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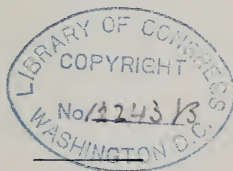
SAFENA;

OR, THE

MENTAL CONSTITUTION.

BY

ARTHUR MERTON.



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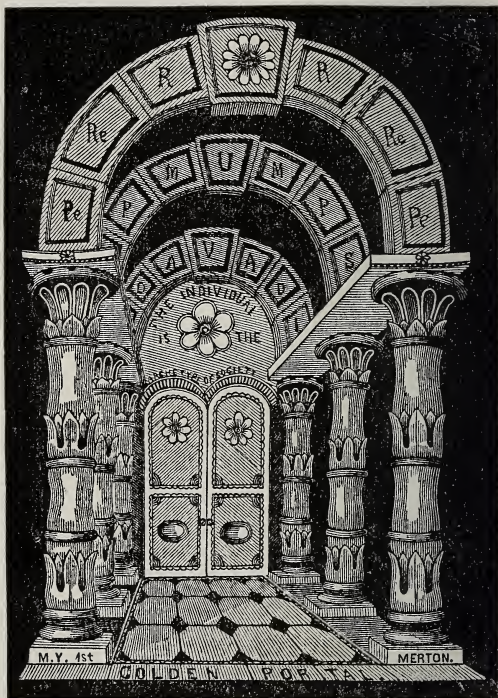
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SAFENA.

CHAPTER FIRST.

MENTAL ANALYSIS.

THE Human Constitution is an epitome of the Universe. Every general law and force of the latter, from the geometric law that carries the planets and stars through their vast sweeping elliptic orbits to that which unfolds the leaf-bud and flower, is repeated, though not with the same arrangement, in our mental structure.

These general laws are methodically stated in the other volumes of the Matunal series, and will only be noticed incidentally here while directly considering the corresponding laws of Safena or Mental Science.

A complete System of Mental Science must furnish a definite and practical solution of all human phenomena, that is, of all that our race has ever felt or thought or done, both in its personal and its social spheres of activity. It must explain to

us clearly the laws of our nature and the relations which we sustain to each other and to the physical world. It thus opens up to us the widest range of thought, and explains the most wonderful and important facts that can engage our attention. We shall here find none of that dryness which has usually been thought inseparable from science. There is no truth and no beauty in the whole universe that we shall not here find illustrated or exemplified. In the grand rhythm of its laws are more charms than the whole realm of poetry has ever afforded. For it directly deals with the very powers of which poetry is the harmonic but fragmentary expression.

While thus rich in all that can excite and inspire the imagination, it surpasses all other branches of science in its amount of practical truth. We are conscious, reasoning and voluntary beings, and hence we cannot well obey the laws of our nature without understanding them. There is no situation in life, no duty and no pleasure, to which the Safenal laws do not furnish the unerring guide of mathematical demonstrations. They are here presented in a form as complete and demonstrable as that now attained by Geometry, Mechanics, Astronomy and Chemistry, and they will work far more wonderful and no less certain results when once understood and applied. Their lofty guidance will enable mankind to more than fulfill

those grand promises of the golden era of wisdom and harmony by which the poets and seers cheered the long and toilsome march of humanity through the centuries. In the light of these laws we shall go forward rapidly and securely to the accomplishment of that magnificent destiny.

All mental phenomena are embraced in seven general laws. These rule the Classification, Location, Form, Evolution, Polarity, Nervation and Unity of the mental faculties. We shall devote one chapter to the most condensed statement and explanation of each of these laws that is consistent with any degree of clearness. These laws are all in action at the same instant, and therefore our arrangement of them does not illustrate their relations or degrees of importance, but is adopted simply as that in which they may be most readily understood. In the present work no attempt is made to elaborate the multitude of proofs upon which these laws rest. Most readers will find sufficient proof in the fact that the laws clearly explain human phenomena and harmonize with all that we know of external nature. Those who wish a more extended analysis of the proofs will find it in the author's lectures upon this subject.

Both personal and social activities spring from the same general source. In private conduct or in the affairs of government we can do no more than act out our own natures, either fully and harmoni-

ously, or else in a fragmentary manner. Therefore in Safena we everywhere consider the private and the public phases of life in connection. The Social and the Individual Constitutions are included in one.

LAW OF NUMBER. THE MENTAL FACULTIES FORM TWO CENTRES, THREE CLASSES, TWELVE GROUPS, TWENTY-FOUR LEADERS, AND THIRTY-SIX PAIRS OR SEVENTY-TWO ORGANS.

In seeking for illustrations of this law in external objects we shall find that all harmonies are serial. That is, they are arranged with regular dependencies between certain numbers. These are One, Two, Three, Seven, Twelve, and multiples of these. Other numbers belong to the free or irregular series. The scales of Musical Sounds, of Odors, Flavors, and Colors, furnish prominent illustrations of the harmonic series. In the combination of elements belonging to either of these, the elements must bear a certain numeral relation to each other in order to be harmonious. The necessity of this relation arises from the very nature of the mind itself. For the mind is constituted and ruled by the same numbers, and it must regard as beautiful and attractive those things which respond to its own structure.

The following illustration from the law of Form is one of the positive proofs that these numbers do

rule the mind. The Nadanee, as we shall see further on, is the great nerve-centre through which the brain acts upon the body, and the body upon the brain. A line through the head, from the opening of one ear to that of the other, will pass directly through this centre. If we draw one straight line from the opening of the ear to the top, and another to the lower end of the nose, as A and B in the figure, the two lines will include an angle of thirty degrees, that is, one-twelfth of a circle. This is not only true of all human heads, but in those of all vertebrate animals. In some cases, the slight variation of half a degree has been noted. The greater the upright length of the nose, the farther must it be from the ear in order to just fill up the angle. Thus length of the intellectual organs and downward length of the nose, where their facial signs are, correspond. By repeating the same angle all of the way around the head, we find that one includes the forehead and one the space from the nose to the chin. This gives three in front, three above, three behind, and the same number below, making four trinities. Five of these angles are in the face and neck, and seven of



them in the brain. As the brain is the great source of mental power, while the face, body and limbs are its instruments, we perceive from this distribution of the angles that seven is a number of high or internal, while five is one of low or external harmony. These lines divide off regions of the brain which naturally act together when both body and brain are concerned. The Nadanee is then their pivot of action, the great centre of mental and physical consciousness. It originates our idea of the Unity of our existence. The two brain Centres, Artu and Latu, give us the Duality, and the three together give us the lower Trinity of life, while the higher Trinity is given by the three Classes, Intellect, Affection, and Action.

Unity, Duality, and Trinity, being invariable and inseparable elements of our mental structure, have found a more or less full expression in all of the great systems of life and thought. Thus in the Hindoo theology, we have Brahma the Former, Vishnu the Preserver, and Siva the Destroyer; a very good representation of the mental trinity.

We commence our examination of the mind by considering it as one unitary series of powers, a variety in unity. All of the faculties, with their totality of form and power, and their many inter-relations, are essential to make up the human personality.

In the first step of mental analysis, we view

the mind in its duality as composed of attractive and repulsive forces. These find their centres in the Artu and Latu respectively. Both kinds of force, however, radiate from each of these Centres, and are received by them. They are the great pivots through which all of the organs act.

We next consider the mind as displaying three great aspects of force, the Constructive or Intellectual, the Attractive or Social, and the Impulsive or Active. These are the Classes or mental Trinity. They were described by the old writers as Wisdom, Love, and Will. We may either use these terms, or, Intellect, Affection, and Action.

It is the office of the Intellect to perceive, remember, compare, and analyze the phenomena of the world, and from these discover natural laws and apply them to the promotion of human happiness. The Intellect is cool and impersonal, it neither attracts us to, nor repels us from persons. It is the instrument for executing the purposes of the Social faculties, yet it has pleasure in its own activities. From Affection arises the various kinds of love, all of those sweet warm personal attractions which make a true social life one perpetual summer of light and beauty. Without the social faculties we should not be attracted to any kind of action, and without the intellectual we should not perceive the means or methods by which to accomplish anything. The organs of Impulsion impel us to mus-

cular labor, repel us from the past, from evil conditions, and from discordant persons. They are hot, fiery and impulsive, the torrid zone of mentality. The genial organs of Affection and the cool Intellect form its temperate zone.

The Intellectual class is divided into three Groups, the Perceptive, Retentive, and Reasoning; the Social class has five, the Fraternal, Unital, Marital, Parental, and Sensitive; and the class of Impulsion has four, the Vigorous, Ambitious, Defensive, and Impulsive.

In each group are two leading faculties. This makes twenty-four in all. One of these Leaders unites and concentrates in itself somewhat of all of the attractive, and the other of all of the repulsive functions of the group. Thus they represent and lead the other organs.

Besides the Leaders there are twenty-four other pairs of organs, making seventy-two in all. An analysis of the Leaders alone would give a systematic, though not a minute view of the mind. As each organ is composed of many nerve fibres, and each one of these fibres differs slightly in function from those adjacent, it is evident that all parts of each organ are not alike in kinds of power, and that we might separate each into a number by describing these differences. But our analysis into seventy-two is doubtless minute enough for the purposes of study and art.

The following is a list of the Leaders, with brief definitions.

FORM. Perception of the shape, configuration, curvature, outline, and individuality of objects.

COLOR. Sense of colors, their accords and discords.

MEMORY. Power to retain and recall impressions, and recollect events, talent for history.

ATTENTION. Sense of the present, of what is passing within our own minds and around us, power to focalize all intellectual impressions and thoughts.

REASON. Logical power, analysis and synthesis, ability to generalize facts so as to discover laws.

PREVISION. Sense of the future, foresight, sagacity, intuition.

FRATERNITY. This faculty leads us to regard all mankind as brothers and sisters, and to associate with them upon terms of an elevated equality.

REFORM. Desire for culture, social improvement and reform, to reach and maintain a true civilization.

UNITY. Sense of the unity in the forces of nature, love of the Manita or infinite Life and Law of the Universe.

HUMANITY. An elevated love of all Mankind, desire to promote and secure human welfare. It looks upon mankind as a unit.

DEVOTION. Desire to be loved by the opposite sex, worship, love of physical beauty.

FIDELITY. Desire to love the opposite sex, to bestow and express marital affection, to ultimate love in offspring.

PARENITY. Parental love, fondness for the young and dependent. It relates us to the future humanity.

PIETY. Filial love, respect for the aged, the ancient and venerable, for past humanity.

APPETITE. Sense of hunger and thirst, desire for food and drink.

FEELING. Sensibility, impressibility, touch, general sense of force. Its impressions are not very definite until they are transferred to and acted upon by the Perceptive organs.

INTEGRITY. Uprightness, feeling of justice and honor, desire and impulse to do right, mental balance.

SERENITY. Fortitude, patience, gentleness, power to overcome annoyances. The back part of the organ gives firmness.

SELF ESTEEM. Pride, dignity, aspiration, self confidence.

PRAISE. Desire to praise others and to receive their approval, to gain distinction.

DEFENCE. Impulse to self defence, to secure and protect one's own claims and privileges.

GAIN. Disposition to acquire and retain wealth, sense of ownership.

DESTRUCTION. Impulse to destroy evil and useless things and conditions.

BASENESS. Tendency to employ cunning, indirect, or cowardly methods to accomplish one's purposes.

In the following tabular view of the organs, the names of the maternal officers are in small capitals, and next to them are the organs which they directly represent. The repulsive organ or the male officer is placed first in each pair.

PERCEPTIVE GROUP.

FORMER,	Form,	Size,	Number,	Names,
COLORIST.	Color.	Force.	Order.	Language.

RETENTIVE GROUP.

RECORDER,	Memory,	Time,
ATTENDER.	Attention.	System.

REASONING GROUP.

REASONER,	Reason,	Judgment,	Imagination,
PREVISOR.	Prevision.	Planning.	Inspiration.
	Machinery,		Music,
	Construction.		Ideality.

FRATERNAL GROUP.

FRATERNOR,	Fraternity,	Friendship,	Kindness,
REFORMER.	Reform.	Mirth.	Truth.
	Example,		
	Imitation.		

UNITAL GROUP.

HARMONIST,	Unity,	Hope,
HUMANIST.	Humanity.	Belief.

MARITAL GROUP.

DEVOTER,	Devotion,	Ardency,
FIDELA.	Fidelity.	Geniality.

PARENTAL GROUP.

PARENTER,	Parenity,	Reverence,	Patriotism,
PIETER.	Piety.	Modesty.	Home love.

SENSITIVE GROUP.

CUSINER,	Appetite,	Flavor,	Ardor,
SENTINEL.	Feeling.	Odor.	Nura.

VIGOROUS GROUP.

BALANCER,	Integrity,	Energy,	Control,	Cautious,
SERENIST.	Serenity.	Persistence.	Sleep.	Excitement.

AMBITIOUS GROUP.

EXALTER,	Self-esteem,	Liberty,
LAUDER.	Praise.	Equality.

DEFENSIVE GROUP.

DEFENDER,	Defence,	Protection,	Aggression,
TREASURER.	Gain.	Secrecy.	Profanity.

IMPULSIVE GROUP.

DESTROYER,	Destruction,	Aversion,
DEBASER.	Baseness.	Mobility.

In applying the law of number to our social relations, we shall find that each mental Class, Group, Centre, and Leader, must be definitely represented in the structure of society by a corresponding part or officer. **THE INDIVIDUAL IS THE ARCHETYPE OF SOCIETY.** When thus modeled from the Human Mind, we call the whole social structure the Matuna.

In forming an individual society or Tavu of the Matuna, we represent each of the twelve groups of mental organs by a group of the members of society, and give the social groups the same names as the mental. Each of these social groups devotes itself chiefly to those mental and physical pursuits which are directly included in the functions of the organs which it represents. Every social want as it arises is at once referred to its appropriate group and officer.

Each of the twenty-four leading faculties and of the two Centres, is represented by an officer who leads the social activities arising from that faculty, and who must of course have it well developed.

Members with dominant fraternal organs follow their attractions by uniting in the Fraternal group; those with the Ambitious organs leading in their characters, form the Ambitious group; those with the sensitive organs large enter the Sensitive group, and so of the rest. Those persons who have all of the organs evenly and fully developed, would be-

come Centres, or else pass and repass, in succession, through all of the groups. The manner in which these changes are effected is explained under the polar law.

In every individual society or tavu, then, we have three Classes, twelve Groups, and twenty-six Officers. Thirteen of the latter are male and the same number are female, the first representing the repulsive, and the second the attractive organs of the fourth degree. A tavu may be considered complete in numbers if it have seventy-two members including the officers. It may be increased from this up to two hundred and eighty-eight. If larger than this, the groups would be unwieldy. The first number is sufficient to represent all of the organs, and to fill well the circle of social functions and complements.

The following are the general functions of the matunal officers. We learn their special duties and relations more fully under each of the mental laws.

The Artuna and Latuna are presiding officers, and pivots through whom the rest may act. They assist all of the officers, and like the corresponding brain centres, they may, when necessary, assume to some extent the functions of any of the rest. This necessity would occur in case of the temporary, mental, or physical disability of any officer.

The Former and Colorist teach the laws of form and color. They assist in teaching and applying

all of the sciences. The Colorist also preserves social order.

The Recorder keeps the social records, teaches history, maintains the written correspondence between the tavus, and preserves those unities which depend upon time and concerted action. The Attender must call each luro or social meeting to order and announce its subjects for thought and action. The two together direct the marching and dancing.

The Reasoner teaches the laws of science and art, and leads in earth culture and all productive industry, in concert with the Previsor, Cusiner, Sentinel, Harmonist, and Humanist. The Previsor should, as far as possible, foresee and give notice of the results of social action. She presides over poetry and illustrative art.

The Fraternor preserves the fraternal, friendly, and sympathetic relations between the tavus, and among the members. The Reformer leads in examining, welcoming, and promulgating new discoveries, in the adoption of all social improvements, and in the entertainment of guests.

The Harmonist maintains the unity of mankind with the Manita through obedience to natural laws in all social action and thought. In like manner the Humanist preserves the unity of Humanity with itself in one grand composite life. In the absence of the Centres, they preside at luros.

The Devoter and Fidela preside over marital unions, and the culture and harmony of all relations between the sexes.

The Parentor and Pieter direct the education, labors, and amusements of the children and youth. The Pieter has also the care of the aged, and the celebration of the achievements of the past.

The Cusiner directs the cultivation, distribution, and preparation of food, and the regulation of temperature. The Sentinel directs the fenal, magnetic, and aromal communications both between members and between societies, and the times of rest and sleep.

The Balancer maintains the even balance of justice, and directs the physical culture and labors. The Serenist preserves social quiet and self-control, and leads in amusements.

The Exalter maintains social dignity, rank, ambition, and liberty. The Lauder distributes the awards of praise, leads in emulation and display, and maintains social equality.

The Defender defends social rights, and assists the Treasurer in the accumulation, preservation, and distribution of wealth. Both are subject to the supervision of the chiefs, that is, the Reasoner, Previsor, Harmonist, Humanist, Balancer, and Serenist.

The Destroyer leads in the destruction of evil and useless things and conditions, assisted by the

cunning and indirectness of the Debaser. They lead in many of the lower and ruder industrial employments.

Having thus examined the component parts of an individual society, we will next learn how these tavus are related to each other. The wants of a town, of a state, and of the whole country, or of whatever divisions of society correspond to these, are the same in kind. They differ only in the fact that those of a country and state descend less to details than those of a town. The constitution of the three must therefore be the same, have the same number and kinds of groups and officers. To meet the necessities of the case, we arrange the tavus in three orders or ranks. A society of the lowest rank is called a Mati. It may occupy, if devoted to Agriculture, a space of territory two miles long by one and a half wide. This would be small enough to enable the members to all work together. If devoted to other pursuits, much less space would be sufficient. Many objects of industry and pleasure require that numbers of these lower societies should act in unity. They must have a pivot through which this can be done. One of their number fills this place of pivot, and is called a Mate, or society of the second rank. It devotes the first part of its daily sessions to their direct interests and the second part to its own. Under each Mate there may be united twelve hundred

Matis. These are collectively called a Mato. In the vaster works of industry, in building national channels of transit, and for very many other purposes of unity, it is necessary that all of the Matos should have a centre of action. This is called the Matu, or society of the first rank.

The names Matu, Artuna, and Latuna, are the only ones which are changed to distinguish the three Orders.

<i>First Order.</i>	<i>Second Order.</i>	<i>Third Order.</i>
Matu,	Mate,	Mati,
Artuna,	Artena,	Artina,
Latuna.	Latena.	Latina.

The representation of one order in another will be readily understood. It must take place through like parts of each. Suppose that, as must frequently occur, a want or a question in regard to food arises in the Sensitive group of some Mati, but cannot be satisfactorily answered there. It would be referred to the Sensitive group of its ruling Mate for answer or adjustment. If not answered there, it would be referred still higher to the Sensitive group of the Matu. The same method applies to all the groups. The lower ranks make their wants known to the higher through any of the common channels of communication. A person who learns the functions of the officers and parts in a Mati, as every youth must, will then understand the whole Matuna.

CHAPTER SECOND.

STRUCTURE AND FUNCTION.

STRUCTURE and Function are inseparable. We cannot conceive of any manifestations of life or of intelligence which do not proceed from organs, that is, from regular structures having definite offices. In most animals and plants the body consists of a collection of such organs, each having its special duties, and being closely connected with the others. An assemblage of organs designed to produce one general result is called a System. We may conveniently divide those of the human body into seven such systems, the Digestive, Circulatory, Respiratory, Assimilative, Reproductive, Motive, and Mental.

The Mental system includes the brain, the nerves, and the organs of sense, those parts directly concerned in producing mental phenomena. It is to this that the present volume is especially devoted.

Life consists in the continuous adjustment of internal or external relations. A piece of flint, for illustration, is without life, if a fragment be broken off, it cannot repair itself. But if a plant

or an animal be wounded, the internal activities are changed, proper materials are sent to the wounded part, and it is healed. In a state of health, every change of external conditions is instantly responded to by the internal. To maintain the process of thinking, the brain must constantly change and consume the materials of its structure, and new materials must be supplied through the lungs and as food. Muscular movements must procure and prepare the food, it must be digested in the stomach and oxydized in the lungs before it can be sent to the brain to supply the loss that has occurred there. The bodily movements must be rightly adjusted to procure the food, and the force of the digestive organs must be properly adapted to its solution. A series of internal relations is thus seen to be adjusted to the external relations, and the higher the type of the organism, the more complex are these changes. In the lowest plant they are few and simple, in the highest animal they are numerous and diversified. In the true society, as we shall see in another place, its life is maintained by perpetual interchanges of feeling, thought, and action.

From the very nature of life itself, we perceive how dependent the different organs of the body must be upon each other. We cannot have a high degree of mental power, harmony, and happiness, without keeping the bodily health and develop-

ment up to a high standard. And conversely we cannot have the most perfect physical health and beauty without social and mental harmony. The establishment of social harmony will have an immense effect upon the physical health of Humanity.

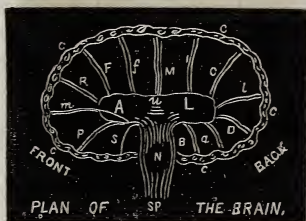
The simplest methods of structure are carried into the highest forms of life. There are three laws of structure which are the base of all the rest. These belong to the Crystal, the Cell, and the Leaf. The Crystal is the mineral unit of structure. It is the general tendency of mineral substances to assume the stable condition of crystals. A condition without life, for the crystal has no circulation of its substance. The Cell is the organic unit of structure. All vegetal and animal tissues are formed by the evolution and action of minute cells. Unlike the crystal, the cell is bounded by curved lines, has an external cell-wall, an internal circulation of its parts, and can adapt itself to varying external conditions. Therefore it has life. But a collection of cells without order would not constitute an organized being. The parts or cells composing each organ, in every plant and animal, are arranged upon the plan of a Leaf or Tree. This plan essentially consists of a collection of tubes, with branches and subdivisions which terminate in cells, usually microscopic in size. In these cells the vital changes take place, and the

tubes are the channels for the passage of liquids or of waves of force. The tubes themselves are formed from cells. The leaf epitomizes the tree. This plan results from the simplest laws of liquids, and is exemplified in nature wherever a regular circulation of liquids is established. If we dissect out the arteries, the veins, lymphatics, lungs, glands, muscles, bones, nerves, and brain of any animal, we shall find that each exemplifies the tree-plan. The human Brain, when spread out so as to show the relation of its parts, exhibits the most complex and perfect example of tree forms. It fills the ideal type more fully than any tree of the vegetal world. It is the great Tree of Life, spoken of, but not understood, by the ancient seers. It was entirely natural that they should have taken a tree as the type of the mind. Every lofty deed that has made glorious the page of history, and every act and thought that has made private life sweet and beautiful, has been the fruit of this tree. Its true cultivation and the resulting happiness, concern every person in our present life, and do not simply belong to some future state and far off realm.

