncrasies? There must be some law underlying all these variations, for in Nature there are no uncaused accidents. Especially do we feel the force of this statement when we realize that according to the conclusions of eth-

nologists, or the scientific students of the human races, that there was once a period in the evolution of humankind when there was but one homogeneous race in all the world.

We find that this result is directly attributable to climatic and geographical environment. People who dwell in hot climates have wholly different temperaments and dispositions from people who dwell in cold or temperate climates. In addition to this, we find that pathological conditions are also varied with climatic and geographical environment. Diseases that are common in one portion of the world are utterly unknown in other portions. More than that, some diseases, such as the measles for instance, which in our climate we regard very indifferently and not at all dangerous, among the Patagonians we are told will rage like a plague carrying off thousands in a season.

We have observed how persons who have become acclimated to one section of a country, if they migrate to another section will immediately become subject to some disease which does not at all affect the natives. Thus people who have been born and reared in the northern portions of America, if they migrate to the south, are usually overtaken with malarial fevers, whereas the natives are little affected by it. While, on the contrary,

if Southerners remove northward, they are usually carried off with pulmonary or phthisic troubles.

Here, however, it is very evident another environmental element enters into the problem. For, the fact that not all persons who migrate to other zones are pathologically affected, but only the minority, and the accompanying fact that the pathological indisposition to which they yield is almost invariably the one that is believed to be prevalent, if not indigenous, within the new geographical area, indicate that the invisible environment now at play is largely of a mental or psychical nature.

Undoubtedly sanitation, rigidly conducted, plays a most noble part in the eradication of zymotic diseases. But while this must be allowed, if not earnestly emphasized on the physical side, we must not wholly neglect the mental and spiritual side of the problem. For it is now indisputable that the mere actual existence of disease germs, if indeed such germs do actually exist, does not of itself constitute an efficient cause for the generation and spread of zymotic diseases. It is also just as well demonstrated that the human mind is so curiously constituted that if the conception of a disease germ be vividly portrayed to the consciousness, it will on some personalities produce the same pathological

condition as if their bodies were attacked by the material germs.

There are some bodies which are wholly immune to zymotic germs, but there are also some minds which are immune to the reception of a disease thought, and in some such minds there resides the force that may nullify the power of the disease germs in the body. The "British Medical Journal" (Autumn, 1897) said: "Disease of the body is so much influenced by the mind that in each case we have to understand the patient quite as much as the malady. This is not learnt at the hospitals." Van Norden, in his "Twentieth Century Practice of Medicine," remarks: "There are many carefully observed cases of diabetes on record, in which the disease followed a sudden fright, or joy, or some other disturbance of mental equilibrium."

One of the most baneful and secret diseases of the human system is cancer. It is always fatal, and is to a very large degree beyond the control of the physician's skill. We need not therefore be surprised to learn that cancer is chiefly induced by mental conditions. "I have been surprised," says Dr. Murchison, "how often patients with primary cancer of the liver have traced the cause of their ill-health to protracted grief or anxiety. The cases have been far

too numerous to be accounted for as mere coincidences."

Here we see how the entire body is eaten away, beginning its deadly emasculation usually in the most vital centres, as the direct result not of a bacillus-invasion, but of the projection of a mental germ into the blood. Dr. Snow (London "Lancet," 1880) asserts his conviction that "the vast majority of the cases of cancer, especially of breast and uterine cancer, are due to mental anxiety."

