The Health Reformer.

OUR PHYSICIAN, NATURE: OBEY AND LIVE.

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CURE FOR MELANCHOLY.

Wouldst thou from sorrow find a sweet relief?
Or is thy heart oppressed with woes untold?
Balm wouldst thou gather for corroding grief?
Pour blessings round thee like a shower of gold.
'T is when the rose is wrapt in many a fold
Close to its heart, the worm is wasting there
Its life and beauty ; not when, all unrolled,
Leaf after leaf, its bosom, rich and fair,
Breathes freely its perfumes throughout the ambient air.

Wake, thou that sleepest in enchanted bowers,
Lest these lost years should haunt thee on the night
When death is waiting for thy numbered hours
To take their swift and everlasting flight :
Wake, ere the earth-born charms unnerve thee quite,
And be thy thoughts to work divine addressed ;
Do something—do it soon—with all thy might ;
An angel's wing would droop if long at rest,
And God himself, inactive, were no longer blest.

Rouse to some work of high and holy love,
And thou an angel's happiness shalt know,
Shalt bless the earth while in the world above :
The good begun by thee shall onward flow
In many a branching stream, and wider grow ;
The seed, that in these few and fleeting hours,
Thy hands unsparing and unwearied sow,
Shall deck thy grave with amaranthine flowers,
And yield thee fruits divine in Heaven's immortal bowers.

—*C. Wilcox.*

Typhoid Fever.

SIR WILLIAM GULL, M. D., one of England's most celebrated physicians, delivered a lecture at Guy's Hospital on the subject of Typhoid Fever, which abounds in good ideas. The following extract from the lecture we find in *Braithwaite's Retrospect of Practical Medicine and Surgery*, for January, 1873 :—

"Typhoid fever is stated to kill 17,000 a year in England ; how great, then, must be the number attacked! It stood among the preventible diseases, and it was important, therefore, to know how it originates. There is no scientific theory, but there is a good working theory on the point. The origination of the disease is, somehow or another, connected with drainage. It has therefore been called the filth fever ; hence, to get rid of the filth is to get rid of the fever. It seems as if this really is so, for Millbank Prison was infested with typhoid and dysentery ; but now the water supply has been changed, and the drainage attended to, and these diseases have almost entirely disappeared. No one can approach a case of typhoid fever without paying some attention to hygiene. It is no use tinkering with the disease if one does not try to prevent it, and it no doubt may be prevented. The theory is that it is connected with germs which get into the blood ; we know nothing about these germs—the air is full of them. There is an idea that they are imbibed by drinking water, and that they increase and multiply within the body. Although this has not been demonstrated, yet it is a good working theory.

"The history of an attack of typhoid fever is somewhat obscure. The poison lurks in the body some time before the real onset of fever ; it may be as long as five or six weeks. The disease then begins insidiously and irregularly ; the premonitory symptoms are uncertain. Where does this poison work? Is it in the intestinal tissue, or in the mucous membranes, or in the absorbent system? We do not know ; we say that it is in the blood. Where are these lurking beginnings? These are probably in the intestinal system, for we find digestive disorders and disturbance of the bowels in the first instance. It is, however, very difficult to say when the disease begins ; but if the ordinary course of health be represented by a straight line, we shall find at the commencement of the disease an abrupt deviation from this straight line, which deviation goes on increasing till the fourth to the sixth day ; consequently, we find that, on the fourth day, the patient is ill, and on the fifth or sixth day, very ill, and obliged to keep his bed. It is about this time that we first see these patients as a rule, and how are we to tell that they have fever? Well, by the little instrument called the thermometer. Now, if on even the first day the temperature be normal in the afternoon, there is no fever. In typhoid, the temperature increases 1.5° to 2.0°, or even 2.5° F. in the first twenty-four hours. If a person who has been exposed to typhoid fever have a headache, and his temperature be 101.5° on the first day, it may be typhoid ; but if, as is sometimes the case in persons who have been nursing, the temperature is below normal, or even

if it is normal, you may be certain that no fever is present. On the other hand, if on the first day the temperature be 105° you may be certain that the disease is not typhoid. We see, therefore, that, whether the temperature be too low or too high, the thermometer will greatly assist us in making a diagnosis. The temperature goes on rising about 1.5° per diem till about the fifth or sixth day, when it reaches its maximum of about 103.5° or 104.0°, or even more. This is not absolutely true, because some persons may go through typhoid fever and know nothing at all about it. In this disease, therefore, we see that there is first a long and uncertain prodromal stage, and then the onset of fever, which is insidious. Although the degree of temperature is reliable in determining the presence or absence of fever, the same cannot be said of the condition of the pulse, for, in nervous patients, the rapidity of the pulse may be greatly increased, and yet no fever be present. It therefore becomes an important thing to use the thermometer in practice; it will save many errors if used at the proper hour of the day—that is, in the afternoon.

"To return to the course of typhoid fever, we find (still adhering to the chart) that on the twenty-first day the curved line suddenly runs into the straight line of ordinary health, and the fever is completed. In some cases, however, this does not take place till the twenty-eighth day. During this course we cannot give an answer to the queries of the patient's friends, 'Is he better?' We must refer them to the chart, and tell them what is the course through which the disease must go. 'We shall find no word "better" written anywhere on the curve.' Without this is borne in mind, much annoyance may be given to the friends; for in the morning the patient may be cooler and appear better, but in the evening he is hotter and appears worse; and if the medical man were to alter his opinion according to the degree of temperature, the friends might say that the attendant knew nothing whatever about the disease. It is necessary to wait the natural term of the disease before we can say whether the patient is better; moreover, we must bear in mind that two charts of the course of the disease may be drawn out, one in which the disease is represented as lasting twenty-one days, and the other in which it lasts twenty-eight days. But it is not always easy to say which is the twenty-first or twenty-eighth day, as it is so difficult often to fix the date at which the disease began; but by carefully recording the temperature we may tell the time to a couple of days. On the other hand, it is not always that we can say positively that the patient is better on these days, for the disease may, as it were, begin again, and exactly repeat itself [This does not occur unless drugs are given.—M. G. K.], and this repetition may last twenty-eight days more, or it may even triple itself, as Sir William taught many years ago, when lecturing on this subject to the students at Guy's Hospital. This triple attack may last as long as the previous ones. These repetitions have been found on post-mortem examination to correspond with fresh outbreaks of the intestinal affection; for in these cases, should death occur, some of the ulcers will be found almost healed, while others are just beginning to be affected. It is always necessary, therefore, to give a prognosis which shall allow of the possibility of these secondary attacks. But these repeated attacks do not necessarily last as long as the previous ones; they may be much shorter, lasting only one, two, or three weeks. So that typhoid fever may have a simple course of twenty-one days, or a prolonged course of twenty-eight days, or a double or triple course, the duration of which equals that of the previous attack; or lastly, a complex course—one or two attacks of ordinary duration, with another of shorter duration.

"Now in whatever manner the poison of typhoid is introduced into the system, there is a concentration in the ileum. The presence or absence of diarrhea depends on the implication or not of the large intestine. Although the ileum is the focus of the operation of the poison, yet it does not end here, for it is reflected to every organ of the body. The incidents of the poison is on the ileum, but the reflection is over the whole body. The body reacts to these conditions, and the fever is a reaction to the local condition of the bowels; but this does not imply that typhoid fever is a local affection of the bowels, as was formerly taught. This poison reacts in other ways, as by setting up ulceration invarious parts of the body. He was once called to the case of a young girl who was sickening of an illness. She had a discharge from the vagina, which led the medical attendant to doubt the girl's chastity; but he (Sir William) said that is was typhoid, and that the discharge was due to the ulceration of the vagina. Another case, in Guy's Hospital, was treated as a gonorrhea; but in reality the patient had ulceration of the prepuce from typhoid fever. In a third case, the patient had perforating ulceration of the larynx, and he suddenly became emphysematous over the body, which 'floored' him (Sir William); but this case was shown after death to be one of ulceration of the larynx occurring in the course of typhoid fever. This disease then is not a local one, although the focus of the action is in the ileum. But to return to the chart. About the ninth day of the disease, mischief begins to show itself in the intestines, and at this time the deposit may open up a large blood-vessel, and thus give rise to severe hemorrhage, or, if it goes still deeper, perforation of the bowel may take place; or the bronchial membranes may become affected, or the bronchial glands enlarged, which may give rise by reflex action to spasm of the larynx. Every organ in

the body is affected if the disease be severe. Every part of the body may be affected through the nervous system. There is a tendency to reaction. There may be pleurisy; or the enlarged mesenteric glands may soften and suppurate, which may be followed by purulent infection, or the kidneys may become diseased. In fact, any organ may become affected through the action of the nervous, venous, or other systems.