The mechanism of the brain is the key to a solution of all mental phenomena, for it is the part chiefly concerned in their production. In its study, we shall learn how an apparently simple struc-

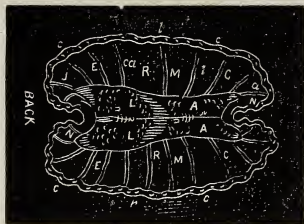
ture gives rise to the most varied and wonderful results.

The brain is a duplicate organ, the right and left sides or hemispheres being alike in size, form, and function, like the two eyes, or the two ears. So that each mental organ is double. The two halves of the brain act together through bands of unison or commissures, passing from one to the other. Each hemisphere is divided into two parts, the larger and the lesser brain. The Spinal Cord, marked SP in the engraving, is composed of six columns, three on each side. The front columns consist of mo-



tor fibres, and these in passing upward first enter the Nadanee, N, and then pass up and forward, entering the Artu, or front brain centre, A. The back columns of the cord, composed of sensory fibres, pass up and back through the Nadanee to the Latu or back brain centre, L. From these centres the slightly curved fibres radiate in every direction, as seen at S, P, M, R, F, M, I, C, L, D, and B, in the engraving, which represents a vertical section of the brain from front to back. These fibres terminate in the mass of cells, c, c, c, c, which compose the surface of the brain. This mass is about half

an inch in thickness, and composed of many layers of cells, these like the fibres, having an average



diameter of the one thousandth part of an inch. The course of the horizontal fibres is seen at J, E, R, M, C, and α , in this section, made on a level with the centres

A and L. Here we perceive that the right and left sides of the brain, r and l , are alike in form.

The lesser brain is subservient to the larger, and has one centre, the Duma. It forms the Impulsive group, and acts so directly with the larger brain that their actions are calculated together.

Each half of the larger brain is partly divided into three lobes, corresponding to the classes, Wisdom, Love, and Will.

Each mental organ consists of many fibres, with cells in its outer extremity, and at the other connected with one of the brain centres. The latter are composed of both fibres and cells. The office of the nerve cells is to receive and retain impressions, and to originate or modify nerve force or Fena, while the fibres are channels for its transmission. Along these fibres the waves of thought flow swiftly in delicate lines of living light. The

sheaths of the fibres insulate the passing current of Fena, but this current will readily flow from any cell to adjacent ones, through their walls. As there are no partitions between the organs, each one in action excites its neighbor. Hence if those of opposite character were located together, this excitement would only produce discord. If Destruction and Philanthropy were side by side, then the more our love of Humanity were excited, the more should we seek its destruction.

The mass of outer cells is folded up so much as to give in each hemisphere a surface of three hundred and thirty square inches. The quantity of nerve or mental power is in proportion, first, to the extent of this surface, which varies with the depth of the convolutions in different persons; and second, to the fineness of texture of the brain and other parts of the system. This texture may vary as widely as that of the oak, beech, and linden wood, or of iron, copper, and gold. The texture of the skin and other organs of sense, indicates very well that of the brain in any given case. A coarse body gives a coarse mind, and conversely.

LAW OF LOCATION. ORGANS OF SIMILAR OFFICE HAVE ADJACENT LOCATIONS, AND REMOTE ONES ARE BLENDED BY THOSE OF INTERMEDIATE CHARACTER. THE FIBRES POINT TOWARD THEIR OBJECTS OF RELATION, AND HENCE THOSE ORGANS

WHICH ARE MOST ELEVATED IN OFFICE HAVE THE HIGHEST LOCATION.

The first part of the law expresses a necessary result of nervous structure and action as we have already seen. There are no sudden transitions among the organs, the functions gradually change from point to point, so that we cannot tell precisely where one organ or group ends and the next one begins.

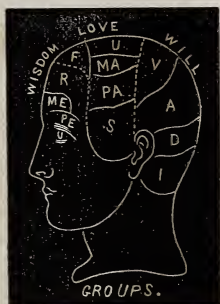
The mental force or fena arises chiefly in the organs, and each of these acts in connection with an index or sign in the face and body. Its influences are sent the most directly to this sign, through the centres and the nerves. The organ in turn, is influenced by the sign. Thus Appetite not only arises from the wants of the system and the condition of the stomach, but also from the organ of Appetite in the brain. The cultivation of the organs excites and develops the respondent parts of the face and body. The converse is equally true.

The back head is directly related to the muscular system, the immediate stimulus to muscular contraction coming from the spinal cord. The Vigorous and Ambitious groups are related to muscles of the arms and shoulders, the Defensive group to those of the back, and the Impulsive group to those of the thighs and legs. The Social organs are related to the heart, digestive, secretory and

reproductive organs, and we know how powerfully the social emotions affect the action and secretions of these bodily organs. The excitement is often more apparent in the body than in the brain, so that we speak of Affection as the Heart, and feel the bosom thrill with emotions of love and friendship. The Intellect is related to the lungs and muscles, and hence we call the reception of knowledge Inspiration. The Intellect especially uses the muscles of the hand and arm, but it does so only through the coaction of the Vigorous group, as we shall learn in the seventh chapter.

The following full length figures show the principal part of these relations. *App.* is Appetite; *Fl.* Flavor; *Od.* Odor; *Feel.* Feeling; *Nu.* Nura; *Res.* Respiration; *R.* Reverence; *M.* Modesty; *Pa.* Parency; *Pat.* Patriotism; *Ho.* Homelove; *Ma.* Marital love; *H.* Hope; *B.* Belief; *Hu.* Humanity; *Un.* Unity; *F.* Fraternity; *K.* Kindness; *T.* Truth; *Inte.* Integrity; *S.* Serenity; *Pe.* Persistence; *En.* Energy; *Re.* Reason; *Pr.* Prevision; *Id.* Ideality; *Int.* Intellect; *Dest.* Destruction; *Prof.* Profanity; *Protect.* Protection; *Mobil.* Mobility. The lower limbs relate us to the world of life below man and to the earth and its elements. The front of the body is seen to be connected with the front of the brain, and the back of the body with its back portions. These signs are estimated by the size at the points indicated. The drawing

The intellect occupies the front portion of the head, nearly the whole of that space usually not covered by the hair. Affection occupies the top and sides of the head, in front of a line drawn from the opening of the ear directly upward. And Impulsion fills the entire space back of this line. These are divided by dotted lines in the engraving. The other lines divide off the groups, lettered with their initials. *PE* is the Perceptive, *ME* the Retentive, *R* the Reasoning, *F* Fraternal, *U* Unity, *MA* Marital, *PA* Parental, *S* Sensitive, *V* Vigorous, *A* Ambitious, *D* Defensive, and *I* the Impulsive group.



Although the size and texture of the organs correctly indicate their power, yet the most practical way of reading character is through the signs of the face. If the faculties did not here shine through definite channels, then the face could possess neither expression nor beauty. As there are no nerve cells in the signs of the face, it is not necessary that these should be grouped in the same way as the organs. Sometimes those of opposite character are near together, but they are so arranged as to produce opposite effects in expression.

length to the limb of the lower jaw, and prominence to the ridge of the nose.

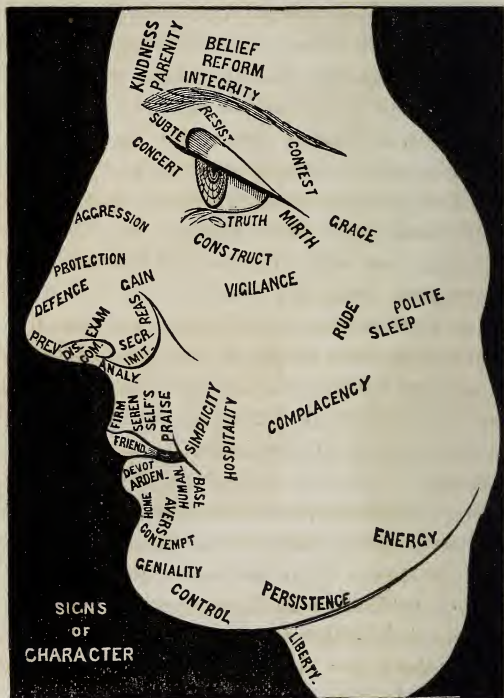
Prevision and Attention give downward length near the tip of the nose. Discovery gives length to the forepart of the partition of the nostrils. Combination is just back of this, and Analysis still further back next to the lip. These three are subdivisions of Reason. We saw when considering the angles of the face, that downward length of the nose is always accompanied by forward length of the intellectual lobe of the brain. This is a proof that these signs are correctly located. Imagination gives breadth to the partition at the back part, and curves the wing of the nostril there.

Reason produces height of the upward curve of the wing of the nostril. Machinery projects the cheek bone under the centre of the eye, and construction under its inner angle.

Fraternity elevates, without wrinkles, the centre of the right eyebrow; and Reform that of the left. Kindness elevates, with wrinkles, the inner ends of the eyebrows. Hope gives elevation, with wrinkles, at the place of Fraternity on the right side, and Belief does the same on the left. Pareity elevates the inner third of the right, and Piety that of the left eyebrow, without wrinkles.

Truth is shown by horizontal wrinkles beneath the eye. Mirth by wrinkles curving downward from its outer corner. Simplicity curves the cor-

ners of the mouth slightly upward. Friendship causes slightly converging wrinkles in the red part of the lips. Imitation extends the wing of the nos-



tril downward next to the face, and Example does the same near the front part of the wing. Complacency, a part of Fraternity, draws the mouth

corners upward and backward. Politeness, a part of Reform, produces breadth of the cheek bone back of the eye.

Humanity gives upward length to the lower lip near the mouth corner. Patriotism does the same nearer the centre, and Homelove still nearer. Ardency and Fidelity are indicated by the breadth and fullness of the red part of the lips.

Integrity gives upright wrinkles along the eyebrows and between them. Serenity gives length to the upper lip midway between its centre and the mouth corner. Control, Persistence, and Energy, give downward length to the limb of the lower jaw at its front, middle, and back parts.

Self-esteem gives fullness to the upper lip on each side of the centre. Praise, in action, lifts the upper lip slightly so as to expose the teeth. Liberty gives length and convexity to the fore part of the neck.

Defence projects the ridge of the nose near its lower part. Protection is above this, in the middle, and Aggression is near the upper part. Cunning depresses the inner end of the eyebrow, Resistance its centre, and Contest its outer extremity. Secresy gives breadth to the wing of the nostril. Gain does the same above and forward of this.

Destruction has its sign in an oblique fullness of the lower lip. Aversion is just in front of this, and makes a fullness in the centre.

LAW OF FORM.

force acting outwardly from the centre, P, upon A, in order to keep it away from P. But if this force alone acted, it would move A off indefinitely in the direction P A. To prevent this, it must be balanced by an exactly equal attractive force drawing A toward P. Every circle must have been produced by these two forces of equal intensity and opposite direction. Let us suppose that the circle O C represents the section of some kind of fruit,

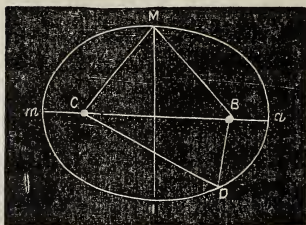
where, of course, the distributing forces are vital, and not mechanical, in the lower sense of this word. The particle B, in moving from P, contains more repulsive than attractive force for P. It moves forward until the two forces are equal, and then stops, as at B. If the repulsive force had been one-third greater in proportion, it would have moved on to the point reached by the particle D. In the particle A the repulsive force was twice as great in proportion, and in consequence it moved to the outer line before being balanced by the attractive force. We may apply the same reasoning to the particles covering the entire surface of the circle. From this we see that the vital forces are subject to strict geometric laws. And we shall find that the brain and mind exemplify this proposition in the highest degree.

LAW OF FORM. THE BRAIN IS CONSTRUCTED ON THE GENERAL PLAN OF AN ELLIPSE, AND ITS ORGANS, WITH THEIR SIGNS IN THE FACE AND BODY, ARE LOCATED UPON REGULAR CURVES, WHOSE PROPERTIES ACCURATELY REFLECT THOSE OF THE FACULTIES IN EACH CASE. THE FORM, SIZE, AND TEXTURE OF ANY ORGAN OR SIGN TRULY INDICATE ITS POWER.

While the deductions from these external curves are always exact, they are not minute in their discriminations. For the finer distinctions of mental

action we must measure the form and length of the nerve waves from each organ, as we shall see in the sixth chapter.

The Ellipse has two focal points of action, instead of one, like the circle, and the two forces, attractive and repulsive which radiate from each of these, do not remain of equal intensity, but pass through regular variations.



THE ELLIPSE.

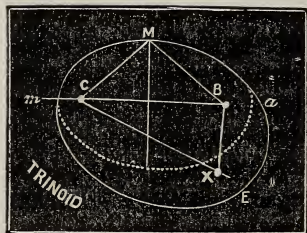
Suppose that the describing point D be moving around to form an ellipse. As it moves from I toward *m*, it is receding from B and approaching C. And it is evident that to

make it do this the attractive force acting upon it from B must be decreasing and the repulsive force increasing. At the same time, the opposite takes place with the forces of C, for the attractive force of the latter must become greater, and the repulsive force less, as D approaches *m*. At this point, the attractive force of C and the repulsive force of B have each reached their maximum, and the attraction of B and the repulsion of C are at their minimum. Now let D pass on toward M and *a*, and just the reverse of what we have described will take place with the forces, until D reaches *a*. At M and I the attractive and repulsive forces of the

two centres are just equal. At all other points their ratio varies. *M I* forms the minor axis, and *m a* the major axis of the ellipse. The minor axis is therefore the golden line of unity. And in the brain, whatever organs are located upon the minor axis must be centrally related to and balancing pivots of all the others.

The brain is an ellipsoid with two proper centres, the Artu and the Latu. But if we look at an exact drawing of the brain in profile, we shall observe that the lower half of the ellipse is not symmetrical, but droops considerably at the back part. This inequality is caused by the lesser brain, and we must seek some curve which will at once explain the mathematical and the vital cause of the variation. The body and the brain affect each other through the Nadanee or general nerve centre, situated just outside the brain but within the cranium. The lesser brain in its bodily effects chiefly controls the muscles concerned in locomotion, and it is directly connected with the nadanee. To calculate the bodily effects of these, we must not consider the minor axis, *M I*, as the balancing line of action, but must take a parallel line farther back, that passes between Integrity and Control. In drawing an ellipse, we fasten pins at *B*, *M*, and *C*, and pass a thread around them as shown by the lines connecting them. Then removing the pin at *M* and putting a pencil in its place, we move the

pencil around to describe the ellipse, keeping the thread tense. If we then move M farther back,



and putting a pin at X, as in this engraving, corresponding to the position of the centre of the lesser brain, we pass a thread around C, M, B, X, and removing the pin at M, as be-

fore, our pencil will describe on the lower half the line E. This gives the exact general outline of the brain, and demonstrates that it is the influence of the lesser brain and the nadanee that causes the variation from the regular ellipse. Our new curve has three focal points, C, B, and X. The influence of the lesser brain and the nadanee also widen the brain a little at the back part in a horizontal direction.

But in calculating mental phenomena without special and direct regard to the bodily influences, we have simply to consider the brain as a regular ellipse. It presents three great curves of this kind, two vertical ones, and one horizontal. The latter intersects the two other ellipses at right angles, and thus both have the same centres.

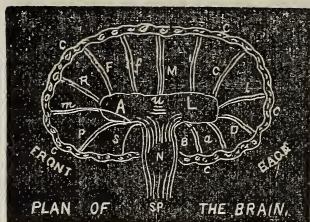
In one of the vertical ellipses, Marital love is at

the upper, and Appetite at the lower end of the minor axis. These are the balancing faculties, the pivots of all human life on the earth. For our physical life depends upon our relations to food and drink through Appetite, and the perpetuity of the species depends upon the union of the sexes through Marital love. No faculties affect our whole happiness so directly and so profoundly as these. From no others can we receive such exquisite and exalted pleasures as these give when acting in harmony, or such misery as these bring when in discord. It is in accord with the eternal laws of mathematics that we make Marital love, the high pivot, take so conspicuous and central a part in the matunal structure.

The forces of the two sexes in love act in strict harmony with the elliptical law of variation, the two sexes representing the two centres. In their highest expression, that of originating a new being, the masculine and feminine forces are equal. From that moment forward, during the whole period of prenatal development, the feminine forces increase in quantity and intensity, and the masculine diminish. After the direct maternal functions are accomplished, the feminine forces slowly return to their equipoise with the masculine. The affectional forces of the two sexes may pass through elliptical variations of slighter intensity when not engaged in parental relations. This law gives to

Marital love its beautiful variety of emotion, the infinite charm of perpetual renewal.

The above vertical ellipse contains Color, Time, Reason, Fraternity, Love, Integrity, Praise, Defence, Appetite, and other organs. From the



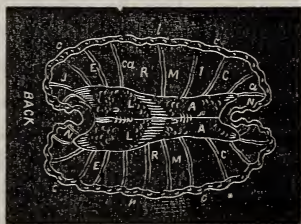
Latu, L, the fibres of Integrity, I, run a nearly upright course to its cells. Others run upward and forward to Reason, situated more distantly. From the cell end of

Reason, its fibres, R, run the shorter course to the Artu, A. From the latter some also pass to Integrity. Now according to the law under discussion, the attraction of Reason for the Artu is much greater than its attraction for the more distant Latu. And whatever might be the peculiar force generated by Reason, the larger part of it would be sent to the Artu, and but a small quantity to the other centre. At Integrity the attraction of the Latu is the greater. The organ of Liberty, L, would receive the least attractive force from the Artu, and Attention, a, the greatest.

The above ellipse occurs in each hemisphere, and these act together through bands of unison. Their united action must take place in another ellipse where the two hemispheres join. This one

includes, among other organs, Form, Attention, Prevision, Unity, Self-esteem, Impulse, Ardor, and Feeling. Here, at the upper end of the minor axis, we find Unity and Philanthropy, the grand centres of all our love, thought, and action. Our relation to the Universe through the organ of Unity is still broader than that to each other through Marital love, yet its pleasures are less intense and less expressible. At the lower end of this axis Feeling and Ardor give the broad base for all bodily and mental culture. The sense of Touch is the common standard for comparing all of the rest. Through it we perceive mathematical relations, the basis of all science. We are related to heat through Ardor, and we know that a certain degree of heat is an essential condition of all life. The mental force must be constantly thrown into the planes of these two ellipses, and hence we see why all mental impressions must be brought under the action of Attention, Prevision, and Reason.

The horizontal ellipse has Reverence, R, at the ends of its minor axis. At those of its major axis are Attention, *a*, and Liberty, *l*. These are therefore its piv-



otal organs. They are level in their direction, and hence equally related to the high and the low, the earthly and the heavenly. Reverence leads us to accord to each person what his merits demand, and Liberty impels us to grant to every one opportunity for the freest and fullest exercise of all his powers, and to demand the same thing for ourselves, while Attention focalizes alike the impressions received from all persons and things.

The planets are ellipsoids and their orbits of revolution are elliptical. The mighty mechanism of the heavens is repeated in the celestial mechanics of the human mind. The paths of thought obey the same mathematical laws that rule the far sweeping orbits of the stars.

While a planet, the moon for instance, is moving around the earth as its centre, the latter is moving forward constantly in its orbit around the sun. Consequently, the curve of the moon's path through space is an epicycloid, and not an ellipse, as it would have been had the earth remained stationary. The same is true of all planets and suns, and the epicycloid is therefore the great curve of universal motion, embracing the sum of all forces.

The epicycloid also forms part of our mental structure. A vertical range of organs, including Kindness, Belief, Unity, Hope, and Serenity, are located upon this curve. These give us the widest range of relations so far as our affections are con-

cerned. They unite us with the infinite in life. Another range of organs forming an epicycloid, includes Prevision, Judgment, Reason, Planning, and Imagination. These enable us to comprehend and harmonize ourselves with infinite law. These two are the only ranges which form this curve, and they are the only ones which establish universal relations.

The Marital organs and signs form elliptical curves; the Parental and Filial, and some of the Intellectual, form parabolic, and the Vigorous and Ambitious form hyperbolic curves. In the uses of symbolism these curves are applied accordingly. In any case, an analysis of the curve will give us the general law of the organs entering into its formation.

The parabola has one known focus or centre, and in passing away from this the attractive force of the centre gradually lessens. Applying this truth to parental love, we observe that the attractive force of the parent over the child is greatest at the commencement of the child's existence, when it is nearest its originating centre or parabolic focus; and that from this time forward, the moulding and controlling forces of the parent over the child gradually diminish, and other influences take their place. The child at length reaches maturity, and becoming itself a parental centre, the parabolic curve is repeated anew.

Let us examine an intellectual parabola. The signs of Discovery, Combination, and Analysis, subdivisions of the faculty of Reason, form this curve. Discovery reveals to us the existence of a particular truth, its distinctness from all others. Then Combination, situated farther from the focus, examines the discovered truth in the general relation of its parts as a unity,—a thing complete in its accord with itself, and yet holding a fixed and definite place with regard to other truths. It then passes beneath the scrutiny of Analysis, located still farther from the centre. This faculty separates its constituent elements, assigning them to various classes, as members of an infinite series. From this point of the examination, the component elements no longer strike our attention as at first, by their unity; they have widely diverged and assumed multiform aspects. Thus, under the action of these three faculties, the truth has passed through just those variations which appertain to the forces of any parabola.

The straight line is a monotone; it does not display that variation in the direction of line which is essential to beauty of curvature. It can occur but once in a beautiful form, and that is in the ridge of the nose. The circle, too, is a monotone, and only occurs in the iris of the eye. The more beautiful curves, the ellipse and parabola, are repeated many times. The female bosom, the ivory

throne of love, set with carnation, garnet, or amethyst, derives its exquisite beauty of form from both the ellipse and the parabola.

The curves of the head, face, and form seldom terminate abruptly, but gracefully blend with each other, like the organs of the brain. The number and the perfect arrangement of these curves give to the human form its wonderful beauty, so far surpassing that of all other physical objects that we cannot conceive of anything more beautiful, and our highest imaginings attribute the same form to beings in realms of existence more exalted than our own.

