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THIS gentleman has a very marked organization. His head is large, and though he is at present stocky, solid, and weighs nearly one hundred and eighty pounds, we remember him as a slim, dark-complexioned young man, weighing perhaps one hundred and thirty-five, with a head richly covered with black hair and disproportionately large for the size and weight of his body. Then the mental and motive temperaments predominated. Since that time the vital system has acquired much more

influence and power in the constitution, and he is now able to manufacture as much vitality as the large and active brain requires. He has an organization remarkable for its elasticity, executive efficiency, and abundant nutritive power. He inherits largely from the mother's side of the family, has a long body, and every function that belongs to constitutional vigor is well provided for.

His mind works first on the intuitive principle. He gets a subject flashed, as it were, instantaneously upon his mind, with such vividness as to impress him with its truth and lead him to a decision, and he rarely has occasion to change such intuitive impressions. He has the ability to enter upon the logical investigation of a subject, and though he is prepossessed in favor of a given hypothesis, he will work it out as he would a mathematical problem and accept results of investigation; but being very intuitive, he rarely has occasion to modify his first impression, except to intensify its force. He has all the conditions of an excellent memory; first, the phrenological developments which indicate ability to retain impressions; and secondly, that nutritive vigor of constitution which keeps the brain amply fed. This latter is a point not to be overlooked. Hundreds of persons are organized mentally for a good memory who, by the want of ample nutritive power, are unable to feed and sustain the brain and keep its apprehension vigorous.

Dr. Allen has strong reasoning powers, but his Comparison originally was much stronger. As an element of reflection, he has of late years developed his Causality, which formerly worked through Comparison, but now he is able to use Causality in abstract thinking without any special relation to collateral topics. He can reason, *per se*, and is able to do what few men suc-

ceed in doing, viz., he can reason soundly and fairly on both sides of a disputed question. Hence, he can see his opponent's argument and give him full credit for its force, on the same principle that a pound weight in one scale may be said to give full credit to a half-pound weight in the other scale and makes no pretensions to superiority, except in the sum of eight ounces. While he is a man of strong convictions and definite ideas, it is easy and natural for him to give ample credit and respect to the other side of the question.

He is ingenious, has mechanical judgment, and might have become a good architect and engineer. He is cautious, anxious about consequences, and, at the same time, he manifests a vigorous courage that enables him to push his own cause onward against opposition. If he had been placed in an educational field, or if he had studied law and been obliged to cultivate public speaking, he would have made an able public teacher; but being more devoted to quiet investigation and to writing, his power for oratory and for swaying a present audience has not been so much called out.

His Firmness is uncommonly strong. People give him credit for tenacity, and like it much in him when he happens to be cooperating with them, but they think it very inconvenient, and are apt to magnify its power, when it is exerted in antagonism to their cherished notions. He has strong Conscientiousness; believes in the truth; seeks to follow it without fear or favor. He is ambitious to be approved; suffers if he be disgraced or his motives or conduct disapproved. He is a good friend, warm in his affections, strong in his regard for woman, and especially well calculated to win the confidence and cooperation of children. He has so much of his moth-

er's nature that his social disposition qualifies him to be popular in families.

He is systematic in his plans; clear and earnest in his statements; economical in his administration of affairs; vigorous, but not noisy or specially demonstrative in his energy, and is more qualified to move quietly but persistently in an intellectual and moral channel than to enter the arena as a noisy champion of a fiercely-contested case. The head and face, as exemplified in the likeness, evince strongly, though less, indeed, than in the real presence, sound common-sense, integrity of thinking, patience in the line of laudable effort, integrity of purpose, ingenuity, prudence, ambition to be approved, and that consistency and steady strength of the social nature which wins and holds friends, and renders a man popular where he is well-known.

As the first editor of the *AMERICAN PHRENOLOGICAL JOURNAL*, his head, face, and well-preserved constitution, combined with the breadth and importance of his researches, do no discredit to the *JOURNAL* or to the cause which it was established to sustain.

NATHAN ALLEN was born in Princeton, Mass., April 25, 1813. He was brought up on a farm and accustomed to hard work from early life. In a public address made some years since before the Agricultural Society of Princeton, the following reference was made to his birth-place: "Here I wish to make my public acknowledgment to that overruling Providence which ordered my birth and early training in this place, distinguished no less for intelligence and morality than for health and devotion to agricultural pursuits. The greatest gift that any human being can receive in this world is that of a sound constitution, which can come alone from parents perfectly healthy in body and mind. The next greatest blessing is that this constitution be

early strengthened and developed in accordance with natural laws, while at the same time the mental habits and moral character receive proper training and the right direction. To these blessings I confess the strongest possible obligations; first to the Creator, second to parents, and third to the healthy education and moral influences of this quiet rural town."

His academic education was finished in 1836 at Amherst College, where many who have become distinguished as clergymen, lawyers, and statesmen were enrolled among his classmates. Young Allen was very anxious to obtain a college education, and his father did not possess ready means to meet his wishes; but Mr. James Smith, a gentleman of wealth, then residing in Massachusetts, and now living in Philadelphia, observed the youth, and being impressed by certain promising traits of character in him, offered to assist toward the end of his ambition. This offer was gladly accepted; and now Mr. Smith, at the age of 90 years, congratulates himself on the good accomplished. In 1838 young Allen went to Philadelphia to pursue a course of medical study, and three years later received the degree of M.D. The thesis written for the Commencement which closed his attendance at the medical school was entitled "The Connection of Mental Philosophy with Medicine," and was published in the third volume of the *AMERICAN PHRENOLOGICAL JOURNAL*. This essay attracted at the time much attention, and is significant of the direction its author's mind had thus early taken in a line of investigation for which he has become distinguished. While a medical student Dr. Allen edited the first three volumes of this *JOURNAL*, being associated with the early and trying days of its establishment.

In 1841 he settled in Lowell, Mass., and commenced the practice of medicine, and soon afterward entered upon a course of researches relating to the laws of population, physical culture and degeneracy, public health, hereditary influences in the improvement of stock, longevity in its connection with life insurance, causes and treatment of insanity, etc. The results of his

investigations have found their way to the public in many essays and treatises, among which his pamphlets on "The Opium Trade between India and China," "Medical Problems of the Day," "Intermarriage of Relations," and his "Report to the Massachusetts Legislature on Lunacy," are specially deserving of mention. The pamphlets or papers he has published number over twenty distinct essays, and would make two large octavo volumes.

Through these publications Dr. Allen opened a field of practical thought and discussion quite new to the majority of thinking and scientific men. Besides his numerous publications, he has scattered a great deal of useful teaching on health, hygiene, physical education, in addresses and lectures. His position on the Massachusetts State Board of Charities for fifteen years, and his appointment as Examining Surgeon for Pensions for the same time, have enabled him to exercise a marked public influence. For twenty years he has been a trustee of Amherst College, and chiefly instrumental in introducing the methods of physical culture for which Amherst College has taken special rank among American educational establishments. The plan which has been adopted by this institution is worthy of being imitated by all who are related influentially to the work of education and public hygiene.

When Dr. Allen first announced his conviction that the native stock of New England was decreasing rather than increasing, as compared with the rate of increase of the foreign population, he was a good deal ridiculed; but he has so fortified and justified his views by statistics and sound reasoning that economists have generally come to the conclusion that he is right, and that New England is gradually ceasing to be the country of "a peculiar people," and in a fair way to be overrun by another race. The birth-rate of the foreign element Dr. Allen estimates to be more than twice that of the American; indeed, he states that the birth-rate of N. E. has long been gradually declining, and approaching nearer and nearer to the death-rate. Among the causes of this decline of the birth-rate he

enumerates "love of money and adventure; fondness for mental rather than physical labor; too high a standard of living, based upon artificial wants; dislike of hard work; the standard of civilization upon a wrong basis; a change in physical organizations, dependent upon the foregoing conditions, the nervous system being developed at the expense of other parts of the body." These points will apply with almost equal force to our higher social communities outside of New England, and it is well that attention has been awakened in many of the States to these interests. Dr. Allen is among the first to maintain that the laws of propagation or population are based chiefly upon the science of physiology, and that a great predominance of the nervous system becomes unproductive. When, therefore, a race or people become generally possessed of such an organization, the legitimate tendency is to run out in offspring, and as a race or people become extinct. This doctrine is comparatively new, and, if true, is one of vast importance.

In 1872 Dr. Allen visited Europe. To the International Congress which met in London that year to consider the matter of reforms in prisons and other correctional institutions, he was a delegate. His reputation had long preceded his visit and provided a cordial welcome from eminent men of his own profession, and secured many desirable opportunities to study the sanitary methods and institutions of England. Last autumn, Dr. Allen, in passing through New York, called into our office incidentally, while the Phrenological Institute was in session, and, in response to invitation, delivered an impromptu address before the students, of which the following is an abstract:

"I have come before you entirely unexpectedly, a good deal wearied with a long journey and much running about in the city; but upon urgent invitation, I concluded to make a few remarks. When I was in college, about forty years ago, Spurzheim delivered a course of lectures on Phrenology in Boston. He came to establish the science in this country, but, as you know, died only a short time after his arrival. The subject was a new one in this country, and attracted considerable attention. It came up for discus-

sion in our college debates, and I was much interested. After leaving college I taught school awhile, then came to New York with the intention of studying medicine, and here the Fowlers were established in Phrenology; and having a little leisure, I did some writing for them; but not being satisfied with the opportunities for medical instruction then afforded in New York, I went to Philadelphia, intending to go through a course of medical lectures there, which I did. The Messrs. Fowler had also opened an office there in the meantime; and while I was attending medical lectures, the gentleman who was engaged to edit the AMERICAN PHRENOLOGICAL JOURNAL, after getting out the first number, gave it up; and in their disappointment Messrs. Fowler urged me to take the editorship; but as I was only a medical student, unknown to the public, I did not feel capable of discharging the duties properly, and shrank from it. They, however, urged the matter and I undertook it. By referring to the first three volumes of the JOURNAL you will not find my name disclosed till the end of the last volume, when I left it.

"After finishing my medical studies I went to Lowell, Mass., and settled, entering on practice there, but I have not forgotten Phrenology, though my attention has been taken up with professional duties. Perhaps I might say that at that time I was very sanguine of the progress the science would make. I was somewhat over-zealous, thinking it would do a great work and that it would be adopted speedily. I was fully satisfied as to the truth of the doctrine and its principles, and that they must therefore be permanent, and in time exert an influence on education, on the state of society, and on Christianity somewhat; but this influence seems to have been rather slow in its progress, although perhaps really making great advances. It is especially making advances among the reformatory class of people, the more thinking people, but not advancing quite as fast as I expected when a medical student, being, of course, a zealous student and thinking the profession would at once adopt Phrenology. In that I was disappointed, but still find it has made great progress.

"George Combe visited Philadelphia in 1838, and while expressing much interest in the success of the JOURNAL, did not look with much favor upon the practical application of the science in the examination of heads, and instruction in the development of character. The Combes were great men, and their writings will last as long as people have minds to read. Andrew Combe was indebted to Phrenology for much that is found in his works, and this he acknowledges. Charles Caldwell, one of the greatest writers on Physiology in this country, was an early writer on Phrenology and for the PHRENOLOGICAL JOURNAL. I had several interviews with him.

"When in London and Edinburgh some years ago, I took time to make inquiry as to the state of Phrenology there, and found that some eminent writers were coming over to the doctrines of Phrenology, but rather slowly. They are quite willing there to acknowledge the brain to be the organ of the mind, and that different parts of the brain perform different functions; but when we reduce it to particular organs for particular faculties, some objections are made. I think they will gradually come to accept the whole doctrine as well as the general principles.

"If you take men who have worked in the phrenological field for many years, they will acknowledge that they are more indebted to Phrenology than to almost anything else; that they would not exchange their knowledge of it for anything else. I do not wish to be egotistical in referring to myself, but it is to Phrenology that I owe many of the ideas and thoughts that I have been advancing in articles for magazines, etc. Phrenology teaches that the great thing to be desired and gained is to have a well-balanced mind; to have the best development of brain, and each of the faculties well set over against the others. On looking back I find that it is to that general idea I am indebted for a correct understanding of physiological laws. All parts of the body, all the temperaments, all the physical conditions, should be harmoniously blended or developed. I have carried out this thought in writing on the laws of pop-

ulation and statistics which relate to health, longevity, etc.

"Sanitary matters, hygiene, etc., are attracting more and more attention, and people are inquiring about these things. I have given considerable attention to the subject of developing the body and physical training in our institutions of learning and elsewhere. Physical culture is as important as mental culture, and is necessary in order to have health and ability to do strong mental labor, and it manifests its good results when made a regular exercise as much as the study of text-books.

"I was asked what right had we to make

it compulsory on students to develop the body. We have as much right to make that a matter of compulsion which gives strength of body, and thereby clearness of mind, as we have to require students to perform mental labor; and there should be as much inducement toward physical culture as for mental; and when that is the case, students will be likely to take as much pleasure in discharging their duties in that respect as in learning their lessons from the text-books. We must look after the body and obey the health laws that are established by the Almighty if we would be vigorous and strong in both mind and body."

FALLING THROUGH SPACE--A QUESTION OF CONSCIOUSNESS.

SEVERAL years ago a builder named Morris fell a distance of about one hundred and twenty feet through the spire of the First Baptist church at Belvidere, Ill. Of course, he was instantly killed. At the time there was some discussion in regard to his mental sensations during the fall; some persons arguing that he was conscious while falling, others that the upward rush of air caused insensibility by depriving him of power to breathe. The facts of a somewhat similar case, which I am about to notice, seem to indicate that the power of thought over the body in such an emergency is greater than we realize.

The first question which arises is in regard to the power of the will to produce unconsciousness. We shall see further on that unconsciousness appears to be the immediate effect which the mind or thought produces at the beginning of a long fall. It is possible that the action of the mind may decide the question of consciousness, but probably not unless the mind perceive a chance of escape from the danger. It is not demonstrable that there is a voluntary giving up of consciousness.

The important consideration is that the mind seems to require that outside circumstances be partly under its control in order that it may exist as we know it. One of the conditions is that it shall have at least partial power over the body, and that in pro-

portion as it has such power, it is in its normal condition. Some philosophers have defined the mind as a constant action, or an endless condition of *becoming*, and Plato would perhaps define it as a flowing point in accordance with his definition of a straight line. It is certain that this power of action is a prominent element of our existence. The severe punishment which results from confinement in the dark cell is due to restricted mental action, which would in time cause imbecility. In cases of paralysis, in which nearly all power of motion is absent, it is quite probable that even if the brain were not affected, consciousness would be imperfectly retained, owing to the powerless condition of the patient. But in falling a long distance the helplessness is much more appalling, because the action of the mind is not obstructed by bodily derangement. We have the anomaly of a clearly conscious mind in a helpless body, and hence the result may be a condition of complete insensibility. If a man were unexpectedly shot upward like a sky-rocket, instant unconsciousness would be the first effect, owing to his confused and helpless condition. The old-fashioned joke of tossing with a blanket is, to say the least, a very severe play; because one of the conditions of consciousness is that we feel a certain power over this law of attraction; that is, the mind not only causes the body to escape the destruc-

tive action of this law, but also turns the law to its advantage in various forms of mechanism. In this limited sense—the sense of comprehension—the mind is superior to this law. Let us carry this question of superiority further. We find that this mastering power is properly exerted in the attempt to control events. As Goethe says:

“The fabric of our life is composed of necessity and chance; the reason of man takes its station between them both; it treats the necessary as the groundwork of its being; the accident it can direct and guide and employ for its own purposes.”

This natural superiority is in a measure reversed while falling—the mind having lost its proper power to control the body. Goethe's thought—that we should control events—thus discloses one of the necessities of all consciousness as we know it; for if all controlling power be lost, as in falling, the consequent confusion of idea causes insensibility. Goethe simply carries this principle to a higher point by using it as an argument against fatalism. Let us imagine, if we can, the mental condition of a person suspended in space or falling toward a planet. The supposition at once presents impossible conditions. It recalls Jean Paul Richter's vivid dream, in which he fancied that he was penetrating space with the velocity of light. An illimitable abyss with far-off glittering stars would present a scene of grandeur which could not be adequately imagined even by Richter. The picture is imposing, and to a certain extent pleasing, if we conceive that the mind might have penetrating power of movement; but should the mind helplessly drift past these stars it would probably lose consciousness. An aimless, wandering condition can be conceived of meteors, but not of the mind. One of our very natural misconceptions may be the intuitive impression that at death the mind flies to far-off spheres. Perhaps our reason for fancying this is that we look at everything with a sense of motion and time. But time vanishes before high mental action. Emerson has shown us that the “future state is an illusion for the ever-present state.” And we have no reason to assume that motion or the power to penetrate im-

mense distances will be one of our future mental conditions. So near an approach to omnipresence is of course utterly at variance with our present limited condition and our inability to receive more than an easily-estimated number of mental impressions in a given period of time.

The question here noticed is, that it may yet be shown by statistical evidence that unconsciousness is inevitable at the beginning of a long fall. Several years ago Mr. George Augustus Sala contributed to an English magazine an article in which was an interesting account of his sensations while falling with the car of a balloon. The balloon had attained an altitude of one mile. The persons in the car were looking down at London when the balloon burst with a sharp report, like the discharge of a pistol. The aeronaut, who was a plucky little man, cut the balloon open at the lower ring, and then the great globe of silk was rent in pieces, which sailed up into the netting and formed a parachute. Mr. Sala wrote: “It steadied instantly. There was no collapse, and down we came, swiftly but easily, in a slanting direction, alighting among some cabbages in a market garden, Fulham Fields.” In this instance the fall produced no effect more serious than nervous tension. Mr. Sala described minutely his sensations while falling, and his description made it clear that he was not only conscious, but observed with coolness the objects which were apparently rushing up from below—in particular a tall church spire, which seemed to be shooting up at him like an arrow. This narrow escape had a characteristic effect upon the two men. The aeronaut was physically active, and so saved two lives. But Mr. Sala, as a literary man, observed the general effect of the rapidly rising housetops. The perception of blank space beneath, with nothing to break the fall, would doubtless have produced instant loss of consciousness in both men. The following case illustrates this point:

On the morning of December 6, 1875, Mr. H. K.—, who was ascending a narrow stairway near an open hatchway, fell from the third floor. He lay unconscious at the foot of the hatchway about twenty minutes

before he was seen by people who were passing. At the hospital he regained consciousness two hours after. Four weeks elapsed before he partly recovered. In his account of the accident he said that he instantly lost consciousness before concussion had injured his body. He clutched at a partly-opened door as he lost his balance, and when he saw his utter helplessness the thought produced the stunning effect of a flash of lightning.

The following case further verifies the experience above given: Several years ago the floor of the Central Baptist church at Syracuse, N. Y., gave way and precipitated a crowd of people into the Sunday-school room below. The falling floor caused fourteen deaths. One of the survivors told me that when the crash came he remembered nothing further until he was recalled to consciousness by a sharp pain in his leg, which had been caught by one of the falling beams. He was not aware of his physical injury until after the accident.

That the insensibility is purely a mental effect, is suggested by the fact that there is no loss of consciousness if the person knows or imagines that the distance to fall is short. This is seen in the case of a person who stepped out of a second-story window upon a supposititious balcony. As he fell backward it seemed to him a long distance down, and he wondered when he should reach the ground.

