The Health Reformer.

NATURE'S LAWS, GOD'S LAWS; OBEY AND LIVE.

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The Unconscious Action of the Brain.

THERE are a great many instances on record of very curious mental work, so to speak, done in the automatic condition—a state of active dreaming, in fact. For instance, Dr. Abercrombie mentions, in his very useful work on the Intellectual Powers, an example of a lawyer who had been excessively perplexed about a very complicated question. An opinion was required from him, but the question was one of such difficulty that he felt very uncertain how his opinion should be given. The opinion had to be given on a certain day, and he awoke in the morning of that day with a feeling of great distress. He said to his wife: "I had a dream, and the whole thing in that dream has been clear before my mind, and I would give anything to recover that train of thought." His wife said to him: "Go and look on your table." She had seen him get up in the night, and go to his table and sit down and write. He went to his table, and found there the very opinion which he had been most earnestly endeavoring to recover, lying in his own handwriting. There was no doubt about it whatever, and this opinion he at once saw was the very thing which he had been anxious to be able to give.

A case was put on record of a very similar kind only a few years ago by a gentleman well known in London, the Rev. John De Liefde, a Dutch clergyman. This gentleman mentioned it on the authority of a fellow-student, who had been at the college at which he studied in early life. He had been attending a class in mathematics, and the professor said to his class one day: "A question of great difficulty has been referred to me by a banker, a very complicated question of accounts—which they have not themselves been able to bring to a satisfactory issue, and they have asked my assistance. I have been trying, and I cannot resolve it. I have covered whole sheets of paper with calculations, and have not been able to make it out. Will you try?" He gave it as a sort of problem to his class, and said he should be extremely obliged to any one who would bring him the solution by a certain day. This gentleman tried it over and over again; he covered many slates with figures, but could not succeed in resolving it. He was a little put on his mettle, and very much desired to attain the solution; but he went to bed on the night before the solution, if attained, was to be given in, without having succeeded. In the morning when he went to his desk, he found the whole problem worked out in his own hand. He was perfectly satisfied that it was his own hand; and this was a very curious part of it—that the result was correctly obtained by a process very much shorter than any he had tried. He had covered three or four sheets of paper in his attempts, and this was all worked out upon one page, and correctly worked, as the result proved. He inquired of his "hospita," as she was called—I believe the English equivalent is bed-maker, the woman who attended to his rooms—and she said she was certain that no one had entered his room during the night. It was perfectly clear that this had been worked out by himself.

Now there are many cases of this kind, in which the mind has obviously worked more clearly and more successfully in this automatic condition, when left entirely to itself, than when we have been cudgeling our brains, so to speak, to get the solution. I have paid a good deal of attention to this subject, in this way: I have taken every opportunity that occurred to me of asking inventors and artists—creators in various departments of art—musicians, poets, and painters, what their experience has been in regard to difficulties which they have felt, and which they have after a time overcome. And the experience has been almost always the same, that they have set the result which they have wished to obtain strongly before their minds, just as we do when we try to recollect something we have forgotten; they think of everything that can lead to it; but if they do not succeed, they put it by for a time, and give their minds to something else, and endeavor to ob-

tain as complete a repose or refreshment of the mind upon some other occupation as they can; and they find that either after sleep, or after some period of recreation by a variety of employment, just what they want comes into their heads.

I could tell you a number of anecdotes which would show you how very important is this automatic working of our minds—this work which goes on without any more control or direction of the will, than when we are walking and engaged in a train of thought which makes us unconscious of the movements of our legs. And I believe that in all these instances—such as those I have named, and a long series of others—the result is owing to the mind's being left to itself without the disturbance of any emotion. The will gives the impulse in the first instance, just as when you start on your walk; and not only this, but the will keeps before the mind all the thoughts which it can immediately lay hold of, or which association suggests, that bear upon the subject. But then these thoughts do not conduct immediately to an issue; they require to work themselves out; and I believe that they work themselves out very often a great deal better by being left to themselves. But then we must recollect that such results as these are only produced in the mind which has been trained and disciplined; and that training and discipline are the result of the control of the will over the mental processes, just as the act of speech is made possible by the control which the will has over the muscles of breathing. We cannot stop these movements—we must breathe—but we can regulate them, and modify them, and intensify them, or we can check them for a moment, in accordance with the necessities of speech. Well, so it is, I think, with regard to the action of our will upon our mental processes. I believe that this control, this discipline of the will, should be learned very early; and I will give to mothers especially one hint in regard to a most valuable mode of training it, even in early childhood. I learned this, I may say, from a nurse whom I was fortunate enough to have, and whose training of my own sons in early childhood I regard as one of the most valuable parts of their education. She was a sensible country girl, who could not have told her reasons, but whose instincts guided her in the right direction. I studied her mode of dealing with the children, and learned from that the principle.

Now the principle is this: A child falls down and hurts itself. One nurse will scold the child for crying. The child feels the injustice of this; it feels the hurt, and it feels the injustice of being scolded. I believe that this is the most pernicious of all the modes of dealing with it. Another coddles the child, takes it up and rubs its head, and says: "O naughty chair, for hurting my dear child!" I remember learning that one of the royal children fell against a table in the Queen's presence, and the nurse said, "O naughty table!" when the Queen very sensibly said: "I will not have that expression used; it was not the table that was naughty; it was the child's fault that he fell against the table." I believe that this method is extremely injurious; the result of it being that it fixes the child's attention upon its hurt, and causes it to attain that habit of self-consciousness which is in after life found to have most pernicious effects. Now, what does the sensible and judicious nurse do? She distracts the child's attention, holding it up to the window to look at the pretty horses, or gets it a toy to look at. This excites the child's attention, and the child forgets its hurt, and in a few moments is itself again, unless the hurt has been severe. When I speak of coddling, I mean about a trifling hurt, such as is forgotten in a few moments; a severe injury is a different matter. But I believe that the coddling is only next in its evil results (when followed out as a system) to the evil effects of the system of scolding; the distraction of the attention is the object to be aimed at. Well, after a time the child comes to be able to distract its own attention. It feels that it can withdraw its own mind from the sense of its pain, and can give its mind to some other object, to a picture-book or to some toy, or whatever the child feels an interest in; and that is the great secret of self-government in later life. We should not say, "I wont think of this"—some temptation, for instance; *that* simply fixes the attention upon the very thought that we wish to escape from; but the true method is: "I will think of something else;" *that*, I believe, is the great secret of self-government, the knowledge of which is laid in the earliest periods of nursery life.

We cannot prevent those thoughts and feelings rising in our minds that we know to be undesirable; but we can escape from them, we can repress them; but, as I said, the effort to escape from them is much more effectual than the effort to repress them, excepting when they arise with great power, and then we have immediately, as it were, to crush them out; but when they tend to return over and over again, the real mode of subduing them is to determine to give our attention to something else. It is by this exercise of the will, therefore, in training and

disciplining the mind, that it acquires that method by which it will work of itself. The mathematician could never have worked out that difficult problem, nor the lawyer have given his opinion, nor the artist have developed those conceptions of beauty which he endeavors to shape, either in music, or poetry, or painting, but for the training and disciplining which his mind has undergone.

The most wonderfully creative of all musicians, Mozart, whose music flowed from him with a spontaneousness that no musician, I think, has ever equaled—Mozart went through, in early life, a most elaborate course of study, imposed upon him, in the first instance, by his father, and afterward maintained by himself. When his cotemporaries remarked how easily his compositions flowed from him, he replied, "I gained the power by nothing but hard work." Mozart had the most extraordinary combination of this intuitive musical power, with the knowledge derived from patient and careful study, that probably any man ever attained. Now, in the same manner, we have persons of extraordinary natural gifts, and see these gifts frequently running to waste, as it were, because they have not received this culture and discipline. And it is this discipline which gives us the power of performing, unconsciously to ourselves, these elaborate mental operations; because I hold that a very large part of our mental life thus goes on, not only automatically, but even below the sphere of our consciousness. A person may be sleeping profoundly, and you may go and raise the eyelid and bring a candle near, and you will see the pupil contract; and yet that individual will see nothing, for he is in a state of perfect unconsciousness. His eye sees it, so to speak, but his mind does not; and you know that his eye sees it, by the contraction of the pupil, which is a reflex action; but his mind does not see it, because the sensorium is in a state of inaction.

In the same manner, during sleep, the cerebrum may be awake and working, and yet the sensorium will be asleep; and we may know nothing of what the cerebrum is doing, except by the results. And it is in this manner, I believe, that, having been once set going, and the cerebrum having been shaped, so to speak, in accordance with our ordinary processes of mental activity, having grown to the kind of work we are accustomed to set it to execute, the cerebrum can go on and do its work for itself. The work of invention, I am certain, is mainly so produced, from concurrent testimony I have received from a great number of inventors, or what the old English called "makers"—what the Greeks called poets, because the word poet means a maker.

Every inventor must have a certain amount of imagination, which may be exercised in mechanical contrivance or in the creations of art; these are *inventions*—they are made, they are produced, we do n't know how; the conception comes into the mind, we cannot tell whence; but these inventions are the result of the original capacity for that particular kind of work, trained and disciplined by the culture we have gone through. It is not given to every one of us to be an inventor. We may love art thoroughly, and yet we may never be able to evolve it for ourselves. So in regard to humor. For instance, there are some men who throw out flashes of wit and humor in their conversation, who cannot help it—it flows from them spontaneously. There are other men who enjoy this amazingly, whose nature it is to relish such expressions keenly, but who cannot make them themselves. The power of invention is something quite distinct from the intellectual capacity or the emotional capacity for enjoying and appreciating; but although we may not have these powers of invention, we can all train and discipline our minds to utilize that which we do possess to its utmost extent.

And here is the conclusion to which I would lead you in regard to common sense. We fall back upon this, that common sense is, so to speak, the "general resultant of the whole previous action of our minds." It has on several occasions occurred to me to form a decision as to some important change either in my own life, or in the life of members of my family, which involved a great many of what we are accustomed to call *pros* and *cons* —that is, there was a great deal to be said on both sides. I heard the expression once used by a naturalist, with regard to difficulties in classification—"It is very easy to deal with the white and the black; but the difficulty is to deal with the gray." And so it is in life. It is perfectly easy to deal with the white and the black—there are things which are clearly right, and things which are clearly wrong; there are things which are clearly prudent, and things which are clearly imprudent; but a great many cases arise in which even right and wrong may seem balanced, or the motives may be so balanced that it is difficult to say what is right; and again there are cases in which it is difficult to say what is prudent; and I believe in these cases, where we are not hurried and pressed for a decision, the best plan is to do exactly that which I spoke of in the earlier part of the lecture—to set before us as much as possible everything that is to be said on

both sides. Let us consider this well; let us go to our friends; let us ask what they think about it. They will suggest considerations which may not occur to ourselves.

There is just one other point I could mention in connection with this subject: The manner in which the *conscious* direction and discipline of the mind will tend to remove those *unconscious* prejudices that we all have more or less from education, from the circumstances in which we were brought up; and from which it is excessively difficult for us to free ourselves entirely. I have known a great many instances in public and in private life, in which the most right-minded men have every now and then shown the trammelling, as it were, of their early education and early associations, and were not able to think clearly upon the subject in consequence of this. These early prejudices and associations cling around us and influence the thoughts and feelings of the honestest men in the world unconsciously; and it is sometimes surprising to those who do not know the force of these early associations, to see how differently matters which are to them perfectly plain and obvious are viewed by men whom we feel we must respect and esteem. Now I believe that it is the earnest habit of looking at a subject from first principles, and, as I have said over and over again, looking honestly and steadily at the true and the right, which gives the mind that direction which ultimately overcomes the force of these early prejudices and these early associations.—*Lecture of Dr. Carpenter, F. R. S.*

Ventilation.

THE following excellent remarks upon this important subject are from the pen of H. L. Hastings, one of our most vigorous and able writers:—

"We must breathe or die. Bad air is poison, and breathing it is dying by degrees. From this comes weakness, illness, death. Many a dull sermon, stupid prayer, and dead meeting, might be enlivened and improved by a little pure air. It is not hot air that does the mischief—we can bear almost any amount of heat; it is impure air—depressing, suffocating, deadly. God has poured out the air forty miles deep all around the globe, and it is a shame if we cannot get enough to breathe to keep us alive and well.

"'But how shall we get the air? If we open doors and windows, some who sit in the currents of air will take cold and be sick; our house has no ventilators, and we cannot please everybody, if we try; what shall we do?'

"Do this: Prepare a piece of wood three inches wide, and exactly as long as the breadth of the window, and beveled on the top and bottom, just like the bottom of the window-sash. Let the sash be now raised, the slip of wood placed on the sill, and the sash drawn closely down upon it. If the slip has been well fitted, there will be no draft in consequence of the displacement of the sash at its lower part; but the top of the lower sash will overlap the bottom of the upper one, and between the two bars perpendicular currents of air, not felt as draft, will enter and leave the room.

"This will give moderate, but constant ventilation; and if houses of worship were also thoroughly aired between meetings, the healthfulness and comfort of many places would be greatly increased.

"If, in addition to this, persons will dress easily and healthfully, making all their clothing at the waist fully *nine-tenths* as large as it is under the arms, so that they can inflate their lungs naturally, we shall have very few meetings disturbed or broken up by some one fainting away in a crowded house on Sunday evenings, and requiring to be carried out and to have their garments loosened, that they may draw a long breath, and so recover their senses.

"God breathed into man's nostrils the breath of life. Let him take heed how he abuses the precious gift, and let him see to it that what he breathes is still the breath of life, and not the breath of poison, disease, and death."

Physiological Effects of Moderate Drinking.

ALCOHOL, the intoxicating principle of our intoxicating liquors, is not the product of growth. It cannot be found in the purple grape, the golden corn, the rosy apple, or the juicy pear. Prior to fermentation we may apply to the expressed juices of these fruits our most delicate chemical tests, but no alcohol can we discover. Alcohol is in reality a product of decomposition. When these juices begin to ferment, under the influence of the *yeast* fungus, and to turn to rottenness, then, and not till then, alcohol is generated out of the destruction of the organic sugar.

When death ensues, then certain natural forces, which, in the living state were resisted, come into operation, and disintegration begins, and continues till the organism returns to its original elements. "Dust thou art,

and unto dust shalt thou return," is as true of the world of plants as of the world of animals. So, when fruits become crushed, then these constituents, albumen and sugar, which exist apart in different cells, become mingled by the rupture of these cells, their contents become exposed to the atmosphere, charged with the spores of the yeast plant, which soon begins to feed upon it, and to be visible by the aid of a microscope. The change progresses until the albumen is converted into *yeast*.

Beer-yeast contains two species of fungus, Torula Cerevisiæ, and Penicillium Glaucum.

The yeast plant acting upon the sugar causes it to split up—the temperature rises, carbonic-acid-gas, called in chemical language *carbon-dioxide*, is given off, and *alcohol* is also formed. Thus, by decomposition, sugar is converted into two new products—carbonic-acid-gas and alcohol. This is the first stage of the decomposition of sugar. If the temperature be further raised, and fermentation continues, acetic acid, or vinegar, is formed, and the alcohol disappears. This is the second stage. If the process is still allowed to go on, with an elevation of temperature, then *putrefaction* sets in. This is the third stage, from which the transition to those gaseous and earthy elements which entered into the original composition of the organism, is most rapid.