The most beautiful face and figure is that in which all the faculties are the most fully and symmetrically developed. If any organs or signs of a curve are deficient in size, this will destroy the regularity, and consequent beauty of the curve. A homely face may have many of the higher faculties well developed, and express much goodness, but it cannot belong to a complete and rounded character.

In the lowest of the animals the simplest of the curves prevail, and they become more and more complex as we ascend the scale of life, until we reach man. The human form exhausts the possibilities of perfection in our solar system. There is no higher curve than the ellipse upon which a rounded body, as the brain must of necessity be,

could be constructed. And, as we have seen, all of the other great curves are included in its structure. We know therefore, from the rigid laws of mathematics, that man can never be supplanted on the earth by any being of a nobler form. Man is the only being on the earth who is rhythmical balanced against the collective forces of the Universe.

Not only do the curves which make up the human form bear fixed relations as regards their position, but also in regard to their proportional size. Thus, when a beautiful adult person is standing, from the sole of the foot to the knee is one-fourth of the height; to the lower extremity of the body is one-half; from the same to the dividing line of the chest and abdomen is three-fourths; the head is one-eighth; from the top of the cranium to its base at the atlas joint is one-twelfth; the length of the breast-bone and the vertical length of the pelvis are each one-eighth; the head and neck are one-sixth, and the forearm, from the elbow to the wrist, is one-seventh. The hand is one-fourth the whole length of the arm, the hand included; the hand is also as long as the face, and the thumb as long as the nose. When the arms are extended to the right and left they reach as far as the person is tall. The length of the foot is one-fourth that of the leg. The face is three noses in length; the head and face four noses; and the mouth and ear each one nose in length. Thus the

head is four stories high. From the point of the chin to the mouth is one-sixth the height of the head. The width of the eye is one-seventh of the length of the face. The width and the height of the brain are each to the front and back length as five to seven. The circuit of the head, as we learned in the first chapter, forms twelve segments and four trinities. Now if we make similar divisions of the monochord, these will produce musical sounds which are in harmony with each other. They will give the fifteenth, or second octave; the octave; the fourth; the twenty-second or third octave; the twenty-sixth, the nineteenth, and the twelfth. The harmonies of music are a part of our physical structure. By measuring the human form in other directions we may reveal still other correspondences.

The above proportions of the form vary at the different periods of life before maturity. At birth, the head is one-fourth of the height. The other parts gradually gain upon this until the proportions of maturity are reached. Even in maturity, many individual cases vary from the above standard, which is derived from the comparison of many human forms, and is confirmed by the harmonies which we have cited.

Aside from the explanations of mental action which it affords, the law of Form has its principal value in determining many laws of art, in earth-

culture, architecture, and costume—laws which we could not discover or understand without its light. Every curve in an external object must make a definite impression upon us. It must tend to excite and please those faculties which are located upon a like curve. We are obliged to regard as beautiful those forms which respond to the forminal law of the mind. The laws of form-beauty are an inherent part of our mental constitution, and not dependent upon the arbitrary, varying tastes of individuals. Beauty is Truth and Utility. The highest beauty gives the highest use.

Art is but that higher unfolding of nature which takes place through man. All of its laws are laws of the mind. Art is applied and embodied science. Through these two instruments the mind of man has made all of its great and permanent advancements in goodness and happiness. Of all beings on the earth, man alone is a creator, able to invent and make the instruments for his own advancement, to perpetuate his increasing knowledge through all generations, and to thus secure the final elevation of mankind to conditions of harmony.

As forms exert a definite and potent influence in moulding our characters, we ought to surround ourselves with those which are best adapted to excite and unfold our highest faculties. From the safenal laws we easily deduce the true symbolism of Forms and Colors, and all of the varied forms and cere-

monies which should both express and embellish our social life. Even the figures in dancing may be thus made expressive. The twelve social groups which constitute any society, may be arranged in the form of a twelve petaled flower, or twelve rayed star, each group forming a petal or ray. Then by successive changes, as indicated under the polar law, the flower or star may vary its aspect an indefinite number of times, each change reflecting some mental accord. In other words each change would bring together persons whose characters, and the colors of whose costumes, were harmonies in some one of the degrees. And the curves upon which these changes were made would also express the same accords. At the same time, the directing notes of music would correspond with the other harmonies. Thus we may have four series of harmonies at once, a thing unknown and undreamed of before the Matuna.

A twelve petaled flower and a twelve rayed sun are appropriately used as symbols of the Matuna and its central officers.

Our Costume should secure four things: protection from the elements; freedom of muscular movement; beauty of form, and harmony of color. The protection afforded by costume will depend upon its material and its texture, matters easily arranged in civilization. To secure freedom of motion the dress should not be too tight, and when

there are skirts, these should never reach below the knee, in either sex. The costume of the two sexes should not be more different than their forms and characters. To have the third requisite, the general form of the body must not be concealed, nor any long, straight, unyielding lines occur, for no dress can supersede the divine beauty of the human form by greater beauties of its own. The colors of costume should express the character of the wearer, as we shall learn in the sixth chapter.

The gardens of the tavus or societies are laid out in elliptical form, with straight paths on the major and minor axes, and the other paths ellipses or parabolas.

The temple or dwelling is a medium of protection between man and the external world, and hence its structure should reflect the laws of both. It should have less angularity than the mineral kingdom, but may have more than the human form. Every part of the matunal temple illustrates these applications to art. The general form of the temple is that of an ellipse, surrounded by a twelve sided portico. Its two principal halls in the first story, for meetings and for dining, are fan shaped, their narrower ends toward the centre of the building. The proportions of every part reflect those of the human form. The colors and the number of the different parts also reflect mental harmonies. This is true to the minutest details. In the Golden

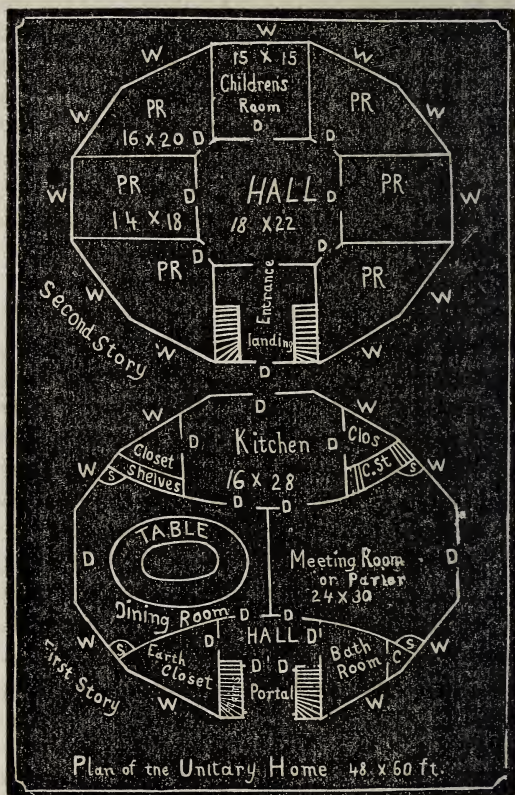
Portal, or southern door of the temple, the first arch represents the intellectual groups, united by the Fraternal group as the keystone. The middle arch represents the social groups of the minor axis, and the third arch the groups of the back head. The flower in the first keystone symbolizes the twelve groups. The curve of each arch is composed of parts of three cycloids. Each capital has twelve leaves, to indicate the twelve groups.

The temple is both a place for social meetings and for residence. By representing the mental accords it also expresses the social harmonies. It is impossible for a society to be harmonious in a building where these harmonies do not exist.

The plan of the Unitary Home is a transitional form, modified from that of the temple, to adapt it to wood as a building material, and to lessen its cost, so as to bring it within reach of societies in their commencement. It is made twelve sided, and three stories high. The drawings illustrate its plan clearly. The doors are marked D, and the windows W. S, S, S, are rows of corner shelves extending from floor to ceiling. The central hall extends through the second and third stories, and is lighted from the dome. These two stories are alike. P R are the private rooms of officers and members.

The members of each tavu or individual society dwell together in the temple, or Unitary Home,

and the various duties, or employments of this unitary household, are assigned to the members and



groups, both male and female, according to the

safenal laws. In the isolated households that preceded the Matuna, each woman was obliged to pursue the same round of duties followed by the rest, and woman's labor could not be specialized. She only received incidentally the benefits of man's advancement. The domestic duties which in them fell to the lot of each woman, are in the tavu divided into seven or more classes, and assigned to as many members or minor groups. As a necessary consequence, each duty is filled with far greater skill and pleasure.

CHAPTER FOURTH.

HUMAN EVOLUTION.

EVOLUTION may be defined as increase of mass and increase of structure. It proceeds from the general to the special, from simplicity to complexity, of structure and function.

The evolution of cosmical bodies illustrates this general process. Without actually witnessing the early steps in the formation of any planet, we are able to estimate these from later phases and from studying objects of lesser duration. The material of any planetary body was once attenuated matter, diffused in space. This was gradually collected around central points, and then solidified, crystallized, dissolved, and recombined in new chemical forms, until, in the lapse of uncounted centuries, suns, planets, and stellar systems resulted. The cosmical bodies have also their periods of dissolution or decay. One body or system may be decaying while another is forming, and thus perpetual renewal and decay repeat the endless cycles of the Universe.

As the successive strata which form the crust of

our planet were deposited, the conditions of its structure were continually advancing, becoming more and more complex, and this gave rise to higher and higher kinds of animal and vegetal life. Among vertebrates, the first were fishes, the lowest of the class. Then came the reptiles, somewhat higher; then birds, higher still; then mammals, and at the head of these came man, the crown of the organic series. The earth passed through many steps of preparation before his noble advent was possible. His career through ascending phases of development is a part of the general course of nature, whose force he cannot evade or permanently resist.

LAW OF EVOLUTION. THE MENTAL ORGANS GRADUALLY ADVANCE FROM SIMPLICITY TO COMPLEXITY OF FORM AND FUNCTION. THE BRAIN PROCEEDS FROM THE DEVELOPMENT AND RULE OF THE ORGANS AT THE BASE AND BACK TO THAT OF THOSE AT THE TOP AND FRONT.

From the first moment to the close of fetal life, the brain presents a constant increase in its complexity of structure. At different parts of this period the embryo resembles, in succession, the members of an ascending series of the lower animals. But the brains of these lower animals are arrested, some at a low and some at a higher point, that of man alone passes onward to completion.

Yet the brain is not perfect at birth. It must pass through phases of evolution, each well marked at its central period, and at their points of union gliding insensibly into the others. We may consider life, after birth, in four phases, Childhood, Youth, Maturity, and Senility.

In Childhood the brain easily receives impressions, but these are indistinct and soon replaced by others. The actions are impulsive, prompted by the base of the brain, and little controlled by the will or reason. The restless, sensitive, perceptive, inquiring mind of childhood rapidly learns the more obvious properties of physical objects, and accumulates facts for the future use of reason.

The period of Youth is full of aspiration, eager to do vaguely defined great things. With its strong self reliance it generally underestimates the difficulties of life. The range of organs midway between the upper and lower, such as Memory, Liberty, Equality, and Ideality, rule in this period.

In maturity the high faculties of Integrity, Control, Energy, Marital, Parental, Fraternal, and Unital love, with Reason and Prevision, come into prominence and rule the character. The crude ideas of childhood and youth are then displaced by exact knowledge. The powers of mind and body attain their full solidity and vigor, and the

character is rounded out into completeness and symmetry.

At last old age or Senility comes creeping slowly on. The faculties gradually lose their vigor, and the senses become unretentive. The body demands rest and quiet, passing events awaken but little interest, and the mind recalls with delight the achievements of its childhood and youth. The first and last extreme in life have many features in common. In the descending career, the phases of the ascending career are inverted. Finally, the whole physical organism passes down to the condition of simple chemical combinations, it ends where it began.

The phases of life in the Individual foreshadow and determine a career with corresponding epochs in the life of nations, and of humanity as a whole. Through these national and race phases we observe the same successive rule of the organs from the base to the top, from the back to the front, that marks the individual career. Different nations have occupied far different periods of time in passing through their phases of development. While one was in its childhood another was in its maturity. Where one nation is the direct offspring of another which is already civilized, the earlier phases of its life are less strongly marked, and pass with greater rapidity, than when the case is otherwise. Those who are in any given phase

of development regard the faculties which are then dominant as the most important in the whole mind. Only a knowledge of the mental laws can correct this error.

The ascending pathway of Humanity led from simplicity to complexity, from ignorance to knowledge, from the needy and miserable life of the savage to the manifold comforts of settled industry, from the cruel reign of superstition and fear to the peaceful rule of science and love, from the dark sway of the base and back brain to the beneficent dominion of the front and the coronal faculties. In the childhood and youth of nations, individual cases of highly developed character appear. And in the maturity of nations there are many cases of terrible degradation.

The same general law of progress governs the nervous system through the whole scale of animal life. The ultimate triumph of the higher faculties in man is therefore secured by a law as extensive in its sway as the existence of organic life itself.

In sketching some general features of national and race life, we have not space here to illustrate by special examples, however interesting the sketch might in this way be made. The one great lesson that history can teach us, is evolution, progress; all the rest of value that we might learn from it is embodied in the arts and sciences of the present.

In national childhood the first social bonds which drew men together, and led them to form more or less permanent associations, arose from the Sensitive or lowest of the social groups. They united to supply the wants of Appetite and Feeling, for food, clothing, and shelter. The Impulsive and Perceptive organs acted in connection with the Sensitive. The people were rude, savage, ignorant, and unskillful. To settle national disputes, one nation destroyed or attempted to destroy its antagonist. Man treated woman as a beast of burden or as a minister to the lower pleasures of sense. The treatment which woman receives at the hands of man is everywhere a faithful index of the grade of civilization.

In the next step of progress, Servility and Submission, the lowest of the Parental group, acting under the influence of Aggression and Gain, display their dominance in the condition of master and slave. Those who are taken as captives in war are often made slaves, instead of being slain outright, as occurs in lower social phases. National disputes are settled by victory in battle, or by the payment of money. Man looks upon woman as a piece of property, to be bought, sold, or fought over. Society is divided into classes, men begin to traffic, and hand down their experiences through memory in traditions or in written records. Men attribute natural phenomena to the arbitrary power

of spirits, demons, or monsters. This shows that exact science had not yet dawned. Still, many clear but detached ideas are developed in this period. Many of the arts, too, find their origin, and some of them make considerable advancement.

In the period of national youth, Parental and Filial love bear sway and give rise to patriarchal, hereditary, and republican forms of government. Social energies are directed toward the building up of great families, and their inheritance of wealth and power. Man then regards woman as an object of pride, honor, and ambition. In this stage, Domination, Rudeness, Liberty, Equality, Ideality, and Memory exert a strong influence. Men begin to discuss natural rights and the Balance of Power, and they settle national quarrels by attempting to adjust the latter. They search history for examples to imitate in their forms of social life, not knowing that the social organs of the brain are as much ruled by inherent laws as other parts of the body. The arts and sciences now begin to take definite forms. The varied branches of industry, already indicated in the preceding age, now become well defined. The different classes of society are more specialized, and more mutually dependent. In national infancy, each person performs every kind of labor pursued by any of the rest. Each man is at once Hunter, Farmer, Mechanic, and Merchant. In later peri-

ods, individuals, who show special aptitudes for particular kinds of labor, begin to devote themselves exclusively to the kinds in which they excel, and thus the various avocations come into existence. Out of these many new wants and relations arise. In everything else, no less than in industry, progress is marked by the specialization of functions. Yet before the Matuna, the specialization of labor affected chiefly the employments of the male sex, while those of women remained almost the same as in the early ages. This was, indeed, a necessary result of the isolated household, and could only be remedied in the unitary home.

The social bond began in the Sensitive, and must end in the Marital group. The group of Unity relates us to life in other worlds than our own, and hence cannot legitimately become the pivot of social organization here. The Marital group must be the high pivot in the maturity of mankind. Then Reason and Prevision rule in the intellect, while Integrity and Serenity rule the back head. Natural phenomena are then attributed directly to the action and laws of those impersonal forces which are inseparable from matter. Woman then assumes an equal rank with man in all of the pursuits of life. This last result is worked out perfectly only in the Matuna, the very structure of all other forms of society making such an

equality absolutely impossible, in theory or practice.

Many causes were united in producing the advancement of Europe and America through their phases of Childhood and Youth. Mythology, Art, Literature, Philosophy, Science, Christianity, and Mohammedanism, each contributed some elements of progress. At this day, with the imperfect data yet in existence, it is difficult, if not impossible, to estimate with correctness the relative importance of the part taken by each in that onward march. The partisans of Christianity and those of Science each claim that their respective system was the inspiring and sustaining life of that movement. While Christianity deluged much of its course with blood, the moral teachings which it possessed in common with other religions undoubtedly had some beneficial effect in ameliorating the social condition of mankind. But that it was in no sense a leader in that great career is most clearly proved by the fact that against every advancing step it displayed the most open and bitter hostility. Its partisans long claimed that their Sacred Book was a final and supreme authority in all possible branches of human knowledge. But as Astronomy, Physics, Physiology, Botany, Chemistry, and Geology, each became developed into a fixed and positive science, these partisans relinquished the claim that their Book was designed to teach

that particular branch. At last, driven from the whole ground occupied by the so called physical sciences, they claim that their Book was only meant to be of binding and supreme authority in directing and controlling the moral, social, and spiritual action and thought of Humanity. Now that a positive science of the mind has been discovered, as demonstrated in the *Safena*, and shown to embrace all human phenomena, those advocates will be forced from their last refuge, and their Oracle consigned to its rightful place among the bold conjectures of the past. The few important truths it contained were shrouded in mysterious symbols, and here only do they receive the light which makes them of practical value to the world.

The age of Maturity for Europe and America, if not for all Humanity, fairly commenced three centuries since. More progress in knowledge and its applications has been made since then than in all of the preceding ages of Mankind. The brilliant discoveries of Copernicus, Kepler, Galileo, Newton, Harvey, Dalton, Cuvier, Mayer, Bunsen, Von Baer, and a host of others, have revealed the grand outlines of Science. The last to receive a definite form was the science of the Mind. Eighty years since Joseph Francis Gall began the real foundation of this science by studying mental phenomena in their connection with the nervous structure. He succeeded in correctly locating

twenty of the faculties, though he did not discover their laws of form and action. Almost fifty years after this, in 1841, Joseph Rodes Buchanan discovered the location of the remainder, and their law of Location, with the minor law of impressibility. The signs of the face were discovered by James Wakeman Redfield, and those of the body by Buchanan. The angles of the face were discovered by D. Shepherd Holman. The law of Evolution was discovered by Charles Fourier, Charles Von Baer, John William Draper, and myself; and the remaining five laws, those of Number, Form, Polarity, Nervation, and Unity, by myself, in the years after Christ, 1859, 1860, and 1861. Working out their full demonstrations, however, occupied me for several years more. These laws enabled me to unite the results reached by other laborers with my own in one complete system, which furnishes the first rational explanation of mental phenomena ever given to the world. At the time of this writing, 1866, A. C., the exact form of the waves of odors and flavors remains to be discovered. This will be included in the law of Nervation.

The seven laws solve clearly the highest problems of mental and social life. It is evident that this must very profoundly affect our ideas of the structure of society and the relations which we should sustain to each other, that it must influence

our social progress more than anything else has ever done. For it gives us exact mathematical demonstrations where nearly all was blind conjecture. Men knew of no natural laws to guide them in their social methods, their forms of government. They searched history to see what shifts their ancestors had made, and then selecting from these what seemed to be the best examples of success they imitated them to the best of their ability. In sixty centuries of imitative experiments they only succeeded in providing for the smaller part of our social wants, and in securing a very small measure of social harmony, mixed with a multitude of evils. They never made even a single city where there was not crime, disease, poverty, and discord. We need no severer condemnation of their false methods than these facts, nor any stronger argument for the necessity of a new method of procedure. The ablest thinkers of the present age are looking for a scientific solution of all social questions. The most philosophical of all historians, after describing the intellectual career of Europe, expresses with great emphasis the opinion that both Europe and America have just reached that period in which they will reorganize all their institutions and social forms upon the basis of whatever scientific knowledge they may possess. One of the foremost of the living representatives of science says that the organization of society upon a new and purely

scientific basis is not only practicable, but is the only political object much worth fighting for. Now the acting elements in all society are the mental faculties, and it is self-evident, therefore, that a scientific basis of society must state and demonstrate with precision the nature of these faculties and their laws of action. If it does not do this, then we have nothing but guesswork to guide us, as in the old methods. No fact in science is better established than that the brain is the great central organ whence all human actions proceed. The statesmen and scientific men of to-day, even those who talk eloquently about a Social Science, are all ready to confess that they are profoundly ignorant of the laws which rule the action and relations of the brain. While confessing to the most confused notions concerning this centre of social action, they collect a few Statistics of cultivated and mechanical products, the increase and decrease of population, the progress and reform of crime, and the effects of climate on character, and then dignify this meagre chaos with the name of Social Science. They have, indeed, traced the one law of Evolution up to the human brain, its most important expression, and there they helplessly stop. The other mental laws were unknown to them. Hence they not only could not have a real Social Science, but they could not even realize its vast scope. We may conjecture the possibility of dis-

covering a true system of Social Science by studying human history, but it has never been done. Its actual discovery by investigating the brain does away with the necessity for any further search for its outlines in history. Even had these outlines been found by searching there, it would have been impossible to give them those convincing mathematical demonstrations which belong to the safenal laws. When reduced to this form, all persons can, and must of necessity, understand these laws alike. Nor can they agree in applying them without this common understanding. In the life of Society as a whole, no less than in that of the Individual, we have to deal with substantial things, having form, size, order, number, weight, mechanical, and other properties, and a mental science which does not state and explain the properties of mind which are respondent to these, assuredly cannot guide us to social harmony.

It has often been charged that Science has not thus far elevated mankind morally and socially, and that it never can, some system of dogmatic religion being required to effect this result. The absurd and gross injustice of this charge is at once seen when we reflect that until the discovery of the laws laid down in this volume, the field of morals, the mental and social nature of man, had never been entered and explored by exact and positive science at all. Now that this work has been done,

it will be rational to expect from mental science in the future equally brilliant results with those now reached by Chemistry and Physics in their respective departments.

We proceed to indicate the true method, through which we are able to accomplish in a moment that which baffled the vain experiments of ages.

Society is composed of Individuals, and must derive its character, its rights and its powers, from those of its component units. The actions of Society are but the combined actions of its members. Their combination does not change the quality of any power concerned. The most careful analysis will show that society as a whole has not one kind of faculty or power that is not also possessed by each member. The purpose of social union is not to create new kinds of power.