It may be thought that the loss of consciousness is simply due to fright. But what is fright? Is it not a condition of mental anarchy which results in insensibility in proportion as the mind is disorganized? There is loss of power to fix the attention upon a fact or an outside condition. It is known that fear, by destroying the mental grasp or center of idea, may cause not only partial paralysis, but insensibility. The condition of the mind when under the influence of fear is well described by Professor Bain in his work on "The Emotions and the Will:" "As regards volition, there is, as already remarked, an excited activity in the supposed direction of escape. With one definite course open, there is concentration of energy in that course. But the worst

cases of fear are those that present no specific opening; and there is then a painful mimicry of voluntary exertion, a shifting about at all points. In the extreme forms combining danger and uncertainty, there is utter paralysis of activity."

It is noteworthy that helplessness is one of the conditions of this fright, which destroys the center of idea; for, like the solar system, the mind can not exist as we know it without a point of concentration—even though it be a point of constant motion. In falling a long distance we are deprived of that necessity of consciousness—the impression that the earth is solid and trustworthy. The earth's surface is the basis upon which we form conclusions for future or controlling action. We also require a proper perception of gravitation. This is distorted as consciousness is impaired by inebriation or any physical cause. When the motion of an upright wheel-swing is reversed, and the seats drop backward from the highest point of the wheel, the sensation is like that described by Mr. Sala, the earth seems to rise as if the point of collision were midway. This feeling is noticeable when an elevator falls or rises unexpectedly. In fact, few things disturb our tranquillity more than uncertainty of footing. It is a hint reminding us of our complete dependence upon this main law of the solar system.

An investigation of our impressions, when regaining consciousness after sleep, might disclose some interesting facts in which it would be doubtless found that our perception of gravitation is an invariable element of consciousness. In waking we have no misunderstanding in regard to the direction of the earth's center—that perception is instinctive—but we sometimes have confused impressions of the direction of certain doors and windows. As consciousness dawns clearly, these illusions of a dream vanish; but we are not quite ourselves until we grasp clearly these outside conditions. Fortunately, our perception of gravitation is not easily disturbed. We do not have confused impressions on waking that there is blank space beneath us, or that lateral distance is perpendicular distance, but we do

at times have confused impressions of our relative position.

Aside from the interesting question of the power of thought over consciousness, the discussion of this subject adds force to a metaphysical conclusion advanced by Sir William Hamilton—that the limits of the mind are the logical results of its existence. The deduction is, that if the mind had no limits, it would have no existence as we know it. Every fact of existence has a certain logical relation with every other, and

each fact fits its necessary condition, like the pieces of a Chinese puzzle or a dissected map; and if we imagine a person falling through space, like our sun and its accompanying solar system, we dispel one of these important relations, and then the logical result is confusion. Kant has demonstrated that time and space are invariable conditions of consciousness. Another condition seems to be the perception of gravitation and the power of action upon material conditions.

WILLIAM A. EDDY.

DEVELOPMENT OF THE EARTH AND OF EARTH-LIFE.

PART II.

THIRD. The Secondary Period, the age of reptiles and pine forests (Mesolithic or Mesozoic Age), with three layer systems about fifteen thousand feet in thickness. This consisted (1), of the Trias system, or rocksalt group, in older secondary time, with variegated sandstone, a dense mixture of fine crystalline quartz and ferruginous clay, shell-limestone with rocksalt and keuper, consisting of layers of marl and sandstone;

dominantly, which have a great similarity to those now living. There were lizards, crocodiles, and turtles, besides marvelously formed amphibians (sea and land saurians, dragons), labyrinthodons, which lived on land, and were of a mixture of lizard, frog, crocodile, and turtle, as large as a full-grown swine. Their foot-marks in the variegated sandstone are similar to the impression of a man's hand. They had a slender

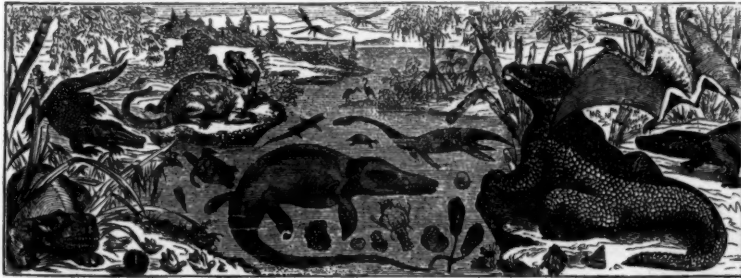


FIG. 3.—LIFE IN THE SECONDARY PERIOD—REPTILES AND PINE FORESTS.

(2), of the Jura system, in middle secondary time, or the Oolith-formation, so termed on account of the globular, sleazy form of its limestone, with black or lias slate, brown ferruginous jura and white jura; (3), of the Chalk system, in later secondary time, with lime and sandstone, white chalk, green sand, with free sandstone, wood-clay, muscle and snail shells.

Secondary time contains *reptiles* pre-

head, a long tail, and short, clumsy limbs, with a body covered with fine horny scales. The enalios, or sea saurians, were fish-like, and about fifteen to twenty feet long, with large, fin-like limbs and naked skin. Of these, several species existed, like the ichthyosaurians, with a large, dolphin-like head, short neck, and short, but broad fins; the plesiosaurians, halisaurians, halidragons, dinosaurians (which were gigantic,

about one hundred feet long), clumsy land lizards or crocodiles, with lumpish legs. There were also the pterodactyls, or winged saurians, naked, bat-like lizards, but not much larger than our bats. Toward the end of this period birds appeared; and a fossil bird found in the jura indicates its

gypsum, wasser-lime and London clay, brown amber, earth-oil, and asphaltum; (2), Miocene, or middle tertiary system, with brown coal, carbonized plants, as palm, cypress, and pine woods, amber, petroleum, asphaltum; (3), Pliocene (new tertiary) system, with molasse formation,

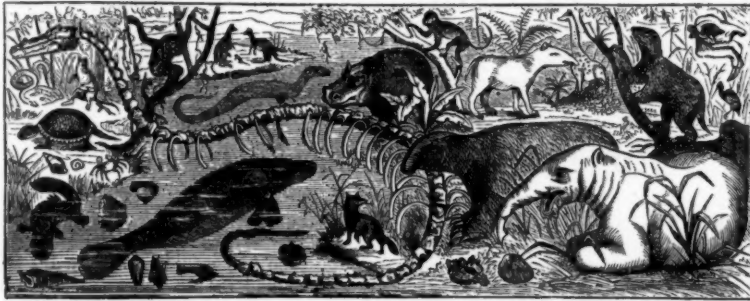


Fig. 4.—AGE OF MAMMALS AND LEAVED FORESTS—TERTIARY PERIOD.

derivation from the lizard. Mammals then came in existence, as the anniotes, animals with bills, and opossums. Of plants, there were especially pine (*conifers*) and palm-ferns (*cycades*).

Fourth. The Tertiary Period, the age of

with sweet wasser-lime, relics of infusoria, the triple polishing-slate, etc. The uppermost of this group is also called clay marl; the undermost, the sub-apennine formation.

The Tertiary Period draws near to the present time; mammals preponderate



Fig. 5.—AGE OF MAN AND CULTIVATED VEGETATION—QUATERNARY PERIOD.

mammals and leaved forests (Cenolithic or Cenozoic Age), with a thickness of about three thousand feet, consisting of three molasse layers, which are difficult to separate.

This period consists of (1), the Eocene system, or old tertiary epoch, with its

among the vertebrates, and the seed-covered plants among the plants. Of the mammals of the tertiary strata, most belong to the Pachydermata, to which belong our elephant, rhinoceros, horse, and swine. In the sea were the whales, dolphins, and other animals similar to the sea-cow, and two whale-

like animals, the ziphias and the metaxytherium. The clumsy, tapir-like vegetable-eater, palæotherium, with its body closely covered with hair, a long nose, and four toes in front and three toes behind, was very numerous. The anoplotherium, a vegetable-eating, hoofed animal, is the first animal found with a single split hoof and a long tail; it seems to have had a horse-like muzzle. The dinothereum, a walrus-like, vegetable-eating sea animal, was from fifteen to twenty feet in length, and had a whale-like head on a short, thick neck, with two long teeth extended downward. The zeuglodon (*hydrarchos*, *basilosaurus*), formerly, but wrongly, included among the saurians, was also a whale-like mammal, with a head like a sea-calf. The silvatherium was a ruminating animal, of very large, clumsy, giraffe form, with a head like an elephant. There were sloths of great size—the megatherium, megalonyx, and mylodon. Among armadilloes were the glyptodon and the holophorus. The largest gnawing animals were the toxodon and the hippotherium, similar to the horse; the mastodon (Ohio animal) was similar to the elephant; the halitherium was a vegetable-eating, whale-like animal. Besides these there were, as now, snakes, frogs, and toads. The fossil relics of a giant salamander of this time (Andreas Scheuchzer's antediluvial man) were once thought to be those of a man. There were also the predecessors of the monkey tribe, the *prosimia*, lemurs, gorillas, chimpanzee, ourang, gibbon, etc. Among the relics of the botanical world are examples of the cypress, palm, and needle, or pine forests, which formed the brown coal.

Fifth. The Quaternary Period, or the age of men and cultivated forests (Anthropolithic or Anthropozoic Age), only about five to seven hundred feet in thickness, consists of the older quaternary, or ice, or glacial period of the middle quaternary or post-glacial period, and of the latter quaternary or culture period. The lowest strata, the diluvium-pleistocene, consists of sand, gravel, rubble-stones mixed with loam, and of the most different stratified rocks. Above the diluvial strata are the alluvial strata of the recent time, consisting of sand, rubbish, alternating with loam and marl layers, marsh land, and soil.

Animals and plants were improved by man. In the diluvial period, including the ice time, there existed the cave-bear and the mammoth, a species of elephant, but with longer and more curved tusks, and bristly, long-haired skin. Specimens of the mammoth have been found in Siberia imbedded in ice and frozen soil, and so perfectly preserved that even the flesh was in an edible state. Other diluvial animals were the rhinoceros, the cave-hyena, the cave-lion, the urus, the reindeer, the giant-deer, and others. The alluvium was produced by decaying plants, marshy soil, and by the disintegration of various rocks, and the decomposition of organic substances which constitute the upper earth or soil.

These five ages, or epochs, it may be noticed, are not divided by sharp or distinct lines, but pass from one to another very gradually. It has been very difficult for the geologist to discriminate between them in some regions.

TONGUES OF FIRE.

“WHEN thou shalt see,” says Plethon, “the divine fire that can not be represented under any form, give thanks, and full of joy listen to the voice of the fire, which will give to thee a very true and certain prenotation.”

Seeking “a very certain and true prenotation” of various manifestations connected with the supernatural, the intelligent student is immediately attracted by the beau-

tiful phenomenon of fire. The “voice of the fire,” or the mystic union of sound and flame, then arrests the attention, and we listen to an audible tongue of light speaking from a body of material nature, and patiently await its full interpretation. More observing than the pagan Plethon, we find this divinity represented under many forms, the tongue sometimes appearing as “a star,” “a crown,” “a stream or pencil of

light," a "quiet glow," etc., each having its peculiar tone or voice; each speaking of an invisible truth ready to be revealed to the reverent listener. The first question naturally arising regarding these unknown tongues is suggested by their similarity or apparent relation to the magnetic and electric lights of the scientist, and can only be answered by a glance at the essential facts connected with each class of phenomena; then by "a backward guess from fact to principle we arrive at a conjecture or divination regarding something which lies behind the facts, and from which they flow in necessary sequence." Taking the isolated fact of the fiery crown rising from the head of our famous modern medium, Mr. D. D. Home, before we believe in its supernatural origin, we must inquire if there be any known law which will account for its sudden appearance or explain the seeming miracle of its shape, sound, and motion. During a seance at the house of Mrs. S. C. Hall, Mr. Humphrey asserts that "Mr. Home had now passed into a trance state, and around his head I noticed a luminous halo; after a short pause a fiery coronet of star-like points settled upon the head of Mr. S. C. Hall and remained stationary for several minutes. Mr. Home then rose from his chair and was walked to and fro, complaining of a pressure on the head.

"I then noticed that a crown, shaped like a Greek patera, the base fitting on like a skull-cap, had been placed on his head. Tendrils and outlines of leaves were plainly visible, the leaves being vine-shaped, appearing to hang from the edges of the broad patera. Mr. Home appeared greatly agitated, and repeated, 'I am crowned, I am crowned; I am free from pain; I am receiving a new mission. The pain in my head is gone.' He then walked up and down the room, the excitement all but overpowering him. Finally the crown was removed from his head, while sweet-toned notes were distinctly heard proceeding from it; after which it was gently carried toward those present, as though for their inspection, and then removed into the angle of the door, where it remained luminously visible for four or five minutes—visible

as though it were from its own intrinsic light. The brilliancy of its star-like form had so deeply impressed all present, that after its disappearance they continued to gaze at the place where the beautiful luminous crown had once stood, unable to realize its disappearance."—*Incidents in My Life*, p. 161.

Leaving our English friends to wonder at this beautiful mystery, let us go back to the drawing-rooms of the ancients and examine a similar manifestation occurring in the fourth century. Iamblichus evidently alludes to this appearance when he says: "If the presence of the *fire of the gods*, and a certain ineffable species of *light externally accede to him who is possessed*, and if they wholly fill him, have dominion over and circularly comprehend him on all sides, so that he is not able to exert any one energy of his own, what sense or animadversion or appropriate projection of *intellect* can there be in him who receives a divine fire, what *human motion* likewise can then intervene, or what human reception or passion or ecstasy or aberration of the phantasy can then take place?"—*De Mysteriis*.

How shall we interpret these unknown tongues? Mr. Home assures us they are the tongues of the angels, while the Grecian priestess affirms they speak the language of Apollo.

"The prophetess of Delphi, whether by means of the thin and fiery vapor which proceeds from the mouth of the cavern, she gives oracles to men; or whether from the Adytum, sitting upon a brazen tripod, she gives answers to men; in either case she gives herself to the divine influence, and becomes *effulgent with rays of light*."—*De Mysteriis*.

From the halo of the ancient priestess, sacredly guarded by the rites of pagan superstition, we turn to the witches on the scaffold at Salem, and find the familiar light encircling the doomed form of the accused, shining fair and clear above the fires of martyrdom, triumphing over death with every vital truth of nature. "What," asks the stern fanatic Cotton Mather, "is their traveling in spirit while their body is in a trance? What is their appearing, some

times *clothed with fire or light* upon them, but a blasphemous imitation of certain things recorded about our Saviour and His prophets and the saints in the kingdom of God."—*Wonders of the Invisible World*.

Here we behold our familiar spirit speaking the same unknown language, and are told it is the voice of the devil. But here in the luminous crown of the martyr we stand face to face with a divinity of historic fact, which points to a single hypothesis as the only true interpretation—the electro-magnetic force concentrated in and about the person of the psychic, manifesting itself in the waving flame.

Pliny, in his second book of Natural History, mentions a similar appearance, and tells us that it settled not only on the masts and other parts of ships, but also upon men's heads. "Stars make their appearance both at land and sea. I have seen a light in that form on the spears of soldiers keeping watch by night upon the ramparts. They are seen also upon the sail-yards and other parts of ships, *making an audible sound* and frequently changing their places."

This "audible sound" leads us by a law of association directly back to our starting point, the "sweet-toned notes" of Mr. Home's crown, and we inquire more persistently than before, can this flaming crown, in its complex form, be the simple expression of a natural force? Supposing Mr. Home's body in the condition of a permanent magnet, or that he is magnetized by induction from the persons about him, would a flame of this peculiar character possibly appear? Can we find any analogous effects among the experimental facts of electro-magnetism? Does the electric or magnetic light ever assume the shape of a leaf? Mr. Wilson, one of the most careful experimenters in this branch of science, assures us that it does. He says upon rarefying the air within a glass vessel (closed at both ends) about five hundred times, and afterward turning the glass in the lathe, while at the same time it was rubbed with the hand, a considerable quantity of lambent light, variegated with all the colors of the rainbow, appeared within the glass under the hand. When more air was let in,

the flashing was continual, and streams of bluish light seemed to issue from under the hand within the glass in a thousand forms. Sometimes it seemed to shoot out into the *forms of trees, moss, etc.*—*Wilson's Essay*, p. 216.

Von Reichenbach, in experiments upon certain magnetized surfaces, repeatedly refers to a similar effect. "Mlle. Sturmman, when the room was darkened instantly, discovered a crystal by its light, and giving on three occasions the same account of its flame. She described it as somewhat of the form of a tulip, like one of its petals, or like the flame of a candle beginning below with an arch directed outwards." At another time, when a hollow, spherical electro-magnet was used, "she compared the whole flame to a loosely-bound sheaf of corn standing on the ground, the ears and stem of which hang over on all sides." Here we discover an interpreting truth shooting athwart these tassels of mystery, and find every new branching or subdivision of the subject has only supplied new proofs of the accuracy of our theory, and new guaranties for the unity or consistency of the facts confirming our first "backward guess," that the medium exhibits effects in common with the earth of which he is made, effects produced by terrestrial magnetism in any soft bar of iron, or appearing upon the surface of many electrified substances. Dr. Priestly produced analogous results by "placing lighted camphor in a metallic cup, and when the cup communicated with the electrified conductor, the camphor threw off numerous ramifications, shooting forth its branches *like a vegetable in growth*."

The identity existing between the magnetic and electric lights is not surprising when we consider the fundamental law that "electricity in motion produces magnetism, and magnetism in motion produces electricity," the principle accounting for the shape of the flame explaining also its identity of sound and motion. "The flame leaves the magnet with a certain force of a projectile nature, which carries it away from the poles; but it has on the other hand an innate tendency to rise in the air, its material substratum must be therefore lighter

than air at the earth's surface. This flame may be affected by a breath or current of air and mechanically set in motion." In regard to the motion of an electric flame, Dr. Priestly observed: "When the discharge takes place between a good conductor presenting a small surface and a bad one of larger surface, there is a rapid but intermitting succession of sparks to the particles of air around, and the sparks thus dilated form a brush which has a quivering kind of motion, and is attended by a *subdued, roaring noise*. Its root is brighter than its rays. When a point is held to a surface charged resinously, a star or point of light is produced instead of a brush; when the charge is feeble, the light is sometimes a quiet glow, instead of the noisy brush, and convection then takes place—that is, a current of air conveys the discharge to a distance, which current has a sufficient force to give motion to electrical rays arranged for that purpose." In regard to the nature of the flame, "electric and magnetic light consists, like all other flame, of incandescent molecules in a state of minute subdivision, the heat and light of the shock proceeding from the combustion and ignition of the particles of ponderable matter." Its "subdued, roaring noise" may sometimes fall like "sweet-toned notes" upon a rarefied air, or under certain surrounding conditions they may have a "musical intension and remission," a phenomenon often observed in connection with the supernatural. In 1814 a party of Englishmen were on Mount Etna during a

storm of thunder and lightning accompanied by a heavy fall of snow. One of the party felt his hair moving, and upon raising his hand to his head, a buzzing sound issued from his fingers. The rest of the party experienced the same sensation, and by moving their hands and fingers they produced a variety of musical sounds audible at the distance of forty feet.—*Chambers' Cyclopedia*.

Dr. Priestly noticing a similar effect among the machinery of his private laboratory, "attempted to reduce this variation to some measure. Accordingly, by the help of a couple of spinets, I endeavored to ascertain the *tone* of some electric explosions, and observed that every discharge made several strings, particularly those in accord, to vibrate; but one note was always predominant and sounded after the rest. A jar half a foot square, sounded F sharp; one of three feet sounded C below F sharp." While "a current of electricity passed through the ear gave rise to bubbling, ringing, or crackling sounds, and sometimes to distinctly musical tones." That these diverse notes, proceeding from a discordant class of phenomena (a body of fact the antipodes of a material and spiritual philosophy) have a certain harmony, is evident to the least sensitive ear; but to the question, "Is there any foundation for belief in a spiritual inspiration?" they give back an "uncertain sound." Let the "philosophy that makes light of impossibilities" reply.