We learn that even where the tubercle bacillus has been introduced into the system no medication is effective unless it is assisted by an associated mental presence. If the mind or will of the patient is abnormal, it is very apt to nullify the effect of the drugs and thus make the patient incurable. "The evidence that the brain cortex regulates absorption, secretion, vascular tension and anabolic and katabolic process in the cells of tissues may now be regarded as complete," says Prof. Clouston in the "British Medical Journal" for the 18th of January, 1896. Sores in many melancholics will not heal. Gland and lung tissues in idiots and dements are unable to resist the attacks of the tubercle bacillus, so that two-thirds of our idiots and one-third of our dements die of tubercular disease." *

* For the authorities here cited see "Force of Mind" by Dr. Schofield—*passim.*

Fear or fright has been known to induce cholera and other infectious diseases. Of course, this fact must not be misconstrued, as it often is by teachers of so-called mental science. Observing that zymotic diseases are induced by mental conditions they are inclined to go the extreme length of the imagination and assert that not the germ is the physical source of all zymotic disease but merely the mental germ of fear-thought. Naturally, this is absurd. The mind cannot create a physical germ, whatever mental germs it may be able to conjure.

What is meant by the association of the mind with the induction of an infectious disease into the system is merely that the germ, being present in the invisible atmosphere, everybody is subject to its attack, and perhaps everybody within the infected zone is attacked. But the individuals who have strong wills, who are mentally positive, are the more apt to be immune to the attack. Whereas those who weaken their wills by fear and by false imaginings loosen the hold of the resistful mind upon the tissues of the organism. Hence, when the germ attempts to rush in, the mind, instead of locking the door, is seized with panic and tries to run away, but leaves the door ajar.

A rational understanding of this law will enable those who attempt to practise mental therapeutics,

and yet who are not schooled in psychology or the biological sciences, to protect themselves against many dangerous, if not criminal, errors. It is because the Christian Scientist feels he is divinely called upon to disbelieve in every physical law of Nature, and to attempt to counteract all the discovered laws of materia medica that he unfortunately falls into such serious and often criminal mistakes when he attempts the cure of organic or infectious troubles. Undoubtedly, even though the bacillus or contagious germ be lodged in the system, and has begun its vitiating and destructive labors, its progress may be materially checked, if not indeed neutralized, by the active resistance of the mind. And it is the realization of this law that effectively permits of the introduction of psychic methods in modern practice.

The well-known fact that healthy bodies easily resist the attack of disease germs, and indeed do not even allow the individual to know that the body is thus attacked, is clear proof that the mere existence of the infectious germ within any area does not necessarily condemn all the inhabitants therein to the deadly disease. Normal health alone is sufficient to succor one from infectious invasion. But it is now an indisputable fact that no agency enters so effectively into the maintenance of health,

or of its restoration when impaired, as the intelligent employment of the mind.*

The mind that yields to fear sharpens the weapon that slays the body. Thought shapes the mould in which the frame is cast. The nerves are the whips that lash the blood to action, and these whips are swayed by the mental overseer. With a sluggish or indifferent mind, the nerves become flaccid and of slow action. The blood then moves slowly and grows, as it were, stagnant, in whose bosom all toxic substances find free and fertile soil.

But when the nerves are roused by intelligent mental action and intense will-energy, the white scavengers (the phagocytes) cleanse the body of its impurities, while the blood rushes keenly through the system, performing its magical labors.†

Hence a good, honest conscience, plenty of work and rest and sleep, properly proportioned, with a

* Dr. Maudsley ("*Mind and Body*," 1. 38) says "Perhaps we do not as Physicians consider sufficiently the influence of mental states in the production of diseases, their importance as symptoms; or take all the advantages which we might get from them in our efforts to cure disease. Quackery seems to have got hold of a truth which legitimate medicine fails to appreciate or use adequately."

† It is impossible for us to deal knowingly and wisely with various disorders of the body without directly recognizing the agency of states and conditions of mind, often in producing and *always* in modifying them" (*Sir A. Clark, Lancet*, ii. 315).

good degree of exercise out-of-doors, accompanied with deep breathing of fresh air and a sufficient supply of pure water, are all the requisites of normal health. If one utilizes these with regularity and keeps his thoughts on things noble, lofty, and unselfish, in all probability he will never need the doctor or be taxed by the druggist.

ENVIRONMENT AND TEMPERAMENTS.