The first object of uniting in societies is to gratify the social faculties by conditions for their free action. Man is by nature a social being, these faculties are inherent, and therefore by uniting in societies men followed their natural attractions, and they did not surrender any natural rights or liberties in exchange for other benefits conferred. All true freedom must consist in acting according to the nature of our faculties, instead of acting from the constraining force of external causes. Could we completely isolate one human being from all others, the very act would deprive him of freedom to ex-

ercise his Pride, Modesty, Reverence, Approbation, Friendship, Love, and other social organs, and even his intellect could never attain a full development.

The second object of social union is the attainment of a vast and almost unlimited increase in the amount and concentration of human power. For one person alone could never build a temple, a steamship, or any other massive work of art. Unite numbers of men, and the difficulty vanishes. We have simply increased the quantity of power concerned. Without concert of action there could not be any of that specialization of labor which marks all social advancement.

If human beings act in unity, they must have common methods of action, which all understand alike. If these methods are those which belong to our nature, it is self-evident that they cannot impose any arbitrary restraint upon any member, that they can not in any way abridge our freedom. **THEREFORE IN THE MATUNA NO REGULAR LAW OF SOCIAL ACTION OR STRUCTURE IS ADOPTED UNTIL IT IS PROVED TO BE A LAW OF OUR NATURE.** We can no more invent or make true laws for the social faculties than for the organs of respiration, digestion, vision, or any other part of the body. If, in any case, the mental or natural law applying to any subject is not known, then

we may, by the general consent of those concerned, employ temporary expedients until the law can be discovered. We reproduce all of the laws of the human constitution in the social structure, and therefore the two must be in eternal harmony.

The laws of the Individual constitution, the number of the faculties and their methods of action, remain the same through all time. Therefore the matunal constitution, if a true expression of these, must be equally enduring, though its laws may be more perfectly fulfilled at one time than at another. In the present work we have indicated the more important social applications of individual laws. The officers and members of the Matuna may constantly exercise their judgment in deducing the rest of these applications.

Every personal want and right must arise from some mental organ. The same organs exist in all persons, and therefore the wants and rights of all are alike in number and kind. But these organs vary in size and amount of culture in different persons, and so their rights may vary in degree. Thus a person with small Reason has a right to exercise it in learning the sciences, but not in teaching them, until his Reason has been well cultivated. Woman has all of the mental organs possessed by man, and therefore her

rights are the same in kind as his. But the sexes differ regularly in the degree in which these faculties are developed, and as a result of this, in the Matuna woman fills one phase of action in all of the groups, and man fills the other.

Our need of food arises from the condition of the system expressing itself through Appetite; our need of science arises from Reason, of books from Memory, of companions from Friendship, of children from Parental love, of love-mates from Marital love, of justice from Integrity, and of wealth from Gain. A careful Analysis of all the organs will show that each one gives rise to some want, and that there is no want which we cannot trace directly to some organ.

Now for every personal want there is a corresponding want of society as a whole. There are national wants in regard to food, one part must exchange its food products with another, and individuals must unite to cultivate the earth successfully. Science must be taught in schools, in lectures, or in books, and hence there is a social need of science. Justice, Friendship, Fraternity, Reform, Love, Reverence, Unity, Philanthropy, and such organs, cannot be exercised without society. If men wish to produce and preserve works of national industry, they must have some wealth in common. We may thus extend the

comparison until we find that it includes every organ.

We must provide for all of these wants in the social structure. If we leave out one of them, we shall fail just so far to secure social happiness. And sooner or later we shall be obliged to make up the deficiency in an irregular way. Organization is inseparable from life. Nothing should here be left to chance. If only a part of the leading faculties ought to be represented in a true social organism, we could not decide which these should be. And other social groups and officers would have to assume functions not belonging to them. All previous attempts at government forming were attempts at supplying the wants of some of the faculties, but the formers had no analysis of the faculties, no science to guide them, and so they could never tell when the circle of social functions was complete, nor could they guess whether these were arranged in harmony with each other or not. In the best and most complex of their societies not more than one-half of the twenty-four leading organs were represented, though they had more than a hundred and fifty different kinds of offices. Those were confused, not complex societies. Nor could the statesmen themselves understand the work which they had made. But even a child can understand the crystalline clearness and infinite order of the Matunal structure.

A classification of the mental faculties gives us a systematic view of all social needs. Taking the mind as our model, we represent each of its twelve groups by a group of the members of society, and each of the Centres and twenty-four Leaders, by an officer who leads the social activities arising from that faculty, as already explained in the first chapter. It is not necessary to represent the other organs by social officers, because the Leaders include the functions of these in their own, as we shall learn in the seventh chapter.

The Matuna provides for very simple forms of structure at first. A person commences existence with only two cells, a germ cell and a sperm cell, and the brain itself consists at first of but two centres. When circumstances make it necessary, an individual society may commence with only two members, a male and a female, who will then fill the place of Centres. It may then increase its complexity by adding other members and the six Chiefs, and afterwards by filling up the full number of officers and members. During these phases, it may carry into practice only a part of the social functions and laws, corresponding with its simplicity of structure, the law of Evolution furnishing the guide. It may diverge at first but slightly from the old surrounding modes of life. The first wants are food, clothing, and shelter, settled industries, and a just distribution of the products

of labor. Then follows the true education of children, the right relation of the sexes, the culture and diffusion of science and art, and other varied wants of the higher faculties.

By possessing this law of Evolution the Matuna is adapted to all grades of civilization and to all communities, where there is intelligence enough, and it does not require much, to understand its plan.

By following the laws laid down in this volume, any persons who choose may unite and form a tavu or society. This may unite with the parent society or not, at their option. A tavu may be organized, and during the first period of its existence it may devote itself chiefly or wholly to theoretic education, by teaching the safenal laws. At the same time it may be connected with other tavus which are in practical operation.

When we apply the law of Location to the arrangement of society it is evident that some modification will occur. For the members of society cannot be grouped so as to point in all directions, up and down and horizontally from two centres, like the mental organs. They must occupy a plane surface, the floor of a temple, or the surface of the earth. But they may still be grouped around an ellipse, and occupy relative positions corresponding, to quite an extent, to those of the faculties. The laws of Form and Nervation are

also modified in their social applications. Railways, Canals, and Rivers, represent the arteries and veins; the Telegraph and Postal system represent the nerves.

The question of the distribution of wealth is at once settled by referring to the circulation of the blood and the nerve force, its types in the body and brain. No organ appropriates more blood or nerve force than it can use in its own functions, and so no member of society should have wealth which he cannot use in his own proper actions. Wealth is of two kinds, private and public. The private includes costume and private room furnishings. In the Matuna each member has a private room in the temple or Unitary home, furnished so as to be in harmony with that member's character. The furniture, ornaments, and colors of the walls and carpets, are thus made different in each private room.

Public wealth includes land, buildings, machinery, means of travel, food, and all of those things which can only be properly used and consumed in concert. Each tavu must own the land and buildings which it occupies, and the machinery and food which it uses. The general channels of travel would be owned by the whole Matuna. Certainly no reason can be given for the separate ownership of things which cannot be rightly produced and used by separate labor. It is very true that a dif-

ferent law from that here laid down has thus far ruled the property relations of men, and it is quite as true that it has kept the masses of the people in poverty, and allowed the products of their labor to accumulate in the hands of a few nonproducers. However honest and right they may have called such a state of things, it was utterly at war with the natural laws of man, with justice, and with human welfare. Statesmen have urged in its defence the argument that it gave equal opportunities to all, opening to all alike the path to wealth. But this is extremely absurd, for if all should turn employers, there could be no persons to be employed. The system allowed and fostered the most grievous and outrageous monopolies. There could be no limits set to the profits which one man should make on the labor of another until the most degrading servitude was reached, where the master simply doled out to the slave a meagre pittance of food and clothing. In the reactions from this system, men have sometimes gone to the opposite extreme and founded systems of Communism which deny all private ownership. They thoughtlessly imagined that society could have rights which did not exist in its members. In another feature they made a like fatal mistake in attempting to reduce all members to a common level of enjoyment and attainments. A result as undesirable as it was impossible. The Matuna is in no

sense a system of Communism. It cultivates the individuality of its members more than any other form of society ever did.

If men were not dependent upon each other, if their mental and manual labor were not specialized, then each individual would have a primary right to what he produced and to no more. But man is social, his normal position is that of a member of society, and this makes the whole case different. Some persons may be able to produce much more than they seem to consume, and they must have a right to confer the excess upon others, in some way. The general distribution of wealth in society must be so effected as to secure the supremacy of its higher forces and activities. The intercourse of nations under the rule of the Matuna must be regulated in such a way that their industrial exchanges will promote the highest welfare of each and all. No one will be built up at the expense of another.

Of course the whole system of wages will be done away with. All labor must take place under the direction of the Leaders and Centres. Some persons might imagine that this will take away from the members all freedom in spending and freedom of travel; that it would make both of these subject to arbitrary rule. But nothing could be farther from the truth. For the social officers are obliged to study the tastes, attractions,

capacities, conditions, wants, and desires of each and all of the members, and to gratify and meet these as far as the wealth and other conditions of society will permit. Where every member knows that this is the case, each one will feel quite as much freedom in making his wants and desires known to the officers, as in the older dispensations he felt in expressing or intimating these to his friends. To be sure, his judgments on these points may sometimes conflict with those of the officers, in cases where no positive but only approximative knowledge can be had. In these cases there must be mutual concessions, for neither party can be proved to be in the right. These concessions must never extend so far as to break up or disorganize a society, for it is as great a wrong to sacrifice society to the individual, as to sacrifice the individual to society, if not a greater. Imperfect knowledge must affect the execution of the Matuna laws as well as those of other systems. But in the Matuna, where the whole constitution of society is an exact and well understood expression of the constitution of the individual, the amount of arbitrary action, both possible and probable, must be infinitely less than in the older forms of society, where the whole structure was an arbitrary invention. A member who is dissatisfied with the administration of a society has a right to leave it and join another. He originally had a

right of choice in regard to the one of which he would be a member, and he cannot lose this right. The Matuna includes a system of frequent interchanges of social functions between the different societies, and thus necessitates a large amount of travel. When the Matunal rule is universal, a member traveling from one tavu to another would always find an officer, the Reformer, to welcome him, and provide all things needful to his entertainment and use. The expense of travel will be borne by the Matuna, and not by the individual members.

The matunal system secures to each person many more of the conditions of happiness than the most wealthy persons could secure in the older forms. In comparison with those older forms of society, the economies of matunal life are immense. For in the best of those, at least nine-tenths of the labor was misdirected and abortive, or else wasted in other ways. That waste was a necessary result of their very structure. It was only in the horrible and destructive art of war that they exhibited any regular and extensive organized effort in which competition and rivalry were not destructive. The awful devastation and waste inseparable from war will be unknown in the Matuna, and the success of any person or society will contribute to the advance of all the rest. Far more complex and yet regular in its structure

than any military system, its industries will have such unity and power that the work of subduing the unsettled, yet habitable, parts of the earth, and the true culture of those parts already occupied, will be speedily accomplished, and that without the privations and suffering which have hitherto marked the conquest of nature by human labor.

In the election of matunal officers, we have a universal law for our guide and authority. The atoms of matter which unite to compose the human body, act electively, that is, they are guided by their inherent attractions and repulsions. We cannot rise above, or escape from, this law of growth which rules our whole nature. When conscious beings follow the same guidance we call it acting according to their choice. Hence in social evolution the officers must be elected by the members which they are to rule. The members of each Mati elect its officers; those of all the matis under one Mate vote for the officers of that Mate, and the members of the whole Matuna elect the officers of the Matu. The officers too, must choose their offices, and not be obliged to enter them against their will. The methods of election will change with varying conditions. At one time it may be by ballot voting, and at another by the quiet assent of all concerned. These methods may be ascertained and announced, from time to time, by the Matu, or tavu of the first rank. The elec-

tions should take place in all of the tavus and for all of the officers, on the same day; that is, the seventh day of the last week in the year, the newly elected officers entering upon their duties the first day of the year.

The Matuna is the only true and complete republic; the only natural system of government; giving the utmost freedom to all, by actually securing to them definite conditions and opportunities to use all of their powers and to gratify all of their attractions. It covers the entire normal range of human action, feeling, and thought, and hence does away with the necessity for any and all other societies whatever.

CHAPTER FIFTH.

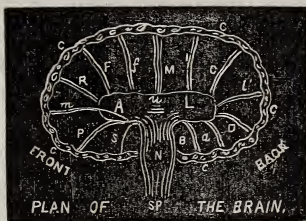
MENTAL POLARITY.

ALL action is polar. It involves the concert of opposite forces or tendencies, the attractive and the repulsive. We cannot conceive of motion without these two elements being concerned. Even under the forminal law we were dealing only with polar forces, considered in the light of form producers and form sustainers. The very existence of that law proves the existence of mental polarity. And from the laws of Nervation and Unity we shall see that evolution and all mental action is but the varied display of polarity. But the phenomena require a more special statement, such as here presented.

LAW OF POLARITY. THE ATTRACTIVE FACULTIES ARE UNITED WITH THE REPULSIVE IN FOUR PRINCIPAL DEGREES OF ACTION, WHICH DECREASE IN CONTRAST FROM THE FIRST TO THE FOURTH.

We call an organ which is polar to another, its Luma. Those organs which are polar in the first

degree are located in opposite regions of the same hemisphere of the brain, as F and D, C and S, in the Engraving. They point in opposite directions and give rise to our sympathies and antipathies, our likes and our dislikes, our loves and our aversions. They check and balance each other, and are both equally essential to mental action and harmony. For illustration, the attractive organs of the Sensitive group, at S, make us sensitive, yielding, and impressible. If acting alone they would lead to the extreme of feebleness, vacillation, disease, and prostration. They are checked by the repulsive force of the Vigorous group, at I and C. It renders us firm, hardy, and tranquil. When both act together, they give a due degree of sensitiveness, happily balanced by resisting power. Defence, at D, prompts us to maintain our own rights and privileges, but its polar opposites, Fraternity and Reform, at F, lead us to seek the welfare of others. Without the check of Integrity, at I, Baseness at B would lead us to disregard all of the obligations of rectitude. Equality attracts us to the past, and makes its glories seem to far surpass those of the present and the future. But Reason and Prevision point for-



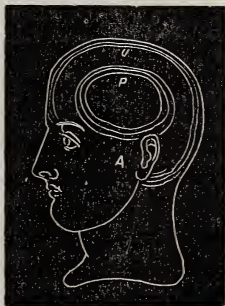
ward, and assure us that it is in the noon day of human history and not in its gray dawn, that the sun of Truth shines with the most life-giving beams. That in the grand cycles of thought, the old never returns fully; the new has always some truth and beauty unfolded for the first time. The downward pointing organ of Profanity, near *a*, looks upon the lowest use of every object, the lowest meaning of every expression. Opposed to this, the organ of Unity, near *M*, sees the higher, the spiritual, the better uses of all things, the heavenward phase of feeling and action. It teaches us to look up and not down. The basenal organs, pointing downward, should repel us from whatever is base, wicked and contemptible. In contrast to these, the upward pointing coronal organs attract us to the noble, the lovely, the infinite and eternal. They fit us for an elevated life of purity, goodness, and harmony.

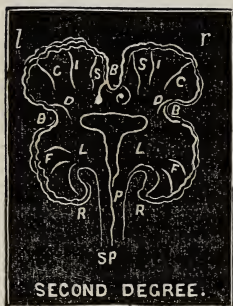
In estimating the character of any person by the size of the organs, we must carefully take into account the opposite tendencies of these polar faculties. Thus it would be wrong to conclude that a person with large Fear or Excitement is indecisive and timid, without looking at Serenity, the large size of which might counteract Excitement, and give a higher degree of courage. A person may have large Self-esteem and yet be modest and differential through large Modesty and Reverence. When an organ and its luma are both small, the

person will exhibit no decided tendencies in either direction.

Some of the principal organs united in the first degree are Energy and Feeling, Control and Mobility, Homelove and Mobility, Serenity and Excitement, Gain and Kindness, Secrecy and Truth, Profanity and Unity, Destruction and Humanity, Aversion and Love, Integrity and Baseness, Defence and Fraternity, Liberty and Reverence, Self-esteem and Modesty, Control and Sexeta. Sometimes one low organ is polar to several high ones. This accords with the general law of life, that the higher organs are more specialized than the lower.

The organs which are polar in the second degree are less strongly marked in their contrasts than those of the first. They occupy two parallel zones, U and P. One extends around the head next to the middle line or central ellipse in either hemisphere, and its polar zone is in the other. To illustrate the relations between these organs, we will take the next drawing, which represents a section of the brain cut through from the right to the left side on an upright line from the ear. We are looking at this sec-





tion from behind. The right side of the brain is seen at *r*, and the left at *l*. The fibres of Serenity, *S*, in one hemisphere curve over toward the other so as to point in the same direction as those of control, *C*, on that side. One belongs to the middle and one to the

outer zone. Having the same direction, they must naturally act together according to the law of Location, and have similar objects of relation. They are analogous to each other, and it is easy to see the resemblances between them. Thus the calmness and fortitude given by Serenity are sustained by the coöperation of control, which gives self-restraint and elevated caution.

The outer zone is both analytic and synthetic; the inner one is only synthetic. To the organs of the inner zone, life and knowledge seem simple and practical; to those of the outer zone they appear multiform and many sided in their laws and relations. Persons with the inner zone large and the outer one small, are well called narrow-minded, while those with the outer one large are more broad and universal in their ideas.

Through all life we find a repetition of functions in lower and higher organs. The brain could be

no exception to this rule. The back head organ of Equality attracts people together, it gives the disposition to clannishness; but it is selfish and dark in its influence. The high front organ of Friendship produces an unselfish attraction, seeking another's welfare and not its own. It repeats the attraction of Equality, but changes it very much, making it a noble and lofty power. Through Feeling, Filial love, and Unity, located in successive zones of elevation, we receive and manifest our affection for the Earthy, the Human, and the Divine. At the lowest extreme, we look through Feeling upon the earth as our mother. At the middle, Piety attracts us with its warm love-light to our human father and mother. At the highest extreme, in the clear pure light of Unity, we are reverentially attracted to the Manita, at once the infinite father and mother of our existence. In this central worship, affection has reached its loftiest elevation, for Unity is the keystone in the grand arch of Love.

The lower organs everywhere supply materials of force to support those above them. Thus Reason could not act if the Perceptives did not receive and the Retentives retain impressions of the phenomena from which it is to discover laws and relations. All great and successful reasoners have had an accurate and extensive knowledge of details in their respective departments of mental

labor. Marital love is supported by Modesty and Reverence. No one can truly gain the love of another without being modest and deferential, nor can love be maintained in its fullness and purity without their continued influence. If the vehement and profane impulses of the basenal organs mix with and control even the physical expressions of Love, they will degrade or destroy it. Parenthood and Piety support Humanity through the medium of Marital love. They relate us through this to both the future and the past of mankind.

The organ of Appetite is at the base of the social faculties, and hence in all ages, eating has been, as it should be, regarded as a social act. We must not expect any high or complete social harmony where the varied relations of food to the mental faculties are not understood and applied. Through variations in food we cultivate or depress faculties at pleasure. The relations of food are spoken of in the sixth chapter. The organ of Unity must find its best external expression in the harmonic culture of the earth. In this way the extensive modifications of climate, by changes of the earth's surface, and in the distribution and culture of animals and plants, will bring the conditions of the earth into a better harmony with the life of the Universe. External forces, as well as ideas, tend to make men think alike and act alike, and hence the influence reflected back upon man's nature will refine and

elevate it to a corresponding extent. These modifications must be made in accordance with the mental laws.

Not only do the higher and lower organs of the brain resemble each other and act together, but there is a frequent interchange of functions between them. Any organ may exchange with the third, the fifth, or the seventh one, either directly above or directly in front of itself. This corresponds to the chords in music. Reason may exchange with Color, with Reform, or with Control, but not with Serenity; for the latter is neither above nor on a level with it. But it may at first exchange with Control, and then the function be transferred to Serenity, which is directly above Control. We say that we reason upon a subject to throw light upon it, and Reason also shows us that the processes of nature involve perpetual re-formation. Reason unites and balances the intellectual faculties, as Control does the physical powers and emotions. We are often conscious of these exchanges in our own minds. A train of thought or feeling may be carried on for a while by one organ, and then its third, fifth, or seventh complement will assume the train and carry it forward, while the first rests, or is engaged, with other subjects, or, what is more usual, takes on the proper functions of the first. There are also frequent interchanges between organs of the fourth degree, that is, those which belong to the

same pair. We may, for instance, make previsions through the organ of Reason, or we may discover causes through the organ of Prevision.

In the Matuna, both officers and members make a corresponding exchange of duties or offices, and thus secure a wide but systematic variety of pleasures, and also prevent a partial and one-sided development of personal character. A person with large Control and small Serenity, may make temporary exchanges with the member who represents Serenity, and thus bring the deficient faculty into a better activity and development by giving it fuller and more direct employment. At the same time, his organ of Control would not suffer from neglect. It would be excited and gratified, as any other organ would, by the action of its luma of this degree. We may apply the same rule to all of the organs. In this way we are able to cultivate deficient faculties without interfering with individual tastes and attractions,—a thing quite impossible in any form of society that preceded the Matuna. In the dances and social marches referred to in the third chapter, the varied changes of position are each designed to bring together the complements which we have been considering. Thus we may apply the same rule to labor that we apply to simple pleasures. And thus each is converted into a sweet and lofty soul music—a rhythmic response of life with life.

The method of action involved in the second degree enables us to determine the functions of those surfaces of the hemispheres which lie against and touch each other, as at B, B, B, and those at the base of the brain as R, R, in the preceding figure. These are not accessible to external experiment like the others. We see that the fibres, E and R, in one hemisphere coincide with those of D and F in the other. There is a whole range of organs, of which R and E form a part, which are coincident in direction with those of Music, Ideality, Inspiration, Confession, Homelove, Caution, Coldness, Sleep, Submission, Contest, Desperation, Feeling, and Ardor. They resemble these somewhat, but are far more interior and delicate, lacking in distinctness. They turn the mind inward upon itself, making a kind of inner consciousness, that introspection through which the mind examines itself. They only act upon external objects through other organs, they echo and re-echo the impressions received by their analogues and the lumas of these. It is these organs that produce the idea of a dual existence, an inner and an outer life.

Some of the organs united in the second degree are Form and Construction, Prevision and Ideality, Prevision and Planning, Kindness and Friendship, Reform and Devotion, Unity and Piety, Control and Serenity, Liberty and Gain, Aggression and Profanity, Mobility and Excitement.