The composition and parentage of alcohol, however, prove nothing as to its physiological action. We might, indeed, conjecture that a product of decay, and a twin sister of carbonic acid, could not prove very friendly in its action upon the body; but this would still remain a mere conjecture. We must, therefore, test it by experiment; for only by experiment and attentive observation can we ascertain the properties of things, and learn to correct false theories and erroneous conceptions.

Take, then, some alcohol (rectified spirits of wine) and pour a little upon the back of the hand. Look at it attentively, and, lo! in a short time it disappears. Now what has become of it? Has it soaked into the skin? No! It has evaporated in the form of a very subtle, and, therefore, invisible, vapor. This shows that alcohol is a very volatile substance. Volatility, then, is one of its properties. Now what sensation does it produce upon the back of the hand? That of intense cold. In the act of evaporating, it *abstracts heat* in a very sudden manner from the part to which it is applied, giving rise to the *sensation* of coolness.

ALCOHOL AS A REFRIGERATOR.

Thus alcohol is a refrigerating agent. We might, in fact, freeze a person to death in the hottest day in summer by exposing him in a state of nudity to the full rays of the sun, and sprinkling him all over with alcohol.

When taken internally, it does not warm the body, as ignorant people imagine, but, on the contrary, often cools it. Shortly after being introduced into the body it begins to escape, in virtue of its excessive volatility, through the medium of the lungs and skin, having, in the meantime, retarded the combustion of the carbonaceous compounds in the blood, and inflicted serious injury upon the great nervous centers.

Take a small thermometer, and apply the tube to the root of the tongue, then mark the number of degrees; drink two or three glasses of whisky, and again apply the thermometer, and you will find that the temperature of your mouth has sensibly decreased.

The experiments of Dumeril and Dermarquay long since showed that intoxicated dogs were greatly reduced in temperature. An article by Prof. C. Binz, of Bonn, "On the Influence of Alcohol on the Temperature of the Body," published in the *Practitioner* for September, 1869, informs us of the results of numerous experiments made with the centigrade thermometer, with the view to determine the action of non-poisonous doses of alcohol upon the temperature of the body. The experiments proved that small quantities of alcohol lowered the temperature considerably. Half a glass of light hock, or a small glass of cognac, caused a fall of from 0 4° to 0 6° in a very short time. In experiments upon dogs with poisonous doses there was a fall in the temperature amounting to beween 4° and 5°, in two hours, when death occured.

ALCOHOL AN IRRITANT.

Again, saturate a piece of rag in alcohol, and apply it to the arm, preventing evaporation by means of an oil silk bandage; in a short time the part becomes hot, painful, and inflamed, then blistered, so that you are compelled to remove the rag. This proves that alcohol is an *irritant;* that is, possesses the property of inflaming. When taken into the stomach a similar effect is produced upon the mucous membrane; the blood flows to the part in contact with the alcohol, and the surface becomes congested; mucus is also thrown out by the membrane, to lubricate the inflamed part, and preserve it from irreparable damage. The increased flow of blood to the surface acted upon by the alcohol induces a sensation of warmth. This is the real mean-

ing of that "comforting of the stomach" after a glass of spirit which beguiles the drinker. If more alcohol be taken, the inflammation extends, the mucous membrane ultimately becomes ulcerated, and blood exudes from the gorged and ruptured vessels. That alcohol thus affects the stomach has been proved by ocular demonstration in the case of Alexis St. Martin, operated upon by Dr. Beaumont. As the stomach is only sparingly supplied with nerves of sensation, these ravages may continue for a considerable time, while the victim is almost entirely ignorant of it. After drinking freely of ardent spirits for eight or ten days in succession, Dr. Beaumont examined St. Martin's stomach through an external orifice, and thus reports: "*July* 28 (1833), 9 *o'clock*, A. M. Stomach empty—not healthy—some erythema and aphthous patches on the mucous surface. St. Martin has been drinking ardent spirits pretty freely, for eight or ten days past—*complains of no pain*, nor shows symptoms of any general indisposition—says he *feels well*, and has a good appetite."

Now, as spirit is rapidly absorbed from the stomach by the absorbent veins, and carried into the general circulation, it finds its way to the heart in company with the venous blood, and here again its acrid property comes into play, irritating the inner surface of the heart, and exciting it to increased action in order to get rid of the intruder; so for a time *the heart pumps away with greater force and rapidity*, and at times with considerable irregularity, as indicated by the pulse. Now it is a well ascertained physiological law, that no organ can be habitually excited to an increased action, without becoming impaired and diseased. So the heart, thus acted upon, day by day, at last becomes feeble and diseased, exhibiting either hypertrophy (enlargement), or fatty degeneration of its muscular tissue.

ALCOHOL A NARCOTIC.

Again, if you retain strong whisky in your mouth for a few minutes, you not only inflame and blister the insides of your cheeks, but deaden the nerves of taste; in fact, these become so paralyzed that you are unable to distinguish the taste of one substance from another. If you shut your eyes and apply to your tongue, first salt, then sugar, or even quassia and sugar, you will not, by the taste, be able to detect the difference. This shows alcohol to be a *narcotic*. Hence, writers on toxicology, as Dr. Pereira, Prof. Orfila, Dr. Taylor, and Prof. Christison, rank it among the *narcotico-acrid* poisons. Numerous experiments have settled this point. "Sir B. Brodie found that by the administration of a large dose of alcohol (ardent spirit) to a rabbit, the pupils of its eyes became dilated, its extremities convulsed, and the respiration laborious; and that this latter function was gradually performed at longer and longer intervals, and that at length it entirely ceased. Two minutes after the apparent death of the animal, he opened the thorax (chest) and found the heart acting with moderate force and frequency, circulating dark-colored blood. The same phenomena resulted from the injection of two drops of the essential oil of bitter almonds (whose active principle is prussic acid), diffused in half an ounce of water, into the bowels of a cat."—*Dr. Paris.*

Dr. Percy says: "About 2½ oz. of alcohol (sp. grav. ·850) having been injected into the stomach of a full-grown spaniel, the animal immediately uttered a loud, plaintive cry, and fell lifeless to the ground. Not a gasp was afterward taken, nor, after the lapse of a minute or two, could a single pulsation of the heart be felt. Never did I see every spark of vitality more effectually and more instantaneously extinguished. . . . The mode in which death occurred in this case was almost precisely identical with that of poisoning by a strong dose of *prussic acid.*"

Whilst alcohol on the one hand diminishes the sensibility of the nervous system, it checks on the other the generation and equable diffusion of the nervous fluid, that subtle and remarkable agent without which not a single process of animal life can be carried on, and thus aims a direct blow at the very seat of vitality; hence it is that those who indulge in the use of liquors containing it have all the functions of the body, and all the operations of the mind, retarded and perverted. The sight, the hearing, the senses of smell and of taste, become deranged; the breathing becomes stertorous, the heart labors, the mind is confused, and all the functions of assimilation and elimination are impeded. Hence, also, those numerous and terrible diseases of the brain and nervous system inflicted upon the devotees of Bacchus, from the ravings of mania, the horrid spectres of *delirium tremens*, to the most hopeless and incurable forms of paralysis and imbecility.

Alcohol, in all its stronger forms, is also a powerful *astringent*. A great many substances soaked in it become contracted and hardened. This is its action upon animal tissues, and the nutrient elements of the vegetable world. If we wish to preserve organic specimens we generally place them in glass jars filled with spirit, in which they become tanned, hardened, and imperishable.

Where alcohol, in the form of brandy, beer,

or wine, is taken into the stomach during a meal, or immediately after, it tans and condenses the food, and thus renders it indigestible; at the same time it also injures the solvent action of the gastric juice, by precipitating its pepsin. Hence we see how erroneous the notion that brandy or wine taken after dinner aids digestion, and, also, how foolish and unscientific it is on the part of medical men to prescribe a mixture of rum and milk. The rum hardens the caseine of the milk, and thus converts it into an indigestible substance.

But alcohol is also a very powerful *solvent* of certain substances.

The bitter principle of herbs, essential oils, the alkaloids, and the resinoids, in which the medicinal properties of plants chiefly reside, are all of them dissolvable in alcohol. Hence, alcohol is a very useful agent in pharmacy, and in conducting various chemical processes. It is also of great service in many of the useful arts; the French-polisher cannot well do without it.

ALCOHOL DEVITALIZES THE BLOOD.

Now, from its power to astringe and tan on the one hand, and its power to dissolve on the other, it has a most pernicious action upon the blood. This fluid is derived from the food we eat and the water we drink, and it contains within itself all those constituents that go to build up the body, and also those waste matters that arise from the changes constantly going on within. The red color of the blood is derived from innumerable red globules floating in the Liquor Sanguinis (blood fluid). They contain iron in a state of oxidation, and it is to the presence of this that they owe their crimson color. If these globules become deficient in number or quality, then debility and disease must ensue.

Possessing very strong solvent properties, alcohol acts most perniciously upon the red globules, dissolving the iron out of them in whole, or in part, and occasioning the formation of black, oily specks.

The globules (or corpuscles) become considerably altered in shape; and instead of being plump and round, become flattened, elongated, and pale. This devitalized condition of the blood produces anæmia, or palidity. The countenance lacks the rosy hue of health, and the lips are white.

The red coloring matter dissolved out of the red globules, is forced into the fine, hair-like (capillary) vessels, and also into the ultimate tissues, causing irritation and disease. There is a distinct form of rheumatism, known as alcoholic rheumatism, induced entirely by the use of fermented fluids. Dr. B. W. Richardson, some years ago, called the attention of the profession to a peculiar state of the lung, a real *phthisis* (consumption), having alcohol for its exclusive cause. Gout is another disease of alcoholic origin, as none but drinkers, or their descendants, suffer from it.

Professor Carl Schultz states: "The alcohol stimulates the blood discs to an increased and unnatural contraction, which hurries them on to the last stage of development, that is, induces their premature decay and death. The coloring matter is dissolved out of them, and the pale discs lose all their vitality; whence less oxygen can be absorbed and less carbon carried out." The experiments of Drs. Böcker and Virchow concur in proving that alcohol poisons the blood, and arrests the development, as well as hastens the decay, of the red corpuscles. Dr. Böcker notices the alterations undergone by the blood of habitual alcohol drinkers as *yet in good health*, viz: a partial loss of power to become red by exposure to the air, in consequence of the loss of vitality in the portion of the blood discs.

Alcohol, being a very powerful astringent, acts perniciously upon the albumen of the blood, and thus seriously impedes and perverts the reparative processes.

By devitalizing the red globules, and hardening and corrupting the albumen, alcohol prevents the full aeration of the blood in the air cells of the lungs.

Dr. Carpenter says: "We have seen it to be one of the properties of alcohol that, when mingled with venous blood, it exerts *precisely the same effect as an insufficient supply of air*, in preventing its complete depuration in the lungs."

ALCOHOL CAUSES FATTY DEGENERATION.

"Alcohol also occasions an unnatural and unhealthy accumulation of fatty materials in the blood; increasing it from 2 to 3 parts in 1,000, which is the healthy and natural proportion, to as high as 117, which is a most unhealthy and unnatural proportion. The eminent French analytical chemist, Lecann, found as much as 117 parts of fat in 1,000 parts of a drunkard's blood, the highest estimate of the quantity in health being $8\frac{1}{4}$ parts, while resembling (so far as this point is concerned) that which is brought about by imperfect ventilation, bad sewerage, noxious emanation, and improper diet; namely, contamination with the refuse generated in the body, whose due elimination is checked no less effectually by the presence of alcohol in the circulating current than it is by constantly shutting up the doors and windows of our apartments, or by heaping together a mass of

putrefying rubbish in our cellars, or by damming up our sewers and causing them to overflow into our kitchens, or by any other similarly approved means of causing the fever germs to take root and flourish in our systems."

Very frequently this fatty material is deposited in the muscular tissues, thereby inducing that diseased condition known as fatty degeneration, from which so many drinkers suffer, and which it is so very difficult to cure. Says Dr. T. King Chambers, "Three quarters of the chronic illnesses which the medical man has to treat, are occasioned by this disease." The organs most liable to fatty degeneration of their structures are the heart and liver, the kidneys, and the walls of the blood vessels. The entire muscular structure of the body may also become infiltrated with oily and fatty deposits. Fatty degeneration of the heart is a disease of very frequent occurrence. This disease very often proves suddenly fatal; the subject of it appearing to enjoy his usual health only a few minutes before he falls down and expires.

We quote the following from Dr. Munroe's Pamphlet:—

"An instance of a very suddenly fatal case of this disease occurred to me not long ago—one of a like character with half a dozen more which I have witnessed during the last few years. The person was of middle age, rather stout, of exceedingly quiet habits, never appearing to be in a hurry about anything, taking only moderate exercise, but never seen walking fast or exerting himself. He had, however, contracted the bad habit of taking a small glass of whisky three or four times a day, yet never appearing drunk, or in the least excited. He was the popular *picture* of good health, and had scarcely ever had a day's illness, but sometimes complained of a fullness at the chest, and slight beating of the heart. One day, after having partaken of his dinner, drank a glass of ale, and smoked his pipe as usual, on rising up to go to his business, he suddenly dropped down on the floor, and died immediately. On making the *post mortem* examination, the brain seemed healthy, so did the heart, lungs, liver, and other viscera. The man had died apparently without the slightest indication of organic disease, or of any lesion to account for so sudden a catastrophe. My next object was to make thin sections of the heart, liver, and kidneys, and place them under the microscope. The mystery of his death was now immediately revealed, for every organ subjected to microscopic analysis exemplified the slow, structural lesions of fatty degeneration. The fibers of the heart, a powerful muscle, had become so enfeebled and degenerated by the intestinal deposit of oil globules that it had suddenly and spasmodically ceased to act. Had the man been a pure water drinker, such a suddenly fatal result could hardly have happened. It is the misfortune of medical men to have *scores of patients in a year* laboring under some of the protean forms of fatty degeneration, who would never have occasion to require the doctor's assistance if they would only forego the daily use of even small quantities of alcohol. This agrees with a broad experience and the most extended observations, in regard both to the benefit of abstinence and the evils of drinking."

Thus do alcoholic beverages directly corrupt and devitalize the stream of life, and degenerate those tissues which it feeds. Says Dr. Watson: "It is a curious pathological fact that the red particles require more time for their restoration than the other constituents of the blood. The albumen of the blood and the salts of the blood are speedily restored, but not so its red particles. And hence the local congestions to which they are liable," who have suffered loss of blood.

Alcohol is said to be a stimulant, and, as such, is very freely prescribed in certain states of disease.

But what is a stimulant? Dr. T. K. Chambers, says, "It is usually held to be something which spurs on an animal operated upon to a more vigorous performance of its duties." According to this definition, the whip and the spur to the jaded horse are stimulants; a sudden shock to the nerves is also a stimulant. The signal gun of the Emperor Theodore, fired from the hight of Tahla, acted as a very powerful stimulant to the jaded soldiers of the 4th regiment. Just before that cannon roared forth the signal for battle, they were terribly knocked up; soldiers here and there falling out of the ranks, completely exhausted, and imploring most piteously for water. But no sooner does the cannon boom from Tahla's hill, than all sense of fatigue vanishes, and rushing to the front, they endure the brunt of war, and storm the hights. Now, accepting Dr. Chambers' definition, how does it apply here? Will it spur on an animal to a more vigorous performance of its duties? No! It detracts from what remains of energy and strength, and prevents us from accomplishing so much as we otherwise should. People who take alcohol, think otherwise, because the sensibility of the nervous system becomes blunted, while they *feel* lighter about the head, and warmer in the region of the stomach. Dr. Brinton, though no teetotaler, confesses that "even a moderate dose of beer or wine diminishes

the *maximum* weight which a person can lift, to something below his teetotal standard. In like manner, it is not too much to say that mental acuteness, accuracy of perception, and delicacy of the senses, are all so far opposed by alcohol, as that the maximum efforts of each are incompatible with the ingestion of any moderate quantity of fermented liquid." —*Bacchus Dethroned.*

Influence of the Imagination.