But while with conscious adaptation to our environment, and its appropriation to our own needs and development, we may preserve ourselves against vicious invasion and disaster, we must not forget that in our contact with human beings we must take them as they are and recognize their limitations and demands. If we set out in our earthly pilgrimage wholly ignorant of the fact that organisms are distinguishable by certain fixed and characteristic differences, we shall often meet confusion, and perhaps not infrequent failure.

There is a marked and absolute difference between individuals, in point of mental and physical characteristics, so marked, indeed, that every person may be distinguished from another by his carriage, his features, his voice, and his general outline. If you know a person you are quite as apt to recognize

him in a crowd if you see the back of his head as his face. Even, indeed, if you can see the lower portion of the head, should you be well acquainted, you would not probably fail of recognition. Among a crowd of people where various voices mingle, how easily we may distinguish one particular voice with which we are familiar! Certain persons are so distinguished from others that they may be easily discerned by the shape of their feet, the formation of their hands, and even the colorings of their fingernails. Some law is at work throughout the entire domain of living beings that sets off each individual apart from all others and designates him by specific temperaments or idiosyncrasies. What is it?

We learned when we were studying heredity that in each cell of the blood there existed a certain determining factor which oriented the course of the completed organism that evolved from it. We learned that that determining factor was chiefly psychic. That is, the remains or residua of past experiences and associations which finally aggregated in the microscopical bit of protoplasm called a cell, are the invisible agents that determine the kind of organic being into which the cell will ultimately evolve. Thus every cell is distinguished from every other. Thus each cell or group of cells is specialized and utilized in some specific work.

Therefore, as each cell is genetically distinguishable from every other, it must follow that entire bodies, which are built up by the association of millions of these little cells, will vary according to the predominating characteristics of the cells that compose them. Hence the predominating characteristics of the combined cells will constitute the peculiar temperament or idiosyncrasy of the organ which they compose, and the various organs that combine to make up a complete organism or living body will be mutually distinguished by the characteristics implanted in them by the germinal cells.

Thus we see that all temperaments are primarily the outgrowth of psychic or mental states, for the cell nature is determined by the mysterious guiding power within, or the psychic mould in which it is cast. Therefore, if each cell is so determined, of course the same law determines the entire structure. Hence it follows that there are so many individual idiosyncrasies and so many generic temperaments.

But notwithstanding the infinite variety of individual characteristics they are easily classified, and limited to a few distinguishing groups. In all, there are but four chief classes into which the entire human race may be cast with reference to their mental, moral, and physical peculiarities. They have been well named after some especial physical

feature which seems to characterize the qualities that differentiate them.

We might first speak of the sanguine temperament. This is named from the Latin word for blood, and hence indicates that an individual is full-blooded. In such an one we would expect to find big veins, well filled with the fluid of life, a complexion ruddy if not of brilliant hue, of the type of the blonde, with an eye of greyish or blue tint. His frame would be inclined to fullness, but with big lungs his respiration would be free, deep, and full, while in his normal state the circulation of the blood and humors would be keenly active. In such an one, so a-thrill with fiery blood, strong and magnetic because of the large quantity of iron it contains, and with such deep-breathing apparatus, we would expect to find the emotions intense, at times overpowering, full-sexualized and amative, but not generally constant or reliable.

Such temperaments carry at times great personal force, and not seldom they are able to sweep aside obstacles that to others would be insurmountable. Men possessing this temperament are often instinctive leaders, commanding rather by their emotive than by their will-power, swaying not by reason but by passion. In typical representatives of this temperament there is usually a soft, deep, melodious,

resonant voice. This type generally succeeds best where great ventures are triumphant, without demanding too great a strain on the patience or endurance of the promoter. For because of the intensity of the emotion it soon exhausts itself, and being instinctively optimistic, if the victory is too long postponed, the tenacity of the purpose is snapped and the venture fails.