The organs on either border of any group are polar in the third degree to those on its opposite border, measuring directly across its centre. Any two organs united in this degree mutually sustain the action of the intermediate organ. The three organs belong to an arch. It follows that the whole brain consists of a series of arches. All the laws of architecture are in its structure. This has been already illustrated under the forminal law, but we will cite several examples here. We may thus take Friendship and Integrity, with Marital love as the intermediate organ. We know how frequently friendship leads to and intensifies love. If the kind attentions and constant deference of friendship cease between lovers after their union, then their love will certainly be injured or destroyed. Neither can love exist in purity and perfection unless sustained by the upright conduct arising from Integrity. In another direction, Hope and Imagination sustain Love. It is entirely natural that love should awaken our highest hopes for noble attainments, and that lovers should each seem to the other to be the impersonation of ideal excellence and loveliness. Nor should this sweet romance of love cease with the closer union of the sexes, for the relations of these faculties remain the same through life, their exercise does not destroy them.

The fourth degree of polarity unites all of the

organs in pairs. Here the contrast between any two organs is less strongly marked than in the other degrees, and some of them required a most careful and extended analysis to discriminate them. This was the case with such pairs as Appetite and Feeling, Modesty and Reverence, Friendship and Mirth. The contrast is sufficiently apparent between such organs as Self-esteem and Praise. The first is bold, positive, masculine, and impressive, tending to keep those upon whom it acts at a respectful distance. Its polar organ, Praise, is feminine and receptive, tending to win approval. The organ of Prevision is simply receptive, but its luma, Reason, works actively in combining impressions and producing new phenomena. The organ of Defence is wholly repulsive, and its luma, Gain, is entirely attractive. Yet when acting as polar in the first degree against Kindness, and at other times, the organ of Gain borrows repulsive force from Defence. In other pairs a similar transfer takes place. The organs of the fourth degree are presented in the tabular view of the second chapter.

The small quantity of repulsive force produced by these organs is sufficient to keep those who love each other at such distances as make the varied activities of life easy and pleasurable. If we had no repulsion, we should all unite in one vast mass, and movement of any kind would be impossible.

If we take the pair of Fraternity and Reform, we say that the first organ is the repulsive one, but this is only when we compare the two with each other. When we compare Fraternity with Defence, its luma of the first degree, we find that Fraternity appears entirely attractive. The same is true of other pairs.

The attractive organs of the fourth degree slightly predominate in woman, giving the feminine cast of character, and the repulsive ones in man, producing the masculine cast of character. Hence woman is the more loving, ardent, pliant, elastic, gentle, delicate, sensitive, and intuitive; while man is the more vigorous, firm, hardy, bold, cool-headed, and devoted to reason. This is the general rule, but there are exceptions. Woman reasons, just as certainly as man does, but her Prevision usually takes precedence of her Reason, while in man the reverse is true. It is the dominance of one set of faculties, and not the absence of the other, that characterizes sex. The sexes possess equal quantities of power, but it differs in kind. The physical differences of sexes correspond to the mental; indeed, were there no other causes, the first would produce the second. The brain of woman is larger in proportion to her body than that of man. She is ruled more by her emotions and thoughts, and less by material influences. The physical and mental differences of the two

sexes have steadily widened with the advancement of mankind in civilization and refinement. In this process of upward differentiation, woman's nature became just as complex as that of man did, and no more.

The Matuna is the first form of society that provides social functions corresponding to the differences of sex. Consequently it is the first in which it was possible for woman to fill her true sphere of action, or for man to fill his completely and exclusively. The sexes may make temporary exchanges of social functions, as already explained in this chapter.

The polarity of the sexes, which we have been considering, finds its most intense expression in that high and enduring attraction which we call Marital love, the pairing of the sexes. The two officers or members who are united in this degree, should also have their other faculties developed in harmony with each other. Persons of widely-contrasted characters should not unite, for they would not see things in the same light, and therefore could not work in that close union demanded by this kind of love. And the effect of such a union upon the offspring would not be good. If a person have an organ somewhat deficient, he may make up or neutralize the deficiency by uniting with one who has the organ better developed. Persons may be paired in office and in labor, without loving

each other maritally, but in a full development of society this love should also unite them.

There can be no true Marital Union without the existence of mutual love between the parties. If love ceases, then the union must also cease, under all conditions. The bond of unity is internal, not external. Love is not voluntary. When persons have made mistakes in choosing their mates, they should be allowed every opportunity to rectify their mistakes and form true unions.

In the maturity of our Race, a marital union will doubtless be as enduring as life itself. And children may be paired in the Matuna at an early age, though the amount of marital love between them would be very small, for this is a group that comes into full activity only with mature years. It is a part of the duty of the Devoter and Fidela to furnish all unmated persons with every possible facility for becoming acquainted with those who are likely to prove adapted to them.

We learn from the polar law that Marital love is dual. Yet the law of Form proves clearly that because Love is at the extremity of the minor axis, therefore it must, like Appetite, be related to many objects, receiving force from them, and in turn inspiring them with its sweet attraction. That this exchange actually takes place, a little examination will convince us. For illustration, let a man enter a company of women, one of which is his mate, and

the rest simply entertaining a strong feeling of admiration for all his traits of character, united with personal friendship and sympathy of thought. Now let him converse with them upon Marital love, descanting upon its laws and its beauty. While doing this, not only do they receive the verbal expression of his ideas, but the nerve-force radiated by each of his mental groups, the Marital no less than from the rest, passes to each of the company, and blending with theirs, is received by them in varying degrees, the most fully of all by his mate. The nerve-force radiated by the group of love is love itself, and hence the company receive love from him. And he in turn receives love from them through the same channel. To say that these lesser blendings are not love, while the fuller one with the mate is, would be like saying that a pint of wheat differs in quality from a bushel. While the central love is dual, uniting two only, there are minor loves, which never extend to the ultimate physical expression. Love is adjacent to Friendship, and many of the lesser manifestations of the two are alike, or at least not distinguishable without careful analysis.

If Love were not so related by position and action as to excite every other faculty of mind and body to the highest degree of intensity, then offspring might fail to inherit a complete organization.

Persons who do not love each other, and cannot

give their children a good mental and physical structure, have no right to become parents. For every child has a right to good prenatal conditions, as these mould the character and influence the whole destiny of the individual. All impressions made upon the maternal mind and body during this period are communicated, in a greater or less degree, to those of the child. The laws of transmission place within our voluntary control a most powerful instrument of human exaltation. Both parents and society are responsible for the organization of every person. There can be no greater crime against the individual than that of making that organization defective and bad. It is for the vital interests of society that all parents should have the favorable conditions which these laws demand, and society has a right to institute these conditions and demand their observance.

Every child has a right to acquire, in the least laborious way, the general fund of learning possessed by society, and to occupy a definite place in its organized industry. And conversely, society has a right to protect itself from the evil results of ignorance by insisting upon the education of every person. During the first ten or twelve years of life, the instruction should be chiefly oral, and by means of natural objects, models, pictures, symbols, and experiments. The child seeks this method of its own accord. It learns theories from their em-

bodiments, receives science through art. No one should have the care of children who is not able to answer intelligently the questions which they naturally ask.

After the oral period, the child may study regular treatises, and master the general laws of the sciences, as presented in the Matunal Series. There is not a single great branch of science that may not be used to advantage by every person. Besides the general knowledge, acquired alike by all, each person would study special and elaborate text-books upon the branch which he had selected for his chief pursuit through life.

In the Matuna, the Parentors and Pieters have the principal care and control of children. This enables the parents to be much with their children, without being burdened with them. Like the parents, the children work and play in all of the groups, though under the lead of the Parental. The Matuna provides for the special and regular culture of each group of faculties, and it is thus the only society that secures to all of its members an integral education.

The period during which a child is dependent upon its parents is short when compared with that in which it is an active member of society, its youth, maturity and old age. Therefore society has a much greater right than the parents to control the child's development. It is indeed impossi-

ble for the parents to give the child a true or full education without the aid of society.

In the structure of the temple, and in all of the social activities of matunal life, the laws and relations of science are so directly and so attractively expressed, that every child will learn them without conscious effort, they will be interwoven with its happiest experiences. For the same reason, the rhythmic industries of the Matuna will seem to the expanding mind of childhood to be such free and natural expressions of its aspirations and emotions, that children will earnestly and cheerfully unite in the various labors from simple attraction. Play has only the semblance of reality, it is at best a fruitless tree, and never satisfies even children. But the matunal labors are made to be so fully in harmony with our natures, that they have all the charm of play, with the deeper charm of fruition in the best and most enduring results. The day and night are divided into twelve periods of two hours each, instead of into twenty-four hours, and seven of these periods are devoted to manual labor, study, social intercourse, and amusements, and the remaining five to repose and sleep. As a general rule, no one kind of study or labor will be continued for more than one of these periods during any one day, and consequently neither children nor adults will become wearied, exhausted, and disgusted, as was generally the case in the old societies.

CHAPTER SIXTH.

NERVATION.

MATTER and Force, if not the same thing, are inseparable. What we know of Matter is motion or force, and what we know of Spirit is only motion. They differ from each other in being more simple and more complex, lower and higher, more fixed and more active. In studying Spirit we are to learn certain methods of action which are mental, just as in studying Matter we learn other methods which we call physical. The actions and the method are all that we can know in either case.

No particle of matter can by any possibility be divested of motion. The motion is not something imparted to matter and residing within or behind it. There is no such thing as absolute rest. We always measure one motion by balancing it with another. It is time that we forever dismiss the shallow vagaries of those thinkers who teach that behind all that which we can learn through the senses lies the Reality, the noumenal. Let us learn that Thoughts have form, size, position,

and all of the properties essential to matter. An image on the retina of the eye may be considered as composed of many points or waves of motion, occupying definite positions with regard to each other. When transferred to the brain, they must still occupy the same relative positions. If the relations of two impressions to each other were not like the relations of the objects which produced them, then we could never know what the latter were, for our only way of discovering them is by comparing the impressions which they produce.

If a person studies the action of mind in another person, he may occupy just as secure ground as he would were he to study the vital phenomena of a plant or an animal. But if he attempted to study the mental laws alone or chiefly through consciousness of his own mental action, by introspection, as the metaphysicians did, then his failure would be as signal and complete as theirs. The best of them could not so much as explain how the mind operates in lifting the finger. Nor did they pretend to do this. We should hesitate long before calling Mechanics a science if it could not so much as explain to us how the mechanism of a watch did the work of recording time. The method of those thinkers was as false as it would have been to attempt to learn the structure of the brain in the same way. The brain is not conscious of its own action and form.

We see certain actions in our fellows, and we trace them to certain brain organs, and find them acting by definite methods. The same actions in ourselves are accompanied by what we call consciousness, but this is no reason why we should conclude that this consciousness is anything more than the focalization of our brain action.

The great forces of the Universe may be resolved into seven: Gravity, Heat, Chemical force, Light, Electricity, Magnetism, and Fena or Nerve force. The general laws of these may be expressed in a condensed form as follows:

They all radiate from their points of emission in minute waves, the vibrations being transverse to the wave course.

They vary in power inversely as the square of the distance.

They may interfere with and neutralize each other.

They are persistent or indestructible, the entire quantity of force or motion in the Universe remaining always the same.

They are mutually convertible, any one can be changed into either of the others.

They are all polar, or display the concert of attraction and repulsion.

Their polarity gives rise to the distinctions of sex in the domain of organic life.

It is not possible to understand mental action

without applying all of these laws, for they are quite as true of *fena* as of the other forces.

Fena is the highest of the seven forces. Whether compound or not it acts as a simple unit, and must be so considered. It is but a more intense manifestation of the ordinary vital force of the body, displayed specially by the brain and nervous system.

The nerve force most nearly resembles Light, yet it bears many analogies to magnetism. Like the latter, it usually travels along special conductors, in this case the nerves, but at a rate exceedingly slow in comparison. The two should never be confounded, or have the same name applied to them.

Fena often appears as light under a slightly increased intensity of common vision. In such cases, it usually presents the appearance of a delicate, soft, and diffused light, surrounding the head and form. At others it appears in glowing bands of varying intensity, like the aurora. And at other times still, it forms beautiful iridescent clouds, at a greater or less distance from the person. They often display a most marvelous delicacy and resplendence, far beyond reach of the painter's art. Thought is motion of the nerve force, and therefore we use no figure of speech when we speak of the light of the mind.

When an organ is excited and active, its Fena will be bright and intense, flashing up vividly, but

it will be dull and obscure when the organ is inactive. We correctly express this by saying that our minds feel bright or dull, as the case may be.

A well cultivated and properly used organ gives forth a nerve light that is pure and clear in color, but from an organ in the opposite condition, it will be foul and impure in tone. It is literally true, then, that a good person is a light of the community, and that the bad dwell in darkness. The fena from the seven upper groups often assumes the form of a seven rayed crown, when viewed from the side. The good do not wait for another world before wearing their crown of living light. And it can only be secured by true culture and right action.

LAW OF NERVATION. THE FENA FROM EACH ORGAN AND GROUP HAS ITS OWN DISTINCTIVE COLOR. THE WAVES OF FENA ARISING IN ANY ORGAN ARE DIVIDED INTO TWO SETS, ONE OF WHICH FLOWS IN THE DIRECTION OF THE FIBRES, AND THE OTHER RADIATES THROUGH THE CELLS TOWARD ALL OF THE SURROUNDING ORGANS.

In the Perceptive group the fena is of a bluish gray; in the Retentive clear blue; the Reasoning very light blue; the Fraternal emerald green; the Unital delicate lemon yellow; the Marital orange; the Parental amber; the Sensitive salmon; the Vigorous scarlet; the Ambitious reddish purple;

the Defensive dull red, and the Impulsive dark red. The principal color of the Intellect is blue, of Affection yellow, and of Impulsion red. These are the primitive colors in nature, from which all others are formed. The special colors of the groups have a different order of arrangement from those of the prismatic spectrum.

Every color is a definite kind of force. It must follow from this that if each group invariably radiates a certain color, then that color in external objects must be the one most directly related to it, tending to excite and please it, and must be the most expressive of its character. And the accords and relations between any groups are accurately represented by those of their respective colors. Thus lemon yellow and dark red are polar in the first degree, the same as the groups of Unity and Impulse. So, too, are the emerald green of the Fraternal group and the dull red of the Defensive. Here, then, we may learn all of the harmonies of color, and their applications to the purposes of art. The symbolism of colors need no longer be arbitrary.

By embodying these mental harmonies of color in our temples, landscapes, costume, and other objects, we may make color exert a powerful and permanent influence in securing our personal and social happiness. In color, as in the narrower sphere of music, the most wonderful and

enchancing harmonies must be those of human creation.

Each person should wear in his costume the colors belonging to his dominant organs, or else the polar complements of these in some one of the four degrees. A person with large Fraternal organs should wear green as the dominant color, or its complements dull red, or amber, or orange scarlet. One with large Vigoral organs would wear scarlet, or its complements salmon, or orange green. Those with the Reasoning organs large would wear light blue. These examples illustrate the application clearly. When one person of a company wears a complementary color, all of the rest should wear complements of the same degree, to be in accord. The male and female in each pair differ by wearing darker and lighter shades of the same color. The Artuna and Latuna wear brown and white, these being the masculine and feminine colors of unity. All of the members may at times wear these two colors.

At the annual meetings of the Matuna, and the semi-annual ones of the Matos, the members, to the number of many thousands, will arrange themselves in the form of a vast flower, the groups of the same kind from all of the tavus uniting to constitute each petal of the flower. The petals will then be all unlike. The members will then pass through a series of evolutions in which they

will change so that each petal will represent all of the groups at once. Many changes may be made, each one bringing together new polarities of color and character. These evolutions do not simply amuse, but they afford a positive and harmonic cultivation of all of the faculties, more powerful and enduring than music can give, though this lends its lofty strains to the grand concordance.

The colors of the Matunal temples follow the same rules here stated, as seen in the arches and other parts of the Golden Portal. In the distribution of cultured plants, these laws of color may also be applied.

Every object radiates forces which impress an image or images of itself upon all surrounding objects. The photograph is only an extreme example of these images. They cover and represent every object and condition. The world is an endless gallery, wherein the history of its myriad objects is painted with marvelous fidelity, and repeated a thousand times. These images can be evoked by proper processes. The nerve force may attach itself to any object and make an enduring impression. This impression will reflect not only the permanent character, but the temporary condition of the organ or part from which the fena came. A sensitive person by coming in contact with the object may feel and describe accurately the impression which it has received. Thus from

a manuscript letter, held in gentle contact with the forehead or the hand, the whole character, personal appearance, and even the thoughts, of the writer at the time of writing may be described. These impressions may last for years or centuries. Not only all objects which human beings have touched may be read in this way, but even the fossils of the earth's stratified rocks may be made to yield up the history of their formation and subsequent conditions. Whether we wish it or not, we are all leaving a legible and durable record of our lives, thoughts, and motives.

We actually impart somewhat of our own being to everything we touch. And we in turn as constantly receive from the accumulated forces left by others. The presence of a large number of wise and good persons in any locality fills the place with a fena-sphere of light which may last for years. Such a luminous mental sphere is highly favorable to clearness of thought and social harmony.

Our most secret thoughts extend their nerve force to our fellow beings, and affect them for good or ill. Neither of the parties may be conscious of this, but the effects are none the less certain. We are therefore responsible to our associates for every thought we entertain as well as for every act we perform. We cannot sever our relations with humanity, nor can we escape from the influences

of others. Even a knowledge of the existence of wrong may tend to excite wrong actions in the knower, and the wide publication of crimes and wrong-doing is an injury to the whole community. It is for our own interest that there should be no suffering in the world. The good of one is in the good of all. To a great extent, we must all rise or fall together. No person could become perfect in character while the larger part of those around him were debased and ignorant. Every age concentrates some of its surplus energies in the production of great minds to lead its thinking and direct its energies.

In the true and natural action of twenty of the higher social organs, their fena flows out from one person to another as its object, and is answered by a returning current from the latter person. On the other hand, only six organs have self as the first object upon which their actions terminate, and all of these are low organs except one. Thus our high and true life is through that of others. We can maintain it only by perpetual interchange. We must look out and not in. If we seek to draw everything to ourselves, we must of necessity contract our mind and our pleasures. To give is to live. In this way all humanity is made one, and we receive the full benefit of its united life. We must seek the good of others in preference to our own, but as a part of humanity, the benefits are

reflected back upon ourselves, not only by the direct personal actions of others, but in the vast results of concerted social activities. If each person acted directly for self alone, as the lower animals do, the advancement of the race in knowledge, art, and happiness, would be impossible. The selfish organs of the back head would defeat themselves if allowed to lead. Humanity must be regarded as a unit, made up of the past, the present, and the future. We inherit the results of many centuries of human culture and development. And we should violate the deepest law of social unity, if we in turn did not labor for the present and future welfare of Humanity. When we directly seek the good of others, our actions are not selfish, although we know that the ultimate result will be the securing of our own happiness. It cannot be wrong to know this. We obey the inherent attractions of our nature, the actual forces of the higher faculties, in doing good. These attractions are our motives.

The fena may extend between those who are great distances apart, and convey expressions of thought and emotion even more exact than by words. In these cases of mental telegraphing, the nerve force may pass along through the air, or be conducted along solid objects, as along a road where the person has traveled. Many obstacles interfere with the common use of this method of

communication. Every advance in culture will make its use more frequent and certain. These impressions are sometimes so distinct that we see places or circumstances many miles distant, or seem to see, with perfect distinctness, our actually absent friends close by our side or before us. We may even seem to touch them, and hear them speak. We are by nature social beings, and a universal sympathy may through these channels unite all human beings in one vast composite life.

Great teachers affect the world and their followers profoundly, not alone by their example and doctrine, but also by the impartation of fena influence. They become in a literal sense the life and soul of great movements. The fena of a good person may powerfully assist a weak and erring person in becoming strong and good. In this way we must bear one another's burdens, and perpetually make atonement for our fellows. In some experiments which have been made, the voluntary exertion of nerve force in one person has enabled that person to control for a time the muscular movements and apparently the whole thoughts of another. But such experiments are not normal uses of nerve force, like the other examples cited.

The fena from large and active organs extends farther than from small and inactive ones. The same is true of the front and upper, when compared with that of the lower and back head organs. The

latter point toward the earth and so must soon stop. When two friends approach each other, the fena from the different organs unites, and there is a most beautiful play of colors as these currents meet and blend, one after another. When the two friends become fixed in position, the waves returning to each give a new series of luminous harmonies. Sometimes the fena from some organs will blend and that from others will not. In that case the friends cannot fully sympathize. When the blending is complete, we read the very thoughts of our associates.

The fena from an attractive organ in one person may often flow outward, and meeting the repulsive force from another person, may neutralize the latter by equaling or exceeding it in quantity. In this way we may overcome evil with good. It is not by passively yielding to the evil, but by the active exertion of an opposite force. This is a nobler way than to meet repulsion by repulsion, for it calls our own higher faculties into activity, and tends to excite those of the wrong doer. The force which we impart is from the organs of love, and hence this is, in one sense, loving our enemies. Not by receiving their evil as we receive the love of a friend, but by changing that evil to good.

When the repulsive fena of a person is directed against us, we are usually repelled from that person. But the repulsive force of two persons may

act in concert instead of antagonism. In this way the courage of a leader arouses and inspires that of his followers.

The most rapid and intense exchange of fena takes place by gentle, or even close contact. By touching the mental organs or their signs with the fingers, and remaining passive, we perceive the peculiar kind of force radiated by each. It was by this means, through a great number of careful experiments, that the true location of the organs was finally discovered. All persons are more or less susceptible to these fenal impressions.

In caressing we touch the organ or sign which we wish to express. The signs of Friendship, Parental, Filial, and Marital love, are in the lips, and hence kissing naturally expresses either one or all of these affections. This reception of pleasure and force is as real as that through the food we consume.

The actions of the organs give rise to motions of the head, body, and limbs, in the direction in which the fibres point. The coronal organs elevate the features of the face and the limbs, but the basenal organs depress both. Many of these motions are matters of common observation, as the lofty bearing of Pride, the bowing of Submission, the erect attitude of Firmness and Integrity, or the reaching down and forward of Appetite.

Through the front organs we are attracted to

what is in front of us, and move forward. The organs of the back head repel us from what is behind us, and though pointing in an opposite direction, yet they act in concert with the front, attractive organs, because their force is repulsive. The back organs produce backward motions of the limbs, but not such as to cause the general movement of the body to be in that direction.