"Now as to the treatment. This disease cannot be cut short even in its early stage. Some have thought that it could be done by emetics, but few think so now. Others have thought that a purge of calomel and colocynth would cut short the attack, but this has been almost entirely given up. Others say that large doses of quinine will shorten the attack, or, at least, prevent serious complications; but Sir William related a case to which he was called, where large doses of quinine had been given, but the man was almost dead from hemorrhage; so that, in this case, the disease was neither cut short nor complications prevented. At the present time it must be granted that when once the patient has begun to go down the curve, we must not dose him with medicines —we must not give him physic. The best thing is to place him in bed in a horizontal position, and reserve his nervous power, remembering that he must, if he live, go through the whole course of the disease. He has to go through the reactions of his nervous, absorbent, and nutritive systems; he has, in fact, to go through 'a great physiological storm.' Let the patient alone then in this stage; 'an early rest will save his power.' But how is he to be treated through the remainder of the course? Is there anything to make the course less severe? Probably not. Quinine has been tried for this also, but has failed here as signally as when given to cut short the disease. It must be said that all the treatment consists of simple measures and simple diet. Medicines are only required for special conditions: for instance, if diarrhea occur, some would give what is called 'chalk mixture;' but we must remember that this has to go through about twenty-five feet of intestine. The best thing is to fill the rectum with five or six ounces of starch; it is not even necessary to put any opium with the starch. The diarrhea only takes place when the rectum, sigmoid flexure, or descending colon, is affected or irritated by acrid matters; hence, if you fill these, the contact of noxious matters is prevented, and the diarrhea checked.

"If hemorrhage occur, many would give gallic acid, or tannic acid, or lead, or some powerful astringent. But do not so; 'don't begin with all your great guns at once.' It is best to trust to the hemorrhage to cure itself, which it will do, and keep the patient at rest in a horizontal posture. Ice may also be applied to the abdomen. This is sound advice, although it may appear terrible. The objection to giving lead or gallic acid or other powerful astringents is that they are apt to make the patient sick, and in that manner perhaps to make the hemorrhage worse. Often delirium comes on in the course of the disease. The patient may get out of bed, or even commit suicide by jumping out of the window. What is to be done for the delirium? In the first place, never leave the patient alone day or night after he has begun to descend the curve, for delirium may come on at any time; therefore, he must be constantly watched. In the treatment of this complication remember that it is due to brain-irritation, and not to inflammation, as some have imagined.

"There is another point. Often the patient cannot or ought not to be moved out of bed. How is he to pass his stools? There is a danger of bed sores if care be not exercised to prevent them; but no man who has a due care ought, under ordinary circumstances, to have a patient suffering from bed sores; sometimes, however, the circumstances are such that these sores cannot be prevented. The bed-pan may become the source of a bed sore which may carry off the patient. Avoid, therefore, every possible cause of irritation or abrasion of the skin. This is a point which is worthy of the consideration of every clinical physician. Again, it may be necessary to pass a catheter to draw off the patient's urine. Now this may be done in such a manner as to injure the urethra, which may be in a very tender state, and cause ulceration and severe symptoms, and even death. Use, then, a soft catheter with all possible care and delicacy. In summing up, he observed that the recovery from typhoid is dependent on attention to the smallest matters. We must save the patient's strength from the beginning, and not trust to medicines to cure the disease. The materia medica of fever is lessening every year."

We would not have our readers think that we consider all the language used by the doctor as being entirely unobjectionable, for such is not the case. The doctor speaks of "germs which get into the blood," and says that "the air is full of them," "they are imbibed by drinking water," "they increase and multiply within the body."

Those who are hygienists speak of "poisons received into the system by breathing impure air, drinking impure water, and of poisons engendered within the system," all of which are, or may be, causes of disease. Dr. Gull *means* the same that they do, the only difference being in the language used to express the ideas.

The doctor says, "The history of an attack of typhoid fever is somewhat obscure. The poison lurks in the body some time before the real onset of the fever; it may be as long as five or six weeks. The disease then begins insidiously and irregularly." Hygienists would say, "The early history of a case of typhoid fever is somewhat obscure, the

symptoms varying at times, while at other times they are not very clearly manifested. The poison that occasioned the disease may have been received into the system several weeks previous to the development of the fever, which is simply an effort to expel the poison." Here, again, the ideas are the same, and the difference is only in the manner of expressing them.

He speaks of "a double or triple course." Hygienists warn their typhoid-fever patients, as they are recovering, to be careful of their diet, etc., lest they have a relapse, or return of the fever. Here again they differ only in words.

The doctor speaks of reserving the patient's nervous power, and says of the patient, "He must, if he live, go through the whole course of the disease." Hygienists would say that the case must be so managed that there shall be no unnecessary waste of nerve force, or vital force, remembering that we should not attempt to break up the fever, for, in so doing, we stop the vital process of purification. We must simply control the fever, remembering that, if the patient has sufficient vitality to purify his system, the fever will end "spontaneously" in the restoration of health. Here, again, they disagree only in the manner of expressing the same ideas.

We do not belong to that class who are so spoiling for a fight as to quarrel with those who are taking advance steps in the right direction, just because they do not express themselves as we do. On the other hand, we hail with joy every sign of reform in the practice of medicine.

The reader will observe that the learned doctor does not advocate the giving of drugs, and that he states that the disease cannot be cured or cut short, even in the early stage. This being the case, why is it that physicians will deal out the deadly drugs to fever patients? Why not try good nursing, cooling such parts as are too warm, and warming such parts as are too cold, giving suitable nutriment, which may be composed of gruels, fruits, and pure milk of a healthy cow?

M. G. K.

When the summer of youth is slowly wasting away in the nightfall of age, and the past becomes deeper and deeper, and life wears to its close, it is pleasant to look through the vista of time upon the sorrows and felicities of our earlier years. If we have a home to shelter, and hearts to rejoice with us, and friends have been gathered together around our firesides, rough places will have worn and smoothed away in the twilight of life, while many dark spots we have passed through will grow brighter and more beautiful. Happy indeed are those whose intercourse with the world has not changed the tone of their holier feelings, or broken those musical chords of the heart, whose vibrations are so melodious, so tender, and so touching in the evening of life.

Lack of Knowledge.—No. 10.

When I began to write under the above heading for the Reformer, about one year since, it was suggested by reading the words of the prophet Hosea, chap. 4 : 6, "My people are destroyed for lack of knowledge." It seemed to me then that people were destroying themselves at a fearful rate, by violating the laws of their being in the use of improper food, in intemperate habits, and in the immoderate use of even healthful food, as also by a waste of nervous energy in the use of hurtful stimulants, as liquors, tobacco, tea, coffee, and pepper; and, as we showed in our last article, the nervous system is thrown into confusion, and even the structure of the organs, in some instances, is changed by moroseness of disposition, evil temper, and fretting over real or fancied evils.

One year's observation, while penning some thoughts on "lack of knowledge," has not changed my opinion, but has deepened my conviction that vastly more are destroyed by lack of knowledge in physicians and people than ever die in battle or in the manner people call natural death. By the way, strictly speaking, there are but very few natural deaths now-a-days. A natural death I would understand to be one in which the organs of the body, having performed their natural functions till a good old age, cease to act, and all cease to act at once. Such deaths are without pain, and the person dies as calmly as a child going to sleep.

Such a case, which will result in a comparatively natural death, came under my observation a few days since. It is that of an old man of temperate habits at an advanced age. His faculties are failing, one after another, and he is sinking away with no pain whatever. His last breath may be drawn unnoticed by his friends, unless they watch him closely. I suppose the reason some people "die so hard," as it is expressed, is because some parts of the body are not ready to die. Some organs are worn out, while others are still possessed with some vigor, and are trying to maintain the struggle and keep the life forces in motion. As a matter of course, in such a death, there must be uneasiness, distress, or acute pains, in proportion to the ratio of disproportion in the healthy or unhealthy condition of the vital organs, unless nervous energy has been so fully destroyed as to be unable to recognize the sad state of things.