Their weakness lies in their want of endurance; but their strength lies in their innate optimism, which speedily returns after the disappointment of defeat. Such people are either high in the air or debased in low despondency. But they do not remain long despondent. They soon revive and begin again with renewed hope and sanguine anticipations.

Another type, and one in complete contrast with that just described, is the choleric or bilious temperament. This type is very common, and one which often leads to misinterpretation, because it is frequently misunderstood. It consists of a seething fountain of the passions which with easy provocation sputter forth and burst into a frenzy. The distinguishing characteristic of this temperament is its vital strength, its capacity of endurance, its tenacity of purpose, and unquenchable pugnacity. In such temperament there sits in power the royal right of revenge, and woe to him who falls beneath its bane.

Anger, hate, envy, jealousy, are here all-controlling forces. But, when these are in abeyance, then are their opposites, love, composure, admiration, and confidence, lifted into supreme authority.

Because of the abundance of bile in the system, and the consequent swarthy complexion, this temperament has been denominated the bilious temperament. In its typical phase, it is the distinctive and perfect brunette. The complexion is not only dark, but dark also are the hair and the eyes; the latter are not infrequently like black diamonds, shining with penetrating brilliance, while the former is glossy, straight or curly, according to modifications of the temperament, and usually thick and heavy grown.

In this type the sexual passions and the amative disposition are also highly developed, as in the sanguine temperament, with this difference, that while in the latter the passion is flitting and unstable, in the former it is persistent and tenacious. Therefore, when love is thwarted, it meets in the heart of the swarthy temperament with the desire and passion for revenge, while in the sanguine or blonde temperament it is passed by as an idle thing, and calmly awaits another breeze to fan its passion into a flame.

The choleric temperament is fitful, irascible, tempestuous, when finally aroused, though not

easily excited. It will long endure oppression and injustice, but, when it finds itself foiled, all the dark depths of its nature are aroused and burst into seething and confusing passion.

> "To be once in doubt,
> Is once to be resolved."

They are slow to anger, but long in recovering from it. They will listen for awhile to jealousy, but will not long pursue it ere they slay it with the love whose disappointment caused it.

> "Think'st thou I'd make a life of jealousy,
> To follow still the changes of the moon,
> With fresh suspicions?"

cries Othello in his agony.

His was the choleric or bilious temperament *par excellence*. And in that character Shakespeare reveals all its noble and base characteristics. He could love, and his love was deep as the ocean, but when that love was turned if not into hate, at least into despair and revenge, it could "exchange him for a goat and turn all the business of his soul" into base purposes. In dealings with such temperaments extreme caution and deference are necessary; for once they fall out with those who were their friends the restitution of the former feeling is difficult and long postponed. They make the best, the truest, of

friends, and the worst, the most irrepressible, of foes. They are lofty lovers, and profound haters.

In the nervous temperament we find features quite distinguished from those we have thus far been studying. Here, instead of the strong and vigorous facial expressions we discover in the temperaments just reviewed, we meet with sharply carved lineaments, of delicate structure, a frame of wiry construction and inclined to slightness, stirred with quick impulses and flitting passions. Here the amative or sexual appetencies are not as permanently developed nor so often do they sway the system, though they are susceptible of large development and usually enter deeply into the history and vicissitudes of the individual.

This temperament is distinctively the artistic, and is therefore less sensible of conscious personality, but easily loses itself in environment and abstract ideals. It is the temperament of the poet, the romantic lover, the playwright and the actor, of the sculptor, the painter, the social dreamer, and the impulsive agitator.

It is introspective and lives more in its own feelings than in external conditions. To it the world is inverted, being more sensibly a part of the inward consciousness than of external fact. It is plastic, almost protoplastic, easily moulded, and preëmi-

nently suggestible. It is innocuous, easily imposed on, given to credulity, trustful and ingenuous. It prefers to think the world good and beautiful, as reflected in its own sentiments, and despairs when it finds the world full of gall and guile.