JULIA M. HOLMES.

HELENA P. BLAVATSKY.

THE head of Madame Blavatsky is one of remarkable strength in many elements of character. With her fine physical constitution and temperamental balance her brain is capable not only of prolonged labor, but of extraordinary exertion under excitement. She is not of that quiet, scholastic mould which is so often found in literary pursuits, but possesses an intensely emotional and energetic nature, adapting her to fields of robust action.

With a large head, whose intellectual development is very marked, particularly in the perceptive region, she exhibits a strong leaning to observation and the study of facts and things as they exist. We do not find much evidence of the disposition to trust to mere impressions, or to be won over by probable or plausible showings; she is rather skeptical, more inclined to be iconoclastic in her attitude toward philosophy, religion, and literature, than to build

up a system by negative reasoning, or by speculation. The type of her intellect renders her critical, and that, assisted by her cautious skepticism and strong individualism, makes her a stubborn and fearless partisan of her own convictions. She has a great deal of firmness, and the sense of jus-

account of her moderate Spirituality and Intuition, her full Secretiveness and critical intellect, she may be said to watch mankind closely, and is thoroughly distrustful where she perceives cause for distrust. So in society she combines a vigilant observation of persons with a great deal of earnest friend-



tice, duty, and of honor is nearly equal to her firmness; hence, whatever cause she may espouse she will maintain with enthusiasm. When she has confidence in persons, or in the sources of her information, she accepts and acts upon them to the fullest extent.

Her social nature is influential, but on

ship. Her highly sanguine temperament and energetic nature lead her to adhere to friends through good and evil report. Being as earnest to conquer opposition in social as in intellectual relations, she is highly capable of love and friendship which are real and practical, but disposed to laugh at what people generally term sentiment in litera-

ture and character, relegating it mainly to effeminacy and weakness.

She has a great love of freedom, and aversion to almost any kind of restraint which prevents her from taking an independent course, and acting out her own convictions. In emergencies she would generally show great coolness and boldness. She has a great deal of hope and enthusiasm for the elevation of humanity according to her own peculiar views; and her views in most cases are likely to appear peculiar and extreme to others, notwithstanding her caution and self-control. She is patriotic, and would be brave in the defense of country, home, family, and faith. Her attachments would tend ever to carry her back to the country and home of her love, especially if it were among a people whom she could impress by her mental force. She would never feel at home among people of a gloomy and cynical temperament.

Her development of Self-esteem is not large, so that she does not believe so much in herself as in her knowledge, experience, duty, and purposes. Her temperament ministers great activity to an energetic, thorough-going nature; so her force and ambition lead her into a bold career, but in such a career she does not make her accomplishments redound so much to her own honor and elevation, as a woman of greater self-esteem would.

The reader must have been struck at first sight by the unusual development of Language which renders her a natural linguist, and gives remarkable ability in the expression of her thought. Madame Blavatsky has a masculine order of intellect, and a masculine energy with a woman's temperamental susceptibility and social feeling. Hence we should not expect her to follow the conventional routine of the society lady, nor yet to adopt the passive round of most

society men, but we should expect her to display unusual qualities and pursue a career unique, individual, and exceptional in achievement, as she is exceptionally endowed.

It is rare for us to meet a person, man or woman, so advanced in life with so much physical freshness and youthful ardor and capability. She would pass easily for a lady of but fifty or so, while she differs from most people of fifty, in being still an earnest student of life and literature, taking up and pursuing new subjects with vigor and success.

The subject of this sketch is in many respects a very rare one. Whether we take into account her originality and breadth of thought, her physical and moral courage, her adventurous pursuit of knowledge, seldom sought and more seldom found, or her zeal in propagating Oriental religious ideas, Madame Blavatsky is altogether an extraordinary personage. She was born in Asiatic Russia and reared in the tenets of the Greek Church. She left home and friends at an early age, to travel in strange lands and sojourn among strange peoples and tribes. She has, unaccompanied, traveled three times around the globe, and has dwelt among dark-skinned races for years together, learning and speaking their languages, studying philosophy and practicing magic with their priests; indeed, making herself for the time being one of the people with whom she dwelt.

The Russians of the upper class have all ways been noted for their linguistical talent, but Mme. Blavatsky seems to have excelled most of her compatriots in this respect. Prince Emil Wittgenstein, a cousin of the present Empress, in writing to Col. Olcott, of New York, said that he knew Mme. Blavatsky well some twenty-five years ago at Tiflis, when she was famed for her ability to speak Georgian, Mongolian, Circassian, and other Caucasus dialects. Those who have met her can certify, that besides the French and Italian, several other languages are familiar to her. Epes Sargent, the American

author, in a recently published letter, affirms that she writes English with the ability of George Eliot, and the *Hartford Times*, reviewing her "Isis Unveiled,"* says, "that she makes use of the purest English, is matter of surprise to her readers. She expresses herself with the utmost clearness and simplicity, even when dealing with the most abstruse subjects." In this view other critics concur. Dr. R. Mackenzie, one of the better known of our literary reviewers, wrote in the *Philadelphia Press*: "We have to admire the thorough simplicity and natural grace of Madame Blavatsky's language. It is pure and expressive, which is singular, considering her Asiatic birth, and that the first languages she learned must have been Oriental, which, in their expression, certainly are very deficient in simplicity."

Before the appearance of her notable work, the panegyrics pronounced upon Mme. Blavatsky by her intimate friends were attributed to over-partiality. But now that "Isis Unveiled" has run the gauntlet of criticism on both sides of the Atlantic, it is easy to see that in its author we have one of those characters who usually become historical. Such individualities, by the very intensity of their magnetism, invariably arouse the enthusiasm of friends and the rancor and hostility of enemies. It is not surprising, therefore, that while one class of critics finds in our Russian visitor the evidences of profound erudition, marked intellectual depth, and elevation of sentiment, another should toss her volumes aside with a sneer and expression of derision.

It is a strange news that Madame Blavatsky brings from the Orient to us Western people. She relates that not only have the mystical brotherhoods over there all those literary treasures that we have long supposed were burnt in the Alexandrian libraries by the Moslem General Amru and others, but that the secrets of the ancient magi, those "wise men of the East," are preserved and put to practical use. European travelers have seen and testified to

some of the magical feats performed by these adepts, but attributed them to legerdemain. None, however, have reported a tithe of what Mme. Blavatsky has witnessed.

In the course of Mme. Blavatsky's long life—for she is upward of eighty years old, yet wonderfully young in body and fresh in mind—she has had her life in peril by sword, fire, shipwreck, poison, wild beasts, pestilence, not once, but scores of times. Were the space and time afforded to record her travels and experiences, a story of the most romantic interest could be unrolled.

Madame Blavatsky, judged by her writings, is from one view an iconoclast, but does not tear down without offering to rebuild. She assails the old routine of Christian theology, and proposes to replace it with Buddhistic and Brahmanic ethics. She rejects our exact science, and holds that in Oriental psychology and physiology there is far more to be learned of nature and its forces, of man and his tremendous powers. This being the case, we need not wonder that the Russian Government, as if apprehensive of the injury her "Isis Unveiled" may do to the State religion, has prohibited its admission across the frontiers.

For the admirable photograph from which our portrait was engraved we are indebted to M. Sarony, of Broadway, while our acknowledgments are due to Prof. J. R. Buchanan, M.D., for contributions to our phrenological notes.

HOPE.

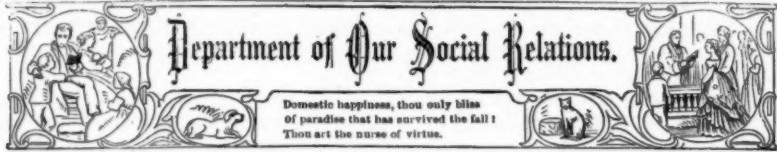
AWAY in the heart's deep shadows
There sings the livelong day,
A little bird with a wondrous voice,
A sweet and soothing lay.

It sings a song of sunshine,
Tossing the boughs about
That shaded with gloom the merry heart,
Till its light had nigh gone out.

Though oft its voice is siren,
And its notes contain no truth,
I care not, so long as in singing
It sings the songs of youth.

M. S. L.

* *Isis Unveiled: A Master Key to the Mysteries of Ancient and Modern Science and Theology.* New York: J. W. Bouton.



A SERMON BY A WOMAN IN A BACK SEAT.

AFTER the minister warmed up, I could hear very well, distant though my seat was. True, I lost the earnest and pathetic clinching of truth which occasionally succeeded the oratorical roar. That was of small account, I thought, as "pointing a moral and adorning a tale" came directly in the line of my aptitude. Still, I could not help wondering all through the able discourse—able so far as I could hear—why clergymen, as a rule, never seem aware of weak voices and imperfect enunciation. They shriek and they mutter, but the pure, talking tones which a public speaker with an ordinary pair of lungs should make perfectly audible are seldom heard. Unfortunately situated on another occasion, I lost the very best utterances of a popular American preacher, and was only aware of it on reading a careful report of the sermon the next morning. This only "*en passant*," as I did not take up my pen to preach to ministers; notwithstanding, there *are* recognized modes of voice-building, and truth certainly would have a much wider dissemination if all could hear instead of part. As I was saying, my seat was a back one, and in close proximity to the open door. The meadows beyond were green and fascinating, and the hum of insects made a pleasant accompaniment to the voice of the speaker. All was peace and pleasantness.

"Why are we thus disciplined?" inquired the minister.

"Do we not always appear to have the one trouble of all others which is hardest for us to bear?"

"This mother loses her idolized child; this man his idolized money. This one, to whom quarreling and fault-finding are as poisoned arrows, is thrown into the society of those who rend and tear her at every

turn. And what, my friends, are we to learn from all this?"

Imagine the disappointment, yes, worse than that—disgust—at not being able to hear the solution of this vast theological problem—a sum in spiritual geometry which has occupied the attention for ages of priests, poets, and philosophers. The stalwart tones subsided to a sepulchral whisper, of which the hiss was alone audible to my ears. Just then my attention was attracted to a sound outside, and I turned to see a pig of enormous size—perhaps I should say hog—dodging viciously about between two men. "Taint no use to try this way," said one of them, in a hoarse undertone. "Taint no use. You set down, and I'll drive him just opposite from where I want him to go, and if I don't have him in the pen in five minutes, you may shoot me for a crow."

The sexton^c closed the door, and to this day I don't know whether the ruse succeeded. I suspect it did; and out of this episode my text is taken for this little discourse. It would, doubtless, not be just the thing for me to say that there is a good deal of humanity in a pig; but surely it can not be out of the way, since we all know it, to say there is a good deal of the pig in humanity.

"Just opposite from where I want him to go!"

The swinish instinct chose the forbidden path, and superior intelligence, desirous of guiding the animal in the proper direction, allowed him to believe he was having his own way, only to find himself in the pen of repentance. Does not this example throw a little light on what the preacher calls our disciplines? Please look at my neighbor for a moment. I know him to be a man of inordinate ambition. His wife must be clothed in silks and overlaid with jewels. The best

—that is, the most expensive—education must be given his children; and to make both ends meet—for my neighbor has no hereditary estate—he works day and night, taxing brain and muscle to the utmost. The walls of his brown-stone mansion inclose dissatisfied children and an anxious wife—for she is compelled to share the consequences of her husband's overtaxed energies. A few years and my neighbor walks straight into the pen, apparently of his own accord, but to my mind in obedience to a law which could promote the growth of this man in no other manner than by allowing him to believe he was having his own way. The pen was only postponed, and sooner or later every human pig of us finds himself obliged to begin anew, if not too sadly wounded. Even then, though we may occupy but one humble corner of the pen, the spirit understands and surely starts afresh, though it may be to the undiscovered country. There is no deception in this mode of pig-driving and human discipline; nor have we any reason to think that the experience we get in our own way is not the best we could

have. Sometimes I am forced to believe that bereavement, loss of means, loss of friends, troubles of all kinds that have come to others and been experienced by myself, are just so many blows to the self-hood of the sufferer. If it were not so, would we be constantly hurt in our most sensitive parts, and is it not true that we invariably feel better when we get over it? and is not the reason quite as much because of the rich experiences which have been born of our agony as the cessation of pain? The mother who disciplines her child, allowing him to suffer the consequences of his disobedience, and the man with the pig are to me examples of the infinite force which allows humanity to head wrong for the sake of a speedier and safer return.

I have always thought that if the preacher could have seen the pig and heard the conversation I did on that beautiful Sabbath, he would have been inspired to use the episode as a fair illustration of his subject, and a partial answer at least to his query. Considered in this light, I am sure he will forgive me for preaching a little myself. E. K.

LIGHT IN DARK PLACES.

"This mournful truth is everywhere confessed,
Slow rises worth by poverty depressed."—SAMUEL JOHNSON.

CHAPTER XIX.

SADIE CATCHES AT AN OPPORTUNITY.

THE "something else" Sadie had on her mind, came out that evening in the course of their family talk. From the gossip of the girls at the bindery, one or two of whom, new hands, attended an evening-school which had just been started by the Mission, she had caught a remark to the effect that a teacher was wanted in the regular day-school of that philanthropic establishment; and, hopeful of its truth, thought that she might apply for the place. The compensation, she knew, could not be large, barely more than she was receiving for her hand-work; but then, the change would be almost every way for her benefit, and in the direction of her aims.

"What should I do about it, mother?" she asked.

"First ascertain that the opportunity exists, Sadie. Next Sunday you can inquire of the superintendent, and if there be a vacancy, learn the nature of it. I have little doubt of your competence to teach a class in that school, as they have no advanced departments."

"It seems to me that to teach young children, mother, one must have a great deal of patience—more patience than learning."

"Patience is necessary to success in teaching, whether in the primary or grammar schools. I think, indeed, that competence, or special adaptation, is more needed in the teacher of very young children than in the instructor of advanced pupils. In Germany, as I've been told, more care is shown in se-

lecting teachers for the primary schools than for the academies, and even higher salaries are paid them. Here, the notion that anybody can teach young children seems to prevail."

"I guess from what Bumpy's told me," said Norton, "they don't teach much in some of the primaries. He's been to two or three of 'em, and says that some of the teachers don't know any more than to scold and knock the young ones around."

"Bumpy is not a very trustworthy witness, I think, in educational matters," replied his mother. "He can give a better account of a tussle on the street, or make a better estimate of the value of a stray bit of old iron than he can judge of the merits of a teacher. To be sure, a boy or a girl soon learns whether he or she can get along nicely with a teacher, and the good teacher generally wins the respect and affection of all her little pupils. In this country few persons comparatively choose teaching as a settled pursuit, and so most of those who are engaged in it, particularly in public schools, have taken it up because they could find nothing else to do for their support, and intend, when more remunerative employment offers, to withdraw from their classes. In the primaries the salaries are low, and the teachers, though young and comparatively inexperienced, think themselves very poorly compensated for their labor; and this, with the cramping influence of necessity, renders the majority of them somewhat indifferent to the moral responsibility of their position."

"I almost shrink from the thought of such a place, mother," said the young girl, "when I consider how much one can do toward injuring the life of a child by careless treatment."

"The true teacher, my child, appreciates her responsibility in the guidance of young minds at the period of their greatest susceptibility, and seeks to implant only the seeds of truth and virtue."

"I think though, with your kind help, mother, I could do pretty well. You know so much about getting at people's characters, and you can so easily understand children that you ought to be a teacher yourself."

"Mother's a teacher, I'm sure," broke in Norton. "Isn't she teaching people all the time, as well as you and me, and Dell? She's the best teacher in the world," and the earnest boy stole up to his only parent, and put his arm around her waist.

"Yes, indeed, our dear mother is one of the best of teachers, I know," rejoined Sadie with much warmth. "But you know, Nortie, I meant one who keeps a regular school."

"We understood you, I guess," said Mrs. Camp with a smile, at the same time caressing the smooth brow of her boy; "but let us talk business, as the store-keepers say. If you feel quite sure that there is a vacancy at the Mission, you can write an application for the appointment; and if you learn on Sunday that the opportunity exists, you can at once hand in your application."

"I'll set about it right away," exclaimed Sadie.

The last of the tea service had been scarcely placed in the tidy cupboard, when a rap at the door announced Mr. Stanley. A hearty response was given to his cheery "Good-evening," and he was soon seated in the small family-circle of that third-story back apartment. An observant bystander might have noticed a slight flush appear on the cheek of the widow, when Stanley entered; but the lady otherwise appeared calm and courteous. Dell, who had at the first been much taken with the gentleman, flew in childish glee to meet him, on the mention of his name; and now that he was seated, brought her own little stool and sat down close beside him, where she kept a close watch upon his face, and appeared to measure his every word. Of course Stanley liked children, or Dell would not have shown this interest; and much of his conversation which was meant for the others was addressed to her.

"Well, little one, how is mamma, sister, and brother to-night; and your little self, too?" said Stanley.

"All very well, I 'spose, sir," replied Dell.

"And nothing new has taken place here since I saw you last, three long weeks ago?"

"We can not speak of aught but good,

Mr. Stanley," answered Mrs. Camp; "matters have gone on peacefully with us."

"'Blessed is the contented mind.' You know my opinion with respect to your residence in this quarter, madam, so it's unnecessary to repeat it. You will persist in declaring that you are satisfied with the wages of toil and self-abnegation, and with such a living as your means furnish. Be it so. I must respect your conduct and your motives, so far as I have been made acquainted with them. But, excuse my persistence, would you not, for the sake of these dear children

leged circle, unless assured of the permanence of the relation."

Stanley appreciated the moral propriety of this view; and, turning to Dell, said with the manner of one impressed by a sudden idea:

"My Dell, when 'your mamma turned seamstress the world lost a most admirable teacher. I wonder that she did not try it. A seminary with its forty or fifty boarding and day pupils would not wear upon her intellectual strength any more than the effort to make ends meet here, and to improve the people who are your neighbors."



THE CAMPS AND MR. STANLEY IN CONSULTATION.

if the ability were yours, seek another residence, and afford them better associations? Knowing, as you do, the influence of environment upon the youthful character, you could not be averse to procuring the best facilities for the mental development of your children."

"Do not mistake me, good sir," returned the lady earnestly. "I could not be so careless a parent as to debar them from the most refining influences that society can furnish, were it in my power to breathe the atmosphere in which they radiate. But I would not attempt to live in the most privi-

"They are very grateful, I think," said Sadie, "for the attention and instruction mother gives them."

Mrs. Camp glanced half chidingly at her daughter, as the latter made this remark.

"No doubt of it. Mrs. Camp is a natural director, and can not help giving her neighbors, who, she knows, so much need counsel, the benefit of her experience and culture. I see the effect in the very air of this building. It is sweet and agreeable as compared with like houses in the neighborhood. But, my young lady, with such a mother, how is it

that *you* prefer sewing books to instructing the young idea?"

"I don't precisely. Dear mother, may I mention it?"

"As you please, Sadie."

"Oho, you have been talking up the subject," exclaimed Stanley. "Permit me to enjoy a little of your confidence—if I deserve it."

"Oh, Mr. Stanley!" broke in Norton, who had been quietly listening to the conversation, yet all the time anxious lest his mother would not broach the subject of Sadie's candidacy for the supposed Mission-school vacancy, "I'm sure you deserve our confidence; doesn't he, mother?"

"Mr. Stanley has shown us the consideration of a friend, my son, and we are indebted to him for his kindness in—"

"Thank you, my dear madam, that'll do. Now, Miss Sadie, what is the nature of the undertaking you have been thinking about?"