THE following which appeared in a recent New York journal contains some good illustrations of the effect of the imagination:—

"We have before spoken in our columns of the power of the imagination in the simulation of disease, but it is a curious subject and one daily receiving exemplification. The instance of a soldier in the French service, condemned to die, and who was handed over to the surgeons as a living subject, is recalled to us at this moment. The man, who was enjoying perfect health was placed in a hospital, and told that all the patients about him were suffering with small pox. This was not true. There was no such disease in the institution, and yet it is a well-authenticated fact that the condemned soldier was soon taken violently sick and actually displayed all the symptoms of the supposed disease. He was removed from the hospital undeceived got well immediately, and was consigned to prison to suffer the punishment awarded to him by the court.

"A similar illustration, much nearer home, has lately occurred in Indianapolis. A young man in that city went into a drug store with a dolorous countenance, and with a deep sigh asked for fifty cents' worth of strychnine. The druggist observed his mood, and quietly seemed to fill his order in good faith; but in reality gave him a harmless potion, which the young fellow swallowed with a theatrical flourish, exclaiming, as he did so, that his affections had been blighted, and he 'had taken the poison to get even.' He would not live to be so used. Life was a blank, and so on. The druggist told him there were not fifteen minutes' life in him, and that he was already beginning to fade about the eyes! At this information, the youth sank to the floor, and the perspiration streamed from his forehead. He was becoming very sick, bodily and mentally, and actually appeared to be dying.

"At this juncture, the medicine man himself became alarmed at the effect of the dose, and examined the jar from which he had taken the potion. It was sugar of milk, sure enough, perfectly harmless, and yet it was producing spasms. What was to be done? As a last resort, the disconsolate youth was informed that he had taken no poison, but in place of it a harmless dose, a bushel of which would not kill. This information put a stop to the dying business on short meter. The patient revived instantly, got up and walked out of the store with a good round oath, declaring that he would yet be even with the world at large and somebody in particular. A physician present said that unless he had been undeceived the youth would have died in a quarter of an hour."

Curious Curatives.

PANACEA after panacea has been propounded for the benefit of a world in which health would seem to be a state of unnatural existence, each new nostrum enjoying a brief term of popular favor, and then passing quickly out of memory. Anodyne necklaces, hot-air baths, brandy and salt, galvanic rings, are a few among many universal remedies that have at one time or another been the rage. In our own day, cold water has been extolled far and wide as the one thing needful to wash disease away—a doctrine which, Burke would have scouted; for he held that hot water was the finest stimulant, and the most powerful restorative, at man's command. Whenever he felt himself unwell, on went his kettle, and he thought nothing of drinking four or five quarts of boiling, or nearly boiling, water in a morning; pouring a pint or so into a basin, and taking it like soup, with a spoon. Indeed, the great Irishman put such strong trust in his simple panacea that he would have had no hesitation in taking it, as a certain quack said his peculiar nostrum ought to be taken, externally, internally, and eternally. Suvaroff swore that hunger was the best cure for all diseases, and warned doctors from his camp, for if hunger failed to work a cure, were there not herbs, roots, and pismires to be got? The fierce Russian's prescription would have been endorsed by Rulty, the Quaker physician, who records in his diary: "1755, 3d month, 29th day.—A blessed repast of bread and water, a sovereign cure for indigestion, and no danger of a debauch."

James I., wise as he esteemed himself, believed in the power of a certain elixir to render him ailment-proof. A Duke of Burgundy was fool enough to pay ten thousand florins for the recipe of a balsam warranted to make his memory transcendently good. Albertus of Saxony was not so easily gulled. A learned Jew tried hard to persuade him that wounds might be readily cured by means of pieces of parchment inscribed with Hebrew words and letters, selected from the Psalms. As he was arguing the matter one day, the duke suddenly drew his sword

wounded the unlucky curemonger in several parts of his body, and then coolly told him to try conclusions upon himself. Of course, Albertus was never more troubled that way.

A doctor of our acquaintance took the trouble to analyze a popular patent remedy for rheumatism, and found the lotion to be salt and water; and yet it undoubtedly afforded great relief in some cases, because it was necessary to mix it with boiling water, into which flannels were then dipped, and bound round the affected parts. The hot flannels eased the pain, and the lotion got the reputation of it. Ruptured children used to be passed through a young wych-elm, split for the purpose, and afterward bound up, the cure depending upon the tree's growing together again. Scarlet fever was served with notice to quit by cutting a lock of hair from the sufferer's head, and forcing a donkey to swallow it; and in Greenland, children were sometimes buried alive as an infallible method of ridding their parents of any troublesome complaint.

Mrs. Delany, a lady who sweetened her blood by taking a modicum of chalk in everything she drank, had a fondness for amateur doctoring, and was not very nice in prescribing for her friends. In one of her letters, she writes: "Does Mary cough in the night? Two or three snails boiled in her barley-water, or tea-water, or whatever she drinks, might be of great service to her; taken in time, they have done wonderful cures. She must know nothing of it. They give no manner of taste. I should imagine that six or eight boiled in a quart of water, and strained off and put into a bottle, would be a good way, adding a spoonful or two of that to every liquid she takes. They must be fresh done every two or three days, otherwise they grow too thick." Mrs. Carter entreated a friend not to neglect taking millepedes, as it was an excellent medicine that might be of use to her eyes. Powdered wood-lice were taken in wine by asthmatical folks; but a believer in the remedy advocates the safer and surer plan of making pills of the vermin, and swallowing them alive, "which is very easily and conveniently done, for they naturally roll themselves up upon being touched, and slip down the throat without any taste." Pliny, by the way, recommends wood-lice and green lizards, boiled down together, as a remedy for paralysis. Spiders' webs were long ago prescribed for ague; sometimes the spiders themselves were administered in treacle, or put into a goose-quill, and securely sealed, when the quill was hung so as to rest upon the pit of the stomach.

Somebody asks: "Die of the jaundice, yet have the cure about you, lice, large lice, begot of your own dust and the heat of the brick-kiln?" Walton thought so highly of this specific, that he declared Heaven itself must have revealed it to the Jews! Bugs were once considered invaluable in cases of hysteria and quartan fever. Hudibras was almost taken off his legs with "purging, comfits, and ants' eggs," although common ants distilled in spirits of wine were reputed to be of great avail in stirring up a man's courage and magnanimity.

"Three nails," says Lupton, "made on the vigil of St. John, called Midsummer Eve, and driven in so deep that they cannot be seen, in the place where the party doth fall that hath the falling-sickness, and naming the said party's name while it is doing, doth drive away the disease quite."

Toothache may be cured by digging up a plant of groundsel with a tool having no iron in it, touching the tooth four times with the groundsel, taking care to spit thrice after each touch, and then replacing the plant. Plague and poison may be defied for twenty-four hours by a light refection consisting of two figs, two walnuts, and twenty rue leaves beaten together. Warts are easily got rid of by rubbing the ill-conditioned things with a piece of bacon, provided the bacon be stolen. If honestly come by, there is no such virtue in it. Theft would seem to impart a like curative power to vegetables, since a Lewes laborer, charged with helping himself to a farmer's turnips, excused the misappropriation by declaring he only stole them because he had been told he might make his crippled son perfect-limbed by rubbing his neck with five stolen turnips and throwing them away, without saying anything to anybody about the matter. Not such an impudent defense as that of the fellow who decamped with one hundred pounds' worth of cotton because he wanted a little cotton for a cold in his ear.

There are such things as pleasant remedies. Cherries, grapes, lemons, and cucumbers, have been vaunted as certain cures, if taken in sufficient quantity, for that scourge, consumption; a malady for which Aaron Hill prescribed the daily imbibing of a quart of coffee made with milk. Mr. Henry Phillips found a not very nauseous remedy for sea-sickness in brandied tea, a remedy respecting which he tells the following story of how things are managed on board some so-called temperance ships: "It was of rare occurrance for me to feel sea-sick, but on this occasion I did; and in a state of misery, known only to those who are so situated, I asked the nearest waiter to give me some brandy. He grinned and said: 'You get no brandy here, massa; him's a temperum's ship.' 'Is it,' said I. 'What am I to do?' 'Stop a bit,' said he; 'I'll get something for you.' He immediately returned with a soda-water bottle full of a dark-looking liquor, which he

poured into my half-cup of tea, saying, 'Dere, massa, sarsaparilla—berry good ting for seasickness.' I tasted, and found it was excellent brandy. I gave him half a dollar, and requested a little more sarsaparilla, which he again poured into my cup, while he held his sides with laughter, and grinned like a hyena. I found in after traveling whenever I had the ill-fortune to get on board a temperance ship that the waiters were always supplied with sarsaparilla and similar pleasant medicines."

The Marquis of Anglesey, when Lord-lieutenant of Ireland, was a martyr to tic-douloureux, and the only man who could do him any good was Brophy, the castle dentist. He did not, as one would guess, attack the viceroy's teeth; his method of treatment was more original, and vastly more agreeable to the patient than any that could have been devised by the College of Physicians. Brophy was gifted with marvelous comic powers, and before he got through "The Blind Beggar of Carlisle Bridge," or one of his many other convivialities, the marquis found himself free from pain and ready for his dinner. We hardly know whether we may reckon marriage among pleasant remedies; it depends, we suppose, upon the form in which it is administered. Dr. Cabarrus, a Parisian physician, being called in by a pretty actress, felt her pulse, looked at her tongue, and so on, and then gravely pronounced marriage to be the only thing he could prescribe. "You are single, are you not, my dear doctor?" inquired his dangerously fair patient. But the doctor was not to be trapped. Taking up his hat, he replied: "Yes, mademoiselle; but doctors only prescribe remedies; they do not take them!"

Lameness of a certain kind may often be cured by fright. Hone relates how an old gentleman, hobbling along as well as gouty feet would allow him, suddenly became aware that a bull was making rapid advance on his rear, and forgetting his gout, and dropping his stick, by a dashing bit of steeple-chasing, in a very few moments put himself on the safe side of a gate, and left his gout behind him. We know a man cured of rheumatism quite as quickly. He had kept his room for six weeks, when somebody advised him to try the effects of a cayenne lotion. A jugful was made, and the very first night of using it, he awoke, feeling very dry-throated. He always kept a jug of water at his bedside; so stretching out his hand, he seized the jug and took a good pull at its contents. He was on the floor almost before he knew it. He had got hold of the wrong jug, and taken his lotion internally; but the blunder frightened away his rheumatism forever.

After ages of experiment and experience, the art of curing is still such an uncertain art that thousands might say, as the poor invalid said: "I never took a remedy, but I've had lots of physic." Dr. Whately could have said just the contrary; he did not take lots of physic, but had a remedy, nevertheless, that stood him in good stead at all times and seasons. A gentleman making an evening call at Redesdale when the snow lay two feet thick upon the ground, was much scandalized at beholding an old man in shirt-sleeves hard at work felling a tree, while the sleet drifted pitilessly into his wrinkled face. Upon expressing his surprise that the archbishop should let an old laborer work in such fashion, he was astonished to learn that the poor fellow exciting his wrathful pity was the archbishop himself, getting rid of a headache in his usual way, which was to throw off his coat, lay hold of an ax, rush out of doors, and belabor some stout old trunk till he found himself perspiring freely, when down went the ax, and off went Dr. Whately as hard as he could tear to his bed-room, to wrap himself up in his newest blankets, go to sleep, and arise by-and-by "as fresh as a four-year-old." Sydney Smith prepared for all eventualities by devoting one side of a room to a collection of medicines, on the efficacy of which he plumed himself not a little. "There's the Gentle-joy, a pleasure to take it; the Bull-dog for more serious cases; Peter's Puke, and Heart's Delight—the comfort of all the old women in the village; Rub-a-dub, a capital embrocation; Dead-stop settles the matter at once, and Up-with-it-then needs no explanation. This is the house to be ill in; everybody who comes here is expected to take a little of something. I consider it a delicate compliment when my guests have a slight illness. We have contrivances for everything. If you have a stiff neck or a swelled face, here is this sweet case of tin, filled with hot water, and covered with flannel, to put round your neck, and you are well directly. Likewise a patent tin shoulder, in case of rheumatism. There you see a stomach-tin, the greatest comfort in life; and, lastly, here is a tin slipper, to be filled with hot water, which you can sit with in the drawing-room, should you come in chilled, without wetting your feet."

Sydney Smith had almost as much faith in hot water as Burke, only he was for its external use; some of his contrivances might certainly be generally adopted with advantage. Scott's Ashestiel blacksmith, who, upon the strength of a little veterinary skill, set up as a doctor of human-kind in a small English town, was a man of few remedies. As he told Sir. Walter, his practice was very sure, and perfectly orthodox; for he depended entirely upon "twa simples." "And what may they be?"

asked Scott, with some curiosity. "I'll tell your honor," said Lundie; "my twa simples are just laudamy and calamy!" "Simples with a vengeance!" exclaimed the poet. "But do you never happen to kill some of your patients, John?" "Kill? Ou ay, may be sae! Whiles they die, and whiles no—but it's the will o' Providence. Onyhow, your honor, it wad be lang before it makes up for Flodden!" That last touch went straight to Scott's heart, we may be sure.

Johnny Lundie was not quite so frank with the unlucky victims of his orthodox practice; frankness with them would have been unprofessional. It would perhaps be a change for the better if European doctors could imitate the plain-speaking Chinaman, Li Po Sai, who, when called in by a Californian gentleman, after the usual examination, said: "I think you too much dance, too much eat, too much goot round. If you dance, you no get better; too much eating, no good; too much gooting round, no good. Good-by!" Dared our medical advisers be as honest as their Chinese brother, drugs would be at a discount indeed.—*Good Health.*

Importance of Bodily Exercise.

[I AM so much pleased with the following very sensible article upon this subject in the *Interior* that I send it for publication in the REFORMER. I know that ministers in particular are in perishing need of just such advice, and that often repeated.

D. M. CANRIGHT.]

We feel that we are strictly within the province of a religious journal when we devote a column to the question of physical culture. An apostle, instructing a young preacher, tells him that there is value in bodily exercise, subordinate, indeed, to the value of piety, extending to only a few things, while godliness extends to all, yet a real and true value, which he who would be thoroughly furnished for any good work cannot afford to despise. It is maintained by most expositors that the "bodily gymnastics," which Paul recommends, refer mainly to physical exercise for itself. In this view of it, the lesson is pertinent and forcible. From the nursery to the profession, there is a woful lack of anything like physical training. What of it there is in schools, and in life after school, amounts rarely to more than feeble exercise. The word training, especially in its classical suggestions, has been lost sight of. We forget how the boys of Greece and Rome passed through severest physical discipline for purely physical ends; how they submitted to privations, and bound themselves to tasks, only that they might win the prizes awarded to suppleness and endurance, that they might develop the muscle, strengthen the bones, and steady the nerve to the utmost. Or, if we remember the gymnasium, it is only to neglect, perhaps in a lofty but false sentiment, to despise, it, and to substitute for resolute bodily endeavor, a lazy pampering of the flesh, under the heroic name of bodily exercise. So your school-boy sits on the pier and fishes for perch, and calls it exercise; or, at the most, languidly plays a game of base-ball. Your school-girl sentimentalizes and flirts through a round of croquet. Your business man walks to the store, or takes a reckless ride in a street-car, and your preacher, once a week, in a conscientious fit of devotion to exercise, walks a straight mile, on a straight side-walk, in twenty minutes by the watch.