The attractive motions which we make may be either from or toward ourselves. They are from us when we are attracted to some object, and toward us when we wish to attract some one to us. For instance, the organ of Fraternity causes us to raise and extend the hand to grasp that of a friend whom we may meet; but in beckoning any one to us, we reach out the hand and draw it back toward ourselves in the same direction. The organs of either half of the brain usually affect the limbs on the opposite side. In the instance before us, this causes the right hand to be raised in the direction of Fraternity on the left side.

The repulsive motions are always made from us, as for instance, the motions of stamping, pushing, and striking. But when the repulsive organs act in concert with and as servants of the attractive ones, then the motions may be either from or toward ourselves. The motions in cutting down a tree are in the line of Destruction. The motions of hewing are in the same line; this is destruction

for the sake of construction. In planing and using a chisel, the movements are in the line of Construction, modified by Destruction and Aggression, as part of the force comes from the latter organs. When a carnivorous animal strikes its prey, the motions are in a line between Construction and Destruction ; it destroys the prey that it may construct its own body out of the materials.

By taking the map of the mental organs given in the second chapter, and comparing it with the drawing of the brain, we may readily learn the direction of all gestures, and hence only the more important ones are given here.

The Perceptive organs cause downward and forward motions, as in the picking up and examining of objects.

Attention points the forefinger directly forward, and slightly upward when acting under Reason, as when pursuing a close and direct train of thought. Planning, Imagination, and Inspiration extend the hands outward, upward, and forward. Inspiration may also move the hands toward each other.

Modesty and Reverence draw the hands close to the side of the body, or when acting under the influence of the higher social faculties, they may raise and clasp the hands.

The Parental and Marital organs cause the upward and forward motions of caressing, the clasp and the embrace.

Kindness throws the head forward and up, and raises the hands in the same direction when rendering assistance. Friendship has nearly the same gesture as Fraternity, but causes a closer clasping of the hand or person.

Hope raises the hands upward and a little forward. Unity raises the hands above the head, slightly forward, and near each other, with the palms inward.

Integrity raises the hand directly upward by and above the side of the head. Justice may also be expressed by extending both hands horizontally forward with the palms upward. They then take the line of Reason, the intellectual organ of justice, modified by Attention and the Perceptives. Control draws the hands and arms close to the side.

Self-esteem chiefly expresses itself in the carriage of the head and form, giving the well-known attitude of pride. Defence moves the limbs back and to the sides, as seen in animals when kicking. The motion of striking with one's fists is in the same line, reversed by the signs of Defence in the back of the hand and arm. Aversion and Profanity cause motions still more downward than those of Defence.

There are many compound gestures, produced by a number of organs, and usually led by one. These are easily calculated when once we know the separate gestures of the organs concerned.

The vocal gestures or Inflections follow the same law. Thus the organ of Reason, which asks questions, points somewhat upward. Hence all questions have the rising inflection either at the end of the sentence or upon a principal word. The returning answer must reach us through the same organ, and of course take a downward direction to do this. Therefore answers have the falling inflection. The upper organs give rising and the lower ones falling inflections. Supplication, entreaty, sympathy, praise, ambition, hope, and affection, illustrate the first, and authority, aggression, aversion, contempt, profanity, and other manifestations of the lower organs illustrate the second. The monotone may express either the upper or the lower organs. The circumflex, or union of up and down slides, is properly used in irony, where we say one thing and mean another, or in some cases expressing surprise or a sudden turn of thought and feeling.

In the Matuna we make gestures in concert to illustrate the mental harmonies. For if certain faculties produce pleasure when successively or simultaneously called into action, then, by making the gestures which are expressive of these, we may evoke the same faculties and the same pleasures, to some degree. For example, all of the members would make in concert and succession the gestures of Appetite, Piety, and Unity; or of Color,

Reason, and Reform ; or those of Secresy, Control, and Serenity ; or, we may make those of Order, Protection, Control, Reason, Truth, and Serenity. At the same time, the music is made to address the same faculties. Or, each group may make the leading gestures belonging to it, while the complementary groups respond with those belonging to them.

The natural language of gestures is in no way arbitrary or dependent upon custom. For the gestures of any given faculty are the same in all ages, among all nations, and in all degrees of culture. We have no more right to use false gestures than false words. The fibres of the organs are slightly curved, and this causes the gestures to be in curved lines. Easy manners are a truthful expression of mental harmony, though these may be sometimes merely assumed. This mimetic law furnishes a positive and definite proof of the law of location. Here, as everywhere else, we see the perfect harmony between the mechanism of the brain and human actions which are its consequents.

The second set of nerve waves establish a universal sympathy among the organs, strong in proportion to their nearness. Not one can act without affecting every other one in a greater or less degree.

In cases where the organs are evenly developed and cultivated, these currents pursue as nearly di-

rect curves as the convex surface of the brain will allow. For instance, a current from Excitement to Serenity flows over Caution, Homelove, Patriotism, Integrity, and Persistence. The harsh, angular character of the waves when they start from Excitement is slightly modified by Caution. At Homelove and Patriotism they become much more quiet and smooth. Still further on, Integrity imparts to them somewhat of steady and even strength, and Persistence gives them greater uniformity. At the end of their course, Serenity imparts its gentle influence. The force of each organ tends to make the passing current resemble itself in character. When the current is at Integrity, or any other point of its course, it may send currents directly down to the brain centres, along the fibres of the organ over which it may be at the time. At the same moment with the first described current, another may flow, almost unmodified, along the fibres of Excitement to the Latus, and thence along the fibres of Serenity. So that the latter organ may receive from Excitement two kinds of force at the same moment. If the intermediate organs were small and inactive, the first current would pass around them, and over larger and more active ones. These illustrations will apply to all of the organs. We cannot clearly understand mental action without taking these varied currents into account.

A current of fena starting from Attention and flowing in the direction of Prevision, Unity, Self-esteem, and Aggression, around the central ellipse, would become slower and slower as it receded from Artu, the centre of Attention. After it reached Liberty its speed would gradually increase toward Appetite and Ardor, until it reached its starting point. This corresponds to the law of Radius Vector of the planets. The shorter the fibres of any organ are, the less will be the time required to perform the circuit.

A current of nerve force from one organ may meet and neutralize that from another by interference. The new resulting force may be easily estimated by considering what the two organs were, and over what organs their currents met. Any impression or force in the brain is convertible into any other. And the nerve force may be converted into either of the other forces. The conversion of mental into physical force is attended by conditions which make the measurement of the former difficult. There may be two persons with brains of equal volume and using equal quantities of blood, and yet one may think with success and power, and the other with feeble failure. The different results arise from the wide differences in the texture, the particular shape, the education and external conditions of the two brains. That the relation between mental and physical force is

exact in regard to quantity, is most clearly proved by the fact that we know precisely how much nerve force to expend in order to make the muscles contract to any required extent. Were this not true, our motions would all be uncertain, and there could be no mechanic arts.

If a large current of fena attempt to pass along nerves too small for it, a part of the fena will be converted into a galvanic current, and then the person will feel those thrills which all have experienced when under excitement.

The organs of Inspiration and Imagination are located at the junction of the Reasoning, Fraternal, Marital, and Parental groups. It follows that a multitude of currents must meet and be converted over these organs. Out of these conversions would naturally spring the whole system of metaphors and figures of speech which form so large a part of all languages. For if the fena of one organ may be converted into that of another, then the verbal terms of expression may be transferred between them.

The forms of speech are often direct expressions of mental laws. We speak of those actions which spring from the superior organs as high, lofty, noble, exalted, and heavenly; while of those which result from the basenal organs we speak as low, debased, ignoble, and earthy. We speak of past time as behind us, for the back head organs attract

us to the past. We speak of the Tree of Life with its twelve kinds of fruit, and say that the heart is a garden. Mental science now demonstrates that this which appears like mere metaphor in language, a play of the fancy, is produced by positive and permanent laws of our brain and mental structure. All real poetry is a mathematically exact expression of truth. Science in its maturity becomes poetry. It comes not to destroy these expressions of beauty with which the literature of the ages has been adorned, but to show how these, and a multitude more which it only reveals, can be embodied in our actual life and surroundings, in our eating, dancing, costume, dwellings, industries, and in all the forms of social intercourse. Over all of these it throws the charm of rhythmic harmony, which found in poetry its partial and feeble expression.

Language is full of examples showing the correlation of sensations. We say that we *smell* of a flower and *see* that it is sweet. We speak of sweet faces, sweet flavors, and sweet sounds. Light, heat, sound, odors, and flavors, are all believed to consist of waves, and between these, in the different forces, are definite similarities of length and form. But if we should make an exact diagram of the sound waves, it would not produce the same impression through the eye that the sound waves did through the ear, for the color waves now exist in

addition. Yet they would suggest each other. No description of any sensation or emotion could convey a perfect idea of it to a person who had never felt it. Each mind must perceive them for itself. Yet the organs of one sense may sometimes partially perform the duties of another. We may, for instance, perceive sounds through touch.

Each note of music definitely affects some one organ or group of organs. The harmonies of music excite and reflect those of the organs. If two notes of music bear a certain harmonic relation to each other, then a corresponding relation exists between the two organs which these notes affect.

The following table presents some of these relations as at present understood. Above the parallel lines the sounds belong to the treble, and below them to the base clef.

TABLES OF SENSE-HARMONIES.

<i>Groups.</i>	<i>Organs.</i>	<i>Colors.</i>	<i>Sounds.</i>	<i>Flavors.</i>	<i>Odors.</i>
	Liberty.	Purple.	Si.	Acid.	Acid.
Ambition.	———	Crimson.	Si.	Acid.	Acid.
Memory.	———	Blue.	La.	Alkali.	Alkali.
Reasoning.	———	Light Bl.	Sol.	Alkali.	Alkali.
———	Kindness.	Blue Grn.	Sol.	———	Fragrant.
Fraternal.	———	Emerald			
		Green.	Fa.	Sweet.	Sweet.
Unity.	———	L e m o n			
		Yellow.	Mi.	Sweet.	Jasmine.
Marital.	———	Orange.	Re.	Aromatic.	Rose.
———	Friendship.	O r a n g e			
		Green.	Re.	Sweet.	Pinks.

<i>Groups.</i>	<i>Organs.</i>	<i>Colors.</i>	<i>Sounds.</i>	<i>Flavors.</i>	<i>Odors.</i>
——	Integrity.	Scarlet.	Re.	Sub-acid.	
Vigorous.	——	Red.	Do.	Acid.	Acid.
Perceptive.	——	Bluish Gray.	Sol.	Acid.	
Parental.	——	A m b e r Yellow.	Mi.	Sweet.	Pineapple.
Sensitive.	——	Salmon.	Mi.	Sweet.	Violet.
Defensive.	——	Dull Red.	Re.	Acid.	Acid.
Impulsive.	——	Dark Red.	Do.	A c i d Bitter.	Pungent Acid.

We express some of these relations when we speak of bitter hate, sour tempers, and pungent sarcasm; or of love, friendship, and social intercourse as sweet. When all of these relations are understood we may institute harmonies for all of the senses. Nor need we imagine that we can live harmonic lives before this is done. Through these relations we may cultivate or depress any faculties we please.

Food can affect us in three ways; first from the simple nutrition of its chemical elements, second, by the effect of its odors and flavors upon the faculties, and third, by calling the different faculties into exercise in cultivating its different varieties. For illustration, we would feed a person in whom the social organs were deficient upon food in which the sweet odors and flavors predominate. As in music the arrangement of the notes awakens our faculties in harmonic succession, so in eating we

arrange the articles of food so that the odors and flavors awaken the faculties harmoniously. Thus cooking becomes a high art. The food, like the groups we cultivate, varies each day of the week. The relations of food are treated more at length in the sixth volume. In dining, the members of a tavu arrange themselves in groups as on other occasions.

If in colors we place red and black, or red and blue, side by side, we produce discord. They must be harmonized by other colors between them. And so in grouping the members of a society, in pleasures, in labors, or in eating, we blend and harmonize characters otherwise discordant by the persons who are between them. The grouping and harmonies of the organs furnish us a clear guide in these arrangements.

All knowledge is formed by uniting impressions. And these must all reach us through the seven senses, Touch, Heat, Taste, Smell, Hearing, Sight, and Nervation. The harmonies which can only be known to us through the senses, must be the effective instruments for the highest, the most refined culture and happiness, the most exalted spirituality, which a human being is capable of attaining. In the forms of society which preceded the Matuna, the wisest of men knew a scale of harmonies for only one of the senses, that of hearing, as expressed in music. The harmonies of

Heat, Color, Forms, Odors, Flavors, and Characters, in their relations to each other, and their effects upon the mind, were nearly or wholly unknown to them. So truly was this the case, that many thinkers imagined the gratification of the senses to be incompatible with a high spirituality, and that moral sentiments, justice, virtue, and humane conduct, could exist quite independent of these instruments. We see how utterly impossible it was for them, in that deep mental darkness, to form any clear or full conception of what a complete life of human harmony would involve, much less could they reach or point the way to its practical realization. The most glowing pictures in the noblest word-songs and prose descriptions of poet and seer, seem excessively narrow and barren, when compared with the multitude of varied and exalted harmonies which the natural laws place within the easy and certain attainment of all humanity. These criticisms of former conceptions apply no less fully to the ideas which were entertained of a life in the supernal spheres, and the felicity of Paradise.

Although the sense of Touch, seated in the skin, is the base of the others, yet the causes which produce the differences of complexion are not yet well understood. The dominant color of the skin in the Caucasian race is formed by mixing that of the Sensitive and the Vigorous groups. Were we to

draw an inference from this, it would be that this race would be distinguished above all others for the union of sensibility and energy, for the elevated use it would make of the senses, and of the knowledge acquired through them; or in other words, for the greatest capacity for advancement. This is at least true of that race, whatever may be the cause. The most perfect complexion, in all respects, is that between the blonde and the brunette.

CHAPTER SEVENTH.

MENTAL UNITY.

EVERY result involves the action of more than one law. All forces, as well as laws, are mutually interlaced. The seventh mental law, which we are now about to consider, is in one sense a result and a summary of the rest. In studying mental action under any one law we must remember that all of the other laws are acting at the same instant. Otherwise we should find the subject a perplexing mystery.

LAW OF UNITY. IN MENTAL HARMONY THE FRONT FACULTIES MUST LEAD US, THE HIGHER MUST RULE THE LOWER, THE LEADERS MUST CONTROL THEIR RESPECTIVE GROUPS, AND THE CHIEFS MUST RULE THE CLASSES.

Through the front organs and signs we are attracted to what is before us, and through the back ones repelled from what is behind us. Our attractions and repulsions are proportional to our destinies, for they are the motor forces which carry us onward and upward.

By pointing in opposite directions, they act together in securing one result. The organs of the side head being alike on each side, we are equally attracted or repelled from each, so that these do not determine our course.

We naturally turn our faces toward attractive, and our backs toward repulsive objects. The organs of the senses, too, which are all attracting channels of force, are all in front. The general quantity of attractive force possessed by any person may be very well estimated by the fineness and delicacy of texture of the entire skin. That of the repulsive force may be measured by the length and strength of the spinal cord and column.

There are three organs of the back head which are attractive in the first degree. These are Praise, Equality, and Gain. They are simply conservative, not constructive, they desire stability without advancement. On the other hand, there are twenty-eight attractive organs of the front head. The true relative amount of our forward and backward attractions may be well estimated from this contrast. We must look forward and not back. When once a truth has been demonstrated, made a part of science, then it belongs alike to every succeeding age and to all mankind, and it can never grow old or become impractical. We must make what remains of the past serve the uses of the present. And the best preparation for

any possible future must consist in filling completely all of the requirements of to-day.

Evolution or growth involves two great phases, the destruction of the old and the construction of the new. The front brain relates us to the constructive, and the back brain to the destructive phases of all existence. The social organs are constructive through their internal, vital, attractive power. They unite men in societies, building up the vast fabrics of national and race life. They act in connection with the constructive viscera of the body. The intellect is constructive through the external application of law, art, and order. Love gives our central life, Wisdom and Will give its external forms. They are mutually dependent. In the Matuna there must be a similar dependence of the three branches of government, the Intellectual, Social, and Industrial. The force that properly unites society flows from the social organs, its very nature is attractive, and if we sustain governments by either external or physical force, we violate a fundamental law of our existence. Statesmen have fallen into the gross and fatal error of selecting a part of the social functions, in some cases, those of two back head organs, Gain and Defence, and calling this government, while all of the rest were left to take care of themselves. The three classes, the twelve groups, are united in the brain by inherent laws of action, which affect all

alike. We may well ask by what authority men have dared to separate in government those functions united by nature. If we should sever the connections of these classes in the individual, death would follow, and no less certainly will the social life and unity be destroyed by sundering these functions in the social organism. We have no right to found an organization upon mere opinions or guesses, as all of the churches were built, but just so fast as the social or spiritual laws of man's nature become demonstrated by science, just so rapidly should we embody them in the social structure.

The mutual dependence of the different classes of society increases with every advance of the race in culture and civilization. As a consequence of this there is developed a far greater individuality of character. There never exist such extreme differences of character in savage life as are common among the civilized.

Each Class occupies about one-third of the head. Therefore we should devote one-third of our time and force, when awake, to the direct culture and use of the Intellect; one-third to the social faculties; and the same amount to muscular labors. Love and all of the sweet and exalted pleasures of social intercourse have a far more conspicuous and important place in matunal life than in any of the older forms of society. Their sweetness and intens-

ity are increased a thousand fold by the many new relations which are an essential part of this social structure.

In the Matuna we secure the regular culture of all of the faculties by dividing the week into twelve days, and then devoting a part of each day to the special culture of some one group. Thus on the first day, the society or tavu would unite and perform, during a given length of time, or the whole day, those mental and bodily labors or amusements which tend to develop the Impulsive group. The second day they would in like manner take the Defensive group, and so on through the Ambitious, Vigorous, Parental, Marital, Unital, Fraternal, Reasoning, Retentive, Perceptive, and Sensitive groups. Thus our daily life is a school, and our education is regular, integral, and perpetual. A description of matunal life during one week would involve a repetition of all the laws and ideas stated in this volume, for they are all brought into practical use during that time.

The Intellect seems to be related to the morning; the Social class to the middle part of the day; the back head to the afternoon and evening; and the base and interior range of organs to the night. Our daily employments may be arranged accordingly.

The daily meetings or sessions are called Lu-

ros, the semi-annual ones of the Matos are Lurotees, and the annual ones of the Matuna are Lurotas.

The mental groups are the models for all of the groups of industry. Every muscular movement is in the line of some organ, and therefore expresses it. It is very clear from this, that we may classify our labors so that they will correspond to the mental groups, and that the same harmonies will apply to each. Only in this way can our labors become rhythmical, attractive, and harmonic. For example, the motions of Ploughing are in the line of Appetite and Construction, modified by Control; Sowing grain is in the line of Planning, Imagination, and Inspiration; Binding is in the line of Appetite, Order, Construction, and Control; Pitching grain is in the line of Construction, Order, and Reform; Weaving is in the line of Construction, Imagination, Attention, and Equality. When these labors are done by machinery, of course the same muscles are not called into action. Labor excites the faculties not alone through the direction of muscular movement, but also through the forms, the colors, and the odors with which it brings us in contact. These may often be more powerful in their influence than the line of movement. Again, we must remember that faculties may be excited through their analogues and polarities. We may excite the group of Unity through the Parental,

the Fraternal through the Reasoning, or Serenity through Control, as already explained under the polar law.

Whatever surplus force is consumed by the activity of one organ leaves so much less for the others at that given time. Upon an average, and in proportion to its size, the brain receives five or six times as much as the other bodily organs of the materials of force, in the form of nutritive blood. This explains why mental is so much more exhausting than muscular labor.

It is the normal office of the five lower groups to either collect materials for the use of the seven upper ones, or else to reject these materials when they have served their purposes. The upper groups elaborate these materials, giving them their highest and most complex forms, in thought and feeling, and in the expression of these through science and art. For this reason, the upper groups should rule the lower ones. And this harmonizes, as we have already seen, with the whole law of organic evolution. Whenever we allow the gratification of any back head or basenial organ to become the chief object of our existence, we are then failing to obey the law of unity. The fullest measure of happiness that we can receive through the senses, is when the many-sided forces of sensation, of which they are the channels, do not terminate their course upon reaching the Sensitive and Per-

ceptive organs, but are carried upward and converted into forces of the higher faculties.

The definitions of the front and the coronal faculties furnish us a code of Right Action, for by the law of Unity it is right to make these rule our whole conduct. In summing up the more important of these, we learn that :

We should be reasoning and provident, kind and truthful, fraternal and reforming, friendly and mirthful, hopeful and believing, worshipful and humane, devoted and loving, parental and pious, just and patient, vigorous and persevering, temperate and cautious, dignified and aspiring.

In the early periods of human history the lower faculties ruled. Although this was not right, yet it was the best state of things that could exist in the rude and forbidding circumstances in which men were placed. There could not exist much justice and right in an imperfect social organism, because justice and right require the full action of all the faculties. It is as necessary to maintain the social form as that of the individual, to have all of its parts as well defined and as constantly filled by the appropriate officers as the body is by its organs. A person could not well fill the various duties of life if deprived of half of the brain, half of each feature and limb of the body, and wholly of two or three of the senses. The social structures of the past were not more complete in proportion.

Men have vainly dreamed of human perfection as the result simply of individual development, for that development can not be general or universal in a low social organism.

The coronal social organs give us inherent and permanent attractions toward the right, but they do not enable us to know in what the right consists. This knowledge must be acquired through Reason and other intellectual organs. All the system of morals had their direct origin in this source. Never, in any case, was a moral precept or truth first seen clearly through inspiration. Men found that theft, lying, bloodshed, drunkenness and other crimes were wrong, because they produced privation, distrust, physical, and social suffering. And what was called Conscience was the union of social attractions with ideas gained through the intellect. It is utterly and for ever in vain to seek the perfection of man through any system of morals. All men know that they should be just, but they cannot be so until they know what justice is. Justice consists in filling exactly all of those social relations which are included in the vast and complicated structure of the Matuna. Nothing less could satisfy a complete human being, nothing less fill the definition. Thus justice could not be understood until social science existed.

All nature is made up of conditions and relations, and in the term Right we include those

which best secure human happiness and lead to it the most directly. In estimating the right or wrong of any action, we must carefully consider both its immediate and its remote results, its effects upon our direct personal happiness, and its possible effects upon our associates or upon all mankind. An action may be directly painful or unpleasant to the performer, and yet its aggregate results to humanity may be happy.