"You are right, Mr. Stanley, in so far as your opinion agrees with my wishes about teaching, but I am not very confident in my ability; I have a long time treasured the hope of preparing myself to take a position in some school, and mother has been helping me in my reading and study."

"With such tutelage, I have no doubt of your competence to begin now," remarked Stanley. "Have you anything in view?"

"I heard lately that there was a vacancy in the day-school connected with our Mission, and just before you came in, we were speaking of it, and with mother's consent I am to apply for the place."

"When?"

"Next Sunday, sir."

"Three days hence; 'twon't do. A hundred applicants might present themselves before that time; and you, my young lady, come in a day or two after the committee had selected one. Write your application and send it to me by Norton, and—"

"Oh, no, Mr. Stanley, I don't wish to do that. But I thought you might know the gentleman who has charge of the school—the oversight, I mean—and could give me his name."

"Address your application to the General Superintendent of the Mission, and refer to me."

"Thank you, dear sir," said Mrs. Camp. "I presume that if the superintendent or committee think favorably of the application, Sadie will be requested to report for an examination; but that is expected, as a matter of course."

"And she need have no fear of her capacity to meet the requirements. Well, my little one, how would you like to see sister mounted on a high platform, with a great strap in her hand, and talking *sharp* to forty or fifty little boys and girls?"

"Sister Say wouldn't talk sharp, I guess. If she teaches, I'm goin' to her school. Won't it be nice, sir, to have my own dear sister for my teacher?"

"Very nice, my child, and perhaps it would be nice for mamma and brother in some other respects which you may not quite be able to understand. By the way, Mrs. Camp, I have a little request to make, on behalf of my sister partly, and on my own account. You know when I dropped in the last time, I had been stupid enough to forget the hour and found you at tea. You insisted upon my partaking of your cheer, and I found your brown biscuits most agreeable to my palate. I have represented their virtues to the people at home with so much warmth that they have become desirous to learn the way to make them. My sister's two little girls are delicate bits of humanity, and seem to me languishing for something more nutritious than baker's bread and tea-biscuits, and I think that butcher's meat is not suited altogether to their weak digestion."

"Sadie, please to write the recipe for Mr. Stanley," said Mrs. Camp.

"Oh, give it to me verbally; don't take that trouble. I'm good at remembering figures and processes."

"Yes, my good sir, I have no doubt that you are, but you must let me have my way even in this simple matter. A great deal of household work fails of success because the housekeeper does not follow rules. Especially is this the case in cookery. Women, careful, perhaps, at first, grow careless in preparing this or that article by reason of familiarity with the process. They *guess* at the quantity of flour or meal, the number of eggs, the ounces of butter or lard, if they use

such substances for shortening, the quantity of sugar or salt. They guess at the heat of the oven, the time required for baking, etc. Whereas, by taking counsel of a good house-keeping manual, and following its directions closely, they would be uniformly successful."

"System, particularity, I know, Mrs. Camp, are characteristics of the good house-keeper. My mother was a dear good woman, ever kind and sunny-tempered, but a poor hand in the kitchen. Father used to say, 'She never made a thing twice alike.' She *guessed* at this and that in her ménage, and was sure the bread and cake and pie would be good enough, if she did not measure and weigh the ingredients. 'Heaviness' was the prevailing quality of her cookery; and I think it was the cause of the almost constant stomachic derangement I suffered from when a boy, and an occasion of the dropsy which hastened mother's death at fifty-five."

"Mother never puts any shortening in her biscuit and cake," said Sadie, who had now written the recipe, and handed it to Mr. Stanley; "and I'm sure they are as light as any of the baker's, while they don't have that unpleasant odor of burnt oil or grease which is often noticed in the baker's cake."

"I use a little sweet milk if I wish anything in the way of shortening," said Mrs. Camp, "but would not advise that unless it were fresh and pure. I often feel sorry for the children who are fed on food saturated with oily matter and chemicals, knowing that the diet is laying a foundation for sickness, near or remote."

"Your children certainly do not lack a good diet," returned Stanley, "if fresh and clear complexions and bright eyes denote the sort of food they get. You have done much, Mrs. Camp, toward solving the problem of health, for here, amid scenes and associations which our sanitary authorities declare to be conducive to disease, you preserve a degree of health and vigor in your children which most people accustomed to the ways of ease and affluence would be proud to exhibit in theirs. There, my little one, don't do it again." Dell had yawned, as her usual bedtime had come. "I'll be off. Excuse me, good friends, for linger-

ing and trespassing on your time and duties."

"You need not hurry away, sir."

"No, don't go, Mr. Stanley," said Norton. "It seems so pleasant to have a gentleman come in and stay awhile."

"Yes, indeed it does, Mr. Stanley," chimed in Sadie.

But Stanley boldly seized his hat and departed amid a chorus of Good-nights.

CHAPTER XX.

THE APPLICATION.

IMMEDIATELY after the departure of this welcome visitor, Sadie set about the preparation of her request for the teacher's place; and at the end of half an hour's close study of the points involved, handed the draft to her mother, who read it aloud, as follows: "*To Mr. Edward Hammond, Sec. — Mission.*"

"RESPECTED SIR: Having been told that a teacher is wanted for one of the classes in the day-school under your charge, I beg leave to offer myself as a candidate for the place. I have pursued the different branches of an English education to the extent usually prescribed in grammar schools, and have devoted some time at home to readings in history, biography, natural philosophy, and physiology, under competent direction. I shall be eighteen next December; have excellent health, and I think enough patience to get along pleasantly with a class of small children. I have never had experience in teaching, but have long entertained the desire to become a teacher, and for nearly two years have been reading and studying with this object in view. Should an examination be required, I will offer myself for it at any time that may be named.

"Permit me, sir, to refer to Mr. Dashiell Stanley, of the firm of Messrs. Taylor & Stanley, and also to Mrs. Rookway, of whose Sunday Bible-class I am a member.

"Soliciting your consideration of this note, I am,

"Very respectfully,

"SARA J. CAMP,

"No. — Prince Street.

"P. S.—I address this to the Secretary of the Mission, not knowing the names of the School Committee. S. J. C."

"On the whole, very well expressed, my dear girl," remarked Mrs. Camp. "I would, however, omit the postscript, or include its substance in the body of the letter. Then I think it will answer."

"It's a good deal like the lawyer talk we see in the papers," said Norton. "I think Sadie'd better go into a lawyer's office and write, and some day be a lawyer. You know, mamma, that women are becoming doctors and lawyers nowadays. Who was that great one you told us about the other day, that made such a good speech against a Jew who wanted a piece of somebody's skin, and won the case?"

"I presume you mean *Portia*, who in Shakespeare's great play disguises herself in the lawyer's robes of three or four hundred years ago. But that account is mainly a fiction of the poet, although there were women in the past who gained eminence by their legal ability. I think that the time is scarcely come now when women can study law with much hope of a ready entrance into its practice. Medicine, however, is an open field for them, and they are better fitted for it."

"I've seen a good many doctors' signs with women's names on 'em, and I'm sure if you were sick and wanted a doctor, I'd great deal rather go for a lady than a man."

"Well, Nortie," said Sadie, "women have been physicians for many years, and some are very distinguished, so that there's no doubt about their being capable of doctoring the sick, especially women and children, as well as the men."

"I trust that mamma will not need the services of a physician very soon," said Mrs. Camp, smiling.

"Oh, dear; I hope not!" cried Sadie.

"Nearly half-past nine, mother," remarked Norton, glancing at the clock.

"Yes, my children, we should be thinking of our beds. To-morrow morning, Sadie, you can copy the letter in your nicest hand, and I will take it to the Mission when I go out."

Sadie was stirring when the red glow of sunrise shone in the windows next morning, and had made a neat copy of the "application" before it was time to give her atten-

tion to breakfast matters. That important meal dispatched, the two young bread-winners gone to their several departments of occupation, Mrs. Camp took up a garment which needed a "few stitches" to complete it. These "few stitches" employed her until the bell of the neighboring public-school sounded its warning to dilatory mothers or pupils that there was but a quarter of an hour remaining before the time for opening the day's exercises. Then folding up the work, she summoned Dell from the hall, where the little girl was enjoying a game of hide-and-seek with Mrs. Moriarty's Mickey, and bid her put on her "sailor" to go out.

"Where are we going, mamma?" inquired the little one as she skipped along.

"To the Mission, and then to the grocery to get some rice and some apples."

"Some apples to roast, mamma, for dinner?"

"Yes, my love, for dinner and breakfast; and if mamma can get some quinces at a moderate price, we shall have a few of them baked for Sadie, who likes them so much."

"Oh, squincers; I like 'em, too; they're so good. I 'nember we had some a great while ago. Didn't we, mamma?"

"Last autumn, when they were so plentiful in the market, yes, my Dell. Here we are at the gate. I must pull the bell."

Mr. Hammond received his visitors with his customary official kindness, and informed Mrs. Camp that the rumor was true concerning the vacant position in the school, but that they had received so many applications already, that he could not encourage her to expect a favorable result. Running his eye over Sadie's letter, he complimented its form and neatness, and remarked that in it alone the young lady had a strong advocate which would probably exert some influence with his associates on the committee.

Mrs. Camp left the secretary's office tolerably well pleased with the interview with the Mission functionary; and, having procured the few articles mentioned in the fragment of talk between mother and child, returned home.

H. S. D.

(To be continued.)



True philosophy is a revelation of the Divine will manifested in creation; it harmonizes with all truth, and can not with impunity be neglected.

BRAIN AND MIND.

CHAPTER II.

OF THE TEMPERAMENTS.

THERE are great differences among men in the substance and quality of their organizations. Some, like the wood of the palmetto tree, are porous, spongy, and weak; while others, like the oak, are dense, firm, and strong. A small horse will often out-work a large one; and a small man very frequently displays greater physical strength and endurance than one of a much larger size. The quality of one's organization is not confined to any particular part of the body, but pervades the whole, imparting its influence to the brain and nerves, as well as to the muscles; and thus, through the material instrument of the mind, affecting mental manifestation. This organic quality being the product or result of temperamental combination, a knowledge of the temperaments is most important in the study of mind.

Temperament may be described as a certain state or condition of the body depending upon the relative energy of its different functions. According to the ancient doctrine as promulgated by Hippocrates, the "father of medicine," there are four temperaments depending upon what he considered the four primary components of the body: the blood, the phlegm, the yellow bile, and the black bile. According to the preponderance of any one of these, the individual was known as, respectively, of

the sanguine, the phlegmatic, the choleric, or the melancholic temperament. In this classification, the brain is not considered as exerting any special influence, though its function is now conceded to be the most important in the animal economy. The attention of Drs. Gall and Spurzheim was directed to this fact, and they perceived the necessity of considering the brain as the basis of a special temperamental condition.

Spurzheim's Classification.—According to the classification adopted by the first teachers of phrenology, there are four temperaments, the Lymphatic, the Sanguine, the Bilious, and the Nervous, each depending upon the predominating influence of the stomach, the lungs, the liver, and the brain respectively. These different temperaments are indicated by external signs which are open to observation.

The Lymphatic Temperament, depending upon the predominance of the stomach, is characterized by a pale skin, fair hair, roundness of form, and repletion of cellular tissue. The vital action is languid, the flesh is soft or plastic, and the circulation feeble and slow. The brain, partaking of the general systemic condition, is slow and feeble in its action, and the mental manifestations are proportionately weak.

The Sanguine Temperament, in which the lungs, the heart, and the blood-vessels are constitutionally predominant, is indicated by moderate plumpness of parts, tolerably firm flesh, light or chestnut hair, blue eyes, fair



Fig. 3.—MOTIVE TEMPERAMENT. MR. J.

complexion, and ruddiness of countenance. There is great activity of the arterial system, fondness for exercise, and an animated countenance. The brain, in correspondence with the general state, is active.

The Biliary Temperament, having the liver for its basis, is marked by black hair, a dark - yellow or brown skin, black eyes, moderately full, but firm muscles and strongly-expressed physical outlines. All the bodily functions are characterized by great energy of action, which extends to the brain; and the countenance, in consequence, has decided and strongly-marked features.

The Nervous Temperament, depending upon the predominant influence of the brain and nervous system, has, as its external signs, firm and rather thin hair, thin skin, paleness of countenance, small muscles, and often delicate health. The sensations are lively, and the muscular actions rapid. The whole nervous system, including the brain, is

extremely active, and the mental manifestations are proportionally vivacious.

The Later Classification.—The classification of the temperaments used by early phrenologists, although correct and valuable in a pathological point of view, is not founded entirely upon a healthy state of the constitution, two of the temperaments—the lymphatic and the nervous—being traceable to abnormal conditions of the bodily organs. We therefore prefer a later classification which can claim a physiological basis, and is also more simple and comprehensive.

The human body is made up of three grand systems of organs, each of which has a distinctive general function in the physical economy. They are known as the Motive or Mechanical System, the Vital or Nutritive System, and the Mental or Nervous System.



Fig. 4.—MOTIVE TEMPERAMENT. MISS ...

The Motive or Mechanical System, composed of the bones, the ligaments, and the muscles, forms, by the combination of these three sets of organs, an apparatus of levers through which all the mechanical movements of the body are effected. The predominance of this system of organs in any individual gives

rise to the special expression in the organization of what we call the Motive Temperament.

The Vital or Nutritive System, in like manner consists of three classes of organs—the Lymphatics, the Blood-Vessels, and the Glands—which, through their functions of absorption, circulation, and secretion, are the instruments of the body's nourishment and purification. Where this system of organs is predominantly active, a physiological condition is induced which is known in the new classification as the Vital Temperament.

The Mental or Nervous System, forming the medium of connection between the soul and the external world, and through which thought and feeling are manifested, is likewise made up of three classes of organs—the organs of Sense, the Brain, and the Nerves. A preponderance of these three sets of organs gives rise to the Mental Temperament.



Fig. 5.—VITAL TEMPERAMENT. DUMAS.

We have, then, under this classification three temperaments, each of which is indicated by external signs in the physical organization, and exerts a specific influence in the manifestation of mind.

CHARACTERISTICS OF THE TEMPERAMENTS.

The Motive Temperament, depending upon a superior development of the osseous and muscular systems, is marked by a figure tall and striking, and tending to angularity. The bones are



Fig. 6.—VITAL TEMPERAMENT. MRS. B.

large, and generally long rather than broad; the face is oblong, the cheekbones high, the neck rather long, the shoulders broad, the chest moderate, and the limbs long and well jointed. The muscles are hard and firm, the complexion and eyes are generally dark, and the hair dark, somewhat coarse, and abundant. The features are strongly marked, and their expression is striking. This temperament gives great bodily strength, energy, and love of physical exercise; and its possessors have strongly-marked characters, and are inclined to take the lead in pursuits which employ largely the bodily forces. They are observers rather than thinkers, are firm, self-reliant, executive, and persevering. They are not easily turned aside from their purposes, and often pursue their ends with a reckless disregard of their own physical welfare or that of others. In this temperament

the mental organs of Firmness, Combativeness, and Destructiveness are usually large or specially active, and the perceptive generally well developed. (See Figs. 3 and 4).

The Vital Temperament, depending upon the predominance of the organs



Fig. 7.—MENTAL TEMPERAMENT. MISS W.

of nutrition and assimilation, is necessarily marked by breadth and thickness of body, rather than by length. Roundness is its prevailing characteristic. The shoulders are broad, the chest full; the abdomen well developed; the limbs are plump and tapering, and the hands and feet are relatively small. The neck is short and thick, and the head and face incline to roundness. The eyes are generally blue, the hair light or auburn, the complexion florid, and the expression of the countenance pleasant and often mirthful. Mentally, persons of this temperament are characterized by activity, ardor, impulsiveness, enthusiasm, and often by vacillation. They possess more versatility than firmness, more diligence than persistence, and more brilliancy than depth. They often give way to passion, but are as easily calmed as aroused, and are generally

possessed of a cheerful and genial disposition. They are usually fond of good living and jovial company, and through these are often led away into excessive indulgence in stimulants and the pleasures of the table. The English and German peoples furnish some of the best examples of this temperament. (See Figs. 5 and 6).

The Mental Temperament, depending upon the predominance of the brain and nervous system, is characterized by a frame relatively slight, and a head relatively large, an oval or pyriform face, a high and pale forehead; bright eyes and expressive countenance, and delicately-chiseled features. The hair is soft and fine, the skin delicate in texture, the voice flexible and somewhat high-keyed, and the expression of the countenance animated and full of intelligence. Persons of this temperament are refined and sensitive in feeling, possess excellent taste, great love of the beautiful in nature and art, and are vivid and intense in their concep-



Fig. 8.—MENTAL TEMPERAMENT. FROM LIFE.

tions and emotions. The mind is active and acute and disposed to literary and artistic pursuits. (See Figs. 7 and 8).

Combinations.—These primary temperaments, uniting with each other in different proportions, form combina-

tions almost as numerous as the individuals of the human race. A purely motive or vital or mental temperament will rarely, if ever, be found; but in so far as it does exist, there is necessarily a departure from symmetry of develop-



Fig. 9.—COMBINATION OF TEMPERAMENTS. LORD DERBY.

ment. The best temperamental condition is that in which these three primary elements are harmoniously blended. In this we have perfection of physical constitution, and the best condition for harmony in the mental manifestations. (See Figs. 9 and 10). To estimate correctly the relative proportion in which these temperaments combine in any individual, requires considerable observation and practice; but their influence is so powerful in the mental character that they can not be ignored by the practical student.

Sanitary Influence.—Another important influence which modifies the effect of size is health. Every bodily organ is liable to diseases, peculiar to itself or otherwise, which impair the integrity of its function. The brain, as an organized part of the physical system, forms no exception to this liability to disease, but is subject to ab-

normal conditions, which either diminish or intensify its action, and which it is very essential to take into account in estimating the power of mental organs. And not only are the mental manifestations affected by disease of the brain, but the body being an organism in which every part exists for every other part as well as for itself, the energy with which the brain performs its function will be largely dependent upon the health and vigor of the other bodily organs. Instances are met with of great mental vigor conjoined with a feeble body and ill-health, but such cases are rare and are due to extraordinary activity of the mental organs themselves, which seem to be capable, in a measure, of rising above the influence of bodily weakness. Yet such persons usually become exhausted suddenly, and their cases by no means militate against the general law, that a sound and vigorous body is essential to the manifestation of a vigorous mind. Were



Fig. 10.—COMBINATION OF TEMPERAMENTS.

these minds lodged in sounder bodies, there can be no doubt that their activity would be better sustained and efficient.

Exercise of the mental organs, in like manner, is an important element

in modifying the effect of size. The gymnast, by judicious bodily exercise, not only increases the size of his muscles, but their strength and vigor in a much greater degree. They become supple, dense, and firm by well-timed exercise. The brain coming under the general law of organic development, is affected by exercise in a manner similar to the muscles. When any mental faculty is called into activity, the blood is determined to that portion of brain upon which its manifestation depends, and it is invigorated and strengthened; its

size will thus be increased by the stimulating influence of the blood, but its energy and facility of action in a greater degree. Hence in estimating the power of a mental faculty from the size of its organ, it is important to know something of the extent of its previous activity. In the proposition as usually laid down with reference to the mental organs, that size, *ceteris paribus*, is the measure of power, these three conditions, *quality, health, and exercise*, are what are comprehended by the term, "other things being equal."

VICTOR EMMANUEL OF ITALY.

THE death of the *Re Galantuomo*, or Brave King, as his people have been pleased to call him, has produced a profound sensation in European affairs. Italy, on his accession to the crown, was weak and revolutionary under the heel of Austria, and the plaything of the Vatican. Yet in the course of twenty years, vast changes were effected. Aided by the counsels of Cavour, and the sword of Garibaldi, he found himself in 1870 firmly seated in the throne of an independent, united kingdom, and fairly set out upon a career of progress and prosperity such as Italy had not known for centuries.