What shall we think of the course of the people of our world when we read such statements as the following: "It is estimated that in 1872 $100,000,000 were spent for bread, $250,000,000 for tobacco, and $600,000,000 for intoxicating drinks"? There is more than seven times as much spent for articles that have no other work to do in the human body than to tear down and destroy it than is spent for "bread which strengtheneth

man's heart." No wonder the prophet exclaims: "Why spend ye your money for that which is not bread, and your labor for that which satisfieth not?"

To those who have some knowledge of the laws of life, the course of the masses in self-gratification seems more like the mad acts of those bent on self-destruction. It seems as though the more injurious the article, the more perverted appetite clamors for it. Instance the people of the United States using intoxicating drinks, with the scene before them of 100,000 dying drunkards annually as the result of such a course. So a mass are rushing on, valuing life no more than the inebriate did his eyes. When told by the physician that he must stop drinking or lose his eyes, he complacently said, "*Then farewell, eyes*," as though his potions were of vastly more importance than his eyes.

Of course the above was an extreme case, but the same is true on a smaller scale with those who plead excuses for continuing the use of hurtful articles and habits when they admit them to be injurious. The tobacco-user says: "I presume tobacco hurts me; well, I know it does; but then, I have used it so long that it would be hard to quit it now." This was said to me the other day by a man who was on his way to see a doctor, to get some medicine for his nerves. I told him, "If your doctor is a sensible man, he will tell you to go home and quit your tobacco." Here is confusion of sense sure enough. Going after medicine to cure the nerves, and, at the same time, using tobacco, which irritates them. The *modus operandi* must be to kill the vitality of the nerve so that the tobacco can be used, and the nerves worn out. *Wonderful doctor!* actually destroying nervous energy, shortening life, and yet hailed as a friend; while the person who would recommend a course of self-denial, letting up on the pressure of vile habits which are tearing down the system, and thus actually lengthening life, is looked upon as an intruder, "*meddling with our creature comforts.*"

I was conversing with a lady a few days since who had her tea poured out, ready to drink. "Oh!" said she, "I do n't use strong tea. If I drank tea as strong as Mrs. —— does, I should be sick. Her tea is like lye." But, said I, do you not know that nine-tenths of all the tea offered in American markets is either adulterated, poisoned, or is old tea grounds fixed over? I called her attention to the fact that, a few days since, some samples of tea were taken from the bonded warehouse in San Francisco—a fresh arrival from China. Forty-six parts to the hundred were iron filings, sixteen parts sand, and logwood and other coloring substances, with an admixture of the dust of pulverized quartz, constituted the balance. She sensibly decided to touch no more tea.

In a day or two, I had a chance to talk with Mrs. ——, the one the lady had mentioned; and what was my astonishment to hear her say, "Oh! I take my tea *very weak*, and only use two or three cups a day. A pound would last me a month"(!). After learning how teas are drugged and adulterated, and withal, in packing, trodden under the bare feet of half-naked, sweating, filthy Chinamen, *she* sensibly concluded to discontinue its use. Yet how many I meet who complacently say, "Oh! well, what little I use will not hurt me much, I guess."

Physicians trace the origin of over sixty fatal diseases to the use of even pure tea, so he that quits the use of it entirely avoids at least sixty chances of mysteriously ending his days. But seeing tea is adulterated, he who quits it avoids the drinking of logwood, tumeric, indigo, old tea grounds, and, withal, his drink is not flavored with the sweat of half-naked Chinamen, scrofulous, leprous, or otherwise.

But it is not only in food and drink that ignorance exists. The medicine question is wrapped in mystery. It would seem that when a family had one of their number literally *drugged to death*, that would be a sufficient school, but no. I heard of a woman, a few days since, whose husband died about a year ago, a severe case of "drugging to death." She herself told me his case was *perfectly awful*. Little would one think she would adopt the same course. A few weeks since, she took a violent cold. Probably, a few packs, fomentations, and proper baths, with choice diet and rest, would have given nature a fair chance to do the work. But no. The *drug doctor* was sent for, and death came with him. He did not succeed in curing his patient, whatever success he may have had in curing her disease, for the sad tale is, she is "buried by the side of her husband." Oh! that people would learn wisdom by the things that they suffer, and arouse from their stupor to a sense of what is needed to live, and live healthful, cheerful, happy lives while they do live.

Another evil is, in supposing that every ingredient that can be chemically obtained from the human body is necessarily an essential element of the body. With this idea, I found a man the other day giving doses of iron filings, so coarse that his patient said, "Oh! it hurt me to swallow that, it scratched so." The plea was, our blood needs iron in it. I had heard of turning the stomach into a mill, and making it do the work of the teeth. This was the first time the idea struck me of turning the stomach into a blacksmith shop. What use can that delicate organ, the human stomach, make of iron filings, so coarse that they scratch when they are swallowed? I fear they will keep up their "scratching" process until the whole alimentary canal will be in a condition to remind one of having swallowed small files instead of filings. Well, thought I, Dr. Jackson's jest, that, "if a man had swallowed a *ten-penny nail*, he

must not worry about it, but trust the stomach to digest it," has been taken for a reality. Perhaps some think the capillaries are so large that the blood can take some of these iron filings and put them somewhere in the body, in the place of worn-out tissue, for strong braces, so perhaps in the end they may have an iron constitution. I imagine it will not be the stomach and alimentary canal that are braced by such treatment. What next?

Well, the next thing has just come to hand. There are so *many* medicines that a man would want a moderate-sized mint, even to try them all. So some accomodating physician has invented a "compound" which may reach the purses of such, and "relieve"(?) them some, at least. Here is the statement: "The cathartics used and approved by the physicians, comprising the various medical associations of this State [Cal.], are now compounded and sold under the name of Parsons' Purgative Pills." So we have Parson's Allopath, Homeopath, Eclectic, Botanical, Purgative Pills. Or perhaps we shall have the scene, acted over, once pictured out in a patent-pill-vender's almanac, of a physician ordering a boy to tear the label off from a box of pills, carry it to one of his patients, and tell him to beware of patent medicines.

J. N. LOUGHBOROUGH.

St. Helena, Cal.

A SUGAR REVOLUTION.—An invention which threatens to interfere greatly with our commerce is reported from Paris, and if it proves a success, it will probably have the effect of causing an entire revolution among the southern planters.

This new discovery is a method of making sugar by uniting into a compound its constituent atoms of carbon, hydrogen, and oxygen. The inventor, M. Jouglet, says that the cost of production will be 50 cents per cwt., and he has already so far succeeded in establishing the utility of his invention that a company of manufacturers have been persuaded to purchase it from him for the comparatively moderate sum of $40,000. What the sugar planters and refiners will do if this discovery turns out to be as important as it promises, remains to be seen; but there is no doubt that if it is only partially successful, strange developments may be expected. The invention is said to be very simple, and one easily explained, and endless quantities of saccharine substance can, it is claimed, be manufactured by this new process in so short a time and at so small a cost as to preclude the possibility of competition.—*N. Y. World.*

VOLTAIRE'S definition of a physician is: An unfortunate gentleman expected every day to perform a miracle—to reconcile health with intemperance.

The Yellow Fever.

IT will be remembered that the yellow fever has been raging fearfully in Memphis, Tenn., the past summer, and that hundreds of the citizens of that city have been swept away by the fearful malady. The following, which we clip from the *Memphis Appeal*, of October 20, not only contains good, sound sense, but also a very clear statement of the philosophy of the water-cure system. In subsequent issues of the same paper, Dr. Kibbee gives the history of the first eight cases which he treated (all that he had treated at the time of writing). One of these died through neglect occasioned by the exhaustion and prostration of the nurse; the others recovered.

"TO THE PHYSICIANS OF MEMPHIS.