And this is "bodily exercise." In a fine satire, the apostle from the hight of his abundant labors and disciplines might say to us, "It profiteth little." Physical training, now-a-days, means a heroic dash in an omnibus, the abandon of a ride on a ferry-boat, or a rollicking and exciting seat on a hotel verandah, with a glass of spring water in one hand, and the morning paper in the other. This is not gymnastics. And when our business or professional men go down at forty, fair, fat, and flabby, a mass of refined pulp, yielding, helpless as a jelly fish, in life's first encounter, sentiment tenderly weeps over the wreck produced by excess of brains, while science coldly sneers out, "Too lazy to live."

Before we shall have a generation of men and women with a physique adequate to sustain them under the fearful pressure of the excitements of modern life, bodily exercise must not mean genteel loafing, but it must recover its old sense of a firm discipline, through which alone a tough, elastic, and successful bodily life is possible. In this endeavor it must be confessed many things are against us. The invention of the age is in league with indolence. All climes pamper our taste, all conveniences abridge the necessity of exertion; steam and horse-power are at our very doors to carry us about, and living is made so easy that gymnastics seem an impertinence. Nevertheless, alike for the bodily and the mental work which the world demands, we must come back to manly exertion and physical training, or we must lag in the race. In this world there are no premiums for pure spirit. Even the work which the soul shall do depends largely on the support which the body may give. And the rewards of bodily culture are second only to those of spiritual

improvement, and, to a large extent, condition and determine them.

There is, however, another meaning to the apostolic exhortation, viz., the exercise or discipline of the flesh for the immediate benefit of the soul. This, in excess, becomes asceticism. It was the sad mistake of the Dark Ages to suppose that the soul climbed upward on wasted or broken flesh. And yet it was a grand mistake, and hinted an important truth. That truth is this: There is a direct spiritual profit in a certain training and mastering of the body. That truth, when pressed beyond limits, like many an other excessive truth, becomes a falsehood, and results in a repulsive, vain crucifying of all natural desire. Then it is hurtful. But the idea that stands behind asceticism is ever a large and beautiful one, and the Christian world should observe it well. A body which is held well in hand by a resolute and conquering spirit, is the first condition of noble work. A pampered body not only softens to its own destruction; it also brings leanness and death to the soul. It is time to come back to a wholesome restraint of the body; not, indeed, the fanatical crushing and starving of it, but the subjugation of it, without which it will be, not an obedient servant, but a lawless and terrible master. The immense work which is now demanded of all useful people, and the tremendous temptation to bodily indulgence, even to the peril of public morals, alike demand a return to the classic gymnasium. There are prizes to be won which can only be extorted from a reluctant occasion by those whose loins are stripped and girded, and whose bodily nature, keen and strong, is ever at the slightest beck of an aroused mental activity and a vigilant moral sense. Bodily exercise, when carried to the point of discipline, profiteth more than a little. It will carry the school-boy easily on the upgrade of learning. It will sustain the worked and worried man and woman even in the unhalting modern rush, and the unrelenting demands on body, mind, and spirit.

Hydrophobia.

IT is not canine madness of which I speak, but that dread of water which prevails so extensively among the people. The number is not small who are so averse to hydropathic treatment that they will not wash a sick child when advised to do so, and assured of the perfect harmlessness of a bath properly taken, and that probably nothing more would be needed in order to recovery. No; many are so ignorant of the laws of life and health that they will neglect the means so abundantly supplied in nature, avoiding, as enemies, their very best friends, and resorting to doctors to do that for them with poisonous drugs which the healthful agencies surrounding us, and the natural constitution, alone can do.

The people have need of being educated in physiology and hygiene. They need to learn the qualities and value of pure air and soft water in their relations to animal life. If all knew these things, taking poison to cure disease would go out of fashion. If physicians would turn educators of the people in the laws of life and health, they would truly become benefactors of mankind; but should they be wholly successful in this, the demand for poisonous drugs to be swallowed as medicines would cease. They would live, and have the satisfaction of doing our race one of the greatest benefits in their power; but their present system of practice would die.

R. F. COTTRELL.

Swedish Movements.—No. 2.

W. J. FAIRFIELD.

THE human body is penetrated in all its parts by the blood, which builds up and sustains the system by means of the nutritious qualities it receives from the food which is taken into the stomach; and can we not see, with Ling, the importance of *movements* when we consider the following law, to which he was led by observation and experiment: "Nutrition, or muscular development of any part of the body, occurs in direct relation with the active movements to which the part has been subjected." Thus it is that we see some men with the muscles of their arms largely developed, while the rest of their body shows a decided lack of development. From the nature of their occupation the arm muscles have been largely called into action while the other muscles have remained comparatively inactive; and, as the result, more blood is called to the active parts, bringing an abundance of nutrition to build up the broken-down tissues, while the inactive parts remain undeveloped, not having that share of activity to equalize the flow of blood to the different parts of the body which is so inducive to healthful and harmonious development.

In a normal condition, perfect harmony exists in the different parts of the system. Nature would have this harmony kept up; but through a violation of her laws it is disturbed and in a measure destroyed; consequently, the body is enfeebled and diseased from lack of co-operation of its different parts.

Nature's laws are not to be broken with impunity. Although the offense may often seem trivial, yet many times no estimate can be made of the damage accruing from such seemingly small offenses.

The object of movements, as a remedial agent, is to help nature to a restoration of that harmony which must exist between the different parts in order to have health and vigor of both body and mind. But it should here be understood that in conjunction with movements there are other requirements. The nature of the diet of the patient must be taken into consideration, with other correct habits of living. The food which is received into the stomach should be of that nature which will afford just the nutrition that the system requires; the quantity as well as the quality of the food should also be considered. It is only with these considerations, and with other hygienic remedies, that passive movements will have the best effect on the patient.

The difference between active movements and passive movements is this: In active movements the patient is the operator as well as the receiver. The movements are those in which the body, or a part of it, is moved by an internal force acting from within, outward; while in passive movements the body, or a part of it, is moved by an external force acting from without, inward. In article No. 3, we shall say more in regard to this.

The movements are given with a view to operate through the muscles, as the muscles, being excited to action and exercising their function, minister to the good of all the other structures. The muscular system comprises an important part of the body, and, as the movements act on the body so directly through the muscles, we will notice briefly what muscle is.

Muscle is composed of a dense tissue that comprises more than half the weight of the human body. It is distinguishable from other tissue by its redness of color. This tissue is composed of bundles of fibers, which can only be distinguished by the aid of the microscope, which gives them the appearance of being composed of little sections or discs.

The characteristic property of muscle is contractility, or a drawing together of the extremities; and when the muscle is contracted the discs become thinner and broader.

The muscles are crowded with blood vessels, the smaller of which are distributed within for the purpose of affording a supply of nutrient matter, the larger ones passing through.

The employment of the movements is a powerful means of directing and promoting nutrition, giving aid to the organism in its efforts to derive sustenance from suitable material, and assisting the exit of waste matter. How is this done? 1. The parts, or organs, to which the movements are applied, are aroused to greater action. 2. Local congestion is broken up, and the flow of the blood is quickened and started in all the minute capillaries, thereby promoting circulation, and bringing the much-needed nutritive substance. 3. The broken-down tissue is built up, while the old, worn-out material is taken out of the way, thus giving tone and power where torpidity and weakness were predominant.

Nature is a great repairer; and any organ having become so conditioned that the blood has not free access to its various parts, becomes defective, and trouble of some kind is the result. We see that the movements are in the direction of the desired physiological result, and consequently toward health.

Sunlight and Exercise.

SUNLIGHT.—Hygienic writers have generally most astonishingly ignored the powerful effects of this luminary, the center of life and heat, and without which vegetable life would be a nullity. Can we, therefore, doubt its energizing potency upon animal life?

It is not only poets and sentimentalists that have acknowledged the importance of the moon and the stars as hygienic mental and spiritual influences upon man, but grave doctors and learned searchers after truth have been ready to add the weight of their judgment to the superficial imaginations of the common thought. The moon has been deemed almost the arbiter of man's destiny, for everything was supposed to be attached to the mystery of its quarterings, and its coming or going was (and is) supposed to have a gravity utterly untenable upon any scientific principle; and yet to the great orb of day, of which the moon and stars are but reflections, and to which we are compelled to directly ascribe life and vigor, so little attention has been paid—perhaps from the comparative absence of mystery—that its importance has been, till lately, unrecognized by hygienic writers.

The long-lived generations of the past did better than worship the sun; they lived in its light, bathed in its warmth, and had their spirits and material substance imbued with its life-giving potency. Instead of sun-penetrated tents, men now live in thick-walled dwellings, through whose stony externals the solar warmth cannot strike to dry up the

dank humidity, and the sparse and infrequent rays, that might perchance enter through the narrow windows, are carefully shut out by the voluminous folds of ornamental silks, lest the rich carpets be faded thereby. And the dwellers within live in darkness of vision and intellect, ignorant that they are excluding the royal visitor to whose gracious coming every avenue should be thrown wide open to admit the king possessing a true "royal touch," potent to the cure of more ills than was ever ascribed to earthly sovereign.

There is a prospect of some return to a renewal of the beneficent influences of the sun, from the sheepish followers of fashion. This fickle goddess has recently started the doctrine that, as a reaction from the tanning effects of a summer's out-of-door exposure, the winter's change adds new brilliancy and transparency to the complexion. Fashionable butterflies now seek for the most complete tanning that the summer's solstice can effect, in order to secure a corresponding reaction, and insensibly gather health and invigoration.

Contrast the myopic and weak-eyed men of the day with the eagle-eyed men of the plain and forest, whose sight needs no screening from the sunlight by broad visor and head-apparel or dainty parasols. To their unshrinking eyes, light has no perils or disagreeableness.

Have we not here another great contrast between the past and the present? Where picturesqueness may have gained from the embowered cottage and the shaded dwelling, has not health suffered? The city, thronged with high residences and warehouses, has shut out the potent rays of the sun, and humanity has grown pallid in its shade, like the inhumed celery-plant, or the wide-spreading, spindling sprout of a cellared potato. Here in New York, and in London, Paris, and Berlin, the typhus sick are removed from the hospitals and placed in tents open to air, and purified by the radiance of the health-giving sunbeams. If thus potent for cure, how irresistible for prevention!

The Greeks made exercise a part of education, and the athlete, if not also a philosopher and a poet, or a tragedian and orator, was at least esteemed as highly by the community. Exercise was a part of every one's life, a business, a pleasure, and a necessity.

Till quite recent days there were no lazy people, no gentlemen, none inactive. War and its martial exercises, labor and its attendant fatigues of the body, the chase and its toils, housewifery, the fabrication by hand of all the necessities of life—these healthy exercises have been done away with by excessive wealth, the fashion of indolence, and steam appliances. Work being now denounced by fashion, and delegated to servants, the women of the country have no severer toil than playing the piano and dancing, with an occasional saunter in the street on a very fine day. Consequently, the languid blood flows through unstimulated veins, resembling the stagnant, slime-covered waters of an undisturbed canal.

The city man, if very vigorous, priding himself upon his powers, walks down to his business from 8 to 10 A. M., and occasionally back again, in a gentlemanly manner, which means not fast enough to be ungraceful, or to moisten his shirt-collar. During the interval between these periods, he sits or stands at a desk or behind a counter. If there is a box to be opened, a bale of goods to be sent aloft, or put into a cart, he calls the porter. Possibly he takes a half-hour turn with some Indian clubs or dumb-bells, in the house, and, of course, where fresh air is tabooed. If he has means, he gets a trotter in a motionless buggy, and over a level road he walks six miles, and then trots fast two miles in great excitement, using his arms and possibly his lungs with some vigor. This is the exercise of the modern athlete, philosopher, and business man.—*Pop. Sci. Monthly.*

"Sin no More."

THAT sin is the great cause of sickness, is not a matter of doubt, but of certainty. That all diseases proceed from some breach of law (physiological law) is universally admitted; and that physiological law is moral law, may be easily proved from the fact that the sixth commandment, "Thou shalt not kill," forbids all disregard of physiological law. Thus, the man who breaks the sixth precept by wilful murder, only sins more heinously than the man who ruins his health by intemperance. The one kills, for malice, his fellow-man, the other, for appetite or lust, kills himself; both are transgressors of moral and physical law.

Every breach of physical law is a breach of the command, "Thou shalt not kill;" and every such sin has a tendency to harden the conscience, blind the mind, and blunt the finer perceptions. Thus, we see that intemperance and gluttony fatten all the vices and evil propensities of our nature, and tend at the same time to extirpate all that is good and beautiful.

Moral and physical law stand side by side; they never clash. The seventh precept is a health enactment, and, consequently, is a physical law. The fourth precept is also, in its tendency to proper and regular rest, a great health enactment, and is in its nature a

physical law; and the others, all of them, by cultivating evenness of temper, and general contentment and good-will, become, in a certain sense, promoters of the general good health of community. And so the moral law is, of itself, when properly understood, a great system of physical law.

Breach of law, in its effects, may descend to posterity, by fastening incurable maladies upon the constitution, and so perpetuating them. Thus, we find the once noble race of Adam now reduced to a world of invalids, cripples, drunkards, gluttons, maniacs, blind, deaf, and dumb. Everywhere are all grades of mental and physical imbeciles; and so universal has it become to live upon stimulants, that the world is full of tobacco, opium, alcohol, tea, coffee, beer, ale, &c., and even many of our public men are so corrupt that the ballot box is almost as bad as an absolute despot.

But there is hope for such as heed the command, "Sin no more." Though we cannot wholly extirpate the seeds of disease we inherit, we may ward off disease by a sinless, a spotless, a pure life. Even the most weakly may often make life more than tolerable by this maxim, "Sin no more." Thus, disease may, if not too far matured, be stayed in its cruel work. JOS. CLARKE.

Seasonable Fashion Gossip.

THE ladies have all got the neuralgia in their shoulders from wearing spring clothes, and many new dresses are supplemented across the back by porous plasters, and next to a vest front a mustard poultice is generally most worn. Young ladies alternate between a necklace for street wear, and a flannel rag for the house. Diamonds are worn in the ears with much effect abroad, but a lock of cotton and a little roast onion is the usual adornment at home. Pearl powder is applied to the shoulders for full dress, but camphorated oil and hartshorn liniment are considered very pretty also by the sufferers. Silk stockings, with colored clockings, are the things for low-slashed shoes, but pails of hot mustard water and warm bricks are also much worn on the feet.—*Boston Post.*

THE yearly mortality of the globe is 42,403,000 persons. That is at the rate of 115,200 per day, 4,800 per hour, 80 per minute. Among 10,000 persons, one arrives at the age of 100; one in 500 attains the age of 80; one in 100 to the age of 70. In 100 persons, 95 marry.—*Bos. Pilot.*

THE SKIN.

BY SIR ALFRED POWER.