Vittorio Emmanuele Maria Alberto Eugenio Ferdinando Tommaso, better known as Victor Emmanuel II., King of Italy, was the eldest son of Charles Albert, King of Sardinia. He was born on the 14th of March, 1820, in Turin, and received his early education from the Jesuits. In 1842 he married the Archduchess Adelaide of Austria, and six years later took the field with his father in the war against his wife's kindred. At the battle of Goito he was wounded in the thigh, and at Novara won great admiration by his gallantry. The latter battle resulted disastrously to the Italians; and Charles Albert, believing that his son's matrimonial alliance would be of service in treating with the conquering General, abdicated the throne. Victor Emman-

uel surrounded himself at the beginning of his reign with able Ministers, including Cavour and D'Azeglio, who gave him invaluable aid in his diplomatic negotiations with other sovereigns, and in quelling the spirit of insurrection that was showing itself at home. He reorganized the financial and military departments of his government, curtailed the privileges of the clergy, and the immense powers over property and education wielded by the Church, and raised the position of Sardinia among European powers to a much higher degree than it had ever before attained. His assaults upon the Church caused his excommunication by the Pope, but he declared his independence of the Papal authority, and laid one plan after another for relieving the country of Austrian oppression on the one hand, and spiritual slavery on the other. In the co-operation of General Garibaldi, who was the idol of the extreme liberals, he received indispensable assistance. Apparently discouraging Garibaldi's revolutionary tendencies, once even going so far as to make him a prisoner, the King was very careful not to place himself in active antagonism to the popular leader, but accepted the fruits of the latter's victories wherever they promised to further the ends he had constantly in view.

By Garibaldi's efforts the crown of the Two Sicilies was won for him; meanwhile the marriage of his daughter Clotilda to

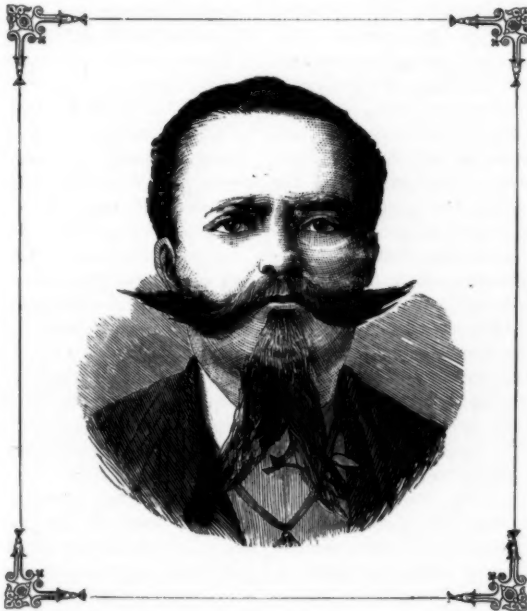
Prince Napoleon prepared the way for an alliance with France against Austria in the war for Italian independence.

An interview at Villafranca between Napoleon III. and the Emperor of Austria ended these hostilities, and Austria withdrew her troops in the main from Lombardy. France received Savoy and Nice for her share in Italy's victory, and Parma, Modena, Tuscany, and a large part of the Papal States were added to the possessions of Victor Emmanuel, who was soon after declared King of Italy. In 1866 the King saw his

King of Italy, is about thirty-four years of age, a brave soldier, and a man of independent mind. He is thought to be heartily in sympathy with his father's policy, and will make no important change in the administration.

Prince Amadeus, Victor Emmanuel's second son, was King of Spain from December, 1870, till February, 1873, and is now living in retirement in Italy. Pia, the second daughter, is the present Queen of Portugal.

Victor Emmanuel's illness, termed military fever, on account of the appearance of pimples or pustules, about the size of a mil-



opportunity to relieve Italy of Austrian encroachment altogether by an alliance with Prussia; and in 1870 the rest of the Papal States came under his dominion, Napoleon III. having been compelled by his own necessities to withdraw the French troops from Rome.

In 1871 Victor Emmanuel removed his capital from Florence to Rome and took up his residence at the Quirinal Palace, the last battle for Italy's freedom and unity having been fought and won.

Prince Humbert, who succeeds him as

let seed, upon the skin, assumed a form at first which caused no special alarm, as he had often suffered similar attacks and rallied speedily. He was very fat, and this fact rendered him subject to many disorders which men of lesser habit escape. It was deemed necessary to bleed him freely at times, to relieve him of the congestion due to plethora and fullness of blood.

His portrait indicates the possession of courage, ambition, and pride, a good degree of off-hand daring little mixed with temerity, and a clear and practical intellect.



It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

THE USE OF TOBACCO.

A FEW THOUGHTS FOR YOUNG MEN.

MAGAZINE literature has abounded quite freely of late years in what have purported to be thorough and searching inquiries into the nature of the influence of tobacco on the human system.

Learned-looking articles they were, enriched with anatomical phrases and chemical analyses, giving every property of the plant and its exact influence on the organs.

Generally, they found tobacco to be pernicious, and have ended with "counterblasts" compared with which that of King George was but a feeble fizzle.

But now and then have come essays apparently quite as thorough and exhaustive, quite as rich in chemical and medicinal lore, which, after dwelling upon the comfort, solace, pleasure, and "company" derived from the "weed," then giving its history, then an account of the wide-spread diffusion of the practice of smoking among the races of men, have descended into its chemical and therapeutical bearings, found them all quite innoxious, and ended with a panegyric if not an apostrophe to "that boon to our race, the tobacco plant."

These articles were all written, of course, to influence the habit of using tobacco. But one of the latter kind has been sufficient to destroy the effect of a score of the former kind. It has had simply to reinforce the already strong power of habit in resisting the effects of the former kind, and this it has done mightily, by arming the defenders of the habit with counter-claims to anything that may be advanced on the grounds of scientific research. No sooner do those who would dissuade from the use of tobacco

appeal to science, than they are confronted by science, be it good or bad.

Thus opposed to each other, of course one side must be wrong. It is not the present purpose to weigh between them. We have made no personal investigations, and to assume to say which was right and which wrong, would but be doing what is very common, it is true, but what is also very foolish—speaking from our prejudices.

What we do propose, is something which antecedes these discussions, and though it is hard to conceive how nicotine, an element of tobacco, and a poison so deadly it will almost instantly kill a cat, can be used constantly without deleterious effects on the human system, we may consent for present purposes that these scientific counter-claims exactly neutralize each other and stand for naught.

Ours is a prior question. For let it be distinctly borne in mind, that neither of these disputants claim that tobacco is of any positive benefit to the system. The one side emphatically declares it an injury, while the other simply defends its use as a "pleasure," a "comfort," and insists that it is harmless.

It is the question of its pleasurable nature to which we now desire to call attention.

It certainly must be conceded that in beginning it is not a pleasure; the first taste is odious, the first effects poisonous, or, in other words, sickening. It is only as our natural tastes and instincts are overridden and forced to submit that we become used to it. Finally, persistent use makes it necessary and a pleasure.

But what is it that has brought the pleas-

ure? Not tobacco, but *habit*. The same overriding of nature, the same continuous use would have made *anything else a pleasure and a necessity*.

It is said to be a condition of perfect health when a man has nothing to remind him that he has a member or an organ; when he has no headache to remind him that he has a head; no toothache to make him think of his teeth.

It is also a condition of mental serenity and comfort when a man has nothing to amuse or distract his thoughts, when they are free to go unencumbered and uninterrupted to the subject he is contemplating.

But habit may, and often does, make some very singular artificial conditions necessary in order to secure this state of mind. The boy accustomed to suck his thumb, or the young miss in the habit of biting her nails, will always be doing those things when trying to think intently. The man accustomed to carry a cane constantly, will always be missing something should he happen to step out without it. I have known a man to be entirely unfitted for business for the whole day by such a trifling circumstance as having left home hurriedly without his cane.

Tobacco is conceded to be a nervous irritant. We may acquire habits which render it necessary for us to be doing something in itself very annoying in order to enable us thoroughly to forget ourselves. Biting the nails is of that order. I knew a little girl who, to regain control of the muscles of her face, had to have her nose, eyes, and ears tickled with a feather every day. It became a necessity to her; and long after she had complete control of her muscles, if her father did not sit down and tickle her nose for half an hour after dinner, she would be sleepless the whole night.

I know a gentleman who has acquired the singular habit of pulling the hairs out of his head, a few at a time, while reading. It is impossible for him to read without doing it, and as he is a great reader, the consequence is that he keeps himself picked bald. Those who have noticed, at the Liberal Club or other such gatherings, a very eloquent gentleman rise up with a patch of hair on one

side of his head while all the rest was bald, only to reappear again in three or four weeks with the patch on the other side, while every hair has disappeared from the spot that was covered before, will know whom I mean. Now the smoker has been doing simply and exactly the same thing. He has gotten himself into the condition of requiring a certain nervous irritation and a certain sensation on the taste-buds of the mouth which, though unpleasant in itself in the beginning, has become necessary. Without it he is not himself exactly. With it he is no more than he would have been without it but for the habit.

All the boasted "comfort," "solace," "sedative influence," etc., which he experiences are but *negative pleasures*. His "comfort" is but freedom from the discomfort which he would experience if deprived of his smoke. It is not a positive gain of pleasure any more than pulling his hair out is a positive gain to the gentleman spoken of. No smoker can tell me that he is any happier with a cigar in his mouth than I am without one. I know from experience, having once been a great smoker, that it is not so. Other things being equal, he is simply as happy with it as I am without it, having lost the habit.

In other words, he has handicapped his happiness with a dead weight for life. I, in health, am in a normal condition. He, in health, plus a cigar, is in the same condition, no more.

His happiness is the safest and surest of being constant with whom it depends upon the fewest conditions and necessities, and who has those conditions most within himself. The smoker has foolishly, most foolishly, placed it within the power of a little weed—a thing entirely extraneous to himself—and his ability to procure or not to procure it, the power to make him happy or unhappy! How cheaply, for how much less than the price of a mess of pottage he has sold out and transferred the conditions of his happiness! Nay, more, he must even pay tribute to his life-long master. He has voluntarily assumed to pay from ten cents to five dollars per day, according to his tastes, for all his life in order to be no more

than he would have been without it. What a fool! Still more, he has needlessly burdened himself with a care for all his life. He must get up when he is weary or go out of his way to procure his inanimate tyrant. And then, if he forgets it, or if money fails, or if any circumstance interferes with his getting it, how miserable!

The man who derives the same kind of pleasure—nervous irritation—from pulling out his hair, is a thousand times more wise. He grows his own supply. He has it always with him. It costs nothing. It is not filthy.

The smoker pollutes his breath and renders his mouth too filthy a thing to offer, if he has any sensibilities at all, to a refined and beautiful woman to kiss. How can she kiss it with pleasure when it tastes of odious tobacco, to which she is unused, and smells like a rank old pipe? What a filthy fool is the smoker!

"It certainly stimulates," did some one say? It does not stimulate the man who has grown used to it, and who requires it to give him his normal powers, any more than the cane stimulated in the case mentioned. But if it did, so much the worse! Why stimulate when every up requires a down? When, by the same law which regulates the tides, there must come a reaction?

The man who thinks that, with his cigar in his mouth and his feet cocked up, his mind is more vigorous and powerful than under other circumstances, only imagines it. His thoughts will flow quite as freely and as brilliantly, in the same position and with the same leisurely mood, when he has thoroughly lost the habit of smoking, as they did before. The testimony of thousands of reformed smokers will confirm this, though they did not believe it possible while they were smokers.

I have not thought it necessary to say anything about chewing. The habit is so filthy and disgusting that it is rapidly passing away of itself. It is now confined mostly to old men or to young men of low origin. No respectably reared young man now chews tobacco. It is not a bit too strong, to say that the possession of the habit by a young man of to-day is good proof that he was

brought up in low and unrefined surroundings.

Men are refining. These filthy habits go out one by one. A hundred years ago, snuffing was as fashionable as smoking is now. The management of the snuff-box was then considered quite as graceful an art as the management of the cigar is thought to be by young men now. But in those days men did not change their underclothing once a month! As they grew more refined they saw the filthiness of snuff, and the habit passed away.

"Dipping" was very prevalent in the South, before the war, among the ladies. I doubt if in all the South a young lady can be found to-day who will own to the habit without blushing. This is a good sign that it, too, will pass away speedily.

Chewing, as I have intimated, will be nearly obsolete in another generation. But smoking has a firmer hold. Yet it, too, is surely doomed. As soon as the good taste and good sense of the people is sufficiently aroused to comprehend its real foolishness and filthiness it, too, will go the way of the rest. Already there is getting to be a strong prejudice against the pipe. "Nobody but a loafer would go into the street with a pipe in his mouth," I heard an old smoker say to his son the other day. Who of my readers, seeing that it is foredoomed, will be wiser and more refined than his generation, and discard the habit now? It is certainly something in a young man's favor, even now, to be told that he does not smoke at all.

The habit is usually acquired in boyhood, because it strikes the thoughtless, youthful fancy as an accomplishment. It is yearned for most about the time they aspire to high hats, canes, and long-tailed coats, because they think it helps to make them manly.

It is most amusing to see the street-gamin of eight or ten years, after he has found a discarded butt that suits him, light it and start off. He probably has but two garments on his person, a shirt and a pair of pants. Or, if you insist upon counting his one suspender as a third, there is still likely to be enough missing from an important part of his pantaloons to make the assertion safe that he has no more than two. Yet, what

long, manly strides he takes! And with what an air he removes it from his lips, between his two fingers, to speak to his companion, and then replaces it again!

Even the young man who has just crept under his first high hat would appreciate its absurdity.

But does he know that his own antics with his cigar are quite as amusing to those a little older than himself? And then, again, does the adult smoker know that he, with

his cigar in his mouth, is proving himself a thoughtless simpleton to any one who will stop to think of the absurdity of the habit?

No matter how great and wise a man may be, it lessens him just a little in your esteem if you find him a smoker. It is a little sign of a little weakness somewhere.

Who among my readers will proceed at once to place himself beyond the danger of being adjudged a fool, in this respect, at any stage of life?

MR. E.

ALLOPATHY AND WATER-CURE.

FROM "Notes of Hospital Practice," published in the *New York Medical Journal* for January, 1878, we extract the following report of several cases of Acute Rheumatism which were treated hydropathically by Dr. A. L. Loomis in the course of his service at Mount Sinai Hospital. His method is stated as consisting "in stripping the clothes from the patient, and wrapping up with a blanket wrung out of water of from 105° to 100° Fah. A second blanket, similarly treated, was placed over the wrapping, and the whole covered with two dry double blankets. The bed was protected with India-rubber cloth. Perspiration was aided by warm diluent drinks."

We present the notes in the concise tabulated style in which the doctor gives them:

"CASE I. July 1st.—Temperature 101.8°. 2 P. M., the warm pack applied. 5 P. M., pain relieved; can move the extremities without difficulty. Temperature 104.6°. Quin. mur., gr. xxv. The pack was kept on during the night. Patient perspired very freely.

2d.—A. M., 100°; P. M., 102°. Quin. sulph., gr. xx.

3d.—A. M., 101.8°; P. M., 101°. Pain has not recurred.

4th.—Slight pain in right shoulder.

5th.—A. M., 100°; P. M., 101.8°. No pain, but slight stiffness.

6th.—A. M., 100.8°; P. M., 103.4°. Pain returned in both wrists. Patient placed in pack for four hours, when pain was completely relieved.

7th.—A. M., 100.2°; P. M., 101.8°. Slight pain in right wrist.

8th.—Pain returned in knee and ankle. The pack applied to the affected extremity, which relieved pain.

9th.—Pain returned in both knees, which was relieved by pack applied to each leg.

10th.—No return of pain. Patient able to walk about.

13th.—Pain in right wrist and thumb. Pack applied to arm for three hours, when all pain was relieved.

18th.—Has had no pains since 13th. Discharged, cured.

CASE II.—Abraham L., aged thirty-four years. Admitted July 11th. Had an attack of acute rheumatism twelve years ago. Two weeks ago it returned. For the past eight days has been confined to bed.

On admission, all of the joints were found affected. At 2.30 P. M. pack applied. 5.30 P. M. no pain except in right knee and ankle. 7 P. M., pain entirely relieved. The pack was not removed till 4 A. M. the following morning.

July 12th.—No pain. A. M., 101°; P. M., 102°. The patient was able to get out of bed at 8 A. M., and walk about without pain. Quin. sulph., gr. xv. Toward evening pain returned in the right wrist, shoulder, and knee. At 8 P. M. placed in pack till 6 A. M. the following morning.

13th.—Entirely free from pain. A. M., 102.6°; P. M., 101.8°. In the evening slight return of pain in right wrist.

14th.—A. M., 101.2°; P. M., 104.5°. Slight return of pain. Placed in pack from 9 A. M. till 5 P. M., when pain was completely relieved.

15th.—A. M., 102.4°; P. M., 103.6°. Slight

pain in both ankles and right knee. Placed both legs in pack, when pain immediately ceased.

16th.—A. M., 101.6°; P. M., 102.6°. Slight pain in upper cervical vertebræ.

23d.—No pain since July 16th. Discharged, cured.

CASE V.—Max. N., aged twenty-eight years. Admitted July 18th. Had pain in right elbow and metacarpal joints during past three weeks. On admission these joints were found swollen and inflamed, with the fingers contracted. Pack applied to shoulder and arm.

July 19th.—Much relieved. Treatment continued, the pack being changed twice during the day.

22d.—Pain completely relieved. Complained of anæsthesia, with diminished power in muscles. Electricity ordered.

August 2d.—Discharged, cured.

CASE VI. *Failure of Alkaline Treatment—Benefit of Pack.*—Orga. K., aged thirty-three years. Admitted November 7th. Patient was delivered of a child two months ago. Three weeks afterward was attacked with rheumatism, involving the shoulders, elbows, hips, and ankles. On admission was found unchanged. Applied full hot-pack for four hours, which relieved, but did not completely remove the pain.

November 8th.—Placed on full alkaline treatment.

12th.—No relief from alkaline treatment, which was stopped, and patient placed in pack for six hours, which relieved the rheumatism.

13th.—Has had no pain since use of pack.

17th.—Discharged, cured. No pain since November 12th.

CASE VII.—Jenny K., aged fifteen years. Admitted January 2d. Has had acute rheumatism for past three days, which continues on admission; 104°. Heart normal.

January 3d.—Placed in pack at noon. 6 P. M., pain relieved, but pack continued, as no inconvenience is felt by the patient. 9 P. M., pack removed; no pain; 104.2°. Quin. sulph., gr. xv.

4th.—No pain. A. M., 102°; P. M., 104°.

5th.—A. M., 101.8°; P. M., 104.4°. Slight

pain in the evening; pack applied till patient perspired freely.

25th.—Discharged, cured. No pain since evening of January 5th.

CASE VIII.—Jacob G., aged fifty-three. Admitted January 18th. Had an attack of acute rheumatism three months ago, since which time has not been free from pain. On admission the knees are principally involved. Placed in a full pack.

January 19th.—Pain relieved; continued packs to legs, changing twice each day.

24th.—Treatment continued. Patient steadily improves.

30th.—Discharged, cured.

CASE IX.—Henry L., aged forty-five. Admitted January 23d. Patient has been suffering for the past five days with pain in the dorsal vertebræ and knees. Pressure over the articulations causes severe pain. Placed in full pack for three hours, when he was much relieved.