"Five hundred miles to the north-east of this, in the State of Illinois, in the coal-mining town called Streator, I practice the profession of dentistry. But dentistry has not always been my vocation. Many years ago, for the acquirements I made by study and attendance on lectures, the faculty of a medical college gave me a diploma, setting forth that I was a competent and safe practitioner of medicine and surgery. I did not, however, tread strictly in the beaten path of routine practice. I began early to question the efficiency of the means recommended to reduce fever, and, having always known that cold water would take away abnormal vital heat, I came more and more to depend upon it for that purpose. At length, something more than twenty years ago, while watching the marvelous beneficial effect of cold water on a given-up-as-hopeless case of typhoid fever, I conceived that I had discovered the reason why excessive heat in a human body always produces such fatal or injurious consequences. From that day to this, more than twenty years, I have not administered one particle of medicine in the treatment of fever of any name or type, and I have successfully managed every acute disease incident to this country, north, east, south, and west, with

"COLD AND WARM WATER,

excepting only yellow fever and small-pox, which I have never yet had an opportunity of treating. The fact that many of the cases I have treated have been given up to die by those who had previously administered drugs to them, makes this point of still stronger significance. But I am aware that all this would have no weight unattended with the philosophy for the taking away of the excessive amount of vital heat with cold water, and for raising and equalizing deficient heat with warm water. To give you this philosophy has been the purpose of my visit to your city, where a pestilence walks and slays both at midnight and at noonday, hoping it may induce some of you to adopt a course of treatment which

I have not the shadow of a doubt would save ninety-nine cases out of a hundred, where you can commence with the incipiency of the attack. I do not come here to talk this to the people, nor to offer any service to them. I am only one, and cannot possibly stay more than a week, and they look to you with terror-stricken eyes for all the relief they hope to get from this horror. Bear with me, then, while I mention a few well-known facts connected with this subject. I will set them forth in the form of propositions.

"1. The vital principle is the cause of all the varied manifestations of life in a human body. Without it there can be no health, and without it there can be no disease; for health, so far as it is an action, is the vital force, acting under favorable conditions, and disease is the same vital force, acting under difficulties.

"2. Vital heat, at a temperature of ninety-eight degrees, is the first condition of human existence; and this standard of heat is maintained by the vitalized organs of the body, acting upon food, air, and water.

"3. Every substance in nature, visible and invisible, is endued with certain properties, some being congenial, and some inimical to the vital force. Good food, in proper quantities and at right intervals of eating, is always congenial to a healthy organism. Fresh air and pure water are indispensable to a human body, whether well or sick.

"4. Every substance in nature whose properties are inimical to life, when coming in contact with the organic structures, through the lungs, as malaria or infection, or by the stomach, as eating unwholesome food, or too much that is good, or drinking impure water, excites vital resistance, and is manifested by increased action of the heart and lungs, and the result of that increased action is an elevation of the vital heat above the normal standard.

"5. Every sentient being, from the lowest worm that crawls, to man, when oppressed with excessive heat from vital resistance to poison, or from external causes, seeks the cool water to drink and to lave in.

"In reference first: Increase of action being nature's method to get clear of something inimical, the heart and lungs should in no case have their action interfered with by sedative drugs, for this process is nature's own defense against offending poison.

"But this extra action of the heart and lungs induces extra heat, and excessive heat, it has always been observed, rapidly uses up the vital force; how, then, it is asked, shall this be avoided? Simply by reducing the excessive heat with cool water, for it is plainly nature's voice in the instinctive call of the patient. Now here comes the summing up of the whole matter, and, if the statements are correct, and the conclusions sound, it gives us the key to vital action under difficulties, and enables us to meet and vanquish, with absolute certainty, all the invisible foes to life, floating in the atmosphere and breathed into the system under any name soever. Observing that all the symptoms attending vital disturbance are increased in malignancy by increased action of the heart and lungs, and consequent increase of heat, and seeing the immediate lessening of all the unfavorable symptoms, just in proportion as the excessive vital heat is reduced toward the natural standard by the application of water, we conclude that excessive vital heat directly converts the impurities in the blood into poison, like in its nature to the one which first excites the disturbance. This was the conclusion which I arrived at twenty years ago while noting the improvement of that typhoid-fever patient under the application of cool water in such a way as to reduce the temperature of the trunk, neck, and head, to the normal standard, and of warm water to the extremities so as to raise their heat to the healthy level, and I have verified and confirmed that conclusion in multitudes of instances since then, including scarlatina, measles, congestive chill, cholera, acute and chronic dysentery, or bloody-flux, and especially in the terrible disease known as cerebro-spinal meningitis.

With this fundamental fact of the conversion of impurities in the blood by heat into the specific inciting poison, we conclude that the original poison taken into the system, passing through its period of incubation and development, is cast out by the vital force in a period of time depending on its amount and virulence, provided nature's instinctive call is obeyed by taking away the excessive heat. This is what is meant, and *all* that is meant, in reason, when we talk about self-limited diseases; for the specific poison in the system being as a leaven, or yeast, chemical force gets the better of the vital force when the heat rises above 98°, and converts the impurities in the blood into poison of the same specific character, and vitality either succumbs or, after a terrible struggle, has a slow convalescence. I know that the poison which induces scarlet fever, when the heat of the body is kept at the normal standard, 98°, is completely cast out of the system in from four to six days, and that that of the measles is ejected in from three to five days; and I have proved to an absolute certainty that the cerebro-spinal meningitis poison is an exanthema, and when the blood is kept at its normal heat by water, that the poison is fully eliminated in from two to three days, and the patient is then well. From what I have learned in regard to the results of the different plans of treatment adopted for yellow fever here, I strongly suspect that the poison would prove an exanthema under water treatment, and that the vital force would cast it out in from one to three days. This, however, is to be said on the exanthemata. Not one of them,

small-pox included—as I have just learned from a physician in your midst, who says he has treated hundreds of cases with water—ever breaks out above the skin when the heat of the body is kept at the normal standard, there being comparatively no conversion of impurities into poison by the normal heat. These, my professional brethren, are my experiences and my profoundest convictions of the truth on this subject of life and death. I have presented them to you in no 'superior-wisdom' spirit, but as one of the great brotherhood of man, seeking through you to benefit his fellow-men." M. G. K.

What Medicines He Took.

THERE is a contested will case now on trial in Calhoun Co., Mich., court. Mr. Duncan, late of Battle Creek, died in Belfast, Ireland, and Dr. Aiken, to the question, What medicines were prescribed? answers thus:—

"Cough mixture, composed of chlorodyne, bromide of potassium and tincture of henbane; tonic mixture, composed of nitric acid, and tincture of cardamom; pills of rhubarb, hypo and cayenne; a liniment of camphorated spirits, to be applied to the chest; an astringent mixture, composed of kino, laudanum and chalk, lime water, acetate of lead and opium pills, kail water, a mixture composed of bromide of potassium and infusion of senega; a liniment of iodine and chloroform, to the back of the lungs; bicarbonate of potash mixture; stramonium leaves for smoking; a mixture containing bromide, ammonium, and senega infusion; liniment of belladona and glycerine, spirits of vitriol, pills of quinine, nux vomica; pills of citrate of iron and digitalis; powders of quinine; an external application of potash and infusion of digitalis; iodide of potassium mixture; a mixture of alum and elixir of vitriol, tincture of asafœtida pills of quinine and digitalis, mixture of nitric and hydroyanic acids, Ruspini's styptic; a mixture of digitalis, spirit of juniper and nitric acids; a liquor containing camphor and cantharides, tincture of muriate of iron. Deponent is unable to state the dose of each medicine prescribed, or of each combination of medicines prescribed for said Duncan and taken by him, or the frequency of the repetition of each medicine so prescribed or combination of medicines so prescribed, but said Duncan did not take all the medicine prescribed, as deponent found it difficult to induce him to take medicine with any degree of regularity, owing to his antipathy to medical treatment in general."

If men will die under such treatment, we fear it will cause the public to lose confidence in the virtue of medicines!

J. H. W.

ORDER and method make all things easy.

Do Practical Health Reform and Christian Hospitality Stand Opposed, the One to the Other?

EDITOR REFORMER: Not for the purpose of hypercriticism, nor in the spirit of uncharitableness toward the writer, or of any others whose practice may be essentially in harmony with his, do I desire a small space in the REFORMER for a brief consideration of the principle involved in the closing sentences of an article from the pen of Mr. N. P. Trist, in the October number of the HEALTH REFORMER, and entitled, "The Benefits of Health Reform." After enumerating some of the principles of the reform practically adopted in his family, he goes on to say, "Nor is there any coffee or tea-making for our table, save on such exceptional occasions of the stranger within our gates. And then the right of hospitality extends no further than to lay it before him or her without partaking."

Now, to the writer hereof, it seems that the demand of hospitality, as interpreted by the law of Christian charity and the well-being of humanity in two worlds, needs a much more thorough discussion at the hands of health reformers than it has yet received. In some way, and at some time, the world will be aroused to a contemplation of the abject slavery to which a large share of mankind are subjected. The galling yoke, thanks to the press, the platform, and the pulpit, of the votaries of distilled and fermented liquors has, in a good degree, been made apparent to those not willfully blinded. Thanks to the same potent agencies also for, in some degree, bringing home to men's consciences the truth in relation to the effects upon the human system of the various forms of tobacco. Thanks, also, to the two former of these agencies for taking the incipient steps toward a thorough discussion preparatory to a warfare against all forms of stimulus, including, of course, tea and coffee. Only upon this platform can there be carried on a consistent warfare. The all-important question, then, to those who have been brought to a clear comprehension of the principle involved, must be, How can the truths involved in this reform be most successfully brought before, and impressed upon, the minds of the people?