THERE'S a skin without and a skin within,
A covering skin and a lining skin;
But the skin within is the skin without [out.
Doubled inwards, and carried completely through-

The palate, the nostrils, the windpipe, and throat,
Are all of them lined with this inner coat,
Which through every part is made to extend—
Lungs, liver, and bowels, from end to end.

The outside skin is a marvelous plan
For exuding the dregs of the flesh of man;
While the inner extracts from the food and the air
What is needed the waste in his flesh to repair.

While it goes well with the outside skin,
You may feel pretty sure all's right within;
For if anything puts the inner skin out
Of order, it troubles the skin without.

The doctor, you know, examines your tongue
To see if your stomach or bowels are wrong;
If he feels that your hand is hot and dry,
He is able to tell you the reason why.

Too much brandy, whisky, or gin,
Is apt to disorder the skin within;
While if dirty or dry, the skin without
Refuses to let the sweat come out.

Good people all! have a care for your skin,
Both that without and that within;
To the first you'll give plenty of water and soap,
To the last little else beside water, we'll hope.

But always be very particular where
You get your water, your food, and your air;
For if these be tainted or rendered impure,
It will have its effect on your blood—be sure!

The food which will ever for you be the best
Is that you like most, and can soonest digest;
All unripe fruit and decaying flesh
Beware of, and fish that is not very fresh.

Your water, transparent and pure as you think it,
Had better be filtered and boiled ere you drink it,
Unless you know surely that nothing unsound
Can have got to it over or under the ground.

But of all things the most I would have you beware
Of breathing the poison of *once breathed* air;
When in bed, whether out or at home you may be,
Always open your windows, and let it go free.

With clothing and exercise keep yourself warm,
And change your clothes quickly if drenched in a storm;
For a cold caught by chilling the outside skin
Flies at once to the delicate lining within.

All you who thus kindly take care of your skin,
And attend to its wants without and within,
Need never of cholera feel any fears,
And your skin may last you a hundred years!

—*Manual of Hygiene.*

"So near Grows Death to Life."

THESE words rushed spontaneously to mind as I passed a young orchard of peach trees, among the rows of which was a rank growth of tobacco plants. They are the words which Milton put into the mouth of Adam, in a beautiful address to Eve, in which he expresses his gratitude to God for their joy and happiness in their lovely Eden. A short quotation of the context will be all the explanation needed. He says:—

"He who requires
From us no other service than to keep
This one, this easy charge, of all the trees
In paradise that bear delicious fruit
So various, not to taste that only tree
Of knowledge, planted by the tree of life:
So near grows death to life."

It is to be regretted that, with a knowledge of the sad effects of partaking of that tree

"Whose mortal taste brought death into the world,
And all our woe,"

and with the aid of six thousand years of experience, men should not have learned better than to cultivate death; that those who know the poisonous nature of "the weed," and know that its use is evil, only evil, and that continually, should, for the sake of money, become ministers of death, changing the fertile fields, the product of which was given for our life, into the most fertile source of death; and this too, while thousands of our race are perishing of famine. But vain are our regrets. Tobacco will reign king as long as perverted appetite and love of money are its servile ministers.

R. F. COTTRELL.

What to Teach our Sons.

THE following, from the pen of A. E. Dickinson, recently appeared in the N. Y. *Independent*; the writer claimed that undue partiality had been manifested in giving so much advice of a similar nature to young ladies, while neglecting their equally needful brothers:—

Teach them self-reliance.
Teach them to make fires.
Teach them to weed the garden.
Teach them to foot up store bills.
Teach them not to dye their whiskers.
Teach them not to wear tight boots.
Teach them how to saw and split wood.
Teach them how to black their boots and take proper care of their clothing.
Teach them to eat what is set before them and be thankful.
Teach them how to darn stockings and sew on buttons.
Teach them every day dry, hard, practical common sense.
Teach them how to say No, and mean it; Yes, and stick to it.
Teach them to wear their working clothes like kings.
Teach them that steady habits are better than riotous living.
Teach them to regard the morals and not the money of the belles.
Teach them all the uses and proprieties of kitchen, dining-room and parlor.
Teach them not to have anything to do with intemperate and dissolute young men or with idle and frivolous young women.
Teach them that the further one goes beyond his income, the nearer he gets to the poor-house.
Teach them that a good, steady mechanic is better than a dozen loafers in broadcloth.
Teach them the accomplishments—music, painting and drawing—if you have time and can afford it.
Teach them that God made them in his own image, and by no amount of tight lacing, tight boots, waxed mustaches, or by making smokestacks of themselves can they improve the model.

Genuine Nobility.

MR. SEE-A-GOOD-WAYS is not a little-minded man; he does not oppose his wife because she wishes to reform her religion, her diet, or her dress. And though he thinks he has too much to do to mind religious matters, he does not forbid his wife to follow her convictions, but rather prompts her to move out boldly in her views. He likes to see honesty and piety in his wife; and he knows it will produce good results.

He knows that the better his wife is, the better chance for him. And he is shrewd enough to see, too, that the favor of the world is not enduring; why cannot Mr. S. also become a reformer himself? J. C.

"FOUR doctors tackled Johnnie Smith.
They blistered and they bled him;
With squills and anti-bilious pills
And ipecac, they fed him.
They stirred him up with calomel,
And tried to move his liver;
But all in vain—his little soul
Was wafted o'er the river."

IGNORANCE with health may be useful, may be happy; but a finished education with a fell disease eating out the life, can be neither, and must early go down to the grave a blighted bud, a priceless jewel shivered in the polishing.

The Health Reformer.

BATTLE CREEK, MICH., SEPTEMBER, 1875.

J. H. KELLOGG, M. D., : : : EDITOR.

Mineral Springs.

THIS is the season of the year when the numerous mineral springs, magnetic wells, "all-healing" springs, and similar resorts are reaping a rich harvest of plunder from the deluded multitudes of chronic invalids who flock to them for relief. Hundreds of these humbugs are advertized in petty country papers, in more pretentious city journals, and in pseudo health publications. The proprietors of these institutions seem to vie with each other in the fabrication of the most unscrupulous falsehoods respecting the curative value of their respective "waters." If one could credit the statements of this character which flood the country, even after deducting ninety-nine per cent for exaggeration, he would be forced to believe that the much-sought "elixir vitæ" had really been found to exist in a thousand localities, and that the extirpation of disease and death from the world was a matter so easy of achievement as to be readily attainable.

It is indeed astonishing that so many people who are really intelligent and sensible upon most subjects should be so easily duped as to be drawn from one end of the land to the other to try the virtues of some newly discovered "spring," said to possess some wonderful healing virtue. It is only the gross ignorance of the people respecting the nature of disease and its causes that allows this state of things to continue. If people would only take the trouble to inform themselves with reference to the character of true remedies, and the relation of personal habits to health and disease, they would at once see that nothing could be more absurd than to suppose that there is any remedial power in "mineral waters," or minerals in any other form.

The so-called "magnetic" springs about which so much ado has been made, ought to have been fully exploded long ere this; for every respectable chemist has not the slightest hesitation in declaring that such a thing is the greatest absurdity imaginable. The only magnetism to be found in connection with these wells exists in the pipes which conduct the water. In these it is either generated by friction, or induced by the magnetic currents which are constantly in circulation in the earth. It has long been known that a bar of iron could readily be converted into a powerful magnet by either of these means.

Several years since, we had an excellent opportunity to see a good illustration of how these stupendous frauds acquire a reputation abroad. In a remote portion of the State we heard of a remarkable cure effected by magnetic water. It was said that a poor man with a shrunken arm, the fingers of which were so tightly drawn that he had not moved them for years, sought relief at a well-known spring. A few drops of the wonderful water were sprinkled upon it, and he thereupon immediately regained its use. Having occasion to visit the locality of this famous spring shortly after, we made diligent inquiry respecting the affair, and found the facts in the case to be these: A man applied for treatment having the tendons of his fingers somewhat contracted, little motion being possible.

After long-continued treatment, which consisted of hot and cold douches, with friction and manipulations, it was found that he could move his little finger very slightly. How much of this slight amount of benefit was due to the magnetism of the water, the intelligent reader will readily determine.

But there is no doubt that a few persons do receive some benefit by visiting these resorts. The water of the springs or wells, bad as it is, possesses some value as a cleansing agent; and it is even better for drinking purposes than beer and bad whiskey, for which it is often substituted. A bath attendant of one of the largest of these institutions told me that it was very common indeed to meet with individuals of the human species who had not bathed for many years; and that the amount of waste material which a half-hour's maceration in hot water—followed by the vigorous application of the flesh-brush—removed from the cuticle of such persons, was something enormous. Such individuals would certainly receive benefit. Such would also be the case with those who needed merely a few days'

respite from home cares, with a change of air and scenery.

All mineral springs owe their properties to certain poisonous ingredients which they derive from the soil through which the water which supplies them has percolated. Different wells contain a preponderance of different minerals, and thus we have a certain classification of wells and springs to meet the wants of different classes of diseases. Different waters thus become widely celebrated for the arsenic, sulphur, iron, or phosphorus which they contain. The more of either of these to be found in a certain water, the greater is its reputation. According to the principles of drug medication, we ought to find at a spring noted for arsenic or sulphur, a crowd of patients afflicted with chronic skin diseases, sore eyes, and obstinate nervous diseases. An "iron spring" should attract few but pale-faced, anemic invalids and chlorotic girls; while a spring noted for phosphorus would be thronged with imbeciles, and editors desiring a supply of mineral "brain food."

One of the mineral wells in this State—which abounds in wells of this sort—was originally used as a "salt well;" but the proprietors found that it did not pay for that purpose, as the brine which it furnished was not sufficiently strong, and hence they named it a "mineral spring," and it has flourished ever since under that name.

One of the chief properties necessary to a good mineral water is a nauseous taste. The following from the Troy *Times* will illustrate this point:—

"'Fresh Congress water!' cried a lad in the Rensselaer and Saratoga morning train yesterday, as he opened a car-door. 'Here! here, boy, come here and gi' me some water!' yelled out an old backwoodsman. The boy poured a tumblerful of the sparkling beverage, and the thirsty man, lifting it to his mouth, gulphed two swallows, and then, with an expression of the utmost disgust, turned to the window and spit copiously out upon the highway. Meanwhile the lad looked wonderingly on. 'What in thunder kind of salt water is that?' cried the old man. 'Do yer want to pizen me? Go long and rinse yer pail out, yer little rascal; ye should know better'n to make sport of an old man like me.' The boy tried to explain and demanded five cents for the water, but his wrathful customer would listen to nothing, and raising his cudgel, bade the boy 'clear out,' to the amusement of the passengers. What the old gent said when he got to the Springs and drank like the rest of the people there, deponent sayeth not."

Fatal Drugging and Professional Fighting.

ACCORDING to the Baltimore *Sun*, the Richmond doctors are just now deporting themselves in a manner very unprofessional, to say the least. The affair may be useful, however, in revealing to the people some of the secrets which doctors usually manage to keep to themselves. The following is the cause of the difficulty, as stated by the *Sun*:—

"Dr. McGuire was called on about two weeks since to see a lady whose symptoms he found to be very alarming. He administered, hypodermically, five minims of Magendie's solution of morphia. In twenty minutes afterward, she expressed herself relieved from pain, and the physician left. At twelve o'clock P. M., Dr. McGuire was again sent for, the lady's condition growing evidently and seriously worse, but he being absent from home, the nearest physicians, Drs. Welford and Magill, were summoned. The lady had had a convulsion. Dr. Magill administered an enema of asafœtida and aromatic spirits of ammonia. Soon after a convulsion followed, more violent than the first. Dr. J. S. Welford then arrived, and at his instance another ounce of asafœtida was repeated and an injection of a solution of caffein was made as soon as it could be obtained. A solution of atropia was then sent for, but before it arrived the lady had died. A little later, Dr. McGuire arrived, and finding his patient dead, inquired: 'Gentlemen, what is your opinion as to the cause of the lady's death?' to which Dr. Magill, after hesitation, responded, 'Doctor, if you insist upon a reply, we think she died from opium poisoning.'"

At the next meeting of the Richmond Academy of Medicine, the matter was brought up by Dr. McGuire, who considered that his reputation had been assailed, he affirming that his practice had been entirely "regular," though he did not attempt to deny the charge made by Dr. Magill that the lady died of opium poisoning. The discussion of the matter and the scandal which had grown out of

it became so heated that the dignified members of the Academy fell into general disorder, called one another liars, threw knives at each other's heads—sometimes with bloody effect—and only ceased their shameful conduct when forced to do so by the police, who broke in upon them and placed them under arrest. It is generally expected that more blood will yet be shed over the matter, as a duel is pending.

Such occurrences ought to open the eyes of the people. Few realize the real jeopardy in which they place their lives when they submit to be poisoned by drug medication. Many physicians are exceedingly reckless in prescribing drugs. Others are grossly ignorant of their possible effects. And even the most prudent physician cannot predict with certainty what will be the result of the poisons with which he doses his patient.

Acute Dysentery.

SEVERAL correspondents having desired an article upon this subject, as being timely at this season of the year, we will give it some attention. This disease occurs in its gravest form as an epidemic. The isolated cases which occur in the country are usually of a mild character, and do not involve much danger to life, although they sometimes assume all the seriousness of the most fatal epidemic type.

The term dysentery literally means intestinal difficulty. The term is commonly employed to denote an inflammation of the large intestine, accompanied with mucous and bloody discharges. In mild cases the inflammation is slight and is often confined entirely to the rectum. Ulcerations do not occur in these cases; but in those which are more severe, the whole of the large intestine becomes involved, its lining membrane being greatly swollen, excoriated, and ulcerated. The latter cases are often fatal, especially under the "regular" treatment. When the patient recovers, if he does, the cicatrices formed by the healing of ulcers may lead to stricture of the intestine. Sometimes the process of ulceration results in perforation of the intestine, which gives rise to peritonitis.

The disease is usually preceded for a day or two by an ordinary diarrhea, which is accompanied with colic pains, and a feeling of lassitude on the part of the patient. A chill seldom occurs. As the disease commences, the discharges become small, contain much mucus mingled with blood, and are frequently repeated every hour or two, and sometimes every few minutes. The fecal matter discharged is sometimes of a green color.

The inflammation of the rectum causes a deceptive sensation of fullness, which leads to the frequent repetition of attempts at defecation, with considerable straining. This sensation is termed *tenesmus*. It is the chief cause of the suffering incident to the disease. The griping pains which often occur have received the name, *tormina*. Neither the *tenesmus* nor *tormina* is proportionate to the gravity of the case, as they are sometimes only slightly felt in cases which prove fatal. Retention of urine and strangury sometimes occur.

The pulse is not usually more than slightly accelerated, as fever is seldom present in great degree, except in the most severe cases. It is a serious symptom. The absence of frequency of the pulse, however, is not a sure evidence of the absence of danger. There is usually considerable thirst. The tongue is often more or less coated or frosted. Sometimes vomiting occurs. The abdomen is tender in the region of the diseased portions. The intellect is most generally unimpaired by the disease. The duration of the disease is from three or four days to as many weeks.

Respecting the cause of the disease, there is much diversity of opinion; but it is generally conceded that the most probable causes are the putrid exhalations from decaying animal or vegetable matter. The eating of unripe fruit, or any other indigestible food, would of course increase the liability to the disease by their irritating influence upon the intestinal track. Overeating would produce a like result, as also the use of beer, cider, and fermented liquors. Prolonged constipation is also a predisposing cause of the disease. The same is said to be true of worms. Exposure to sudden changes of temperature with moisture, together with the debilitating influence of overwork, will predispose to the disease those who might otherwise escape.