January 24th.—No pain in back. Slight pain in knees. Repeated pack for three hours, when pain was completely relieved.

25th.—No return of pain.

28th.—Discharged, cured. No return of pain since January 24th.

CASE X.—Peter M., aged forty-nine. Admitted January 29th. Patient contracted rheumatism while in the army. The attack lasted for four months. Six months ago he again had rheumatism, involving the shoulders, elbows, knees, and ankles. On admission, pain was found in all of the joints of the legs and arms.

January 30th.—Pack applied to the lower and upper extremities for twelve hours, at the end of which time the pain was much lessened.

31st.—Pain continued in arms. Pack applied for twelve hours, with complete relief.

February 5th.—Discharged, cured. No return of pain since January 31st.

CASE XI.—Joseph F., aged forty. Admitted February 2d. Has had severe pain in shoulder, knee, and foot, for four months. Placed in full pack, which relieved the pain.

February 6th.—Has had three packs since February 2d. Pain completely relieved.

8th.—Discharged, cured.

CITRON FRUITS AND THE POMEGRANATE.

The Lime—Citron—Shaddock—The Pomegranate—A Compound Fruit—Introduction to our Market—A Pretty Tree.

THE lime is said to be but a smaller lemon, which, indeed, it closely resembles in shape and external appearance, only that it always retains its green color. It is usually but about an inch and a half in length, and in its rather smooth, fine skin the little oil-vesicles are plainly seen.

Its acid is still more intense than that of the lemon, but to many it is more agreeable. I can not say that the difference is noticeable, and this is so nearly the general conclusion that limes, which are seldom less in price by the dozen, have but a small demand in the market. They are found there usually but a little while in mid-winter. The lime is very little cultivated for the sake of its fruit, though it is somewhat in demand in the West Indies as a hedge plant, for which purpose its low, shrubby growth and its thickly-set spines are well adapted.

Its juice, as well as that of the lemon, is considered a specific for scurvy. It can be obtained in the market in barrels, with oil kept on the surface to prevent its coming in contact with the air. It is, however, difficult to keep, unless scalded and sealed in air-tight cans. Its reputation for this medicinal purpose is decreasing; it being ascertained that scurvy is a salt disease, and that it can be really prevented only by a more wholesome diet containing the usual acids of fresh vegetables and fruits.

THE CITRON

is another tree of the same genus, much longer known in history than either the orange or the lemon. It is the "apple tree" of Syria to which the bride of Solomon likens her spouse, and it was the handsomest among the trees of the wood. The fruit is large, handsome, and fragrant, but the pulp is very acid and full of seeds. It was anciently used mostly as a perfumery box, the odor of which was very refreshing and "comforting" to love-sickness or to any other languishing condition. The rind is now largely used in the manufacture of the candied citron of commerce. The fruit

is much larger and the rind far thicker than most other fruits of the genus, being often from three-fourths to one inch thick after it is dried. There are some large lemons whose peel is used in a similar manner. We will not enter into the details of the manufacture, as it is no more valuable to us than other condiments of a similar nature. It is not, indeed, quite so biting as fresh orange peel, but it is saturated with sugar, difficult of digestion, and of little or no value as a food.

THE SHADDOCK

has the exact appearance of a monstrous, smooth, coarse, light yellow orange. As shaddocks come at the same time with oranges and some of them are but little larger than large oranges, they are naturally mistaken for them on first appearance, but when once cut into and eaten, the deception is discovered and not likely to be repeated. The inner structure is exactly similar to that of the orange, but lighter in color, and the skins are thicker, so that the little bags of juicy pulp, which are but faintly distinguishable in the orange, can be easily separated in the shaddock. It was found in China and introduced into the West Indies by a Captain Shaddock, after whom it was named. The French call it *pompelmouse*.

THE POMEGRANATE.

The name is a description—*Poma*, an apple or a fruit, *granatum*, seeded. It is about the size and shape of an orange, with a rind very similar in texture and color, though not quite so thick. Its calyx end, however, is not smooth. It spreads into an open coronal, about half an inch in depth, and perhaps three-fourths of an inch in width, persistent and almost woody. This makes the appearance of the fruit quite ornamental, and has secured its imitation in needlework and architecture. Bible readers will remember that the bottom of the high-priest's robe was decked with "a bell and a pomegranate," alternately; while in Solomon's temple the two grand brass pillars, which were the master-pieces of its architecture, were ornamented principally with pomegranates.

In later days its empty regality has been recognized. Anne of Austria adopted it as her device, with the motto, "My worth is not in my crown;" while the French have framed the idea into a riddle, asking

"Quelle est la reine
Qui porte son royaume dans son sein?"

It might not be inapt as the emblem of a limited monarchy—an empty crown—only that neither monarch nor people would like to say so, and true democracies do not acknowledge even an empty crown.

We can look upon it, however, in a different light—a tribute of taste to the queenship of beauty in the natural world, a distinct effort to lend the grace of form to food destined to regale the taste. Let us look within, tearing off the skin as we would that of an orange. The internal structure is even more singular than the external. We had occasion to remark the separate cells, or rather sacks, inclosing the pulp and juices of the orange and the shaddock. Here they are still more distinct, each one forming a fruit by itself, with its seed and its skin, the latter very delicate indeed, yet often allowing of separation from the mass without breaking, which is more than we can say of the little fruits that form the raspberry and the blackberry. The pomegranate, then, is

A COMPOUND FRUIT,

of which the bright yellow peel is the envelope. These little fruits are ranged within in the most compact manner, looking more than anything else like kernels of corn, they are wedged in so tightly. Yes, and in color, too, they are about the same as the reddish corn which we still sometimes find in old-fashioned cornfields. But these kernels, instead of growing on cobs, grow on tough, whitish divisions, stretching regularly from the center to the sides of the fruit, this substance very much resembling the white inside of orange peel. This is not eaten.

The kernels, as they are called (the individual berries, in fact), come out readily and are very juicy, fresh, and racy, and quite agreeable to the taste. Some have compared them to currants, and in color there is a slight resemblance. That comparison

may be the best available to an Englishman, but to an American they will much more readily suggest the Indian corn. It was a few tempting kernels of this tempting fruit that Proserpine is said to have eaten in the Elysian fields—just enough to break her fast and prevent her returning to earth. Whatever else this may be intended to teach, we certainly gather from it the high value placed on it by the ancients. They had two or three kinds—a sweet, a very sour, and a subacid. The latter was the kind most common. It was very abundant in Egypt and in Canaan, several places having "Rimmon," the Hebrew name for this fruit, attached to them in one form or another. Homer tells us that there flourished in the gardens of Alcinoüs—

"High and broad fruit-trees that pomegranates bore,
Sweet figs, pears, olives, and a number more
Most useful plants did there produce their store,
Whose fruit the hardest winters could not kill,
Nor hottest summers wither; there was still
Fruit in his proper season all the year.
Sweet zephyrs breathed upon them blasts that were
Of varied tempers. These he made to bear
Ripe fruits, these blossoms, pear succeeded pear,
Apple grew after apple, grape the grape,
Fig after fig."

The Romans also cultivated it, and in the isle of Eubœa there was formerly a statue of Juno holding a scepter in one hand and this fruit in the other. But the name by which they designated it was "Carthaginian apple," having been brought from that neighborhood in the time of Sylla. Thence also probably came its botanical name of Punica. It is very abundant all through Northern Africa and Southern Europe. It is supposed that Granada, in Spain, owes its name to this fruit, especially as a split pomegranate forms a part of its heraldic device. It was probably brought there from Africa. The juice of the fruit is very refreshing, being often prized for invalids more highly than that of the orange. "The spiced wine of pomegranates" is one of the delicacies mentioned in the Song of Solomon. It is known to have been subjected to a similar process of manufacture as the wine of grapes, though we do not find any evidences of its being fermented.

Of its use in cookery we find no mention in the ancient archives of cookery. At the

present time the juice of the most acid part is sometimes substituted for lemon juice, and the subacid fruit is used for conserves and jellies. Its preparation for the table often consists of a separation or a shelling out of its kernels and dressing them with sugar, as we do our berries. The seeds are large enough to be slightly in the way, being white and compressed probably when forming in the young fruit. It is often a question, as with grapes, whether they shall be eaten or rejected, and we would advise precisely as we do about grape seeds, "Do as you like." We are quite sure, if we could have them introduced, that the agreeable, subacid juice would soon come into demand for puddings, sauces, for cooking with sweeter fruits, and other similar uses.

INTRODUCTION TO OUR MARKET.

They grow larger and finer in the West Indies than in Europe, and they also bear transportation well. We had during the past season the pleasure of offering some to the taste of a lady who had eaten them in Palestine, and she declared that they were preferable to those she found in that ancient home of this renowned fruit. It is certainly one of the great desiderata in our fruit list—a juicy, subacid fruit that will bear cooking, not so sharp as the currant and cranberry, and one which can be eaten freely fresh as well as cooked. We wish some of our dealers were enterprising enough to introduce it and advertise for the public benefit. Perhaps they might also be benefited in return. It is said to have been introduced into the Southern United States, though we are not informed exactly where. Even as I write this, I am reminded of a California Agricultural Report and other documents, generously given me at the Centennial Exhibition; and looking them up I find the pomegranate mentioned as one of the fruits raised there, and that they "thrive well." The Santa Clara and the San Joaquin Valley Fairs both awarded premiums for pomegranates in 1874, but these had not arrived at the dignity of a mention in the table which recorded the number of fruit trees of different kinds then growing in the State. We find also the fol-

lowing extract, taken originally from *The Woman's Pacific Coast Journal*. It was written by a visitor in Yuba County, in the month of March: "Fifty miles from the bay-window where we write, the snow-covered heads of the Sierra Nevada Mountains stand clear and sharp against the eastern sky. Here in the foot-hills fuchsias, geraniums, and roses are bright with half-open buds and blossoms. In the closet are crisp, hard quinces of last year's crop; while along the borders the quince trees are thickly covered with blossoms. The purest crystal waters come leaping from the hearts of the hills, and all the meadows laugh with the gayest-colored flowers. Humming-birds and swallows, callas and verbenas, orange, lime, and lemon trees, are all mixed up in sweet confusion. Yonder are olive trees in perpetual green, and, a little further, English walnuts and grape-vines with leaf-buds fast swelling. The apple trees patiently bide their time and season; but peaches, apricots, and nectarines are tossing to the breeze the sweetest perfumes. . . . Pomegranates, almonds, and Newtown pippins grow in the same border as peaceably as if they had always been friends. Oleanders and sweet-cassia trees are from ten to twenty feet high, and out-of-doors all winter. Down the walk I see blackberries, raspberries, currants, gooseberries, and half-grown strawberries."

The pomegranate can be trained as

A PRETTY TREE,

fifteen or twenty feet high, though it is usually grown as a bush, and not unfrequently as a hedge plant. In many parts of Peru the hedges are nearly all of the pomegranate bush. The branches are often thorny, the leaves a very bright green, and the handsome flowers, borne either singly or in bunches of three or four, with a red calyx and scarlet petals surrounding a crowd of stamens. As they blossom from June to September, they would be very ornamental for their floral beauty, and many are so cultivated. The fruit, like that of the orange, frequently hangs on the tree until spring. It is not one of the citron fruits, although it resembles them in many particulars. It is one of the myrtle blooms, and is related to the guava, the rose-apple, the allspice, and the clove.

JULIA COLMAN.

NOTES IN SCIENCE AND AGRICULTURE.

Properties of the Human Gastric Juice.—M. Charles Rickett has been experimenting upon the boy patient on whom Prof. Verneuil, of Paris, recently performed the operation of gastrotomy. According to his researches the acidity of the gastric juice is equivalent to 1.7 grammes of hydrochloric acid to one thousand grammes of fluid. This acidity increases a little at the end of digestion. Wine and alcohol also increase it. It tends to return to its normal acidity after the introduction of acid or alkaline matters. The mean duration of digestion is from three to four and a half hours, and the food does not pass gradually out of the stomach, but in masses. According to four analyses, after a modification of Schmidt's method, free hydrochloric acid exists in the gastric juice; and altogether this secretion appears to consist of one part of lactic acid to nine parts of hydrochloric acid, the former of which is free in the gastric juice. The nature, therefore, of the free acid in the stomach seems almost solved, and it may be said that in every one thousand grammes of the juice there are 1.53 grammes of hydrochloric acid and 0.43 of lactic acid.

An Energetic Woman.—Mrs. Saurin, of Kansas, is a woman whose energy deserves mention. She has a farm of three hundred acres of prairie land. Last spring she harvested ten acres of wheat of her own plowing and sowing, and put down twenty acres more. She is not physically strong. When she began her plowing she was so feeble that she had a chair at the end of her furrow, and was obliged at every second row to stop and rest. She chose this life because she had more fitness for it than for anything else that gave promise of a future for two little sons whom she desires to educate to usefulness. Her health improves, and a sheep-raiser in the neighborhood has engaged her to plow ten acres of land for him and take her pay in sheep.

Catastrophism vs. Evolution.—In his address before the Alumni of the Sheffield Scientific School, New Haven, Conn., Mr. Clarence King takes high ground against the evolutionists on the basis of his own geological investigations, having found disturbances which can apparently be accounted for only upon the ground of catastrophe or complete overturning of existing conditions. He first showed the reality of physical disturbances at several epochs in the history of the Cordillera region, which has been his field of labor. Between the catastrophes intervened the long periods of quiet action, such as is claimed for universal time by the uniformitarians. The same amount of energy would be required to elevate mountainous districts upon either view. The effects of the cataclysms upon life are claimed to be partly ex-

termination; partly destruction of biological equilibrium, thus violating natural selection; and partly the production of morphological changes in plastic species. Marked changes of species are noted in connection with these catastrophes. An illustration is afforded by the supposed genealogy of the American horse, as set forth by Huxley and Marsh, and regarded as demonstration of evolution, or the descent of the several genera from each other. King asserts that in the Cordillera country, where these relics occur, there has been a catastrophe intervening between each two successive forms of the horse.

After criticising the opinions of Huxley, Lyell, Hutton, Darwin, and others, he resorted to the effects of sudden terrestrial or cosmical changes, and conceived that the effects of these changes would be, first, extermination; secondly, destruction of the biological equilibrium; and, thirdly, rapid morphological change on the part of plastic species. When catastrophic change burst in upon the ages of uniformity, and sounded in the ears of every living thing the words, "change or die!" plasticity became the sole principle of salvation. And plasticity is the key to survival and prosperity. Mr. King concluded his address thus: "He who brought to bear that mysterious energy we call life upon primeval matter, bestowed at the same time a power of development by change, arranging that the interaction of energy and matter, which make up environment, should, from time to time, burst in upon the current of life and sweep it onward and upward to ever higher and better manifestations. Moments of great catastrophe, thus translated into the language of life, become moments of creation, when out of plastic organisms something newer and nobler is called into being."

The Story of Nebuchadnezzar.

—Among the discoveries made by Colonel Rawlinson, in the excavations of Babylon, we are told, is that of Nebuchadnezzar's hunting diary, with notes, and here and there a portrait of his dogs, sketched by himself, with his name under it. He mentions in it his having been ill, and while he was delirious he thought he had been put to graze, like the beasts of the field. Is not this a wonderful corroboration of Scripture? Rawlinson also found a pot of preserves in an excellent state, and gave some to Queen Victoria to taste. How little Nebuchadnezzar's cook dreamed, when making them, that twenty-five centuries after the Queen of England would eat some of the identical preserves that figured at her master's table!

The Telephone under Water.

—Experiments have been made lately with the telephone to test its efficiency as an aid to submarine divers. It was found that sounds

could be conveyed by it between the diver and his companions in a boat or on shore, and when some slight necessary modifications shall have been made in the instrument, it is thought that it will much relieve the danger of this perilous business.

TO A HUSBANDMAN.

HAIL, sunburnt glory of the plow—
The noblest work that Heaven has made—
With clustering gems upon thy brow;
While wielding thus thy scepter spade,
That swarthy palm in mine be laid,
For I would grasp it bravely now,
And see thee stride across the plain,
Scattering those amber showers of grain
That fall like guests of golden rain
Along the mellow, furrowed sod,
That lies the open hand of God.

Behold the heritage that's thine,
With fretted dome and crystal walls;
Behold the gorgeous lamps that shine—
Sun, moon, and stars—throughout its halls;
Behold its founts and waterfalls,
Its fleecy flocks and gentle kine:
And on its landscape gardens look,
Where nestles many a shady nook
Beside some sweet-toned silver brook,
And would'st thou then—a worthless thing—
Drop in the hovel of a king?

JAMES MC CARROLL.

Hardy Potatoes.—Teller at Passy, near Paris, is said to have produced a variety of potatoes that will stand the cold of winter. The Minister of Agriculture has recognized the discovery, and will aid him in further experiments. If the new article proves altogether satisfactory, and adapted to cultivation on a large scale, it will remove the necessity of considering the housing of an article just now rather sensitive to cold.

Fluoride of Calcium in Teeth.

“Fluoride of calcium is so integral a part of the enamel of the teeth that we are inclined to ascribe to its presence (at least in part) the polish and extraordinary hardness of that substance.” Berzelius (Alt. Gehlen's Jour., Bd. 3, S. 1,) found 2.1% of fluoride of calcium in the dentine, and 3.2% in the enamel of man's tooth, while the dentine and enamel of an ox contained respectively 5.69% and 4% of this constituent. The presence of fluoride of calcium, in small quantities, has been determined with certainty in the bones of almost all animals. Both Middleton and von Bibra have recognized the presence of fluoride of calcium in the bones of mammals, birds, reptiles and fishes, and even in the shells of mollusks. (Lehmann's Physiological Chemistry, vol. I, p. 383, 1855; also, Quain's Anatomy, 7th edition, p. 789.)—*Contrib.*

Good Shoe-Blacking.—Dissolve one ounce borax in water, and in this dissolve gum-shellac until it is the consistency of thin paste; add lampblack to color. This

makes a cheap and excellent blacking for boots, giving them the polish of new leather. The shellac makes the boots or shoes almost water-proof. Camphor dissolved in alcohol, added to the blacking, makes the leather more pliable and keeps it from cracking. This is sold for fifty cents for a small bottle. By making it yourself, a dollar will buy material for a gallon.—*Kwail New-Yorker.*

Street and House Lighting by ELECTRICITY.—Some very interesting experiments have been made in England lately, to test the practicability of using electricity as a medium of illumination. The London *Telegraph* furnishes the details:

“A trial of another process of lighting by electricity was made the other day, at the Crewe Railway Station, under the direction of Dr. C. W. Siemens. The effect produced was pronounced satisfactory, and it is stated that if the new invention continues to stand the test to which it is being subjected, it will be utilized in lighting signals, signal-boxes, junctions, and platforms. But all previous achievements in reference to electric phenomena appear to be eclipsed by the improvements introduced by M. Paul Jablockhoff, and recently exhibited to a party of distinguished engineers at the West India Docks, Limehouse. The novel invention of that gentleman, who was formerly an officer in the Russian engineer service, has the credit of removing two obstacles which have hitherto baffled the efforts of explorers in the region of electric research. No method had been previously discovered for producing more than one light from a single current of electricity. Moreover, a certain clock-work arrangement was indispensable for maintaining the two carbon points in a fixed relative position to each other, without which the gradual consumption of the carbon would widen the space between them, so that it would be impossible for the electric current to traverse the interval, and the light would consequently soon expire.