On its moral side, this temperament has given to history many of its greatest, noblest, and most benficial characters. On its debased side, it has produced many of the most atrocious villains, thieves, marauders, despots, and degenerates, the world has known. From this type when demoralized come chiefly the derelicts, the hysterics, the demoniacs, the hypochondriacs, the neuropaths. Describing exaggerated and debased types of this temperament, Lombroso says: "A salient characteristic of hysterics is their mobility of moods. The subject passes with extraordinary rapidity from laughter to tears, like children."

"One hour," writes Sydenham, "they are irascible and discontented with everything; the next day they are cheerful, and follow about their acquaintances with a tenacity equal to the affection which they first had for them. Their sensibility is exalted by the most futile causes. A word will grieve them like some real misfortune, such as an unkindness from their husband, the death of their children, and so on. Their impulses are not wanting in intellec-

tual control, but are followed with excessive rapidity by action."

"Moral impressions dominate them," writes Schulle, "because they become organic. An idea will bring about a convulsion, and often one notices in them a sudden incoherence, a sudden confusion of mind, which passes after a long sleep." (See "The Female Offender," Lombroso.)

Women are so commonly possessed of this temperament, which has to a certain extent become degenerate because of heredity and social influences, that it behooves men thoroughly to understand it, if they expect to live happily with them. Unfortunate indeed is that woman, who, endowed with this temperament, has married a stolid and unsympathetic husband. He will never be able to understand her, and will constantly misconstrue her actions and motives. Often friendships have been shattered between men for this same reason. Perhaps there is no temperament which is more susceptible to misinterpretation than the nervous temperament, nor one concerning which we should be more thoroughly informed.

It is beyond dispute that the results of modern civilization are tending toward the development of far finer nervous organisms, which keyed to a high intellectuality are also subject to deep de-

pression and resulting dullnes of the moral sensibilities. We meet with more of this type to-day, perhaps, than in any former age of civilization. It behooves us to study and gauge it, and learn both how to control it and how to be wisely controlled by it. It is this type that gives the world its intellectual geniuses, who, some tell us, border at times closely on insanity. Where such types are but moderately developed, they form the nobler part of the race and their lives redound only to the happiness of others. They are the philanthropists and benefactors of society. Not that such are confined to this type, but that where this type is normally developed its possessors incline to goodly and philanthropic deeds.

If one finds that there is a tendency to dangerous exaggeration of the features of this temperament, then it would be wise to associate freely and intimately with the opposite types of the lymphatic or the sanguine temperaments. Especially is association with the lymphatic temperament, to which we shall shortly refer, of supreme advantage. The reason is, that the nervous types are most sensitively suggestible; therefore, their very intimacy with the lymphatics will by the reflex effect of the mental environment of such association cause a relaxation in the nervous centres of the over-sensitive, and awaken a sense of calmness and repose.

In business no less than in marriage, other things being as nearly equal as may be possible, it is well for opposite types of temperament to associate. Given a man with keen intellect and excitable nervousness, sensitive, sympathetic, penetrating, and another of average intellect, but inexcitable, calm, poised, balanced, slow to think and slow to act, and the two will constitute an almost ideal partnership. One could with safety prophesy success for such a venture.

For, the man of lymphatic temperament presents first a rather pallid complexion, revealing an uncertain flow of the blood, sometimes resulting in congestion in unexpected centres. Therefore his nature is not heated, the humors of his system are not fiery and seething, as in the choleric temperament, nor are his sexual qualities so vigorously developed. His muscles are flabby, indicating that the nerves that order and control them are not rigid, instantly responsive to stimulation, or sensitively expectant of agitation. The nerve substance is, so to speak, in a greater state of solution, than in the other temperaments. The phosphorus and fat are melted, according to the description given in a previous chapter; therefore less electrical energy plays through the nerves and they are in a state of comparative stagnancy.