With all due respect to the opinions of others, it really seems to me that the first step in any reformation is to bring those who may be entangled in the yoke of bondage to know and to feel that they really are in servitude, and that thereby they are inflicting upon *themselves*, to say the least, a positive evil. The southern slave, born and reared under the accursed system, oftentimes failed, seemingly, to realize the first conception of the true meaning of freedom, and, in very many instances, absolutely so loved his condition as,

voluntarily, to choose it in preference to freedom; and this, too, oftentimes, after having been advanced from the position of a slave to that of a freeman. Shall it, hence, be decided that for human beings the condition of slavery is preferable to that of freedom?

There is, I think, not a little difficulty in convincing the tobacco-user, the opium-eater, or the tea and coffee-drinker, that he is really a *slave* to the particular form of stimulant to which he has accustomed himself. And if, wherever the tobacco-smoker shall go, he finds ready prepared in every home and place of resort the cigar or the pipe and tobacco, how shall he ever be brought to feel and to acknowledge the constant support which he derives from the tobacco poison? So of the opium-eater. And if, wherever the tea or coffee-drinker shall find himself placed, the accustomed stimulus is ever at hand, how will the first conviction be likely to flash across the mind of the individual of the true nature of the reed upon which he is constantly leaning? Every health reformer will readily admit, in regard to any of these forms of stimulant, that the *evil* consists in the building up within ourselves, and the perpetuation to generations yet unborn, of unnatural and injurious appetites which, be the consequences what they may, imperiously demand gratification; while the *sin* consists, once having received the light of truth, in consenting to hold that truth in unrighteousness, theoretically admitting, but practically denying, it. It is fairly to be assumed that every health reformer plainly discerns the use of tea and coffee as a beverage to be a widely extended evil, and that, to be consistent, he must place them in the same category of other acknowledged evils, giving them no countenance. Should any reader of this fail to see that tea and coffee are unmitigated evils and only evils, mentally, morally, physically, and financially, they are earnestly desired to read a little work entitled, "Tea and Coffee," by Wm. A. Alcott, and I will venture the assertion that no longer will they stand halting between two opinions. Being acknowledged, then, as evils, we may possibly be able more clearly to discern the pathway of duty by glancing for a moment at some other forms of evil.

And first, let us consider that of *dancing*. If any there be who may chance to read this article, who are not willing to admit that this is an evil, with him I have, at this time, no controversy. My desire is simply to endeavor to trace a consistent course of action on the part of him who feels and insists that it is an evil, and that his duty is to show it no favor. A clergyman of any one of the religious denominations, who condemns dancing, removing into a community where it has long been the popular form of evening amusement, invites to his house a company to partake of his hospitality. He has sons and daughters to be present on the occasion whose habits of life and views upon moral subjects are not yet thoroughly formed. He has been given to understand that the young company will not enjoy the occasion should he fail to provide for them their accustomed amusement. Under the circumstances, how will he define his line of duty? Shall he "clear the deck for action," and join them with an appearance of heartiness, in order that he may place himself in a way to secure their future friendship and respect? Or, shall he compromise, by simply furnishing the music suitable for such an occasion, and stand aloof from the festivities himself? What, under such an administration, will be likely to be the feelings and views of his growing children upon the "evil" of dancing? How much good will be likely to be produced the next Sabbath by declaiming from the pulpit long and loud against the *sin* of dancing?

Take, next, the evil and curse of *tobacco*. How, think you, it would fare with George Trask, the tobacco reformer, either within his own conscience or from the speech of the outside world, should he, at the social visitations of his friends, furnish the weed for all who felt the need of its comforting and cheering influences, himself carefully abstaining, and remarking quite often, it may be, that, in his opinion, the use of tobacco ought to be abandoned?

Suppose *card-playing* be lectured and preached and prayed against, and suppose that he who feels it his conscientious duty thus to take his stand, shall never, either at home or abroad, indulge in the fascinating game, but yet, in deference to the strong social demands upon him, he shall consent to furnish all the conveniences for the iniquitous pastime at his own house, what will be likely to be the sum of such a man's influence? Reputation and social position are by no means to be spurned; but these, obtained at the sacrifice of principle and conscience and true character, become absolutely contemptible.

Some years since, I heard an aged temperance lecturer relate the following incident: In the early settlement of Genesee County, New York, a newly married pair had migrated from the then "far" East for the purpose of founding a home. The young woman had her first invitation to a quilting in their immediate neighborhood. As was then customary, spirituous liquors were freely passed during the evening, but the new-comer, it was observed, uniformly declined to partake, and in this refusal she stood alone. Before the departure for the evening, an elderly woman took the occasion, alone and unobserved, to hold a confidential interview with the young lady. She asked her if she intended to reside in that community. The reply was that the intention of her husband and herself was, in the event of their being prospered, to make it their permanent home. "I see," remarked the old lady, "that you have chosen to stand by yourself this evening in regard to the use

of liquor. I would inquire whether you do not intend to furnish it to those who may pay you social visitations." "I certainly do not, for I do not think it would be right for me to do so," was the reply. "Well," sneeringly remarked the old lady as she turned to leave, "all I've got to say is, that if you've got such notions as these in your head, you won't be much thought of about here." To health reformers the question comes home, Could the young lady *consistently* have taken any other ground than the one she did? If she and such as she had not taken this ground when they became satisfied that the use of spirituous liquors is an evil, would they to-day be banished from respectable society in their social visitations?

The truth is that they who have been life-long slaves to any vice or evil must consent to forego their own selfish gratification, at the call of their higher natures, for the sake of those who are coming after them. It surely must not be that the young shall continue to be educated into these soul-and-body-destroying habits because of the want of self-denial on the part of the old. Some years since, I had in my employ a man past middle life who had had his only cow recently taken from him by the village merchant for debt. His case worked upon my sympathies till I was resolved to go about to see if I could raise the means for the purchase of another. He was poor as poverty itself; not a newspaper nor scarcely a book was to be found in his house, nor could he provide means, though a hard-working man, comfortably to clothe his large family. Incidentally, in the course of the conversation, he mentioned the fact that his bill for tea amounted to nearly one dollar a week, it being then war time, and he purchasing tea at two dollars a pound. Instantly my sympathy oozed out at my fingers' ends. But the terrible curse is being handed down to his family, so that they too shall feel, as he said he felt, that it is impossible to live without their tea.

My design in this article is, not to show that tea and coffee-drinking are great evils, tending to the ruin of the whole man in every department of his nature, but, it is to induce a careful reflection and thorough discussion, if need be, in all its bearings of the duty of health reformers themselves.

I know that the severing to some extent of former social relations by reason of adherence to truth and to duty has borne with such weight upon the shoulders of some who set out with firm resolution to run the race that they have abandoned it, and are sometimes heard to regret that they ever enlisted in the cause. Such are pointed at by virulent opposers as exemplifying their oft-repeated prophecies that the teachings of our leading health reformers can never be made practical in society. But did those persons who thus speak against us ever witness during the war for the Union, the young stripling march forth, full of enthusiasm at his country's call? Did they ever have the opportunity of knowing that this zealous youth, when afterward captured, confined, and nearly starved in a rebel prison, was repeatedly heard to curse the day which saw him enter his country's service. Would they, thence, conclude that the cause of liberty and human freedom is unworthy a struggle and a sacrifice?

I know that not only self-denial, but to some extent social ostracism, for a time at least, would be likely to follow a conscientious discharge of our own clear convictions of duty upon the points involved. I know and feel also that we naturally shrink from these, that they are unpleasant to contemplate. We feel that we could be brave Christian warriors could we only be allowed to choose the points of attack and defense. We feel that we could patiently and uncomplainingly bear the burden of the yoke of Christ if, after a time, it should not wear to the quick at the point where it rests. In fine, we could be valiant Christian martyrs if we might never be led in sight of the stake and the faggots. But the great and the overshadowing question for us to consider is, What does duty to God and to man demand at our hands in view of the fact that we have been made the recipients of light upon subjects concerning which the world yet lies in darkness? May God help us to answer the demand at the tribunal of our own consciences in the light of all he has reflected upon them.