“Pursuing the line of investigation begun by MM. Lodyghin and Kosloff, M. Jablockhoff has succeeded in so distributing an electric current as to produce an indefinite number of lights within a single circuit. He has thus made provision for supplying lights of great power suitable for the illumination of halls or warehouses, and also, from the same electrical source, producing a number of lights of less intensity for the use of offices and corridors. In this way the magneto-electric machine would correspond to the gasometer, the wires to the gas-pipes, and the kaolin band inserted between the perpendicular and parallel carbon points to gas-burners. Several lights of strong effulgence required to illuminate an extensive area, may be simultaneously kindled by transmitting to the carbon points the electric stream from a battery; and, if a score of smaller lights were needed for as many different apartments in the same building they may be ignited or extinguished

by simply connecting or disconnecting the wires. A single electric flame, according to the principle of M. Jablockhoff, furnishes light equal to that of a hundred gas-burners, with this important difference, however, that the vastly augmented illuminating power of electricity is not attended with any increase of temperature. A soft, transcendently white, and uniformly steady light is obtained, instead of the yellow and flickering jet to which consumers of gas for the most part are accustomed, while salubrious ozone is developed in process of combustion, instead of the unwholesome vapors with which the atmosphere is to a certain extent invariably poisoned by the product of ordinary gas coal. The kaolin—which is a species of hard clay employed in porcelain manufacture—being a non-conductor, is placed between the two upright sticks of carbon. When the electric current is conveyed by means of wires to the carbon points, the kaolin becomes fused by heat, and gives out the brilliant light already described. The electric “candles” are constructed at present in such a manner that they will only burn one hour, and an appliance is contrived for quickly replacing them by hand before they become exhausted. Ere the invention can be pronounced complete, therefore, some automatic device must be planned in order to meet that deficiency. In a large tent covering one of the squares of the West India Docks four common lamp-posts were erected at the corners respectively. One of these was surmounted by an opal glass globe, which contained an electric light. The electricity used was generated by steam power in a magneto-electric machine of thirty-two magnets, each magnet being composed of six plates. The steam engine, which was worked up to two and a half horse-power, effected four hundred and eighty revolutions of the magneto-electro machine per minute, by which is represented the application of considerable electric force. The smallest print could be read at a distance of from twenty to thirty feet from the lamp. The electric lights were then extinguished, and four lamps, each containing four gas jets of considerable size, were lighted. The contrast presented when these sixteen gas flames were introduced was, as might be expected, singularly dismal. The spectators next passed into a warehouse to observe the effect of the light upon an interior space. The electric candles were placed outside the windows and protected by a tin case, which operated as a reflector, and small type could be read with the utmost ease at seventy-five feet from the lamp. Except where sharply defined shadows of interposing rafters and pillars happened to be projected, every nook and corner in the warehouse was strongly penetrated with light. Great interest was added to the experiment by an incident, which proved that the use of the new light is quite compatible with the discrimination of colors. A card of drapery patterns of various tints was exhibited, and when exposed to the electric rays, ‘green, blue, yellow, red, pur-

ple, and even the most delicate straw-color, were as clearly distinguishable as in daylight.’ The importance of this circumstance to artists, whose labors have always been regarded as conterminous with sunlight, can not be overestimated.”

Manufacture of Mats and Rugs.

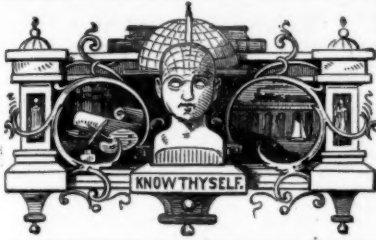
—Mats and rugs for carriages, doors, etc., are now made of felt by the following process: A piece of felt of suitable thickness is cut in strips from three-eighths to five-eighths of an inch in width, and as long as the mat is to be wide. These are laid side by side on edge, and holes are made through them, and through these holes cords of fine wires are passed, and the strips are then drawn tightly together and fastened in place at each end of the wires. This gives a fabric as thick as the strips are wide, and of a light, flexible, and elastic character. The strips may be in various colors, and may be disposed in any desirable pattern. These mats are said to be strong and durable, and able to resist heat, cold, dust, and severe usage. The color keeps well, because in dyeing the felt before the strips are cut, a uniform color may be obtained, and when finished, the mats have a good face on either side.

Lead Poisoning by Bread.—The

people in a populous district of Paris suffered lately from lead poisoning, and Dr. Ducamp traced the cause to the bread used. The baker from whom it was obtained, as well as his family, were equally affected. The flour, water, and yeast used by him were of the same kind as that used by neighboring bakers, and contained no lead, while the bread he sold did contain it. Finally, it was discovered that he had heated his oven with old boards taken from demolished buildings. These boards had been painted with white lead, which, during combustion, was volatilized and deposited all round in the oven. It was then found that the persons employed to dust the bread from adhering ashes, etc., were the first and worst affected, while in one family where an old person ate the soft part and the young ones the crust, the first remained free while the latter were the most severely attacked.

A Falling Mountain.—There has

been a recent instance of a falling mountain in Savoy, Switzerland, causing the destruction of two flourishing villages. The mountain, for twenty days without cessation, went on dismembering itself, and literally falling, day and night, into the valley below, filling it with piled-up blocks of stone, extinguishing all other sounds by its incessant thunder, and covering the distant horizon by a thick cloud of yellowish dust. Blocks of immense size became displaced with no apparent cause, and descended the sides, a distance of a mile, in thirty seconds, sometimes leaping 1,500 feet at a time, mowing down gigantic pines as if they were so many thistles.



MRS. C. FOWLER WELLS, *Proprietor.*

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CABINET COLLOQUY.—No. 6.

SECRETIVENESS AND CAUTIOUSNESS.

"I HAVE looked a little into the subject which you illustrate here so extensively," remarked a recent guest, "and must confess myself at a loss, when comparing character and conduct, to discriminate sharply between the influences of Secretiveness and Cautiousness. It seems to me that there are occasions when the effect of one seems to be merged in that of the other. You say, or rather the phrenological authorities, that prudence, foresight, circumspection, belong to the province of Cautiousness; while tact, finesse, policy, astuteness are related to Secretiveness. Now it seems to me that the characteristics of prudence and circumspection are near akin to tact, policy, etc., and the transition is so easy between them—simply a matter of circumstances—that one organ would perform the services attributed to two."

"I think that I perceive your difficulty," was our reply. "It consists in giving to the terms prudence, circumspection, and foresight too wide a significance or range of influence in the mental economy. Both organs belong to the self-protective group, but their provinces appear to me very different. Cau-

tiousness is a restraining faculty; may be considered, if you will permit the seeming incongruity, passively active; while Secretiveness prompts to action."

"I scarcely understand you. Will you please to illustrate the point?"

"Certainly. A man sees a frightened horse running toward him. He is crossing the street, and half over, we will say. At once his large Cautiousness admonishes him to go back and get out of harm's way, instead of pursuing his course. He goes back, notwithstanding that he could as quickly reach the side he had started for. Cautiousness impresses him that the side he started from is the safer, and so he retraces his steps and remains aside until the horse has passed. Another man, with a good degree of Secretiveness, observes the horse coming and thinks to himself, 'I'll catch you, old fellow,' but he does not go into the middle of the street and boldly await the animal's coming. His Combative-ness is active, but influenced by Secretiveness he tries a stratagem. A little way below he sees a considerable heap of bricks extending far into the street, and he runs and gets behind it, and there, out of view, awaits the coming of the runaway; and when the horse's head has just reached the margin of the heap on the side of his concealment, he quietly reaches out and grasps the bridle and arrests the horse in his career."

"It was Secretiveness, then, in your opinion, which led the man to hide behind the bricks?"

"No doubt of it. The man of small Secretiveness, with a like disposition to catch the runaway, would rush into the street, and with more or less show of bravery, and what people call 'fuss,' would attempt to stop the horse, but probably be less successful than the man who would resort to the cunning expedient of hiding."

"This seems clear enough as far as it goes. Yet I can not divest the act of hiding of the quality of Caution."

"We must consider the act in the light of the man's motive—must we not?"

"Yes."

"He did not go behind the pile of bricks to get out of harm's way, but the more effectually to accomplish his object. In considering a real occurrence of the sort, you would not think of attributing fear to the actor, but esteem him as a brave, shrewd man."

"Yes, that is true enough."

"Well, Caution, circumspection, and prudence—a rather comprehensive term in itself—include the idea or sentiment of fear. There's danger of some kind in view; they discern it and prompt to measures for its avoidance. Several of the most eminent metaphysicians, not recognized as phrenologists, discriminate between the faculties of Cautiousness and Secretiveness as primitive qualities of the mind. Dr. Thomas Brown and Lord Kames describe the former. Lord Kames says: 'All weak animals are endowed with a principle of fear, which prompts them to shun danger; and fear, the first passion discovered in an infant, is raised by every new face.' Lord Bacon, in his essay on 'Cunning,' very accurately defines the Secretiveness of Phrenology."

"Will not a person whose Cautiousness is large show cunning and shrewdness?"

"Yes, if his Secretiveness be large also. In cunning, the elements of artifice and craft enter largely. Where there is no attempt at concealment, there is no cunning. The French people have a good development of Caution, are prudent and sagacious; but their Secretiveness being moderate, they show little reserve or dissimulation in their affairs. 'The French,' Mr. Combe says, 'delight to live, and even to die, in public;

while the Englishman—who has a strong endowment of Secretiveness, as a rule—shuts himself up in his house, which he denominates his castle, and debars all the world from observing his conduct.' Go on 'Change and you will see these faculties in striking activity. Some operators in stocks are known among their speculative brethren for caution, hesitation, timidity, and are the last to purchase or sell; their gains are small; they rarely lose anything. Others are known for their cunning, craft, and duplicity; they somehow make both ways; whether the market rises or falls, they appear to be on the winning side. In the one class it is Cautiousness that predominates; in the other it is Secretiveness."

"Your reference to 'Change, sir, is very happy. I understand it, being somewhat related to that quarter. But some of the most successful men down there are those timid fellows. We feel that we can trust them, as they are not given to any underhand dealings; but those other fellows, who are so sharp and sly, are avoided by the respectable houses, because we don't know how to take them. But it seems to me that the interval between slyness and roguery is but small."

"It is; and you will find that most of those persons who are imprisoned for robbery, embezzlement, fraud, and the like, have Secretiveness well indicated; with, to be sure, a broad head and large base of brain. The man with small Secretiveness and large Cautiousness commits crime only when influenced by some great emotion or excitement."

"I thank you for your attention," said our visitor, as he rose to depart, "and will confess that you have made the subject of my inquiry appear more interesting than I was inclined to regard it when I came in. Good-day to you."

JUSTICE TO THE INDIAN.

A PROPOSITION was made in Congress not long since to admit the Indian to representation in that legislative body; in other words, to grant him the privileges of citizenship. We are emphatically in favor of it. Why not? The negro has been given the ballot, and he is not superior in mental capability and physical energy to the Indian.

Indeed our military commanders have found him a formidable enemy, skilled in the practices of war; our missionaries testify to his ready susceptibility to intellectual and moral teaching; and humane agents and travelers furnish evidence in behalf of his integrity and trustworthiness.

Those tribes or remnants of tribes, like the Senecas, Cherokees, Seminoles, Chippewas, etc., that have been placed on lands and organized into agricultural communities, have accomplished results which compare favorably with those of the average American farmer in the West. A report lately made to the Society of Friends of Philadelphia, concerning the state of the Iowas of the Missouri, under the management of a committee appointed by the Society, shows "that the Iowas are an industrious agricultural people, whose manner of living and farming compares favorably with that of many of the surrounding settlers; they live in houses furnished in a manner similar to those of the whites. Forty individual families have fields of from ten to fifty acres, well fenced and under cultivation. One of mixed blood has 160 acres inclosed with fence, about 50 of which is farmed, the balance being used for hay. Two of the Iowa women have sewing-machines of their own, which they understand how to operate."

There are 215 of this tribe, and in 1876 they cultivated 880 acres, owned 154 horses, 6 mules, 91 cattle, 176 hogs, and raised 617

bushels of wheat, 10,000 of corn, 350 of oats, 1,200 of potatoes, and cut 600 tons of hay.

There are other communities or agencies which can furnish even a better table of results.

We have through these columns more than once asked the Government at Washington to give the Indian the right of citizenship, to place him on land which he can own and cultivate in an independent manner. The excellent missionary, Bishop Whipple, has said: "The individual Indian must have a title to his land, and that title be made inalienable. . . . The best incentive to labor is the guarantee of the rewards of labor."

To us it is a glaring mistake to consign the Indian to the charge of our soldiers, and thus to treat him as a savage, as something to be guarded like a ferocious dog, and punished for conduct which in nearly every instance is but a natural response to cruelty and injustice done the Indian by men who wear the insignia of civilization.

IPECAC vs. WHISKY.

THE age of wonders has not passed (for wonders if you will, substitute miracles). In a late number of the Cincinnati *Medical News* we find the notes of an extraordinary case of drunkenness, which was treated and "cured" by drug specifics. The subject, or patient, had been a drinker of alcoholic liquors, whisky especially, for upward of forty years, and in his mad pursuit of bibulous excitement had sacrificed all the interests which humanity hold dear. The doctor who made the experiment proceeded thus: He put the patient to bed, furnished him with a pint of "good whisky," and told him to take all he wanted. On the following morning the whisky was found to be

about used up, the patient in a lively condition, and wanting more. He was supplied with more during the day, and at night another pint was furnished, this procedure, doubtless, being very satisfactory to him. Then began the experimental treatment. The doctor administered a drachm of Howard's hydro-sublimate of mercury (Anglice, calomel), which is washed down with a tumbler of whisky. The pulse soon after indicates much feebleness (no great wonder), the appetite is also deficient. We judge that in most cases a tumblerful of whisky would disturb any man's inclination for food. Inebriates who have all they want to drink are not remarkable for voracity. The following morning the treatment is continued. The physician administers a drachm of Squibb's powdered ipecac mixed with licorice—to make it agreeable, we suppose—and for a furtherance of the agreeableness more whisky is given to wash it down, and the patient's attendant is directed to let him have all the whisky he wants during the day, besides mush and milk, if he want it—we are not told how much of the mush and milk he swallows; but we are told, however, that his bowels moved four times. Whether such copious action was due to the calomel or the ipecac, to the whisky or the mush and milk, we are not informed. But the motion, on the part of the doctor, in the course of the same day, was to administer more ipecac, to the moderate extent of two scruples. The patient becomes desperately sick at the stomach—an astonishing phenomena under the circumstances! More whisky is ordered. Whether or not that counteracted the gastric difficulty we are not informed. At any rate, on the following day there are indications of more stomach derangement—vomiting being one of them—and the physician urges the pa-

tient to take more whisky. The patient seems inclined to think that something was put into the whisky and that made him sick; and we presume that he refused any of that much-desired liquor from the hand of the attendant, for the patient's brother-in-law is sent for, who brings a quart of the best whisky obtainable in that neighborhood; but, strange to say, the patient declines to taste of it. As the hours roll on, this disinclination for the once-beloved liquor becomes stronger, in fact develops into a decided antipathy, and he requests his wife to take all the liquor and liquor-bottles out of the bed-room.

Notwithstanding this disinclination, the doctor, as if doubtful of its permanence, continued the doses of ipecac, administering them every hour, and then stopping them, ordered hot milk and crackers—what sort of crackers we are not informed; and soon afterward notes an improvement in the general condition of the patient, with the exception that he is losing flesh rapidly. For two or three days after the disappearance of the patient's inclination to gulp whisky, doses of ipecac, with an occasional grain of calomel, are given him; then iodide of iron with sugar, and, finally, we are informed, that his recovery is *complete*: that there has been no return of his inclination for alcoholic drinks.

One of the doctor's conclusions from this case is, that reform, by the aid of medicine, has a solid and real foundation in changes of structure, on which appetite depend, which purely moral measures of reform can not produce, and hence they are less permanent.

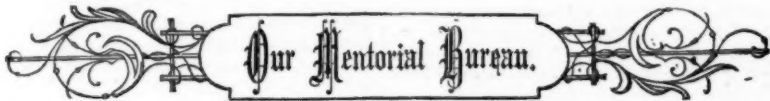
Our friends who conduct asylums for the reform of inebriates are evidently behind the times with their small percentage of cures. They have yet to learn of the amazing efficacy of ipecac.

THE RUSSO-TURKISH WAR.

THE hard-won and splendid victory by Generals Radetzky and Skobeloff in the Schipka Pass, on the 9th of January, appears to have decided the result of the struggle between Russia and Turkey, as shortly thereafter negotiations were entered upon which have led to the acceptance by Turkey of the demands made by Russia, as conditions on which the latter would suspend hostilities. These conditions relate to the independence or autonomy of the Chris-

tian provinces, Bulgaria, Roumania, Servia, Montenegro, etc., indemnity for war expenses, and naval privileges.

England is greatly excited, apprehending that Russia will secure advantages that may affect disastrously her East Indian interests, and measures have been set on foot for their protection. The neighboring great powers, Germany and Austria, appear to be in sympathy with Russia, and the prospect of a complete settlement of the contest and a return of peace is encouraging.



"He that questioneth much shall learn much."—Bacon.

Go Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

IF AN INQUIRY FAIL TO RECEIVE ATTENTION within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.

GROWTH OF BRAIN.—J. P.—Physiological facts are in favor of the idea that exercise of a part of the brain, like the exercise of a part of the muscular system, tends to enlarge it. Persons who have attained their growth, will, by the exercise of the body, condense and toughen their muscles, and so acquire greater strength, while the absolute size of the muscle is but slightly increased; so in the case of the brain in maturity, the exercise of an organ modifies the character of the nervous matter, imparting to it a different tone and consistency, and renders it more serviceable and influential in the mental economy, while at the same time there is growth or increase, which may not be apparent from the exterior cranium. We have met persons over forty years of age who have declared that certain

parts of their head had become enlarged through the exercise of the organs in those parts. One of the best works on Anatomy is that of Dr. Gray; but this is not a special work relating to brain, although its discussion of the nervous structure is thorough. Several treatises on the anatomy of the brain, bearing relation to experiments with regard to its function, have been published within a few years by Ecker, Gratiolet, Turner, Huxley, and others. Could you have access to Spurzheim's "Anatomy of the Brain" you will find a considerable amount of valuable information. This work is very scarce. We can furnish a copy at \$5. Ours is the only Phrenological magazine published.

NERVOUS DEBILITY.—F. W.—Avoid all exciting mental relations; cultivate a cheerful spirit; do not permit yourself to be exposed to influences which conduce to morbid thought or imagining; eat good nutritious food, not that which tends to produce congestion or obstruction. A good stomach, a free digestion, will make a clear head, and with a clear head is usually associated a feeling of sprightliness and vigor. Take an abundance of out-door exercise; in a word, live purely—hygienically. We have a little book on the subject which might prove of service to you. Price 50 cts.

STOOP SHOULDERS.—S. G. P.—If you can not maintain the erect posture, you should make use of the aid which simple mechanical instruments will afford. Shoulder-braces would be good, but in connection with them you should

take some form of light exercise for the purpose of developing and strengthening your lung and muscular power.

SPIRITUALITY LARGE.—J. A. B.—Your case is an unusual one, but it does not lack for parallels. We had a subject for examination not a great while ago whose organization is probably similar to yours, and he spoke of visions and extraordinary mental experiences and peculiar psychological capabilities. Your physical health is probably not very vigorous, so that your psychological faculties exercise their function in a comparatively independent manner, and there is a loss of material relation, and consequently the phenomena are inexplicable to you.

MIND-READING.—G. S.—The mind-reader possesses a peculiarly susceptible organization, a quality of very delicate consistency, the mental temperament, of course, being much in predominance. Large percepts, a good degree of Human Nature, Spirituality, Ideality, and Comparison are essential to success in this department of mental apprehension.