This type are mentally inclined to sluggishness and stolidity. They cannot be whipped into action; they must be coaxed. They will yield to authority because of their indisposition to resist. They endure the galling chains of oppression because they cannot rouse their bile to action. They often succeed, because like heavy bodies their momentum is large in spite of the slowness of their movements. They constitute an excellent buffer to the nervous excitability of people with nervous temperaments. They will stop a quarrel, merely because of their indolence. They will frequently be deferred and submitted to, not because of their persistence, but merely because their long delays and indecision wear out their opponents.

It is manifest that these four temperamental types are not ideally present in any representative of them. They usually commingle in more or less even division among individuals of the race. We discern them only where their features are distinctly marked in certain persons. We catch glimpses of all of them in almost every individual. In some, one or more of the characteristics of certain types predominate, and then we classify such persons as belonging to such and such temperament, merely because of the predominating features. It is well that it is so, for in its extreme type any one of the temperaments is

almost equally undesirable. But as the result of physical and mental environment, these temperaments have mutually qualified each other, so that we find parts of each of them in almost all human beings.

But by studying the types carefully, and learning to distinguish the predominant temperamental feature, we shall learn how to get on with men and women far more successfully, than those who are careless of such investigations. The study of human nature is the supreme study of the race. There are indeed only two forms of knowledge necessary, if not the only two possible. These are the knowledge of personal self, and the knowledge of race-self. Equipped with a scientific information on these two planes of study, which are so far-reaching and all-inclusive, a man might be said to be truly educated even though he were quite ignorant of what is known as literature and a liberal education.

THE CONTROLLING FORCE IN MENTAL MASTERY.

We have thus observed in our studies that the Man is built by distinctive forces which operate in the development of each individual. By an analysis of

these forces we learn at last that they merge chiefly in one; namely, in that force which wells within the breast of the individual and constitutes the especial energy and prowess of his being. The world without affects us only indirectly, the world within, directly. None of the forces that mingle in the material environment of a human life does in aught affect it until they have become inwoven in its nature and comprise the powers that move and compel it to action.

Neither climate, nor geographical situation, nor heredity, nor parentage, nor education, nor temperamental surroundings, nor aught, indeed, in heaven and earth or the things beneath the earth, does in any way effectuate the character or the quality of a human being until it becomes a conscious or unconscious force within him, that makes for his good or evil, his evolution or devolution.

In modern psychology this distinctive force is denominated auto-suggestion. All the influences that play upon a human life are but as the pattering of the rain on the roof top, or the roar of thunder in distant mountains, until they penetrate the active inner centres of one's being and set the machinery of one's life in action. It is often supposed that the power of suggestion, that especially which is exercised by one who is alleged to be extraordinarily en-

dowed with this mysterious power, is of itself sufficiently strong to effect its will on one's life, though the individual so affected may not be aware of the fact. There is a partial truth in this assertion; but, like all half-truths, it is untruthfully exaggerated.

As a matter of fact, one's life can, and often is, unconsciously affected by meretricious or beneficial influences; as when one unconsciously absorbs the manners, habits, moral qualities, and mental dispositions of those with whom one associates. So, too, one may be affected by a conscious effort on the part of another, who sends forth an inaudible and purely mental suggestion, that may prove beneficial or injurious to the individual towards whom it may be directed.

Psychological experimentation has proven these laws, and it is only the uninformed who presume to question them. But because of this modern discovery a sense of fear has seized many, and they have perhaps unwittingly permitted a new superstition to seize their souls which often brings them misery. I have known some persons who have been so overcome with the notion that a certain person's mind has been set to work upon them, the effects of which they dread, that they have been driven into a frenzy of unhappy anticipations, and could secure no peace of mind.