Some writers name many different varieties of this disease; but they are all mere modifi-

cations produced by the intercurrence of some other disease. The disease is not, as once thought, contagious, but there is little doubt that the discharges possess the power of propagating the malady if the germs which they contain in any way gain access to the body. Hence the importance of careful attention to this point, as we shall again notice. This is especially true of epidemic dysentery.

TREATMENT. The chief points in treatment are, 1. To remove, so far as possible, the cause of the disease; 2. Secure to the inflamed parts, as nearly as possible, perfect rest, to allow them to heal; 3. Relieve, as much as may be, the suffering of the patient.

The first requirement is best met by a copious enema at a temperature of blood heat, which should be given at the outset of the disease, for the purpose of clearing the bowels of their contents, which may be largely the cause of the difficulty. This measure will also in part prevent the continual passage of fecal matter over the diseased surfaces. It should be repeated at intervals of two or three days.

The patient should then be placed in bed, and should be kept as quiet as possible. He should be instructed that the constant desire to move the bowels is deceptive, and that it should be restrained as long as possible. The constant, ineffectual efforts at straining which the patient often makes, especially in the case of young children, are the cause of much injury to the diseased parts. They greatly aggravate the suffering of the patient, and sometimes produce prolapsus of the rectum. The patient may be allowed to sit up a little if he desires it, provided he is pretty strong; but all active exercise, like walking, should be wholly suspended.

After each dejection, a small enema of two or three ounces of cool water may be administered. It will cool and cleanse the inflamed surfaces, and will thus alleviate the suffering of the patient. The cool enema should be retained as long as possible. In some cases, ice and iced water may be used with good effect. When there is much external irritation, a cold compress, which must be often changed, should be constantly kept at the anus.

The cool sitz-bath may be administered with benefit once or twice a day if the patient is robust. The bath may last from ten minutes to half an hour. Begin at 90°, and cool rapidly down to 80°, or even to 60° if the patient bears it well. The head should, of course, be kept cool by a compress, and the feet warm by a hot foot-bath, during the bath.

The abdominal bandage should be constantly worn throughout the disease. It should consist of two thicknesses of linen wound about the body, after being wet in tepid water, and covered with a dry flannel or oiled silk. The bandage should be rewet several times during the day.

When the pain in the abdomen becomes severe, it should be relieved by hot fomentations alternated with cool compresses. In many cases, this treatment will give instant and complete relief.

Gentle kneading of the bowels will assist in relieving the discomfort of the patient when there is any tendency to the accumulation of gas. This movement, used in connection with the enema, will often assist in securing a thorough evacuation at the beginning of the disease.

If there is fever, the unnatural heat may be greatly diminished by tepid sponge baths, which may be repeated as often as the comfort of the patient may demand.

Great care should be used to keep the extremities constantly warm.

Fresh air and sunlight are of the first importance in treating this disease. Day and night there should be a free current of air circulating through the sick room. Cleanliness is another absolute necessity. Never allow the discharges to remain in the room beyond a few minutes. A strong solution of copperas, permanganate of potash, or chloride of zinc, should be kept in the vessel which receives the discharges, so that they may be instantly disinfected. These precautions will do much toward preventing the propagation of the disease. When they are unobserved, whole families are often swept off by this malady in a few days.

The diet is a matter of the greatest importance. As complete rest is desired for the bowels, it is generally well for the patient to abstain from food almost entirely for a day or two at the beginning of the disease. If it is not promptly checked by this and other meas-

ures, some food must of course be taken to prevent too great loss of strength; but it should be of the most nutritious character, and such as contains little waste, and should be taken in great moderation. Oatmeal or barley gruel, with ripe fruit, answers the requirements of the case fully as well as any other article. The general prejudice against fruit is wholly unfounded. Only green fruit is harmful. Ripe peaches, grapes, apples, and, in fact, almost any of our common fruits are excellent if they are fully matured. The skins of peaches, and the seeds and skins of grapes should not be eaten.

Further particulars with reference to the administration of the various kinds of treatment in this and other diseases can be obtained from our publications noticed on the third page of the cover.

Necessity for Specific Rules of Health.

MANY people seem to think that it makes little difference what we eat or drink, or how little attention we pay to the laws of hygiene in general, it being claimed by them that the length of human life is determined by special providence, rather than by any agent which is within the control of man himself. If any remonstrance is made with such people for their reckless violation of the plainest rules of life and health, they at once reply, "The Almighty knows when I am going to die; consequently, I shall die exactly at a certain time, and no course of mine will affect the matter in the least degree. I cannot die before my time, and so I may as well enjoy the good things of this life as to make a martyr of myself. I cannot prolong my earthly existence beyond that certain date, and so there is no sense in trying to escape my fate by denying my appetites and controlling my passions.

We need not here stop to explain the difference between foreknowledge and foreordination, although there is a good deal of muddlement over this question; every candid reader will easily succeed in unraveling this difficulty for himself if he will only apply the principle to any one of the ordinary pursuits in life.

No fact is now better established than that man holds his destiny in his own hands in a sufficient degree to make him responsible for it. Excluding accidents from the account, we are warranted in saying that man may lengthen life or shorten it almost at will. So intimately are all his habits of life connected with his physical, mental, and moral health and development, he is largely responsible for his condition in these several particulars.

A powerful confirmation of these facts is found in the examples and teachings of many such men as Cornaro, whose life is familiar to every school boy, and numerous others whom we might readily mention.

The great physician, Galen, was broken down at twenty-eight with many severe illnesses. By carefully observing strict and excellent rules, he not only regained his health, but continued in the uninterrupted enjoyment of more than ordinary vigor to the remarkable age of one hundred and forty years.

John Wesley, though broken down at middle age, recovered his health and lived to nearly ninety years of age, by adopting a vegetarian diet, and following closely the rules of hygiene.

The sooner we learn that God's universe is not a discordant, heterogeneous product of chance, but that every living creature and even every inanimate object, from the most cultivated human being to the most insignificant parasite, or from the hugest planet to the most infinitessimal atom, are all under the control of immutable laws—the sooner we shall begin to appreciate the part we have to act in shaping our destinies for both this world and the next.

CHICKEN PIE AND POTATO BUGS.—The report is current in the newspapers that a family in the northern part of Michigan were almost fatally poisoned, recently, by eating chickens which had fed on potato bugs. Here is evidence which ought to convince the most skeptical of the truth of the claim long made by vegetarians; viz., that the character of the flesh of an animal is largely affected by its food. Thus, if a hen eats potato bugs, it acquires some of the properties of the poisonous insect. If a man eats the hen, he suffers in consequence. So, likewise, when people eat animal food of any kind, they must receive more or less injury from the noxious properties which the animals possess either by nature or acquirement.

People's Department.

Dress Reform in Finland.

Translated from the Swedish by JAS. SAWYER.

"A MEETING for opposing extravagance in dress has been held in Ihveskyla in Finland. The meeting was visited by a large number of ladies. The following address by Mrs. Leinberg was read at the same time:—

"'CALL TO THE WOMEN OF FINLAND.

"'We love our native land. We love its people. May we then express love, not only in words, but also in acts, with our judgment, and in our whole appearance. Some have spoken against excess in drink; we Finnish women would enter into a covenant to oppose excess and vanity in dress. How much it becomes us, who are surrounded by the youth and children, to set good examples before them, setting forth in our dress simplicity and true humility! The eyes of the children are fixed upon us as we set forth the truths of Christianity and the treasures of knowledge. Shall we then appear before them clad in the modern disgustful and whimsical apparel which causes wonder and laughter? No; we would together decide, as true friends of our country, to be faithful in the smallest matters and to make use of the practical and most simple of fashions. We propose a common, plain apparel. We propose plainness in dress, although perhaps this be considered too much of presumption. We have only a short time to consult upon this matter. The black festival dress is unquestionably the most tasteful and most appropriate. All they who would concur with this call and unite, so far as their ability will admit, in opposing extravagance in dress and the bad influence of fashion, and will adopt simplicity in manners, are called upon to sign their names to the following list.'

"After a short discussion, the list brought forward was signed by about forty females, and the society agreed to meet at the same place to hold a future meeting."

To those who understand the workings of the mind, the above remarks are sensible. Although it comes from the people who dwell far to the north, in a country which many think is outside of the civilized world, yet we would do well to consider their attempt in reform. Providing it have a true basis, we should be quite ready to appropriate it to ourselves.

What lesson then shall we learn from the Finlanders?

1. That the cultivation of such faculties of our mind as induce us to put on superfluous appendages weakens the understanding. You prop up a person's vanity, and reason and sound sense dwindle away into imbecility. One who has become extravagant in dress, and leaves simplicity out of the question in arranging the wardrobe, cannot long be the possessor of sound reason and religion. Extravagance and religion cannot exist together. Vanity and religion cannot go hand in hand. Intemperance and religion cannot keep the same company. Did you ever hear of a drunkard who loves prayer? It is folly to think of such a thing. Did you ever see the person who is given up to fashion and love of dress, love to turn the wicked from the error of their ways? It is mockery.

2. Extravagance in dress is a species of intemperance. We will not at this time carry this point at length; but if there is any one thing which is carrying posterity down to ignorance, superstition, and barbarism, it is the lavishing of excesses and indulgences upon ourselves and our children. Shall we learn from the Finlanders?

Avoid the Poisons.

IN medical practice it is supposed that the same treatment that would make a well person sick, and perhaps kill him, will cause the sick to recover—that the same *medicines* that would kill rats, will cure the sick. I have seen boys hoe corn upon a like principle. They would half cut up, and half cover up, the weeds, thinking that treatment would kill them; but they would do about the same to the corn, expecting it to thrive under the treatment.

One medical school have for their motto, *Similia similibus curantur*, which I understand to mean, in plain English, about the same as the old saying that "the hair of the same dog will cure the bite." So when the boys used to feel a little indisposed from eating honey, they would say, "I think I will have a little more dog's hair," meaning a little more of that same honey.

Now, unassisted reason and unsophisticated common sense would say, If you would avoid suffering, avoid the cause. And let all those things which have a bad effect be discarded, remove obstructions, and let the law of cure, which resides alone in the living organism, work out its designed result. No amount of torture with poisonous drugs will do the work. The laws of life implanted in our being must do the work, or it will not be done. Stop poisoning, and let these laws have a chance to operate.

R. F. COTTRELL.

Medical Twaddle.

THE following dialogue, which took place between a physician and his patient, is a good illustration of the manner in which the masses are humbugged by their doctors; and it is also a fair specimen of the way in which those who trust in drugs and poisons explain *how they act*:—

Entering the apartment of the patient, the doctor commences,

"Well, sir, how are we to-day—better, eh? Well, sir, go on with the iodine. Does it act?"

"Why, that is what I wanted to ask; how do you mean it to act—as a sudorific?"

"Diaphoretic we say, not but sudorific will do: it comes from *sudo*, but we seldom now say sudorific. But, sir, the iodine, does it act?"

"That is what I want to know; how do you mean it to act—on the throat or—"

"Act? iodine? on the throat? why, the throat, sir, is very singularly constructed—very singularly; it's beautiful, the mechanism of the throat. If it gets out of order—now yours, sir, is out of order, and we have been giving you iodine; for Mr. —— agrees with me that iodine is an excellent medicine, and what I want to know is, does it begin to produce any effect?"

"Why, that is what I want to know, and therefore I ask what effect is it intended to produce. Is it to act on—"

"What effect? My dear sir, there are few medicines now in better repute than iodine; we give it in many cases—dropsy, sometimes—not that yours is dropsy; you have nothing dropsical about you; your complaint is an affection of the throat, and we have been giving iodine in your case; you have had it now three days—twice a day. Do you take it regularly twice a day?"

"I take what you send me twice a day, and you tell me it is iodine, but—"

"And does it begin to produce its effect? does it act?"

"Why, that is what I'm asking you. Now is it intended to act as a sedative or—"

"A sedative? what, is your cough more troublesome? We give sedatives sometimes for troublesome coughs, and then in nervous complaints, but then congestion is a thing to be avoided—not that I see any symptoms of congestion in your case; yours is an affection of the throat, and so we give you iodine, and as we are a little particular in proportioning our doses, I want to ascertain whether what you have been taking acts."

Beer Bad for Pigs.—"Atticus," in the Melbourne *Leader*, writes: "A remarkable instance of the effects of colonial beer was recently mentioned to me by a gentleman who lives somewhere between Sandhurst and the Murray. A publican was sending back some empty casks to his brewer, when the men who put them on the dray noticed that one of them contained a little beer. A suggestion that it should be drunk was negatived in favor of an amendment that the stuff should be given to the pigs. This was done, and four well-bred porkers partook of the colonial. The result was the reverse of reassuring to the admirers of the local product. Two pigs died almost immediately; the others were so ill that they were only got round with great difficulty, and after very careful nursing on the part of the landlady, who was a great pig-doctor."

It would be interesting to medical science to know what effect the "colonial" would have had upon the men.

Questions and Answers.

ANTIDOTE FOR CARBOLIC ACID.—C. M. H., inquires: What will neutralize carbolic acid?

Ans. In cases of poisoning by carbolic acid, the best remedies are albumen (white of egg), milk, flour and water, and saccharate of lime.

CISTERN FILTER.—S. R. M., asks: How is the best way to construct a filter to a cistern?

Ans. See REFORMER for Sept., 1874.

SKIN DISEASE.—WHAT TO DO WITH ALL THE ANIMALS.—J. R. W., Va., asks: 1. What is the matter with me? I am covered with an irruption like small boils. Have used cream tartar and sulphur; doctor says take whisky and sulphur. 2. If no one ate meat, what would you do with all the animals? They would soon out number the human race; this has often puzzled me.

Ans. 1. Your disease is probably a variety of skin disease known as *ecthyma*. It arises from a general disorder of the system which may be either hereditary or acquired by improper diet, excessive labor, or sensual indulgence. You need a very thorough course of general hygienic treatment. Sulphur and whisky will not benefit you. 2. There is no more reason why we should eat our sheep and cattle to prevent their multiplication than horses, mules, elephants, cats, dogs, coons, toads, and grasshoppers. The argument urged would apply with much more force to the last-named animals than to any others we know of.

DYSPEPSIA AND UTERINE DISEASE.—V. C. J., Wis., wishes advice for a young lady who has symptoms of dyspepsia and uterine derangement, is teaching school, and wishes to continue the same employment.

Ans. The young lady needs to pay immediate and serious attention to the restoration of her health if she wishes to avoid curtailing her future usefulness most seriously. To this end she should place herself under the care of a reliable hygienic physician.

DYSPEPSIA.—M. A., Wis., says that her sister, fourteen years of age, has the dyspepsia so badly that she can eat nothing without great distress. Wishes to know what she can eat.

Ans. In reference to the cause of the difficulty, you should examine very carefully into the personal habits of the patient. Dry food, as dry toast or graham water crackers, is the best food for her. Perhaps she can eat ripe fruit.

HERPES—ENLARGED TONSILS, ETC.—B. F. R., asks: 1. What to do for herpes in a little girl. It nearly recovers under strict treatment. 2. She has enlarged tonsils, should they be removed or cauterized? 3. Are yams and sweet potatoes good food the year round? 4. Should they be eaten every day when a person takes but one meal a day? 5. Should children be allowed to eat all they want of healthy food?