MATHEMATICAL PRODIGES.—J. B. U.—In the course of the last forty years, during which the PHRENOLOGICAL has been published, sketches of several persons notorious for mathematical or calculating ability have appeared in its columns, either separately or in connection with discussions of mental phenomena. If you have access to a file of the PHRENOLOGICAL, you would probably find in part at least what you need. We know of no work that treats specially on the subject. Some of the more eminent computers, like George Bidder and Zerah Colburn, will be found in the larger encyclopedias.

ORGANIZATION OF A DETECTIVE.—J. F. S.—One to be a good detective should have a robust physique, strong percepts, a head generally well filled out in the base, good eyes, strong and active Constructiveness, a good degree of Self-esteem and Firmness, with sufficient Caution and Secretiveness to enable him to exercise prudence, policy, and *finesse*. At the same time he should have large Combativeness to give him courage and audacity; he should have large Human Nature, so that he can appreciate the characters of men at a glance, and be able to control those with whom he becomes associated in the prosecution of his trade.

WATER-DRINKING.—S. G. P.—As a general rule, one would find it to his advantage not to drink during a meal, for the reason that water and fluids of any kind interfere with the masticatory and digestive processes. Nature has supplied organs in the month which furnish all the fluid necessary for the proper mastication

of our food. Dyspepsia is caused in many instances by the habit of drinking while eating. An hour or so after eating, if there be thirst, one can drink moderately with advantage. We do not advise the use of butter, except in a very moderate degree.

CIVIL ENGINEERING.—J. L. H.—One who expects to become a good engineer needs a large development of the practical organs of the intellect. He should have also large Constructiveness, good Calculation and Locality, Form, Weight, and Individuality particularly strong. His temperament should have a predominance of the motive to give him physical vigor and endurance.

ORGAN NUMBERS.—In the "Constitution of Man" the organ of Adhesiveness is numbered on the bust by the figure 4. But in the Appendix to the work on "Education," by J. G. Spurzheim, it is there numbered by the figure 3. Is there not some mistake in one of the books? Please explain in the PHRENOLOGICAL JOURNAL, as I am a subscriber. J. S. D.

Answer: Different authors have numbered the organs differently. One begins with Individuality, another with Destructiveness, another with Amativeness. The name, not the numbering, gives identity.

PERSONAL IMPRESSION.—J. W. Q.—Temperament has much to do with the impressions which people make upon each other. In the case of the persons mentioned there is doubtless a marked difference in temperament, and also a difference in magnetic quality, this difference resulting in the fact that one is receptive while the other is contributive. Some would say that one was negative to the other's positive condition; hence their individual experiences.

BRIGHT'S DISEASE OF THE KIDNEYS.—L. C.—This disease may be the outgrowth of constitutional diathesis; in other words, inherited; or it may be the result of improper habits. This is the usual manner of its production. Improprieties of diet, and especially improprieties of habit, such as the use of alcoholic liquors, are conducive to the deprivation of the kidney structure.

DISEASE.—Is disease natural or acquired? A full and sweeping answer is desired.

G. A.

Answer: Health is natural; disease is acquired. A great deal could be said about this subject. Some persons inherit a diseased condition, and to them it is natural; some take colds, and some breathe malarial atmospheres; some over-eat, some drink, some use tobacco, some break down by other imprudences; but nature intends that trees, fruits, flowers, animals, men, should be healthy, and disease is exceptional or the result

of improper conditions, most of which can be avoided.

VARIOUS.—W. J. P.—The *Merchant's*, now *Banker's Magazine* is published at \$5 a year. There are several "Practical Treatises" on Business, from \$1.50 to \$5. Mr. Beecher, of Plymouth Church, resides in Brooklyn. We can not answer with regard to his lectures. His correspondence is probably too extensive to be considered in that detail which would supply an answer to every letter he receives.

FOR ATTACHING LABELS TO TIN.—First, rub the surface where you wish to apply the label with a mixture of muriatic acid and alcohol; then apply the label with a very thin coating of the paste, and it will adhere almost as well as on glass.

"AN OLD SUBSCRIBER" is informed that if the person is impressed to do as is stated, it must be done by magnetism.

[We have received several other communications which are on file awaiting attention.]



POWER OF THOUGHT.—Mighty, though silent, influences are at work moulding and shaping and directing. Each mind is the center of invisible telegraph lines of thought, stretching out on every side. Some lines are unresponsive, 'tis true, and will be until their plane is reached. Others respond feebly; while some are ever vibrating with their weight of thought. Is sympathy the electric motor? It may be. A minister was busy in his study when between him and his subject of meditation came the troublous thought, "Sister Mary is in danger." He tried to put away the thought as unreasonable and the product of a morbid state of mind, but it was of no use; he could not rest. Two days he struggled against these gloomy forebodings, and then he said to his wife: "It is foolish, I know, but I can not endure this any longer. I must go and see what is wrong with Mary." He started on the journey of two hundred miles, and arrived at his destination just in time to prevent his sister, a young lady of twenty, and about completing a course at college, from taking a step which would have involved her in life-long sorrow and regret. This is true.

We could give many like instances of the communication of mind with mind, for this we believe it is. Truly, "no man liveth to himself," and if we would make the world better by our influence, we must not only have our actions pure and good, but our thoughts also.

A tiny stone dropped in the water causes a ripple of retreating waves, which merging in the larger ones seems lost. And yet it is not so; no force existing in the realms of nature, when once unloosed, can ever be restrained. So if the eye could follow, it would see ripple succeeding ripple, vibrating atoms lending of their force, and the circle widening till its waves break with sweet music on the farther shore. Thus we find it in life's troubled ways. Each trifling thought, each word or act, so small that we may deem it of little worth, has still its influence, which, rippling, comes adown the wayward current of our lives.

CHRIS.

RIDICULE.—Ridicule is a fatal weapon, and although it is in a great many instances the outgrowth of a perverted nature, it generally reaches the heart, and seldom fails to rasp its finer sensibilities. It finds its way into different avenues of our nature, and suffices to render us uncomfortable. One great mistake in the use of this weapon is, it is frequently wielded by the wrong person; and another is, it is frequently hurled at the wrong victim. We would by no means banish this weapon of warfare from our armory. It will do as a desperate remedy in desperate cases; but it should be cautiously used. The man who attempts to fight logic with ridicule makes himself obnoxious; and he seems to live in life-long ignorance of any other method of defense. If the man of letters confines his mightiest energies to this channel, it will gradually widen until his whole life will be swallowed up in an unhealthy warfare that will bring bitterness in the end. If the youthful aspirant sets out to pursue the course we have described, he may as well let his conscience go a begging first as last, for two opposing elements can not dwell peacefully in the same tenement.

W. B. GREGORY.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

EDUCATION can improve nature, but not completely change it.—ARISTOTLE.

If what has been done is not always rewarded, what has been left undone is seldom recognized.

GOLD is universally worshiped without a single temple; and by all classes, without a single hypocrite.

TALENTS are best nurtured in solitude; character is best formed in the stormy billows of the world.—GOETHE.

The wealth of a man is the number of things which he loves and blesses—which he is loved and blessed by.—CARLYLE.

ZIMMERMAN (on solitude) says: "Those beings are only fit for solitude who like nobody, are like nobody, and are liked by nobody."

CELEBRITIES are almost always surrounded by nobodies; those who like to show themselves draw near those who are most observed.

THE more enlarged is our mind, the more we discover of men of originality. Your commonplace people see no difference between one and another.—PASCAL.

MANY people are fond of the company of their physician, because he is the only person with whom they dare talk continually of themselves without interruption, contradiction, or censure.

Two things are necessary for true glory: power and bounty; the former without the latter causes terror, the second without the first inspires contempt. Unite bounty and power, and you will win admiration; add power to bounty, and you will win love.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

BRITISH tourist (to fellow-passenger in mid-channel): "Going across, I suppose." Fellow-passenger: "Yaas. Are you?"

NATURE seldom makes a phool; she simply furnishes the raw material, and lets the fellow finish the job to suit himself.—JOSH BILLINGS.

"Does this razor take hold well?" asked the smiling barber. "Yes," replied the unhappy victim, "it takes hold well, but it don't let go worth a cent."

"I THOUGHT you told me that —'s fever was gone off," said a gentleman. "I did so," said his companion, "but forgot to mention that he went off along with it."

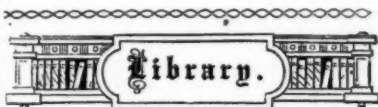
DISCUSSION between a wise child and its tutor.—"That star you see up there is bigger than this world." "No, it isn't." "Yes, it is." "Then why doesn't it keep the rain off?"

A CERTAIN man asked his groceryman the other day if he could change a ten-dollar bill. "No," said the groceryman, "but I can credit your account." The man with the bill suddenly took with a violent coughing spell, which lasted until he was out of sight.

Grim winter now with measured tread,
And bowed and snow-bespinkled head,
Comes on apace.

Behold the glowing falling leaves—
Behold the garnered golden sheaves—
Behold the stripped and ghostly trees!
And lo! the cheerful buckwheat cake
With lordly grace,
Ten thousand ailments in his wake—
Dyspepsia, boils, and stomach ache—
Takes now its place.

—St. Louis Journal.



In this department we give short reviews of such New Books as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental physiological science.

STATE REGULATION OF VICE; Regulation Efforts in America; The Geneva Congress. By Aaron M. Powell. Pp. 127. New York: Wood & Holbrook.

This little volume treats of subjects which have a most important bearing on the moral and physical health of communities. The four papers or essays which constitute the book are entitled "State Regulation of Vice," "Regulation Efforts in America," "The Geneva Congress," "Address of New York Committee." The spirit of these is hostile to the assumption which lies at the basis of legislation having in view the regulation of vice, that man is vicious by necessity, and must be allotted a degree of latitude for indulgence of his passions and appetites. We are informed from official data of the marked increase of immorality and of its attendant diseases in places where vice is legally countenanced, and are also shown through the testimony of observers some of the horribly disgusting features of crime which license acts have sought to cover with a mantle of respectability. The Geneva Congress, in its series of resolutions, the succinct statement of conclusions which had been reached, rejected all systems of police regulation of prostitution, not only on account of their entire want of success in the countries where any have been applied, but also on account of their manifest effect in developing prostitution instead of diminishing it. If any legal measures are to be set on foot, they should have a suppressive effect, and chiefly they should place the men who are immorally given on the same footing with the women who are their unfortunate victims or associates.

FRET-SAWING FOR PLEASURE AND PROFIT. Williams' Hand-book. Price 50 cts. Henry T. Williams.

Two years ago the inventive spirit of our age, stimulated by the growing taste of the masses for home-made decorations, introduced several forms of fret-saws for the use of young and old in cutting out of thin board brackets, shelves, picture-frames, etc., and so extensively have they been adopted in our American homes that the time-honored jackknife must hang its blade in sorrow to find its occupation pretty much gone. We know of young ladies who have been led by the ease with which the fret-saw can be operated, to use much of their leisure in cutting elegant patterns from thin strips of walnut or ash for the manufacture of pretty articles of convenience or ornament. As for our youth, every one of a mechanical turn appears to have the saw and to take delight in its employment. The little manual brought out by Mr. Williams is just the thing for the amateur, supplying information about woods, the different shapes of saws, their frames and attachments, methods of working them, how to make them, and giving a great many patterns and hints on designing. A glance through the book is a surprise as to how much can be done in this direction by a little "gumption" and patience.

THE LADIES' GUIDE TO NEEDLEWORK, Embroidery, etc. By S. Annie Frost. Being a Complete Guide to all kinds of Ladies' Fancy-Work, with Full Descriptions of all the various stitches and materials, and a large number of Illustrations for each variety of work. Price, paper, 50 cts.; cloth, \$1.00. Henry T. Williams, New York.

We are quite in accord with the author, that "it is a grievous error to allow girls to arrive at maturity ignorant of the full use of the needle;" and that "fancy-work is a secondary consideration," yet nevertheless of importance in the domain of esthetic culture. As stated in the title, the book is very comprehensive, giving details of procedure in each case, be it a class of embroidery or braiding or applique, or tatting or crochet-work, or whatever else, with that clearness and accuracy which evidence long experience in needlework and the literature of the subject. The patterns which illustrate the text are interesting from an artistic point of view.

THE HARMONY OF THE REFORMED CONFESSIONS, as related to the present Evangelical Theology. An essay delivered before the General Presbyterian Council at Edinburgh, July 4th, 1877, by Phillip Shaft, Professor of Sacred Literature in the Union Theological Seminary of New York; together with the action of the Council on confessions and formulas of subscription. This essay was very cordially received by the Council, and published in pamphlet form in Great Britain, and is now published in America.

The aim of the eminent author, as very well made out, is to show the close relation of the different Protestant Churches, that their credal basis is substantially the same, and correlatively the high principles which enter into their religious teachings or theology differ but little.

PUBLICATIONS RECEIVED.

ORATION. By Rev. Henry Ward Beecher. Delivered before the National School of Elocution and Oratory, upon the occasion of its third annual Commencement, held in the Academy of Music, Philadelphia, May 29, 1876.

THE RAILROAD CONDUCTORS' BROTHERHOOD: A magazine devoted to the interests of railroad conductors; published at Omaha, Nebraska. The engineer, it seems, can guide the pen as well as the movements of the iron horse.

PROCEEDINGS OF THE INTERNATIONAL CONVENTION FOR THE AMENDMENT OF THE ENGLISH ORTHOGRAPHY, held at the Atlas Hotel, Philadelphia, Pa., in August, 1876.

MONTHLY RECORD OF THE FIVE POINTS HOUSE OF INDUSTRY: A neat little publication, which contains a good deal more of interesting reading-matter than one would infer from its title. Price, \$1.00 a year.

THE RAPID WRITER AND TACHYGRAPH, published monthly by the Rapid Writers' Association of Chicago. This indicates the growth of the Tachygraphic system of short-hand in this country.

WHAT ANÆSTHETIC SHALL WE USE? By Julian J. Chisolm, M.D., Professor of Eye and Ear diseases, University of Maryland, surgeon in charge of the Baltimore Eye and Ear Institute. Read before the September Academy of Medicine, June 5, 1877. The author favors the administration of chloroform for the purpose of producing nervous insensibility in preference to other known agents, and adduces a large array of cases to sustain his opinion.

FACTS AND FIGURES FOR MATHEMATICIANS, or the Geometric Problem which Benson's Geometry alone can solve. By L. A. Benson, New York. This is a discussion of the true relations of the circle and the polygon.

LACKS AND NEEDS OF THE SOUTH EDUCATIONALLY. An Address prepared for the National Educational Association Meeting in Baltimore. Delivered also before the Centennial Bureau of Education. Philadelphia, September 1, 1876. By Alexander Hogg, M.A., Principal of Schools, Montgomery, Ala.

GOOD TIMES, No. 1, for December, 1877. A new candidate for a reading constituency. Largely in the interest of advertisers. Price 10 cents.

THIRD ANNUAL REPORT OF THE EXECUTIVE COMMITTEE OF THE ASYLUM OF WALNUT HILL, Hartford, Conn.; also, a Petition to the Legislature. The institution, of which this is a report of its workings for a year, was organized chiefly in the interest of the inebriate. It appears to be efficiently conducted.

VICE'S ILLUSTRATED MONTHLY MAGAZINE, No. 1, January, 1878. This widely-known horticulturist is advancing in his conquering march. He now boldly undertakes a new enterprise, the first number of which is very promising. The price (\$1.50) is certainly low for a monthly so neatly made in all respects.

TEMPERANCE LESSON LEAVES, Nos. 1 to 5, by Miss Julia Colman. If enterprise, earnestness, and thorough competence in one's line of effort deserve success, Miss Colman should reap it abundantly. The tracts, of which she is the editor, are published by the National Temperance Society of New York at 60 cents per hundred. The seed that is sown by these leaflets can be productive of naught but good.

NEW MUSIC. Mr. F. W. Helmick, of Cincinnati, O., sends us the following productions of his press: "The White Whale Grand March," by C. A. Noel, price 40 cents; "Mineral Springs Polka," by G. Dolphus, price 30 cents; "Tally One for Me" (base-ball song and chorus), by John T. Rutledge, price 40 cents; "Centennial March," composed by J. Wymand, price 25 cents; "Gone on before o'er the River of Time" (song and chorus), by P. O. Hudson, price 40 cents.

Messrs. Ditson & Co., of Boston and New York, send us Nos. 7 and 8 of their "Musical Monthly"—a collection of popular vocal and instrumental music. No. 7 contains six songs and instrumental compositions; No. 8 (the Christmas number), eight, by some of our most popular composers. Price of each No. 25 cents.

MONTHLY WEATHER REVIEW. Current issues from the office of the Chief Signal Officer at Washington, D. C.

THE MUSICAL WORLD, Nos. 168 and 169, contain much interesting matter on musical topics and several compositions—Christmas themes being in predominance. Price 15 cents each. S. Brainard's Sons, Cleveland, O.

THE ILLUSTRATED ANNUAL REGISTER of Rural Affairs for 1878, published by Luther Tucker & Son, of Albany, N. Y., is filled with facts and suggestions for the edifying of farmers. The valuable papers on the "Construction of Barns," "Rotation of Crops," and "Rural Economy," are especially commended to our rural friends. Price 30 cents.

THE SCHOLAR'S COMPANION is a new undertaking on the part of our friend and contem-

porary, Mr. Kellogg, and approaches as near to what a publication for school-boys and school-girls should be as anything we have seen in print. It is replete with features drawn from school-life, amusement and instruction being associated in such a way that both must interest, and a high tone of morality pervading every part. We should expect teachers to sustain the *Scholar's Companion* for their own sakes, as it certainly may be made an efficient aid in their class-room work. Price 50 cents a year. Publishing office, 17 Warren Street, N. Y.

PERSONAL ITEMS.

THE REV. JOSEPH COOK has been made an honorary member of the Victoria Institute, or Philosophic Society, of Great Britain, of which the Earl of Shaftesbury is president.

DR. TURNER, of Minneapolis, Minn., is said by a brother practitioner to have gone forty-two days without eating. Feeling unwell, he concluded to try the abstinence cure. He took walks in the open air, drank water when he wanted it, and lost only eighteen pounds in weight.

ANNE P. SEVER, who died recently in Boston, bequeathed \$140,000 to Harvard College, of which \$100,000 is to be expended in the erection of a building to be called Sever Hall, \$30,000 for a library, and \$30,000 unrestricted. She gives large sums for charitable purposes also. When will some friend of humanity remember the Phrenological Institute in his life or death?

MRS. TERRY and Miss Sawyer, of New York, and Mrs. Richardson, of New Orleans, were the first ladies who ever ascended to the summit of Popocatepetl, Mexico, which is 17,880 feet above the level of the sea, and 2,134 feet higher than Mont Blanc. This feat has lately been accomplished by Mrs. Skilton, wife of the United States Consul-General to Mexico, and Miss Bertha Read, of Missouri.

EX-PRESIDENT JOHNSON is to have a monument erected to his memory, at Greenville, Tennessee. It will be twenty-six feet high, with a base of granite and a shaft of Italian marble. Upon the front is a scroll representing the Constitution of the United States and an open book with a hand resting upon it, suggesting the taking of the oath of office. Over the apex is the American flag, and surmounting the whole an American eagle with outstretched wings.

CAPTAIN JAMES B. EADS, whose great works at the mouth of the Mississippi and elsewhere in this country have made him famous, is to make another attempt on a very great scale—a bridge across the Bosphorus. It will probably cost \$25,000,000, and be of iron and masonry, 100 feet wide and 6,000 long, with fifteen spans, the central one of 750 feet.