From what has been said of Right, it is easy to define its opposite, Wrong. It is that which is tortuous and painful, which cannot exist without producing suffering. By a process of reasoning we may come to see that all that which we call wrong will eventually disappear from the earth, and its place be occupied by the good. But no amount of reasoning can ever make pleasure of the actual impression of pain. The Right and the True are more in harmony with the general movement of the Universe than Wrong and Evil, and therefore in their very nature are more enduring than the latter.

The leading faculties must rule their respective groups, for they are the most important, and they unite in themselves the other functions. To illustrate this we may take Fraternity and Reform, the Leaders of the Amity group. Fraternity represents Friendship, Kindness, and Example. The brotherly love given by Fraternity includes friend-

ship. If a man be a brother, he is surely a friend. The organ of Friendship is more narrow in its range of objects than Fraternity, and hence it is often more intense. We cannot well love a brother without feeling kindly, complacently, and pleasantly toward him. And the older brothers, like the older humanity, must be an example to the younger. All of these organs are seen to follow the lead of Fraternity, or to be in some way expressed in its functions. The organ of Reform represents Mirth, Truth, and Imitation. Both Mirth and Kindness lead us to entertain others in order that we may be mutually improved. To improve rightly and rapidly, we must appropriate the truth, put things to their best uses, be pliant in bending to new conditions, imitate nature and the example of the wise and good. The analysis of any other group will quite as plainly show that the Leaders should control its action. The table in the first chapter will show at a glance what organs each social Leader represents.

The two highest Leaders in each Class must not only rule their respective groups, but also all of the organs below them. These six Chiefs are Reason, Prevision, Unity, Humanity, Integrity, and Serenity. The remainder of this chapter will be devoted to them. The ruling organs and social officers are, then, in three ranks, Centres, Chiefs, and Leaders. The Chiefs have their rank through

the law of evolution, which teaches that the highest organs must rule the rest.

All intellectual processes must finally come under the decision of Reason and Prevision. The forces which are to produce any given event are in action, to a greater or less extent, long before the event occurs. In case of a seed planted, it may be for weeks; in that of a national revolution, the producing causes may have silently operated for centuries. The organ of Reason may not perceive or detect their tendency, but Prevision is impressed by them, and from their subtile radiations it forms an image of the future. Many of these forces, in any case, are too faint and obscure even for its fine receptive power, and hence its predictions are seldom accurate and minute. Nearly all of the great truths which compose modern science were perceived in vague outlines long before Reason worked out their demonstrations. In this early form they were entirely impractical. No truth can mature without the light of Reason. The brilliant pictures of a Throne in Heaven, with its twenty-four rulers; of the City of Peace, with its twelve gates; and of the Tree of Life, rested in the human mind for eighteen centuries without one intelligent step being taken for their practical realization, until the safenal laws demonstrated that these symbols represented the human mind, and through this the true structure and external forms of society.

The most devout believers idly and vainly waited for a miracle, the exertion of supernatural force on the part of Deity, to establish the kingdom of righteousness and fulfill those grand symbols. We now know that the Throne and its occupants represented the two Centres of the Mind and of Society; the twenty-four Rulers were the twenty-four Leaders; the twelve gates of the city, and its twelve foundations, each unlike the others, symbolized the twelve social and mental groups. The city had three gates upon each of its four sides, and if we take the drawing of the angles of the face and head in the first chapter, and lay it down so that the top points toward the north, we shall see that three of the angles are on the north side, and the same number on the east, on the south, and on the west sides. The Tree of Life we have already seen explained in the second chapter. The demonstrations of the present volume give us power to embody those great types in actual life, to build with rapidity and certainty the magnificent structure of the new heavens and the new earth.

In the daily affairs of life, the quick warning voice of Prevision is of constant value. Its impressions of near events are usually more definite than of those which are remote.

It is chiefly through the organ of Inspiration, one of the second degree complements of Pre-

vision, that we receive impressions from beings in other worlds and spheres of existence. In these cases, the nerve force is the channel through which the impression is made, as it is in all of those cases where one mind communicates with another without the aid of sounds or of visible symbols. The impressions may also be made upon the organs of Nura and Attention, as the latter are used when we mentally read the thoughts of our associates.

Every organ perceives and measures, to some extent, the particular forces to which its functions are directly related. But it is the special office of Reason to take the impressions received by every other faculty, and by comparing, analyzing, and combining them, to discover the relations existing among them, and to group these relations so as to show the manner in which the producing forces act. Thus it unfolds Law. For Law is an expression of the uniformity of relations among phenomena. When we say that it is a law of attraction that any two bodies will attract each other directly in proportion to their masses, and inversely as the square of their distances, we mean that all bodies uniformly act in this manner. The actions of any object, the various motions it produces in other objects or receives from them, in other words, its relations, these are all that we can ever know concerning it, they constitute its nature. Law is a true classification of natural actions. It

is therefore inherent, we cannot actually separate a law from its object.

Some laws are so interlaced with others, that to discover them we must take our collected impressions, and mentally separate those of certain phenomena from their connections with others, and thus reveal the uniformity of action. In other instances, each object fully realizes to our perception the law concerned.

Each law embraces many objects or phenomena. When once acquainted with the natural laws, we are not required to examine every individual object in order to know what is in the world. Thus science is simple, and makes us masters of nature.

In every law are expressed certain inseparable results of action. When a law is fulfilled by conscious beings, these results are harmony and pleasure. When not fulfilled, the results are destruction and pain. We have no right to affix arbitrary penalties to any wrong action, be it great or small. Our business is to ascertain the natural results, and see that only these follow any violation. A person who violates any of the social laws does so from the excessive action of the lower when compared with that of the higher organs. This lower excess may be permanently repressed, and the higher organs given control, by a proper course of bodily and mental treatment. In very severe cases, a partial exclusion from society, and the withdrawal

of social confidence, may be natural penalties for the wrongs committed. The violator in no case suffers individually the entire penalty. For by the law of Nervation a part of the evil results are invariably communicated to others.

Obedience brings Life, in every sphere of existence. For the human constitution, the nature of our faculties and their laws of action, remain the same whether we exist in a physical or a spiritual world. We may fail to fulfill, but we cannot break or destroy a law. The amount of life is measured by the variety of powers, and the ability to resist those causes which tend to destroy the body. This quantity increases from infancy to maturity. Causes which would destroy the life of a child, seem scarcely to affect the health of an adult. There is no reason, that we have learned, why our physical existence might not be continued indefinitely, if all of the conditions of life were fully maintained.

In the act of Reasoning, the mind, either consciously or not, uses a certain method, which includes the Major Premise, the Minor Premise, and the Conclusion. To illustrate this we may give as a Major Premise, this proposition, All oranges are spherical; as the Minor Premise, This object is an orange; and as the Conclusion, This object is spherical. In this case the major premise could only be established by comparing many oranges

and finding them all spherical. The minor premise likewise requires observations to establish its truth. In any syllogism if either premise be false, the conclusion must be untrue or unwarranted. Every youth, of either sex, should be well trained in the methodical use of Reason. For disorder in thinking produces disorder in action.

In all reasoning we start from some impressions which we cannot analyze, for instance those produced by a point and a straight line. We prove their existence by simple sensation, not by reason. No attempt at analysis can reduce them to simpler elements.

The vague and instant perception of truth we call Intuition; its discovery by observation, comparison, experiment, and analysis, is Induction; and when from one or more known laws we infer certain laws or results, this is Deduction. The lower steps of science are called common sense. In the higher stages of evolution science always measures, it reveals to us exact relations of quantity. This is no less true of mental than of the other sciences, as we have seen proved in this volume. Yet before the discovery of the mental laws, the boldest thinkers did not seem to imagine that we should ever be able to measure thought and feeling, as we measure a cone or the motions of a planet. All mature science is practical knowledge. There may be fragmentary knowledge which is

practical before it can be classified as science. But such knowledge is always more or less uncertain in its results, like agriculture in its present state.

The previsions of science are deductions, as for instance, the prediction that at a given time there will occur a transit of Venus, or an eclipse of the moon. If the historic movements of humanity had become rhythmical like those of the planets, then we might predict the date of human events with certainty.

It is the systematic collection of laws which constitutes Science. The Criterion of Truth in science is, that the experiences from which its laws have been learned can be realized by every person who observes or institutes the conditions under which the phenomena occurred. The final decision in regard to what is true in science never rests upon dogmatic authority, or that of single persons. Herein it stands in broad contrast to the authority of inspiration. For in order to establish the truth of an idea received through inspiration, it is necessary to prove what its source is, and that the channel or person through whom it came was a pure one. To say nothing of the inherent difficulty of the first, the second part of the proof becomes an impossibility as the time of revelation recedes into the past. It would be sad indeed if human destiny rested upon such insecure foundations. But in science, the means of proof are

within the reach of all, and all can understand it alike. Every truth, every law, bears a fixed relation to our mental constitution, and therefore when understood it must appear nearly the same to all minds. Were this not true, there could be no science. The discoverer of a law or a science may be a bad or vicious person, but the science is no less certain and shines with no less splendor. If it could be proved that no such persons as Pythagoras and Euclid ever lived, it would still remain just as true as ever that the squares erected on the two shorter sides of a right-angled triangle are together equal to that on its longer side. Belief is not voluntary, and no person actuated by the true spirit of science could ever persecute those who differed from them, or seek by physical force to make others adopt their ideas and practices.

Nature is full of repetitions, every truth, and every object, has a multitude of relations. If we know a few things truly, we have a key to the knowledge of all things.

We say that nature is orderly and ruled by law, yet what we call disorder is still a part of nature. The law of Evolution includes all of the apparent disorder and suffering, and shows that this is part of a well-defined plan of advancement. In the early stages of evolution, the transitional periods are convulsive or painful, but in the later stages

they are full of delicate beauty and the source of refined pleasures.

The following table presents the best classification of the sciences. Beneath each of the new terms for the divisions are the most nearly corresponding words of English:

		SEFINE.
		Mind.
	SEFI.	SEFILE.
	Life.	An. Physiology.
		SEFISO.
		Botany.
SE.	<hr/>	
Science.	SENA.	SEFE.
	Motion.	Evolution.
		SENE.
		Force.
	<hr/>	
		SEPE.
	SEFO.	Geometry.
	Mathematics.	SETO.
		Number.

Man is an animal, but he so far outranks all others, and a knowledge of the mental laws is of such vast consequence to him, that Sefine is separated from Animal Physiology. The different branches of Science mutually blend with each other and some laws extend through them all.

MATTER and MOTION. We place these in an elliptical diagram, in order to illustrate as many as possible of their relations. The grouping of these ideas does not correspond to that of the mental faculties, because the arrangement of laws in the whole universe, to which these ideas apply, is not the same as in the human mind. In our diagram, above the line A B is Motion and its subdivisions, and below this line is Matter. Each of these two is divisible into or includes three general ideas. Under Matter we have Form, Space, and Number, and from Motion we have Relation, Persistence, and Polarity. These each divide into a trinity, as seen in the Word Chart, and each member of these again, gives rise to another trinity. Each idea in the upper half is complemented by one in the lower that is directly opposite, measuring through the centre C. One is the essential base of the other. Thus measuring and comparing, the following illustrations will make the subject clear. Motion must take place in and be connected with matter. Form is the base of polarity, for the latter is displayed only by figures or objects. Number is the base on which relation rests, were there but one thing in the Universe it could have no relations. If things are persistent, they must occupy space. Objects can have variation of motion because they possess those differences implied in the Trinity. Evolution develops qualities, and

the different qualities of things make evolution possible. By analyzing the properties of things we discover the order that rules them. The true synthesis of objects and elements, both in nature and art, is based on the law of the series. Duality implies such difference between two objects as makes their motions or forces correlative, that is, convertible into each other. The sex of objects is the basis from which life proceeds and is perpetuated. Objects must coexist in order to enter into the extensive combinations of chemistry. And if the members of society were not arranged in companies or groups, there could be no substitution or exchange of function as described in the fifth chapter. All measuring is based upon the comparison of units. We ascertain the completeness of anything by comparing its elements and parts with each other and with other objects. It is always necessary in computing numbers that they should be uniform in rank or kind; we cannot add yards to feet without reducing them to the same denomination. The constitution of things is the most definitely learned by mensuration, that is, the exact measuring of their forms, especially when this is carried to minuteness. Law expresses the limits of all action, as science is a systematic statement of its outlines. The methods of science reveal the degrees of nature, the beginning, middle, and end of each action and object. The phenom-

ena of nature arise from her infinitude of objects and of special forces. If quantities had no stability of relations, we could not estimate them. Any object must have thickness in order to stand well. A good support must possess breadth. And a thing or condition occupies length of time if it remains. Succession must always take place in some direction. Time is estimated by the range of revolution in cosmical bodies and in machinery. Any course of operation must take place in a field. Attraction can only occur between objects. What we give is usually a thing. The intense individuality implied in personality, involves great contraction, or in other words a strong tendency of all parts of the individual toward its centres. Taking is performed chiefly by living beings. It is through coaction that things express and maintain their existence. Generation is based upon different states of the producing objects and forces. Opposition can only arise where there is difference of condition. By communion we express and cultivate our powers or faculties, and exchange the results of their activities. Repulsion must take place in some line. Driving consists of relative movement between two points. Expansion may take place in three directions at once, but a line having three directions is a curve. The extreme of tension must always be in a right line. The reader can easily elaborate this very condensed view.

Again, if we draw a line from 2 to 5 in our diagram, then any word on the right side of this line will balance another at the same distance from the line on the left side. Thus the two elements through which we estimate or measure Space are Form and Number. We measure limits, quantities, and positions by lines, and these lines must be divided into units before we can use them. In discussing the subject of space, there is danger of confounding words with things. There is no unoccupied space in the universe. Through the apparent vacuum made by the air-pump, light flows with its accustomed swiftness and gravity acts with all of its power. Our ideas arise from impressions, and these can only be produced by actual existence. We may have false ideas, or ideas with no corresponding realities in the external world. If we say that there is no such thing in the world as a man with forty eyes and fifty legs, we must have taken the fragments of true impressions in the mind and combine them so as to form the absurd mental image which answers to our expression. We may use the word *Nothing*, but it is only a term to indicate the relative intensity of our impressions. If we look into a room and say that we see there is nothing there, we only mean that the faint impression made on our eyes by its contained air was unworthy of note for the purpose we had in looking. Our conception of a line has

breadth or thickness, but in measuring we are obliged to eliminate this element. In like manner we eliminate the breadth of a point.

To take other words for the illustration of these balances, we find that correlation implies the co-action of any two correlated forces. Through generation the perpetual balance or perpetuity of life is maintained. The stability of the universe is secured by the succession of its activities taking place according to law. The phenomena of nature take place in the course of her evolution. Science explains to us the sequence of all action, the relations of cause and effect, producer and product.

The law of the series embraces certain relations which we must here consider. Every general force in nature may be considered as a unity, yet each shows attraction and repulsion in action. This is Duality, two unlike powers or tendencies which act in concert. Every force must act upon something, and thus in every action there is a Trinity, a dual force acting and an object acted upon. Either three forces, or three objects, may form a trinity. The third member of the trinity is the central one, and each of the two side-members contributes in an equal degree to its support and action, though their contributions are unlike in kind. We may take any of the trinities in our Word Chart for illustration. The two side-members, or danus, of a trinity correspond to the

circumference of a circle ; they express its possibilities and limitations. The other member, or danee, is like the centre of a circle. We shall find that all ideas naturally subdivide into trinities or dualities. Besides these regular ideas, there are others which are indefinite or transitional. These are not given in this Word Chart. The law of harmonic numbers belongs to the very elements of thought. In the first chapter we learned from not less positive evidence of another kind that these numbers rule in the mental structure. The mental organs first divide into a trinity, Intellect, Affection, and Action. In each of these is a trinity of principal groups. In Action they are the Defensive, Ambitious, and Vigorous ; in Affection they are the Parental, Marital, and Unital. The Fraternal and Impulsive are transitional groups. The organs finally divide into dualities or pairs.

In our chart, Matter and Motion form the first series of words or ideas ; their six divisions form the second ; the subdivisions of these the third series, and so on. If we take the pivot word in any trinity and then compare any two words of the same series situated at equal distances on each side of this pivot, we shall discover that they also balance each other and support the pivot. Thus take Evolution with chemication and right line on the two sides of it. The evolution of all mineral bodies involves chemical changes, and the crystal-

line products of these changes are bounded chiefly by straight lines. Take Evolution with life and curve on each side. Life involves continual evolution, and living bodies are bounded by curved lines.

Again, if we take any one of the lines which divide the segments, as a starting-point, we shall find the words at equal distances on either side of it balancing each other, but in a less conspicuous way than those which we have been considering.

The subdivisions of a word do not include all of its meaning; they express special forms of it. As we recede from the centre of the chart, the ideas in any segment are modified more and more by those of other segments, though still retaining the leading idea of their root words of the second series.

In our chart we have only given abstract nouns. Corresponding to these are the names of things, or concrete nouns.

We may next consider the embodiment of ideas in words. It is not needful to argue the proposition that the art of Language should conform to the laws of thought, which it is designed to represent, that it should have the same methodical arrangement and structure. Language is an instrument which every person must constantly use, and it should therefore be easy to learn, and capable of expressing ideas with precision, clearness, elegance, and force. No existing languages possess

these requisites. They sprang up and took their forms among barbarous tribes or in low stages of civilization, when men hardly imagined that language should have any regular structure, or that ideas have any systematic relations with each other. As a consequence, these languages are as artificial, arbitrary, unnatural, and bungling, as anything well can be. And so difficult are they to learn, that the great masses of the people, even among the better educated, never master them so as to use them with correctness and facility. We would not for a moment accept the ideas entertained by the founders of those languages, and no more should we accept and use the excessively deformed and awkward drapery of thought which was a product of the same dark intellectual chaos.

A universal or common language for all mankind will follow as a necessity from the establishment of the Matuna, the existence of common social institutions and common modes of thought. Each vocal sound corresponds, in the form and length of its waves, and the part of the vocal organs in which it is formed, with some mental faculty, or some action of external objects. When once we know what these relations are, it is an easy task to construct a truly natural language. But to many words of the fourth and succeeding series we must assign partly arbitrary meanings, or rather make their entire elements express less than

the words themselves, or else make the words of unwieldy length. No word should contain more than three syllables and seven sounds. It is impossible with the limited element of Sound, to represent with minute accuracy all of the variations of ideas. We can show by the sounds of a word what ideas have united to modify its leading idea, but we cannot easily show the exact manner of that modification.

The Word Chart forms the basis of our new and natural language, the SYTA. We select and use eight consonant sounds, represented, as in English, by M, N, P, K, T, F, S, and R. These, except M and N, have each two forms, both of which are used. When the aspirates P, K, T, F, S, are vocalized, they become B, G, D, V, Z. The sounds of L and R are also closely related by their place of formation. We use eight vowel sounds, heard in the words, *cool, bar, bay, all, old, by, see, and true*; and represented in the Syta by W, A, E, italic A, O, Y, I, and U, thus:

<i>English.</i>	<i>Cool.</i>	<i>Bar.</i>	<i>Bay.</i>	<i>All.</i>	<i>Old.</i>	<i>By.</i>	<i>See.</i>	<i>True.</i>
<i>Syta.</i>	w	a	e	a	o	y	i	u

By using the italic *a* and giving to each letter an invariable sound, we can use the English alphabet for the Syta. The new Sytal alphabet is given on the Word Chart below the corresponding English letters. This alphabet is used for both

writing and printing, the capitals differing from the other letters only in size. In learning either English, French, Latin, Greek, or Spanish, a person must actually learn six different alphabets. The Sytal letters are written or printed in succession on a right line, like the English, and in writing, the letters of a word may be joined so as not to raise the pen from the paper while writing each word.

A consonant and a vowel are used to represent or signify each of the first eight ideas of our Word Chart, as follows :

Matter.	Motion.	Form.	Space.	Number.	Relation.	Persistence.	Polarity.
M	W	N A	P E	K a	T O	F Y	S I R U

The true relations of these sounds may be partly discovered by classifying them according to their place of formation in the mouth, thus :

<i>Front.</i>	<i>Between middle and front.</i>	<i>Middle.</i>	<i>Back.</i>
M	N W	a	K G
P B	T D	e	<i>a</i>
F V	S Z	i	
O	R L	y	
W	U		

From the law of Gesture we know that these must be related to corresponding parts of the brain, and this governs our application of these sounds to ideas, as already given. Matter, Form, Relation, and Number, are related to the front faculties of

the brain; Motion, Persistence, and Polarity, to the middle and front; and Space to the back brain.

The consonants are masculine, they give form and outline; the vowels are feminine, they give life, coloring, and fullness to words. In their frequency of occurrence, neither should be much in excess of the other. Nor should two vowels or two consonants ever be placed next to each other in the same syllable. It will be observed that our scale of vowels embraces two double ones, *u* and *y*. These are applied to Polarity and Relation, each having a doubleness of meaning. We use the vocalized consonants for the side members of the trinities of the fourth series, and their subdivisions. A syllable is part of a word uttered by a single impulse of the voice, as *sy* in the word *Syta*, and may consist of one, two, or three sounds.

Each sound always preserves the general meaning attached to it in the first and second series. In forming Sytal words of the succeeding series, we combine the vowels and consonants so as to indicate as nearly as possible the meaning of each word. Thus *Law* is the persistence of relations, and would therefore be represented by the word *Sy*. Succession is the persistent motion of numbers, and hence would be appropriately represented by *So*. It is through Language that we express the Laws and the Constitution of all things, and there-

fore *Syta* is the appropriate term for Language. In forming words we may use either a vowel or its corresponding consonant, to indicate the required meaning. The Sytal words are placed against or under the corresponding English words in the Chart. The eighty words there given are all monosyllables. The abstract nouns of the succeeding series are of two and three syllables. Words of two syllables have a slight accent or stress on the first one, and those of three syllables have it on the second. All abstract words in section 1 of the Chart, commence with F or V; all in section 2 with S or Z, and so of the other sections. The alphabetical arrangement of words in the Syta is therefore that which illustrates their relations of meaning.

Words may be properly divided according to their offices in the structure of sentences into three principal classes, Nouns, Verbs, and Modifiers.