The danger lies in perceiving only the half of the truth. While it is demonstrable that one's thoughts may penetrate another's mind to a certain extent, without the other's knowledge, and thus may affect his happiness, yet it is also true that such intrusions into another mind can be effected only in such minds as permit themselves to become exposed to attack because of fear or negative passivity.

The fear or distressful anticipation which one experiences on contemplating the possibility of the intrusion of another's mind is itself a species of auto-suggestion, and reveals the negative or passive state of such a mind. It has so permitted the suggestion to seize it that it is powerless in the presence of another mind. Therefore, whenever that other mind chooses to impose upon it, the weaker mind is incapacitated for resistance. Now in that very auto-suggestion lies the danger and in no other.

The obnoxious mind of another might attempt a thousand times to obtrude itself upon a mind supposed to be susceptible; but if such mind shall prove to be irresponsive to the demands of the undesired suggestion then it does not penetrate the being of the person attacked, and falls without.

The discovery of this law teaches the highest individualism. It teaches that each individual constitutes his own fortress of defence, and will he but

exercise his powers his kingdom need never be invaded by a vicious or deteriorating force.

It is the unconscious exercise of this force that has so often created the heroes of history. All the world's great reformers have been endued with this instinctive disposition toward self-defence by the requisite auto-suggestion in each approaching crisis. It was the unconscious obedience to this law that compelled Martin Luther to defy the authorities and the fear of his friends when he was called upon to face the Diet at Worms, and swore that he would enter the city though each tile upon the roof-tops was an incarnate devil.

It was this deathless spirit in the breast of Napoleon that made him for awhile the unconquerable hero of martial advantages; though seemingly oft-defeated his very determination not to see defeat braved him to dash on to victory. It was this auto-suggestion, the belief that nothing could daunt or down him, that called him again to the field of action from Elba, when all the world thought him permanently defeated. It is this sustaining suggestion of destiny that so often saves one from despair and brings a newer opportunity and a final triumph. The realization of this law, and the fact that its exercise lies within the power of each individual, belies that often quoted sonnet on "Opportunity at-

tributed to the late Senator Ingalls, which runs as follows:

> "Master of human destinies am I!
> Fame, love and fortune on my footsteps wait.
> Cities and fields I walk; I penetrate
> Deserts and seas remote, and passing by
> Hovel and mart and palace—soon or late
> I knock *unbidden once at every gate!*
> If sleeping, wake—if feasting, rise before
> I turn away. *It is the hour of fate,*
> And they who follow me reach every state
> Mortals desire, and conquer every foe,
> Save death; but those who doubt or hesitate,
> Condemned to failure, penury, and woe,
> Seek me in vain and uselessly implore:
> I answer not and I return no more."

Were this, indeed, the law of life, the entire race might well despair. For how many among earth's billions of inhabitants have really ever snatched time by the forelock and seized the one and only opportunity that presented itself! Were this the law of life, Nature were indeed a cruel Monster, on whose Medusa head all who gaze would swiftly turn to stone. How often have opportunities been lost only to teach the losers the lesson needful for the seizure of the next approaching invitation! Indeed, by the unconscious rejection of opportunity are we taught by that best of all schoolmasters—Experience—to grow in wisdom and appropriate the powers that await us.

Most men who have succeeded well have often been the victims of defeat. First efforts are but meager prophecies of what may be achieved. There must be the frequent disappointment of defeat to harden the heart and make the energy thus acquired the more aggressive and effective in life's battle. To teach the pessimism that inspired the sonnet quoted is to drive humankind to despair and increase the graves of suicides.

It is this feeling of failure, failure because of lost opportunities, that multiplies the tribe of the grumbler and increases the army of the ne'er-do-wells. They put on a grim and ugly visage, speaking despair in every feature. They cry "Now that the god of opportunity has visited us once, when we were unaware, and now that he will come no more, why try, why hope, why conjure courage for another effort!" It is like the old doctrine of salvation we used to hear preached many decades ago. Our fathers thought that there was a time in each life when the Master knocked at the heart, and if the sinner resisted the voice of the Spirit, he would never come again, and the soul was forever lost. It was that deadly doctrine that so cursed the heart of John Bunyan for a long period of his life, and from which, indeed, he did not feel himself redeemed till he was imprisoned for his teachings.