R. L. Lamb.

Physical Education.

Perhaps not the least advantage which is derived from muscular, active exercise, as opposed to passive exercise—by which we refer to a ride in a carriage, or a sail in a vessel, in which latter case the abdominal muscles are the only ones actively exercised—is cleanliness. We mention this as it has been little insisted on by the advocates of gymnastic training. It belongs rather, perhaps, to a treatise on medicinal than on athletic gymnastics; but the two are at the present day, as we have said, happily incorporated. A microscope will show the millions of drains with which the skin is perforated, for the sake of voiding effete matter. This effete matter can only be thrown off by perspiration, produced by exercise. If it is not thrown off, it is absorbed into the system, and diseases, particularly consumption, and premature death are the result. The result is produced by the canals of the skin becoming clogged, which not only prevents the refuse matter from coming out, but also prevents oxygen, which is essential to life, from coming in. We do not breathe with the lungs only, consuming carbon and other matter, and renewing the blood with oxygen as it passes through them. The skin also is a respiratory organ; some animals have no lungs, and breathe entirely with the skin; others, with a portion of the skin modified into gills, or

rudimentary lungs. In animals of a higher grade, though the lungs are the instruments principally devoted to this function, the skin retains it still to such an extent that to interfere with its pores is highly dangerous; but to arrest their operation, fatal. The breathing of the skin may be easily proved by the simple experiment of placing the hand in a basin of cold water, when it will be soon covered by minute bubbles of carbonic acid. But a more complete and scientific proof is afforded by inserting it in a vessel of oxygen, when the gas will, after a short interval of time, be replaced by carbonic acid. "We all know," says Dr. Brereton, "from daily experience, the intimate sympathy which exists between the skin and lungs, and when we are walking fast, how much more easily we get along after having broken out into a perspiration; if we are riding, our horse freshens up under the same condition." In these homely words, he is indirectly proving the chief sanitary characteristic of medicinal gymnastics.

We have most of us heard of the story of the unfortunate child who, to add solemnity and symbolic happiness to the inauguration of Leo X. as pope of Rome, was gilded over at Florence, to represent the Golden Age. The career of that child so conditioned was brilliant, but brief. It, of course, died in a few hours. One of the reasons of the greater danger of extensive burns or scalds compared with others smaller, though deeper, is the fact that the former exclude a greater surface of skin from the oxygen of the air. M. Fourcault, a distinguished French physiologist, whose admiration of science appears to have led him to care little for the infliction of torture on other animals than himself, sacrificed a great number of Guinea pigs, rabbits, and cats, by varnishing over the whole of their skin, contemplating with satisfaction the invariable result—death—as a demonstrative proof that the skin breathes. One word more. It has been imagined that gymnastic exercise is exclusively profitable to the young. It is not so; it is of advantage, of great advantage likewise to the old. Young persons—we include, of course, women, and wish that calisthenics, which we suppose to be a species of female gymnastics, were more systematized and popular—need little exhortation to exercise, since, by nature, motion is their chief desire; but they stand in need of advice and moderation, since, as they do everything immoderately, so they are accustomed to take too much exercise, and of an improper character, a course of proceeding not without danger. On the contrary, with older men, the increasing weight of the body, and the loss of the so-called "animal spirits," induces the desire of repose, and they need an increase of exercise beyond that which inclination enjoins on them. Thus they are brought within the province of the gymnastic code.—*Cornhill Magazine.*

HOPE is the sunlight of life.

Artificial Butter.

THE American Institute has been holding a Fair in New York. Among other things on exhibition was a quantity of grease, which had been christened as artificial butter, concerning which the *Journal of Applied Chemistry* remarks as follows:—

"Many people have now for the first time been made aware that artificial butter is really manufactured here in New York to the extent of one or two tons per day. The process was invented by M. Mouriez, of France, about six years ago, and introduced into the victualing department of the French Navy. M. Paraf has since modified the process, and founded a company for its manufacture, called the Oleo-Margarin Manufacturing Co. Their establishment, which holds a permit from the Board of Health, is located on Fifty-sixth street, near Second avenue. The principal material employed is fresh beef suet, which is first hashed in a machine similar to a small sausage grinder, with a fine sieve at one end. The fat is forced through the sieve and comes out in the form of a whitish jelly. It is next placed in steam vats and heated for two hours, nearly to the temperature of boiling water, whereby the olein and stearin are separated from the animal matter. The real fat is then placed in bags containing about two pounds each, and pressed between sheets of galvanized iron in an oil press. The yellow oil which oozes from the pores of the cotton consists of olein containing more or less stearin in solution. This oil has neither taste nor smell. The residuum left in the bags is solid stearin, and is used in making candles. The oil is finally mixed with one-fifth its weight of sour milk, and churned for twenty minutes in a cool chamber. The butter thus formed is colored yellow with anotta, salted, and worked like other butter, when it is ready for the table. One hundred pounds of suet will make seventy pounds of butter, twenty pounds of stearin, and ten pounds of scraps. In a glass case at the Fair are exhibited specimens of the fresh-beef fat used by this company, beef fat after hashing, fat hashed and separated from the membrane, chemically pure oleo-margarin, odorless beef oil, a dish of the artificial butter, and a pyramid of chemically pure stearin."

Factories are springing up in various parts of the country for the purpose of manufacturing this vile stuff. Without doubt, the fat of slaughtered animals only will be used at first, but just as soon as the business becomes once established and ready sales are found for it, unscrupulous men will take hold of the business, who will not hesitate to use the fat of animals that were diseased, and of those that died of disease, as well as the grease of every animal that has sufficient consistency. Surely, man has sought out many inventions.

M. G. K.

To Correspondents.

WATER-DRINKING.—S. D. R. asks: Is it best to drink cold water before breakfast? If so, how much should a young person in poor health drink?

Ans. There can be no objection to a person drinking a glass of cold water before breakfast if he feels thirsty; in fact, in many ailments, this is quite beneficial, especially when the bowels are constipated. Question No. 2. You are right; it should be diamond points.

POLYPUS TUMOR.—E. A. H. writes: My son has a hard, red growth forming in his left nostril. It is not painful, but it troubles him about breathing. We first noticed it when he was four years old. He is now eighteen.

Ans. He probably has a polypus tumor, which will have to be removed. This can be easily accomplished by a surgeon without causing much pain. 2. You do not give enough particulars concerning your limb. It may be hip disease, or it may be sciatic rheumatism. Give us the full history.

Mrs. I. E. E., Shiawassee Co.: We cannot decide whether your case is a curable one or not without a personal interview. We think that you might be helped at the Institute, but if you cannot come, you should send and get our health pamphlets, and follow their directions, especially those contained in "Good Health."

E. E., Freeport, Ill.: Your son can be cured; but you cannot successfully treat his case at home. Send him to the Institute for a few months.

DYSPEPSIA.—H. P. B., of Low Point, and S. F., of Cuba, N. Y.: Yours are very bad cases of dyspepsia. You should go to the Institute at once. If you cannot go, you should correspond with the physicians of the Institute, and get home prescriptions. As you will have to have directions every two or three weeks, we cannot prescribe for you through the REFORMER.

RATTLESNAKE BITE.—P. G. C. writes: Last week a little child was bitten by a rattlesnake. The child was compelled to swallow whisky until it was dead drunk. The child got better, and all believe that such treatment was necessary to save its life. 1. What do you think about it? 2. What treatment would you have given?

Ans. 1. Many claim that the whisky, by chemical action, destroys the rattlesnake virus. If this is true, it would be far better to apply the whisky to the wound, as, by so doing, it would be brought in immediate contact with the virus, and save making the patient drunk. There is one fact that we should not forget, viz., that not more than one-half of those who are bitten by poisonous snakes are poisoned thereby; therefore the fact that a person was bitten by a snake and then drank whisky until he was dead drunk, is no proof whatever that the whisky saved his life. Rattlesnake virus is a poison, and whisky is a poison, and it is possible that to some persons the whisky is so much more violent a poison that the system takes no notice of the virus when whisky is in the system. If so, all we have to say is, so much the the worse for the whisky.