Ans. 1. Continue treating her strictly, and trust to nature to cure her in time. 2. Enlarged tonsils should be removed by a competent surgeon at the proper time. 3. Yams and sweet potatoes deteriorate very much in the latter part of the season, and become less healthful than when fresh. 4. We do not approve of the one-meal-a-day system. 5. Too much food of any kind is bad. Children should be allowed to eat just enough.

PILES.—J. N. F., Mich., is badly troubled with internal piles. Says he lives on graham bread and oatmeal, and yet is no better.

Ans. Your case may require surgical treatment. Consult a good surgeon.

BOILS AND POULTICES.—A. A. C., Kan., wishes to know, 1. The cause of boils; 2. Do poultices draw?

Ans. 1. The cause of boils is obstruction. Inactivity of the liver probably has as much influence as any one cause. 2. Poultices do not act, either mechanically or chemically, upon boils. They simply supply favorable conditions, under the influence of which the boil comes sooner to a termination than it otherwise would.

PAIN IN SIDE—EXERCISE.—J. R., Ind., complains of pain in the side upon exercise, and asks: 1. What ails me? 2. Is exercise in the open air with saw and buck, ax, hoe, and the like, as good as gymnastic exercise?

Ans. 1. Probably the pain is muscular. 2. The exercise you mention is the best kind of gymnastics, in moderation.

DEAFNESS.—M. T., Wis., has been troubled with deafness and roaring in ears for four years. Wishes to know the cause.

Ans. As no other symptoms are given, we cannot determine with definiteness, but presume the patient has nasal catarrh with extension of the difficulty to the eustachian tubes.

PREMATURE DECAY OF TEETH—WILD HAIRS—COSTIVENESS—PIMPLES.—J. W. B., Neb., inquires: 1. What shall we do for a child ten months old whose teeth decay almost as fast as it cuts them? 2. What is the cause of it? 3. What is the cause of wild hairs in the eyes? and what is the remedy? 4. I am almost always costive, have yellow pimples in my face, and think my liver is affected. How can I improve my health?

Ans. 1. Feed the child good, nourishing food, and give it plenty of pure air and sunshine. 2. The cause is evidently hereditary. 3. Disease of the lids is the usual cause. They sometimes occur spontaneously. The only radical cure is by an appropriate surgical operation. Extraction of the hairs gives temporary relief. 4. Observe all the laws of hygiene.

CORSETS—HAIR.—P. G. C., Kan., asks our opinion on the following points: 1. In regard to the almost universal habit of wearing corsets by females. 2. The most hygienic method for ladies to wear their hair.

Ans. 1. Corsets are a bane to civilization. 2. The most healthful method of wearing the hair is that in which it will be the least burden to the wearer.

DEPILLATION.—M. E. P., O., asks: Is there any way to stop the growth of hair on a lady's face? A young friend of mine has quite a growth of hair on her upper lip and chin.

Ans. The only method with which we are acquainted is to extract the hairs and destroy the hair follicles. We imagine, however, that the operation would be so serious a one that your friend would not care to endure it.

ASTHMA—WEAK LUNGS, ETC.—P. A. G. S., Mass., asks: 1. What is the best remedy for the asthma, as a cure, or relief? 2. How may a person with weak lungs avoid consumption? 3. What will promote the healthy action of the liver?

Ans. 1. Avoid all grease and condiments, together with milk, eggs, and meat. Breathe pure air. Bathe twice a week, and exercise in the open air as much as possible short of fatigue. 2. Take the preceding advice, and add to it the observance of every other hygienic law. 3. Graham bread, ripe fruit, ample exercise, and a daily bath.

CHRONIC CATARRH.—A subscriber writes: Please state your treatment for a case of catarrh of three years' standing.

Ans. Chronic catarrh is difficult to cure, under the best of circumstances, and requires time. A strict dietary, coupled with perfect cleanliness, and abundance of out-door exercise, together with appropriate local treatment, are the means necessary to recovery.

HYGIENIC LIVING AND CANCER.—A. J. C., Mass., inquires: If a person should live strictly hygienic from infancy, would he ever have cancer or any humor in his blood?

Ans. To fully consider this question would require more space than we can devote to it here. It should be remembered that, according to our best authorities, many diseases of the class mentioned are hereditary. In such cases, the constitutional malady might manifest itself in spite of the most rigid adherence to sanitary law. In many other cases the influence of hygienic living would doubtless be sufficient to prevent the development of what might otherwise be a fatal malady.

EYES AND EARS.—L. S. E., complains of sore eyes and ringing in his ears. Wishes to know whether Ball's patent eye cups are good for the eyes or not.

Ans. The application of cold water to the eyes is a good remedy. Perhaps they need surgical treatment. Eye cups are worse than useless. They often do serious damage. Your ears should have the personal inspection of a good surgeon.

J. Q. A., Kan.: We presume that your little boys are suffering from a species of skin disease known as *pemphigus*. The only remedies are, attention to the general health, especially the digestion, and the local application of some soothing ointment, as cream or simple cerate.

ENLARGED NECK.—A. B., Ct., says: About two years ago the sides of my neck began to enlarge, and have continued to do so. The growth is not hard. Am eighteen years old. Habits not strictly hygienic. Health good. Please give the cause and cure. What diet would you recommend?

Ans. Whether the enlargement is a goiter, or the simultaneous enlargement of the lymphatics upon opposite sides of the neck, is a question which we could well determine only by a personal examination. In either case, the difficulty demands the careful attention of an intelligent physician. A strictly hygienic diet, with out-of-door exercise and exposure to sunshine, are among the best remedies. As a means of cure, electricity affords the best hope of success.

ENLARGED TONSILS.—A. O. B., Hubbardston, Mich., wishes advice for a little boy who has so great enlargement of the tonsils that breathing is sometimes difficult when he is lying down.

Ans. Careful hygienic living will do much to alleviate the difficulty. When the glands are unusually large and inflamed, apply a cool wet compress about the neck, changing it often. If the enlargement does not diminish as he grows older, the glands should be removed.

SICK HEADACHE—URETHRAL POLYPUS.—E. B. P., Salem: Your daughter is evidently suffering from dyspepsia. She needs a thorough course of treatment. Your wife has a small polypus tumor which should be promptly removed lest it become the cause of serious mischief.

BRONCHITIS—NERVOUS DEBILITY—COLD BATHING.—N. N. B., Cal.: Your case is rather too complicated for home treatment; yet you may derive much benefit by a careful observance of nature's laws. Live in the open air all you can. Avoid all hurtful articles of food. You will probably find the hot-water uterine douche of great benefit. Cool sitz-baths, ranging from 92° to 88° once or twice a week would benefit you. You should not take cold sponge-baths at any time. A milder temperature is more suitable for your case.

Mrs. S. E., Mass.: We could not pronounce upon your case or that of your friend without knowing more of it.

PSORIASIS.—J. S. U.: Your disease is probably psoriasis. To effect a cure, a strict dietary is absolutely essential. The affected parts should be thoroughly cleansed by washing in alkaline solutions. Strong suds made with soft soap is very good. Afterward apply soothing lotions; as a decoction of bran or slippery elm bark. Sometimes tar ointment may be used with good effect.

S. J. M.: Salt rheum can be successfully treated at the Health Institute. Just the length of time required cannot be definitely stated without further knowledge of your case.

A. F., Ohio: We could not tell the cause of your difficulty without knowing more of your history.

DIETETICS.

Eating and Sleeping.

THE following very pernicious advice is being circulated so extensively that we deem it worthy of exposure, especially since it seems to be receiving the endorsement of some journals of considerable influence; it originally appeared in *Land and Water*:—

"I have no hesitation in saying that the proper thing to do is to go to sleep immediately (or at least very soon) after the meal of the day. All animals always go to sleep, if they are not disturbed, after eating. This is especially noticeable in dogs; and the great John Hunter showed by an experiment that digestion went on during sleep more than when the animal was awake and going about. This is his experiment: He took two dogs and gave them both the same quantity of food. One of them was allowed to go to sleep; the other was taken out hunting. At the end of three or four hours he killed both of these dogs. The food in the stomach of the dog which had been asleep was quite digested; in that of the one which had been hunting, the food was not digested at all.

"This fact, I think, shows the advisability of going to sleep immediately after eating. This ignored fact always occurs to my memory when I see old gentlemen nodding over their wine. Nature says to them: 'Go to bed.' They will not go to bed; but still nature will not allow her law to be broken, so she sends them to sleep sitting in the chairs. People, therefore, who feel sleepy after dinner, ought to dine late, and go straight to bed when a sleepy feeling comes over them."

If this were true, it is easily seen that all the ado which reformers have made about the two-meal system has been entirely uncalled for; but, fortunately for us, it is not true. Now let us notice the fallacies in the above paragraph.

In the first place, it is not true that all animals, or that even a majority of animals, go to sleep immediately after eating. It is well enough known that most herbivorous animals ruminate, or remasticate their food for several hours after eating. While doing this, they are certainly not sleeping, although they are not usually exercising vigorously. It is true that there are certain animals which manifest a decided tendency to sleep soon after eating; but it will be observed that, almost without exception, they belong to the class which subsist chiefly upon animal food. For instance, the anaconda, a huge member of the serpent tribe, will swallow a small antelope and immediately afterward go to sleep for a month, during which time it manifests so little life that it can be easily captured or killed. Dogs, lions, cats, and even some savage tribes of the human family, have habits somewhat similar. When they have plenty of food, they gorge themselves to such repletion that they fall into a stupid sleep in consequence. Thus the Esquimaux will stuff himself with blubber and train oil, and the North American Indian with buffalo meat, and then will not eat again for several days, the interval being spent in sleep.

Now these habits are evidently unnatural and acquired. But suppose that they were entirely natural to the animals and classes mentioned, will it be argued that civilized man should imitate every habit which he finds prevalent among any or all classes of lower animals, or among savage tribes? No intelligent man will attempt to support such a position. If men should sleep *after* eating, because dogs do, why should they not growl and fight over their food *while* eating, as dogs do when gnawing a bone? If writers upon dietetics would remember that men are neither dogs nor anacondas, they would be saved some blunders.

But what about the great experiment of Dr. Hunter with his two dogs? We claim that nothing at all was proved by this experiment except the fact that a dog's dinner would digest more quickly while he lay before the fire than while he was racing through the woods at the top of his speed after a rabbit. If Dr. Hunter had allowed one dog to sleep while the other was merely kept awake, without being compelled to exert every muscle to the utmost, the experiment might have established something—which would have been that the dinner of the second dog was digested just as soon as that of the one which went to sleep.

It is well enough known that violent exercise, either mental or muscular, is unfavorable to digestion. It is also an equally well-established fact that gentle exercise is favorable to digestion, since it facilitates the motion of the food in the stomach, and maintains a vigorous circulation of the blood. Sleep is unfavorable to digestion, as digestion is unfavorable to sleep. Both cannot well go on together. The stomach needs to sleep with the rest of the body; and the repose of other members is greatly interfered with if the stomach is active during sleep.

People who require sleep in the day-time, should take it just before dinner rather than immediately afterward. If a disposition to sleep is felt immediately after eating, it is an evidence either of overeating or of dyspepsia, unless there has been sufficient cause for fatigue; but, in either case, it will be far better for the individual to defer his sleep for a few hours.

Grasshopper Soup.

THE article given below may be of interest to those of our readers who reside in the grasshopper region. We would not advise them to adopt the new diet, notwithstanding the glowing terms in which it is recommended. We would also take this opportunity to correct a very popular notion that John Baptist subsisted largely upon grasshoppers while sojourning in the wilderness. The Bible states that he ate locusts and wild honey, from which many argue that he was a consumer of animal food. It is a well-attested fact that the locusts which abound in the localities which he frequented, and which he undoubtedly ate, are a vegetable production. They are the fruit of a tree which is a species of locust. The fruit resembles in appearance, very closely, the fruit of the honey locust of this country. It is a thick, fleshy pod from four to six inches in length, and contains several seeds about the size and shape of lentils. The pod is the edible portion. When fresh, it is very toothsome, resembling the date in flavor. This curious fruit is sold in great quantities by confectioners and fruit dealers in New York and other large cities as "St. John's bread."

Before introducing the paragraph mentioned, we should state that Mr. Riley is a naturalist of considerable distinction. He read a very able paper before the recent meeting of the American Association for the Advancement of Science, upon the grasshopper.

"Yesterday afternoon Messrs. Riley and Straight determined to test the cooked locust question in regard to its adaptability as food for the human stomach. Getting wind of the late affair, and being always in haste to indulge in free feeding, we made bold to intrude ourselves on our scientific friends. We found a bounteous table spread, surrounded by the gentlemen named, accompanied by Mrs. Straight and Mrs. Maltby. Without much waste of ceremony there were five persons seated, and we were helped to soup which plainly showed its locust origin, and tasted like chicken soup—and it was good; after seasoning was added, we could distinguish a delicate mushroom flavor—and it was better. Then came batter cakes, through which locusts were well mixed. The soup had banished silly prejudice and sharpened our appetites for this next lesson, and the batter cakes quickly disappeared also. Baked locusts were then tried (plain hoppers, without grease or condiment), and either with or without accompaniments. It was pronounced an excellent dish. The meal was closed with dessert a la John the Baptist—baked locust and honey—and, if we know anything, we can testify that the distinguished Scripture character must have thrived on his rude diet in the wilderness of Judea. We believe that this is the first attempt at putting this insect to its best use, and the result is not only highly satisfactory to those brave enough to make the attempt, but should this insect make his visit oftener, and cause a greater destruction, future generations will hail his presence with joy. It will be jubilee year—like manna in the wilderness or quails in the desert—food without money and without price. Now, dear reader, you may shrug your shoulders and smile, but henceforth we shall esteem grasshoppers as a luxury to be classed with oysters, truffles, mushrooms, &c. As soon as arrangements can be made, an assortment of locusts will be sent to St. Louis for trial by the scientific researchers of that city."

Animal Food.

THERE is the most conclusive evidence that meat is not the most natural food of man. It is equally well shown that the use of flesh as food is detrimental to longevity, and prejudicial to the attainment of the highest degree of physical, mental, and moral development. More than this, it has many times been made evident to the most strenuous advocates of flesh diet that eating of the flesh of animals is an act attended with no inconsiderable amount of immediate danger to life. Cattle and sheep are well known to be subject to various diseases, just as is man. Hogs are notably liable to disease. How many people suffer all the agonies of death a hundred times from loathsome tape worms which originated in measly pork! And, if possible, how much keener suffering is endured by the poor victims of those horrid creatures, trichinæ, which are to be found in unnumbered multitudes, according to reliable authorities, in one out of every ten of those scrofulous scavengers which supply our cities with ham and sausage.

Fish are also subject to disease, epidemics resembling epizootic diseases often destroying them in vast multitudes. When *not* affected by disease, they are less nutritious than beef; and, upon the whole, they are quite as injurious when used as food as any other kind of flesh.