Should this old theological doctrine be introduced into modern ethics it would create a vaster amount of mischief than ever it did among the ancient sinners. Once instruct one that never again will the overtures of opportunity be extended, then why should not such an one dig his own grave and speedily sink into it, and at once bury his misery with his life? Why is not one justified in blowing out one's brains, if, indeed, this world is so constituted that only once in each life will the elusive god approach, and often in such disguise as to be but faintly recognized?

No; no; if that were indeed the dismal law of life, this would not only be a hapless pilgrimage we are making, but a tragic irony, a monstrous mockery. It were better indeed not to have been born than to endure a fate that hangs on so slender a thread.

This new age must teach a new philosophy. It is the philosophy of self-redemption, self-salvation. No soul is lost in this world or the next that determines not to be. The god of victory hides in the depths of every life; and he who wills may conjure him from his sleeping-cave. No one needs to despair, while there is life, while there is work. So long as men need, human opportunity shall appear. If the microbe of despair enters any heart, let it not be forgotten it may be destroyed by a "culture" pre-

pared from the germs of hope that experience has generated.

Some men have desired all their lives to achieve and have continually failed till grey hairs crown their brows and the grave seems to invite them. Then have they created an opportunity and begun to achieve. Some at forty, some at fifty, some even as late as sixty years of age, have made their first stroke tell and win out.

No; let us rather believe that we cannot tell how often Opportunity will knock at our humble door, and ever keep our hearts expectant for his visitation. Let us rather accept Walter Malone's lines of hopefulness and comfort:

> "They do me wrong who say I come no more,
> When once I knock and fail to find you in;
> For *every day* I stand outside your door,
> And bid you wake, and rise to fight and win."

Yes; the very thought of such a possibility kindles in one's heart a sense of self-reliance and reassuring inspiration. The thought itself becomes a force to sustain and spur us on with new courage. For thought is an energy; a force—a motor-power. If it turn us to action and pursuit of some goal, however often we may stumble and fall, if the thought perish not but still spurs us to action, in time the good will be attained.

"Wail not for precious chances passed away;
Weep not for golden ages on the wane;
Each night I burn the records of the day;
At sunrise every soul is born again.

This is the song that leads to hope, courage, action, achievement. Heed, repeat, and often sing it; for it thrills with a suggestion that calls to the deeps of one's being and rouses to hope renewed. "Never say die; while there's a shot in the locker." The old saw is a good one and in thorough accord with the modern discoveries in psychology. The thought that we encourage is the power that kills and makes alive. To fear is to fail; to dread is to despair. The action fits the word, and the word fits the thought. As we think, indeed, we are. Why not then entertain thoughts of happiness and hope, for we can conjure them if we wish, even when clouds hang low and life seems uninviting.

"Laugh like a boy at splendors that have sped;
To vanished joys be blind and deaf and dumb;
My judgments seal the dead past with its dead;
But never bind a moment yet to come."

This is the voice of Opportunity that reason and commonsense conjure from the universal experience of humankind.

Man is made by circumstances. True. But it is

also true that Man makes circumstances. We are not mere machines and automata. We are rational, self-conscious, free, and self-determining beings. We can make of ourselves what we choose. We may shape our destiny as we will. "It is not in our stars, but in ourselves, that we are underlings."

So shape your thoughts, your resolves, your persistence, that your life shall re-echo the cry of the poet:

"In the fell clutch of circumstance,
I have not winced nor cried aloud.
Under the bludgeonings of chance,
My head is bloody, but unbowed.

It matters not how straight the gate,
How charged with punishments the scroll;
I am the master of my fate:
I am the captain of my soul!"