2. When a person is bitten by any poisonous serpent, a moderately tight ligature should be applied between the wound and the heart so as to prevent the carrying of the poison into the system. The wound should be left to bleed freely after being well washed with warm water. A cupping glass may be applied to draw out the poison, or it may be drawn out with the mouth, if there be no sores in the mouth. After this, caustic should be applied (probably the red-hot iron is the best) afterward, cover the parts with lint dipped in equal parts of olive oil and spirits of hartshorn. The patient should next take a sweating bath and retire, keeping well covered in bed. He should drink warm or hot water to induce sweating. The ligature should be removed if the inflammation be considerable, and very cold water or ice should be applied to the part until the inflammation is subdued.

3. We have not used the prepared wheat of which you speak, and know nothing of either its merits or demerits.

JAUNDICE.—Mrs. H. A. B.: Have your friend go to the Institute. The case is hardly susceptible of home treatment, yet it can be successfully treated at the Institute if not delayed too long.

SCROFULA.—Mrs. H. A. B.: Let your friend continue living out the health reform, using only such food and drink as are recommended in the REFORMER, and she will regain her health. In the meantime she should bathe twice a week, take a sitz bath once a week at 92° for five minutes, then reduce the bath to 80° or 85°, and continue it for three minutes. Once a week, she should take a dripping sheet at 95°, wear a warm wet compress over the liver three nights in a week. The extremities should be kept always warm and the head cool.

SKIN DISEASE.—F. I. G.: Your difficulty originates with your liver. You must live the health reform steadily in all respects.

ULCERS.—I. M., California: We sometimes have to use mild caustics in treating internal ulcers such as you speak of, but do not consider them safe unless administered by a physician, as those not accustomed to their use are apt to use them too freely, and thus increase the ulceration. You can make a wash of gold thread, and use once a day. Wash the parts two or three times a day with cold water, using a syringe for the purpose.

Your lady friend, of whom you speak, must

live hygienically. She should bathe two or three times a week.

DYSPEPSIA AND LIVER COMPLAINT.—A. O., Mo.: Your wife's case is a bad one. She is a dyspeptic, has a very bad liver, and difficulty with several other internal organs. Unless she can spend from three to six months at a good health institute, there is but little chance for her to regain her health. If she cannot go, you should correspond weekly with the physicians at the Health Institute, and let them prescribe as often as necessary. They will be moderate in their charges.

BAKING POWDERS.—M. E. R. asks.: Do you consider the baking powders now in use healthful?

Ans. No. Baking powders are composed of acids and alkalies, neither of which are wholesome. There is no need of using them, as light bread, gems, rolls, and cakes, can be made without them. Send twenty cents for the Cook Book.

CANCERS.—A correspondent informs us that he has a cancer that has been growing about three years. It is now about the size of a pea. He wishes to know how we would treat it. This we cannot tell until we see the case. Some cases, we would treat by removing the tumor; others, by promoting absorption. If a cancerous tumor does not increase in size, but remains stationary after having developed sufficiently to manifest its true character, its further development may be prevented by a careful observance of the laws of health; but as soon as it begins to increase in size, measures should be taken to remove it, either by the knife, by caustics, or by absorption. When the tumor is quite small, it may be removed by absorption. To induce this, freezing mixtures should be applied daily.

Cancerous tumors possess a lower degree of vitality than the surrounding tissue, hence the tumor may be killed by freezing it repeatedly, while, if proper care is taken, the surrounding tissues remain uninjured. A skillful practitioner should be employed.

There is one sentence in our friend's letter that expresses the feelings of the great majority of the people. He says, "I would be willing to live hygienically if necessary." This is as much as to say that if I can have my cancer treated successfully, and I live on in the practice of all my unhygienic habits I would much rather do so; but if there is no chance for me to recover without observing the laws of health, and breaking off from habits that are sure, sooner or later, to induce disease, why, then I suppose I will have to submit to the unpleasant task of eating, drinking, breathing, exercising, resting, sleeping, etc., in that manner that must of necessity result in the establishment and maintenance of health, and make a sacrifice of all those things and habits which, if continued, will surely result in disease. When will the people learn wisdom? M. G. K.

Ripe Fruit.

THE use of ripe fruit in bowel difficulties is quite important. When the bowels do not act freely, it is often sufficient to give, not a dose of rhubarb, which the boy hates, but a saucer of ripe berries or a ripe apple before breakfast, which he does like. Some child being asked "what was wrong," answered, "Everything I want to do." And it does sometimes seem as if parents were occupied much more in denying than in gratifying their children's appetites. This is neither necessary nor fair. They get as tired of bread and milk as you would. And what comes of it? Simply, that, as soon as they have an opportunity, they indulge their love for fruits and sweets to excess. Then you think that it is the fruit and the sweets that do the harm, whereas, it is only the excess. Let your children eat what you do, and as much as they want, and, as you mean to eat only healthy food, they will be quite safe.

SCIENCE and statistics have attacked the smoking fraternity, and smokers will not very much relish the verdicts. For instance, a comparison recently made between smokers and non-smokers in the Polytechnic school of Paris shows that the smokers not only rank below the non-smokers in every grade, but that they lose grade constantly. This would mean to anti-tobacco preachers, of course, that the smokers had less brains to start with, or they would not have adopted the habit in the first place, and that the weed tended to destroy what little sense they had. At any rate, although brains and cigars do seem to live and flourish in harmony on this side of the water, the French Minister of Public Instruction has forbidden pupils to smoke or chew the dangerous weed. If we add to this testimony the words of some of the most celebrated physicians, that many of the nervous diseases of this generation can be traced to the free use of tobacco, we cannot avoid the conclusion, that the "coming man" will drop that with other "social" and unnecessary habits.—*Sel.*

GIVE THEM COLD WATER.—Oh! how babies often suffer for cold water! A nursing baby is given, no matter how thirsty, nothing but milk. The little lips are dry and cracked, and the little tongue so parched it can scarcely nurse, and yet it has nothing but milk to assuage its craving thirst. Try it yourself, mother, when you have a fever, and we are sure that ever after, when your darling is dying with thirst, the teaspoon and tumbler of cold water will be in constant use.

"MY dear doctor," said an Irishman, "it's no use your giving me an emetic. I tried it twice in Dublin, and it would not stay on my stomach five minutes."

DR. TRALL'S

Special Department.

THE MUDDLE.

Dr. Curtis to Dr. Trall.

HE is a fortunate man who can always say (or write) just what he means, and mean just what he says. We generally aim at this, but Dr. Trall thinks he beats us in the accomplishment. He says positively :—

"1. We mean just what we say.

"2. We say just what we mean.

"We have never said that disease is an effort to cure disease."

Ans. He says, "The living organism is endowed with the inherent power of self-preservation. When a poison is taken into the stomach, the vital powers feel an attack upon the citadel of life and prepare to act accordingly."

This is right. The powers drive it out by vomiting if they can ; if not, they drive it outward or downward ; or, if they cannot do any of these, they give it up to the supreme control of the poison, and retire to God who gave them. This effort Dr. Trall calls abnormal action and disease. See hereafter.

A correspondent of the HEALTH REFORMER says :—

"I have taken the REFORMER for a year, and frequently noticed the expression, 'drug disease,' but have never seen any explanation of what a drug disease is. Please explain." Dr. Trall replies. "A drug disease is the effect (?) of a drug medicine or poison. Thus, intoxication is the effect (?) of alcohol ; narcosis, of opium [perfectly correct, but he continues] ; vomiting, of ipecac ; inflammation, of mercury, &c." In this we differ from him. These are produced, as he justly says, elsewhere, "by the action of the organs to expel offending agents, or remove bad conditions."

But when he says, "Functional derangement [irritation, fever, inflammation, cough, vomiting, diarrhea, dysuria, constipation, diabetis, flooding, &c.], constitutes ninety-nine-hundredths of all the diseases of society" (Cyclopedia, vol. i. p. 295), and places fever and inflammation among those derangements, we cannot understand him. When he says, "Disease is never a *positive entity*" (a material substance (?), Cyclop. vol. ii. p. 4), that it is "the abnormal *state*" (not action), he speaks the truth (though we suspect he does not mean what he says)—that a "febrile paroxysm is the manifestation of the vital struggle to defend the organic domain against some morbific cause, or to expel some injurious matter" (Ib. p. 13), we say, Yes. When he says, "Fever is an abnormal disturbance of most or all the bodily functions," we agree that it is a disturbance of some of the functions of the circulation, absorption, secretion, or excretion, but no more abnormal than sneezing, spitting, coughing, urination, or defecation. But it is, as he justly says elsewhere, "a manifestation of vital resistance to the presence or intrusion of the drugs (Ib.), of course not disease ; nor a "state" or "condition of the organs," the real disease (see our "Theory and Practice," p. 97), but an action, not chemical, like mortification, but vital, like the circulation.