Notwithstanding the above facts, it cannot be denied that animal food contains the elements of nutrition, although in much smaller proportion than many vegetable productions. This is fully shown in the following table of comparative nutritive values of different arti-

cles of food, which is compiled from the most recent scientific works, and chiefly from Dr. Smith's excellent work on "Foods":—

ARTICLES OF FOOD.	Amount of Nutriment in 100 parts.	ARTICLES OF FOOD.	Amount of Nutriment in 100 parts.
Beef, ...	27.0	Lentils, ...	77.0
Sheep, ...	26.4	Potatoes, ...	26.0
Fowl, ...	26.3	Turnips, ...	9.0
Calf, ...	25.6	Carrots, ...	17.0
Fish, ...	22.0	Parsneps, ...	18.0
Wheat, ...	86.0	Beets, ...	16.5
Oats, ...	88.0	Cabbage, ...	5.6
Maize, ...	93.0	Apples, ...	16.0
Barley, ...	86.0	Pears, ...	14.0
Rye, ...	85.0	Peaches, ...	15.0
Rice, ...	87.0	Strawberries,	12.7
Millet, ...	87.0	Figs, ...	81.3
Beans, ...	86.0	Cherries, ...	23.7
Peas, ...	85.0	Dates, ...	76.0

Thus it will be observed that a pound of beef contains less than one-third as much nourishment as a pound of wheat or corn, while other kinds of flesh are still less nutritious. The popular notion that animal food is more nourishing than vegetable is thus shown to be wholly without foundation.

When animal food must be used, as its use is sometimes required as a temporary expedient, it should be carefully selected, so that it may be as free from disease as possible; wild game is often the most wholesome. It must also be cooked in such a manner as to make it the least objectionable possible. To this end, the flesh should be thoroughly washed, so that the blood retained in it may be removed; fatty portions should be removed, and the flesh should be broiled, rather than fried.—*New Hygienic Cook Book.*

The Banana.—The banana is a delicious tropical fruit, which may be eaten raw, either alone, or with orange juice. Sometimes they are baked with the skin on, or made into pies and puddings. They may be cut into strips and dried, or pounded into a paste, in which latter form they are the staple food of many Mexican tribes. The amount of nourishment in bananas is very great; and Humboldt states that the same land which produces 1,000 pounds of potatoes, will yield 44,000 pounds of bananas. An area of land which will produce wheat enough to feed four men, will, when planted in bananas, yield sufficient to feed one hundred men. Bananas now constitute the most important tropical fruit, and are now common to both hemispheres. They are cultivated, ordinarily, by planting cuttings or shoots, which require a deep, rich earth, with much moisture, to grow in perfection. These cuttings or shoots soon send up two green leaves rolled together tightly, which grow to the length of two or three feet, when the blades unfold. These leaves are followed by others, until a stem eight or ten inches thick and constantly increasing in hight is formed. At the end of nine months a deep purple bud appears in the center of the leaves, growing on a stem which gradually lengthens until it pushes the bud beyond the leaves, when it hangs down like a huge heart. As the purple envelopes of the bud fall off, rows of buds or blossoms appear, some of which, at the end of three or four months, swell and ripen into bananas from six to fourteen inches long, which hang down in a huge bunch. The plant now withers and soon dries up; but from its base off-shoots spring up, which may be transplanted. If the stem is cut down as soon as the fruit is gathered, the rootstock sends up new leaves, and a second plant matures much sooner than do the off-shoots. The redskin variety we see comes from the West Indies. The Brazilian banana rises to the hight of fifteen or twenty feet, and the fruit is yellow and excellent. It grows also in China, Tahiti, Africa, and the East Indies. In cultivation the plants are set closely, and the bunches are gathered before they are ripe and hung in a cool place. When ripe they sometimes weigh eighty or one hundred pounds.—*Sel.*

Vegetable Food.—Whether our food be animal or vegetable, it consists essentially of the same principles. There is, however, something more in vegetable food—namely, insoluble woody fiber in considerable proportion. We take it in notable quantity in our bread, green vegetables, potatoes, whilst our cattle consume it largely in hay and other dried vegetable food.

It is no use quarrelling with the ordinations of nature, as some do, objecting to vegetables on account of their large supply of woody fiber which for the most part must pass through the system apparently useless, and certainly undigested. In the first place, it is ascertained that there must be a certain bulk in our supply of food presented to the muscular action of the stomach and the digestive organs generally, so as to enable them to exhaust from the former the simple forms of matter above named, as the universal food-elements. In the second place, there is a scouring action in the woody fiber, which mechanically stimulates the mucous linings of the alimentary canal, thus materially promoting the process of digestion, and the final ejection of "waste matter" out of the system —for the grand circulation of matter in its ceaseless transformation—never really dead, but on the contrary endowed with vitality in its every particle.—*Sel.*

SCIENTIFIC.

A New Theory of Volcanoes.—There are few subjects less satisfactorily treated in scientific treatises than that which Humboldt calls the reaction of the earth's interior. A new theory has just been put forward respecting volcanic energy, however, by the eminent seismologist, Mallett, which promises not merely to take the place of all others, but to gain a degree of acceptance which has not been accorded to any theory previously enunciated.

Mr. Mallett does not come before the scientific world with an ingenious speculation, which may or may not be confirmed by observation and experiment. He has measured and weighed the forces of which he speaks. He is able to tell precisely what proportion of the actual energy which must be developed as the earth contracts is necessary for the production of observed volcanic phenomena.

This would clearly not be the place to follow out Mr. Mallett's admirable theory into all its details. We must content ourselves with pointing out how excellently it accounts for certain peculiarities of the earth's surface configuration. Few that have studied carefully-drawn charts of the chief mountain-ranges can have failed to notice that the arrangement of these ranges does not accord with the idea of upheaval through the action of internal forces. But it will be at once recognized that the aspect of the mountain-ranges accords exactly with what would be expected to result from such a process of contraction as Mr. Mallett has indicated. The shrivelled skin of an apple affords no inapt representation of the corrugated surface of our earth, and, according to the new theory, the shriveling of such a skin is precisely analogous to the processes at work upon the earth when mountain-ranges were being formed. Again, there are few students of geology who have not found a source of perplexity in the foldings and over-lappings of strata in mountainous regions. No forces of upheaval seem competent to produce this arrangement. But by the new theory this feature of the earth's surface is at once explained; indeed, no other arrangement could be looked for.

It is worthy of notice that Mr. Mallett's theory of volcanic energy is completely opposed to ordinary ideas respecting earthquakes and volcanoes. We have been accustomed vaguely to regard these phenomena as due to the eruptive outbursting power of the earth's interior; we shall now have to consider them as due to the subsidence and shrinkage of the earth's exterior. Mountains have not been upheaved, but valleys have sunk down. And in another respect the new theory tends to modify views which have been generally entertained in recent times. Our most eminent geologists have taught that the earth's internal forces may be as active now as in the epochs when the mountain-ranges were formed. But Mr. Mallett's theory tends to show that the volcanic energy of the earth is a declining force. Its chief action had already been exerted when mountains began to be formed; what remains now is but the minutest fraction of the volcanic energy of the mountain-forming era; and each year, as the earth parts with more and more of its internal heat, the sources of her subterranean energy are more and more exhausted. The thought once entertained by astronomers, that the earth might explode like a bomb, her scattered fragments producing a ring of bodies resembling the zone of asteroids, seems further than ever from probability; if ever there was any danger of such a catastrophy, the danger has long since passed away.—*Spectator.*

Economic Value of the Sunflower.—The common sunflower is a native of tropical America, and there it sometimes attains the extraordinary hight, for an annual plant, of twenty feet. It thrives in nearly every region of the inhabitable globe. In the south of Europe and in the north-west provinces of India it is cultivated to a considerable extent. In the latter country, sunflower-plantations are said to have a very beneficial effect in promoting the healthfulness of regions infested by malarious fevers. The seeds are valued as food for cattle and poultry, and an oil may be expressed from them which is scarcely inferior to olive-oil. One acre of good land will produce about fifty bushels of seed, each bushel yielding a gallon of oil. The seeds are also used like almonds for making soothing emulsions, and, in some parts of Europe, a food for infants is prepared from them. In tropical America the Indians make bread of them. The leaves are used as fodder for cattle.

The Jerusalem artichoke is a species of the sunflower, and a native of tropical America. It has a straight stem, eight or ten feet in hight, and produces yellow flowers like those of the sunflower, but smaller. The thick, fleshy, perennial root produces a large number of tubers, in appearance not unlike potatoes. These are not as nourishing as potatoes, but, when properly prepared, are very palatable food, and make a very good soup. It is usually propagated by small tubers or by cuttings, like the potato.—*Pop. Sc. Monthly.*

SEASONABLE HINTS!

The Danger of Sedatives.—The *Popular Science Monthly* gives this warning on the important matter of using sedatives for the little ones: One of the great dangers attending the use of the various sedatives employed in the nursery is that they tend to produce the opium habit. These quack medicines owe their soothing and quieting effects to the action of opium, and the infant is by them given a morbid appetite for narcotic stimulants. The offering for sale of such nostrums should be prohibited, as tending to the physical and moral deterioration of the race. In India mothers give to their infants sugar-pills containing opium, and the result is a languid, sensual race of hopeless debauchees. In the United States the poisonous dose is administered under another name; but the consequences will probably be the same.

How to Remove Rust from Clothing.—Oxalic acid will take rust or any other stain out of white goods. Dissolve a small quantity in boiling water and dip the spots in. The acid can be got at any drug store. Another way is to saturate the spots with lemon juice and spread the cloth in the sun; if it do n't take out all the rust the first time, repeat the application. Another method is to wet the cloth with yellow sulphide of ammonia, by which it will be immediately blackened. After allowing it a minute or two to penetrate, the excess of sulphide is to be washed out and the black spot treated with diluted chlorohydric acid, by which it is at once removed. Finally, wash well with water.

To Kill Moths.—Camphor will not stop the ravages of moths in carpets after they have commenced eating. Then they pay no regard to the presence of camphor, cedar, or tobacco. A good way to kill them is to take a coarse crash towel and wring it out of clean water. Spread it smoothly on the carpet, then iron it dry with a good hot iron, repeating the operation on all suspected places and those least used. It does not injure the pile or color of the carpet in the least. It is not necessary to press hard, heat and steam being the agents, and they do the work effectually on worms and eggs. The camphor will doubtless prevent further depredations of the miller.

Scouring Silver.—Never put a particle of soap about your silver if you would have it retain its original luster. When it wants polish take a piece of soft leather and whiting and rub hard. The proprietor of one of the oldest silver establishments in the city of Philadelphia says that housekeepers ruin their silver by washing it in soap-suds, as it makes it look like pewter.

Literary Notices.

NATURE'S SECRETS: By J. H. Ruttley, M. D., San Francisco, Cal.

In the introduction of this book the author says: "The market is flooded with books which purport to treat upon the various topics included in the title which I have given to this work; and yet there is no one of them that meets the public demand. Two motives seem to have influenced the authors and publishers, namely: 1. A desire to make money by the sale of the books; 2. A desire to advertise certain quack nostrums. Many of these books are the merest trash, crowded with indecent language for no other purpose than to attract the ignorant and vulgar."

We quote the above because it is so good a description of the very book in hand. If there were no other evidence of this it would be found in the fact that a considerable portion of the book is devoted to advertising a certain anti-conception "wafer," said to have been discovered and compounded by the "critical and philosophical" "Rev. James C. Jackson, of Dansville, N. Y." The author also improves the opportunity to expatiate upon the excellencies of a remedy for barrenness which he sells under the name of "Elixir of Life." We would only add by way of comment, that it is nothing but an unfortunate deficiency in our laws that keeps such men out of the felon's cell.

BALDNESS; Its Cause and Cure: By Michael Carlin, Manchester, Eng.

This is a very sensible little pamphlet of 32 pages. It rightly attributes the great increase of baldness to the proportionate increase in dyspeptic ailments, and fully recognizes indigestion as the main cause of this affection. Among other remedies, the author recommends two meals a day.

TEMPERANCE LEAFLETS: New York National Temperance Society.

The package of these little tracts just received contains eight neat little stories well calculated to attract the interest of children to the cause of temperance. They are the first of a series.

THE NATIONAL FOOD AND FUEL REFORMER: London, Eng.

This journal deserves commendation for many excellencies. Although it is not fully up to our standard of reform, yet it evinces great impartiality, and freely admits the full discussion of the subject of vegetarianism in its columns. It is evidently doing a good work.

Items for the Month.

☞ A BLUE cross by this paragraph signifies that the subscription has expired, and that this number is the last that will be sent till the subscription is renewed. A renewal is earnestly solicited.

NEW COOK BOOK.—As recently stated, the large edition of the Hygienic Cook Book which was issued last year is already exhausted. A new edition is now in press. It will be somewhat enlarged, and greatly improved by important additions and such changes as are advisable. Orders can be filled in a short time.

REFORM DRESS PATTERNS.—These patterns are meeting with a large sale, and they give general satisfaction. A full description of each, with a list of the measurements to be sent when ordering a pattern, may be found in the REFORMER for July, on the last page. All ladies should have them; and ladies who have themselves tried them, should feel an interest in calling the attention of their friends to them.

☞ At the recent annual meeting of the stockholders of the Health Reform Institute, the following persons were elected as the Board of Directors for the next year:—

U. Smith, W. K. Loughborough,
S. Brownsberger, E. R. Jones,
B. Salisbury, W. C. Sisley,
J. H. Kellogg.

The meeting was very largely attended, there being present nearly one thousand health reformers, which was probably the largest company of hygienists ever assembled on this continent, if not in the world.

To Canvassers.

THE canvassing season is at hand again. Let all our old agents prepare for active, energetic work in a few weeks. We hope to have all of our old corps of workers in the field with numerous reinforcements, spreading the glorious truths of reform wherever the ears of the people can be gained. Agents' outfits will be ready in a short time, so that they will be able to enter the field before the territory has been canvassed by the annual army of book agents and newspaper and magazine canvassers who so often get possession of the money of the people without leaving them any equivalent for it.

Let all the friends of the cause calculate upon making a grand rally this season to give the cause of health reform an onward impetus such as will reach far into the future in its ultimate results. Our motto is onward. And though many other health journals are evidently declining, we have thus far continued to prosper, and have no expectation of doing otherwise in the future. Much depends on how the REFORMER is sustained by its friends.

Our Health Almanac for 1876.

THE printers are already at work upon our Almanac for 1876. The unprecedented success of the Almanac last year was most gratifying; and we mean to be on hand this season ahead of the miserable trash which floods the country in the shape of advertising mediums for quack medicines and various other humbugs. We expect, this year, to excel in every particular every other almanac published; and we are sparing no pains or expense to be able to do this. We hope our friends will be all ready to unite with us in scattering these messengers of truth like the leaves of autumn.

Battle Creek Hygienic College.

JUST as we go to press this month, the institution mentioned above begins its second year's course of instruction. For several days students have been flocking in from all parts of the country, securing their boarding places, and getting in readiness for earnest work in the acquirement of knowledge.

According to the Annual Catalogue just published, the number of students in attendance the last year was 289. It is confidently expected that the attendance for the college year just beginning will be greatly increased. New facilities for imparting instruction are constantly being added to the school, and no expense will be spared to make it worthy of the patronage of all who desire to obtain a liberal education under the most favorable circumstances.

The corps of professors and teachers comprises nine competent instructors who are all thoroughly alive to the importance of studying nature in reference to methods of instruction, and making physiology the basis of all systems of discipline.

The study of physiology and hygiene is made a very important branch in the school, and hence it offers special inducements to those who wish to pursue these studies in an intelligent manner.

The best of advantages are given for studying the ancient languages. Special arrangements have also been recently made for instruction in Spanish and Italian, as well as in the French, German, Swedish, and Danish languages which have heretofore been taught.

Of the beauty of the college building and grounds we spoke last month. Large photographs of these can now be obtained at 75 cents each. A catalogue giving full particulars relating to the school will be sent free on application. Address, Battle Creek College, Battle Creek, Mich.