The Nouns are names of things, as *man, house, time, idea*. They correspond to Forms or Matter, since every object is a fixed collection of forces. From the nouns are derived the subclass of Pronouns; these are used instead of the nouns to avoid their unpleasant repetition. They are *I, you, he or she, it, who, and that*: or in the Syta, *mi, mu, my, me, ma, and mo*. The pronouns are varied so as to indicate the person speaking, the person spoken to, and the person spoken of, as the words

I, you, and he. We do not distinguish sex in the pronouns, and hence the English words *he* and *she* are both represented by the Sytal word *my*. When necessary to indicate the sex of nouns it is done by adding the syllable *Li* for the masculine, and *Le* for the feminine. Nouns and Pronouns are made to indicate plurality by adding *T* to them, this sound standing for number. Thus the word *Ka*, space, becomes *Kat*, spaces. The pronoun in any case must correspond in number with the noun for which it stands. The nouns may be divided into three general classes, Abstract, Concrete, and Proper. The Abstract nouns are names of actions, attributes, and qualities. The Concrete nouns are names of objects in general. And the Proper nouns are names of individual objects and persons. Proper nouns commence with a capital letter, that is, one larger than those of the rest of the word.

The Verbs express action or motion, as the words *walk, live, eat, think*. As motion proceeds from matter, so the verbs are formed from the nouns. In the Syta we convert any abstract noun, like those given in the chart, into a verb by adding *N* to it, this letter indicating motion. Thus the noun *Vy*, comparison, is changed into the verb *Vyn*, compare, *Ro*, attraction, becomes *Ron*, attract. The verbs are varied to indicate the time of the motion which they express. There are

three general divisions of time, Past, Present, and Future. The first form of the verb in N expresses present time. For past time we substitute S for N, because the past has become fixed, and S properly indicates its persistence. For the future time, F takes the place of N, because the future is to be evolved, and F is the consonant element of Fe or evolution. Thus *Mi zun*, *I support*, becomes *Mi zus*, *I Supported*, and *Mi zuf*, *I will support*.

The Modifiers are used to modify or vary the meaning of nouns and verbs, to express what is not directly indicated in the nouns and verbs themselves. If we say *a good man*, we mean that the man possesses the quality of goodness. This coaction of goodness with the other elements of his character would be fitly expressed by taking the Sytal word for goodness and adding the letter L to it. So all the modifiers are formed by adding L to the nouns or the pronouns. Thus from the noun *Si*, persistence, we get the modifier *Sil*, persistent, or persistently. From the pronoun *Mi*, we form the modifier *mil*, in English *my* or *mine*. The plurals, *mit*, *mut*, *myt*, *mat*, *mat*, and *mot*, form modifiers by adding *yl*. An entire phrase may be used as a modifier. Thus in the sentence, *He went by me*, the phrase *by me* modifies the verb *went*. The modifiers also modify each other, as *very* good, *less* good, *more* truly. As the modifiers are formed

from the nouns, they might be grouped as the nouns of the Chart are.

In the Syta we recognize the classes at once by the terminal letter. All nouns end in vowels; all verbs in N, S, or F; all modifiers in L; all plurals in T; the masculine in Li, and the feminine in Le. Contrast this simplicity with the confusion of the English, which has nearly two hundred different terminations for the verbs, thirty-four terminations for sex, twenty-five for number and hundreds of irregularly compared modifiers; and each of all these must be learned separately. Or with the French language with its twenty-three hundred endings for the verb.

A Sentence is a collection of words which makes an assertion, as, *Men write books*. A sentence must contain two, and may have three principal parts. These are called the Subject, Predicate, and Object. The Subject is a noun, which is the actor; the Predicate is the verb, which asserts; and the Object is the noun upon which the action terminates. In the above sentence, *men* is the subject, *write* the predicate, and *books* the object. The subject is always placed before, and the object after the predicate. Each of the principal parts may have modifiers. Thus in the sentence, *Three wise men once wrote four books*, the word *men* is modified by *three* and *wise*, *wrote* by *once*, and *books* by *four*. The modifiers are placed nearest to the word which

they affect; they usually precede the nouns, and follow the verbs.

In Syta each personal or proper name is formed of three syllables only, the first representing the intellectual, the second the social, and the third the actional character of the person or place to whom it is applied. A person's name then always indicates the general character, and no names which do not do this are true ones. We form these names as occasion demands, the Syta admitting of several hundred thousand.

The above sketch presents the entire grammar of the Sytal language. It can be mastered in a few hours, instead of requiring months or years of laborious study, like other languages. And the systematic structure of its words renders its vocabulary of correspondingly easy acquirement.

The first requisite in the good use of language is clearness of statement, and this always results from clearness of thought. Beauty and elegance of diction must arise from these qualities in our conceptions. Of course an accurate and full knowledge of the meaning of words must underlie all excellences of style.

We now turn again to the analysis of mental activities. The actions of nature are full of measured repetitions. To these as a whole we give the name of Time. The organ of Attention may be called intellectual consciousness, as the general

consciousness is given by the two brain centres and the Nadanee. Consciousness involves several steps of nerve action. An impression is made on a nerve of feeling and sent along this to the nadanee, and thence to the Latu and Artu, and from these outward upon the fibres of the organs of Feeling and Attention, and then we say that we are conscious of the impression, we know that it has been made. Outwardly from Attention the organs of Memory, Time, and System, relate us to time as it recedes into the remote past.

In the growth and nutrition of the brain, as each old nerve-cell is replaced by a new one, the impressions which were upon the old are transferred to the new, so that the mind is able to retain its images. But there is a little force expended in making the transfer, consequently it is never complete, and the mental impressions gradually lose their distinctness and intensity. Probably some of the impressions upon Memory and other organs are super-imposed upon others. In those brains which act methodically, the impressions from similar objects are made upon adjacent cells, and the excitement of any one would awaken those most like it. From this arises the great power of association in memory. The power of this faculty, like that of any bodily or mental organ, can be vastly increased by proper culture, by regular yet not exhausting exercise.

Everywhere around us we see the perpetual transfer of forces. That which at one moment appears as a cause, may at the next moment appear as an effect, and thus Cause and Effect stand to each other in the relation of transferred or converted forces. Light may be the effect of chemical forces in combustion, and in turn it is the cause of an impression on the nerve of vision. In any limited series of actions or events we may speak of the first cause and the last effect. But if we take an infinite series, the whole universe, there can be no first cause; nor can we form any conception of one.

The organs of Integrity and Serenity sum up in their functions those of the back brain. The first is the great balancing organ of the back head, and is directly above the spinal cord, the axis of bodily motion. It acts with Control, and the two respond to Reason in the Intellect. The organs of the Will are necessary to execute the intellectual conceptions and intentions, and so they respond in action. Prevision makes us quick to see what is best to do, and Decision, the upper part of Persistence, makes us prompt in its performance. Planning unites many ideas in one plan, while Control and Integrity unite the various physical powers to carry the plan into practice. If we take a central upright zone from Feeling to Unity, we shall find that any organ at a given distance directly back

of this must mathematically balance some organ at the same distance in front of this minor axis. They respond through fibres running directly from one to the other, as well as through the Centres. Some of these organs are Truth and Serenity, Mirth and Play, Discovery and Vigilance, Comparison and Equality, Memory and Equality, Time and Sleep, Language and Gain, Attention and Liberty. Through all literature we shall find abundant illustrations showing how naturally these faculties are associated in our ideas of human actions. The two balancing organs generally act from impulses given by the organ between them on the zone. This receives the ultimate result of their actions. The Intellect and Will must not act for themselves alone, but for Affection as their centre. Every social organ must use an intellectual and a back head organ as its instruments. Affection without intellect is blind. We feel the attraction of Friendship, and by means of the Intellect we trace the attraction to its source in another person. Without this means we might never know the nature of its source. The growth of governments or social institutions has been a conscious one, the result of desires guided by intentions. The amount and kind of knowledge possessed by any people will infallibly show itself in their social condition and institutions. Otherwise men would have spontaneously assumed the true

form of society at first. They would have been like the lower animals, whose knowledge does not increase through successive generations. While human institutions have been constantly formed and modified by knowledge, it is very clear that until science reached some degree of maturity, until, at least, it could explain the nature of man, the true social organism could not exist, either in conception or practice. It was as perfectly natural that social science should be discovered and applied in the maturity of Humanity as it is for bees to unite and make honey. To leave social evolution and government to regulate themselves, as some teachers have taught, would be as absurd as to let eating regulate itself and hence make no exertion to procure or masticate food.

No organ ever acts alone. It excites first its immediate neighbors; then its polarities of the second degree, if it have any; then its balancing organs; and lastly its respondents in the third and first degrees. Thus when Fraternity is in action it first excites Reform, Friendship, Mirth, Imitation, and Example, its neighbors; then Kindness of the second degree; next its balancing organ, Energy, and lastly, Defence, its polarity of the first degree. These organs co-operate with Fraternity in the order named.

All of our affections centre in Unity. This organ, guided by the superficial action of Reason,

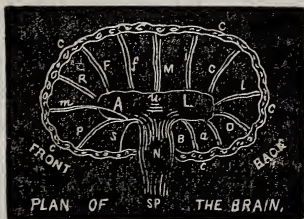
has led men to regard that infinite life and order displayed in every part of the universe as a personal being. Unity blends all of our attractions, it makes us feel that their source is a unit, and yet that it responds to every one of our faculties. We know that a human being could address all of these in a unitary way, and so Reason hastily concluded that the Deific life is a person. But the more mature action of Reason teaches us that the Universe may be a unit, and yet its varied forces and parts may possess no such general arrangements as are essential to our ideas of personality. We must consider that Reason and Unity act by entirely different methods. Reason analyzes, it discovers variety and diversity no less than unity in the world. It perceives that we can form no conception of a person who is without outlines or limits, and therefore infinite. That any infinite person must include all other persons, and thus man would be a part of Deity. The organs of Inspiration and Unity, in contrast to Reason, perceive only the oneness and perpetual accord of natural forces. It would be entirely natural therefore if we take the nerve force and idea of Reason and transfer and convert them into those of the organ of Unity, that the impression should at once change its aspect, it would no longer appear to proceed from many objects but from one. It is therefore entirely right to feel that the life of the

Universe is as truly unitary as that of man, but it is entirely futile and wrong to attempt to form an intellectual conception of an infinite personal being. There may be as many grades of being above as there are below man. Among the highest of these there may be some who are as conscious of what is transpiring in the universe as we are of the vital actions of our bodies.

The organ of Humanity leads us to regard the human Race as a unit, to love it and to labor for its happiness as though it were a single great being. All human beings, whether they were descended from a single pair, or from many sources, possess the same number and kind of powers, both mental and physical. As a consequence they possess the same great rights and are adapted to the same forms of social life.

Our relations with beings on other globes can be harmonized only through the perfect social life of humanity, and the harmonic culture of the earth, which that life includes.

A good idea of how the organs are related in action may be gained from a single illustration, that of picking up a pencil. We look at the pencil and the visual



impression made in the eye passes to the *Latu L*, and thence through the ucentre *u* to the *Artu A*, and thence to *Attention*, *Form*, and *Size*, at *m* and *P*; these make us conscious of the pencil's existence and locality. They then send a current of nerve force back to their centre, *A*, from which it is transferred to *Reason, R*. This organ decides upon picking up the pencil, and sends a current which passes to the *Artu*, thence to the *Latu*, and from this to *Integrity, I*, *Control C*, and other organs of the *Vigorous* group which control the muscles of the arm. These organs now send a current through the *Latu* and *Nadanee N*, to the muscles of the hand and arm, causing them to contract and relax. The extent and direction of their motions are determined by currents sent at the same time through the *Artu* and *Nadanee* from *Form*, *Size*, *Color*, *Order*, and *Feeling*. According to recent experiments this circuit of perception, reason, and volition may be traversed by the nerve current in the one-tenth of a second. We see from this explanation what complex operations the apparently simple mental actions of life involve. Yet through the safenal laws, the marvelous mechanics of the brain, they may be readily understood.

Some persons are able to carry on several unlike trains of thought, even as many as four, at the same instant. In these cases one train is led

by one set of organs, and the others by their respondent organs.

When a person is in the act of writing, the organ of memory requires the direct aid of at least twelve other organs. But in the Matuna the Recorder may record the social transactions without the direct physical aid of any other officer. He acts with their approval and direction, but uses his other organs to assist his Memory.

All of the rules for proceeding in a social meeting or luro will be readily inferred from these illustrations of mental unity. For the same faculties and functions that make the personal character harmonious by their rule, should also predominate and lead in society as a whole. The Reasoner sustains the same relations and pays the same respect to the Colorist, that the organ of Reason does to that of Color in any one person. And so of the other officers. The officers and members of a society act upon any question, or in any labor, in the same general way that the faculties of a single person would. We have seen this in the general definition of their functions in the first chapter. In discussing a question each member or officer considers it chiefly from the stand-point given by the organ which he represents. It does not at all follow that his views should be biased by partial knowledge or partisan feeling.

When we are dreaming, the mental currents and

pictures float about and blend in a disorderly and fragmentary manner, because Attention, the focalizing organ, is almost entirely inactive during sleep. The grotesque images and absurd combinations in which dreams abound, are a result of this blending. However, we often receive clear impressions during sleep, as we are then especially passive.

We are drawn onward and upward by two great forces. The first centres in Attention, and the second in Unity. According to the simple law for the composition of forces, their united action must take place in a line which is a diagonal one between them. It passes through the Amity group, the organs of Fraternity and Reform. Therefore these organs are the direct leaders in the line of human progress; and hence in every reform men have come to recognize more clearly the common brotherhood and interest of mankind. This line of progress is for ever fixed by the structure of the brain, and when men realize this, they must see that all opposition of human interests, all selfish and isolated action, must of necessity be degrading and destructive of human happiness. They will see that progress is natural for man, and they will no longer meet every new truth with either coldness or bitter persecution.

The major part of the attractive organs and signs in the lower animals point downward to-

ward the earth, their chief attractions are earthy. But in man, these point up and onward toward his fellow beings and the external universe. He alone of all animals is released from direct bondage to the earth, and united with his fellow beings in filling an exalted and immortal destiny. In his Race Youth, Prevision, and Inspiration led him on by brilliant, yet ill-defined pictures of future social happiness. Now, by the clear, definite, and ever increasing light of science, we may more than fill all of those magnificent promises. For the mental laws unfolded in this work enlarge many times the scope of our expectations, they demonstrate and define a multitude of possible harmonies whose very existence was unsuspected. In their secure light we may mould all external conditions so that they will promote our highest evolution, make human life an eternal symphony of noble pleasures, and earth itself a scene of enduring beauty.

N O T E S.

THE plan of the *Safena* was definitely written out in January, 1862, and the work itself was written four years afterward. The plan at first embraced three parts, devoted to the laws of the Mineral, the Organic, and the Mental world. But this would have made either too large a volume for general circulation, or the subjects would have been too condensed in statement for any practical value. Hence I decided upon having the subject embodied in seven volumes, forming the Matunal series on Science, and devoted to Number, Form, Force, Evolution, Plant life, Animal life, and Mentality. The *Safena* is the seventh volume, and has been written first. The matter of the other volumes contains little that is original with myself, though it has not been published in the same form that I would give. The discoveries set forth in this volume have been presented to a part of the public in many popular lectures delivered by the author during every year from 1859 to 1870. Among the original parts of the *Safena*, and these constitute about six-seventh of the whole, not a single statement has been made which was not the result of, or confirmed by, patient, rigid, and long continued examination. The plan of the Matuna, with the appropriate diagrams, was elaborated in 1861.

From the time of Pythagoras down, the philosophers

have asserted that Man is a Microcosm, yet no one before myself had shown that the same general laws rule both the human mind and the external universe.

Eminent statesmen and legal writers have long since taken the ground upon which I base the Matuna. Thus Thomas Paine says that "all political rights are natural rights." Sir William Blackstone says that "all true laws of society are laws of nature; that all political laws must derive their validity either mediately or immediately from nature." The *New York Tribune*, a paper of wide political influence, says that "society is composed of individuals, and must derive its properties from those of its component units." Assuredly, then, it is the business of statesmen, it is *our* business, to study the laws of man's nature and embody them in the constitution of society. But they have done nothing of the kind. It now devolves upon them to accept and apply the plan of the Matuna, or make a truer analysis of the mental powers than I have given, and then apply that analysis, or else to confess themselves entirely incompetent to the task of government which they have undertaken. They must not blame me for doing that which they have so long justified in unused precepts.

The details of Brain structure are explained in Solly *On the Brain*, Carpenter's *Human Physiology*, and J. W. Draper's *Physiology*; but from neither of these will the reader gain so clear an idea as from the *Safena*. The Tree of Life, or Law of Tree Forms, was discovered by myself, and the reader can consult any or all works on Anatomy for the illustrative facts. Other proofs of the law of Location than those here given, may be found in J. R. Buchanan's *Journal of Man*, for 1848, '49, and '50; in his *System of Anthropology*; in J. W. Redfield's *Outlines of Physiognomy*, and in Wells' *Physiognomy*.

The law of Form requires no further proof, the demon-

strations are of such a nature that every sane mind must accept them. Before the time of Kepler, astronomers supposed that the planetary orbits were circles, and before my discovery of this law the followers of Gall made a like mistake in supposing the brain constructed on the plan of a circle. But even with that supposition, they did not attempt to explain mental action through its form. Some great men had conjectured that mathematics might interpret mental action. Thus Sir Isaac Newton, after speaking of the law of gravitation, expressed his belief that some time we might derive the rest of the phenomena of nature, even to the mental, by the same kind of reasoning from mechanical laws. This result is accomplished in the *Safena*.

The law of Evolution is examined at length in Herbert Spencer's *Essay on Progress*, and his *First Principles of Philosophy*; in J. D. Dana's *Manual of Geology*; J. W. Draper's *Intellectual Development of Europe*, and Charles Fourier's *Social Destiny of Man*. Fourier must ever be regarded as the grand pioneer in Social Science. He was the first, I believe, to distinctly perceive and teach that all true laws of social structure and action are included in the nature of man, and that here we must search for them. But his partial analysis of that nature was very greatly defective, even when measured by his own standard. His social system was of course defective to the same extent. He carried his analysis of the faculties (or Passions, as he called them) only to twelve, which would form only one-half of his first scale of characters. He thought that the entire scale would extend to four hundred and five. From this defect alone, his social system could not be carried into practice. In this, as in many other parts of his system, he supplied the place of demonstrations by bold conjectures. Believing that mental science was all mathe-

mathematical, he left the whole realm of mental geometry unexplored and unentered.

Upon the forces, the reader may consult *The Correlation and Conservation of Force*, edited by E. L. Youmans. The positive evidences of mental Impressibility are treated at length in Buchanan's *Anthropology*, and in Denton's *Soul of Things*.

The analysis of Basic Ideas, the Word Chart, and the Plan of a Universal Language, are given as an indication of what may be done in this direction, rather than as an exhaustive and perfect view of the subject.

While I have shown the truths that are contained in a greater number of past doctrines and forms of expression than any one else has, I hope that I have displayed no blind and fettered reverence for ancient and now worthless opinions. My lack of reverence has never been the result of a lack of careful examination.

The word "SAFENA" is accented on the second syllable, the A is sounded as in *state* and the E as in *meet*. The word *Mate*, in the second chapter, is pronounced in two syllables, the *e* sounding as in *grey*.

ARTHUR MERTON.

PHILADELPHIA, March, 1871.

INDEX.

	PAGE		PAGE
Abstract law.....	147	Duality.....	10, 97, 100
Action.....	11, 175	Eating, social.....	92
Affection.....	11	Education.....	103
Analysis of curves.....	47	Election.....	84
Angles of face.....	9	Ellipse.....	40
Appetite.....	14, 92	Evolution.....	58, 59
Archetype, Social.....	17	Exalter.....	20
Architecture.....	54	Exchange of function.....	93, 94
Art and Science.....	52	Faculties defined.....	13
Artu (corpus striatum).....	10, 27	Feeling.....	14
Artuna.....	18	Fidelity.....	14
Attraction.....	11, 85	Flavors.....	128
Attender.....	19	Food relations.....	92
Attention.....	13	Forces.....	107
Balance, mental.....	171	Forms, laws of.....	13, 33
Balancer.....	20	Former.....	18
Baseness.....	15	Fraternity.....	13
Basic Ideas.....	153	Fraternor.....	19
Beauty and Truth.....	52	Freedom defined.....	72
Blending of spheres.....	116	Function and structure.....	23
Brain described.....	27	Gain.....	14
Caressing.....	118	Gesture.....	118
Cell formation.....	25	Groups.....	12, 17
Centres.....	9, 10, 18, 27	Harmonies.....	8, 92, 110, 128
Chiefs.....	20	Humanity.....	13, 115
Childhood.....	60, 102	Humanist.....	19
Classes.....	11	Home unitary.....	55
Color.....	13, 110	Ideas, basic.....	153
Construction and Destruction..	135	Impulsion.....	11
Contrasts.....	87	Impressions.....	112, 118
Costume.....	53, 111	Individuality.....	136
Criterion of Truth.....	150	Integrity.....	14
Culture, integral.....	103	Labor, harmonic.....	104
Cusiner.....	20	Language, Universal.....	161
Degrees.....	86	Lauder.....	20
Defender.....	20	Latu (Thalamus).....	27
Defence.....	14	Latuna.....	18
Destruction.....	14	Law defined.....	146
Destroyer.....	20	Laws, seven.....	7
Devotion.....	14	Leaders.....	12, 18, 142
Devoter.....	20, 100	Light, mental.....	108, 109

	PAGE		PAGE
Life defined	23, 148	Progress, line of.....	173
Location, law of.....	28	Proportion of the Form.....	50
Logic.....	148	Ranks	143
Love	14, 99	Reason.....	13, 146
Man and Woman.....	98	Reasoner.....	19
Marital love.....	99	Right and Wrong.....	141
Mathematics.....	33	Science.....	152
Matter and Force.....	105	Senses.....	128
Maturity	61	Sexes contrasted.....	98
Matuna	17	Signs of Character.....	30, 33, 34
Matunal officers.....	18	Social unity.....	136
Meetings, matunal.....	111, 137	Social destiny.....	6
Memory	176	Society.....	17
Mental science.....	5, 106	Table of organs.....	15
Names	169	Table of Ideas.....	153
Nervation, law of.....	109	Telegraph, mental.....	115
Nerve force	108	Temple, matunal.....	54
Odors	128	Tree of Life.....	25, 26
Old Age.....	61	Unitary home.....	55
Orders.....	21, 22	Units of Structure.....	25, 72
Parents and Children..	101, 102, 103	Unity, law of.....	133
Parentor.....	20	Universe, life of.....	173
Penalty.....	147	Wants.....	74, 75, 76
Pieter.....	20	Waves of nerve force.....	123
Poetry.....	127	Wealth, private and public.....	79
Polarity, law of.....	85	Youth.....	60