When he says, "A drug disease is the effect of a drug medicine or poison—thus, intoxication is the effect of alcohol, narcotism, of opium," we agree with him. The excitement that follows the use of these is the extra effort of the organs to get rid of them ; produced by the vital force. The stupor that follows is the normal, legitimate, only effect of the drugs. Choke a snake with a forked staff, and he will squirm at first, but the staff does not produce the squirming. That begins and continues its effects till it gets complete control, when the snake is dead ; so with all poisons. In every quantity they injure the organs and diminish their vitality. In over-doses, that is, more than the organs can resist, they utterly extinguish life. The "resistance" which the vital force, through its organs, first makes to *their* action, in the movements called irritation, fever, and inflammation, is no more abnormal than is a kick of the foot to a dog that is threatening to bite us. Defense is as normal as prehension, and can with no more propriety be called disease ; therefore, when the doctor talks of "vomiting with ipecac, and inflammation by mercury," &c., &c., we cannot see it, especially in harmony with his fundamental dogma that "drugs do not act on the body," and that "these abnormal acts are manifestations of vital resistance to the presence or intrusion of the drugs" (Ib.), which is perfectly correct.

When he says that substances "chemically incompatible with its [the body's] structures, act upon (?), corrode (?), decompose (?), destroy (?), some part or portion of some constituent or some solid or fluid, or some organ or structure," "substances physiologically incompatible exhaust (?) irrecoverably some portion of the vitality itself" (Cyc., vol. ii. p. 14), he expresses very clearly a glorious truth ; but, if he means that drugs do not act on the body, he does not say what he means, nor mean what he says. It is quite as "puzzling" a "muddle" as any that he ever finds among his quondam allopathic fraternity.

And we are not surprised to learn from his pen that, though he has been writing, teaching, and printing, for twenty-five years, such errors, absurdities, and flat contradictions, he cannot make even his students understand him. He advises *us* to read his works. We have done it thoroughly, and we find in them much that is excellent ; but it is so "muddled" with what is erroneous, absurd, redundant, contradictory, and unintelligible,

that it requires a keener critic than he is himself to separate the gold from the dross, the truth from the errors, the right from the wrong, so thoroughly as to derive substantial benefit from the perusal. We reciprocate his advice to study his works by our advice to him to study our two volumes, the "Criticisms," and the "Theory and Practice," with the confidence that he will be better able to understand our works than we are to understand his. We are sorry we are so situated that we cannot go a while to his college.

This article being already long enough, we will consider the doctor's remaining positions hereafter.

Very respectfully, A. CURTIS.

Dr. Trall to Dr. Curtis.

WHETHER "we" agree with him or disagree, is not of much importance to the reader unless "we" are the Sir Oracle we read about. All that can by any possibility interest our readers is the reasons for agreeing or disagreeing; and these Sir We always contrives to leave out of his criticisms. The reader who has read the preceding article from the pen of Dr. Curtis will perceive that his present article is only a repetition of the preceding one, with irrelevant variations. But it raises another question in the shape of a side issue, which is worthy of a little discussion. *Is fever disease?*

Dr. Curtis admits that fever is a disturbance of the vital functions, but is "no more abnormal than sneezing, spitting, coughing, urination, and defecation." Here is "the muddle," muddled in an extraordinary manner; for sneezing, spitting, and coughing are abnormal, while urination and defecation are not. If he will study physiology a little more carefully, he may learn that urination and defecation are normal processes because they occur in the normal state, that is, with persons in health. And if he will look a little closer to his pathology, he may perhaps be enabled to understand that sneezing, coughing, and spitting, are abnormal processes because well persons are never so exercised.

Dr. Curtis teaches that fever is not disease. Is it health? And if neither disease nor health, what in the name of all the functions is it? If it is neither one nor the other, but something intermediate, what is its nature, and by what name shall we call it? Is it something or nothing, or something between something and nothing, or what, or how? Of course it is easier to ask questions than to answer them, but as Dr. Curtis is inclined to indulge rather freely in interrogation (the only "points" he maintains), it may be justifiable to retaliate a few.

Dr. Curtis agrees with us that "a drug disease is the effect of a drug." Thankful are we for this small favor—more expected. But when he says that "the excitement" which a drug occasions, is an "extra" effort, we are obliged to dissent again. It is an extraordinary (abnormal or remedial) not an extra effort, nor is it true that stupor is the *only* effect of a drug. If Dr. Curtis had ever had his bowels moved into convulsions by cathartics, or his teeth rotted out by mercurials, or the remotest lobules of his liver tuberculated with tartarized antimony, he might have known that drugs occasion many effects besides stupor.

And now for the "snake story." The forked staff does not produce the squirming! Well, then, what does? We seem to see a relation of cause and effect between the staff and the snake. Before the staff was applied to the snake, the snake did not squirm; and if, on the application of the staff, the snake did squirm, what in the name of all the serpents of Eden or elsewhere caused the snake to squirm? If our readers think us children in trying to "logicate" so simple a problem, our apology is that Dr. Curtis is an older person than we are; and we are very exceedingly anxious to straighten his crooked metaphysics before he is past learning or we past teaching.

When Dr. Curtis says the staff begins and continues its effects till the snake is dead, we do him the favor to agree with him, and herein reciprocate similar favors. And this beginning and continuing its effects is just what occasioned the squirming, or we know nothing of the nature of snakes.

If Dr. Curtis should undertake to perform a surgical operation, and his patient should squirm a little, would he pretend his cutting instruments did not occasion the squirming? Or if he administers lobelia till his patient's pores streamed with perspiration, will he say that the medicine "only began and continued its effects," but did not occasion the sweating?

As the remainder of Dr. Curtis' article was replied to in the last REFORMER, we need not notice it now.

Cases of Malarial Fever.

DURING the past and preceding summers, physicians, medical journals, and newspapers, all over the country have been expecting a general visitation of cholera, while Boards of Health in many of the large cities have been professedly preparing for it. But, instead of cholera, we have had malarial fever. True, the cholera has prevailed endemically in a few places, but the malarial fever has been epidemic in many places. In the majority of cases it has taken the form of intermittent, or ague and fever; in some cases, the type of the disease has been remittent, and in a few so obscure or complicated that the attending physicians have termed it typhoid. In those cases in which the cold stage was disproportionate to the hot and sweating stages, it has generally

been designated as "chill fever." Having treated all forms of this malarious malady, some of which were of an aggravated character, the following report of cases may prove interesting:

Early in September, we received a telegram to visit Mrs. ——, 50 years of age, residing in Manassas, Va. As Rebecca L. Trall was the only available M. D. at the time, she left on the evening train, and the next afternoon was at the bedside of the patient. She found the patient greatly prostrated, the liver much enlarged, and the region very tender, the whole abdomen tumid, the extremities inclined to be cold, the head hot, and the mind delirious.

She had for years been the subject of liver disease, the organ now being in a condition of chronic inflammation, and she presented the general pallid and jaundiced appearance of a person who was extremely bilious and full of malarial poison. Mrs. Dr. Trall remained with her patient several days, but finding the locality redolent of intermittent miasms, and no intelligent nurses to administer hygienic treatment, she had her placed in a Pullman's Palace Car and brought to our Hygeian Home. On arrival, the patient seemed none the worse for the journey, and enjoyed an unusually good night's rest, the best, indeed, since the commencement of her sickness.

The plan of treatment was very simple, and was such as has always succeeded in such cases. The feet were kept warm, the head cool with iced-water or pounded ice, the surface was sponged with tepid water in the hot stage of the febrile paroxysms, which occurred every other day. The region over the liver was fomented occasionally during each intermission of the paroxysm, as the extreme tenderness of the part would not admit of the application at any other time. The improvement of the patient was uninterrupted.

Two or three days before Mrs. —— left Manassas, her husband sickened of the same disease, but no serious danger was apprehended. Two days after her arrival at Florence Hights, a telegram announced his death. We know nothing of the particulars, only that the family physician was called, administered "something to make him sleep" (Was it bromide of potassium that helped to kill Horace Greeley?), and the patient died before morning. We do not condemn the practice, for we do not know what it was, but we may mention it as another illustration of "Hygienic *vs.* Drug Medication."

Soon after the death of her husband, one of her daughters, twenty years of age, became sick of the same disease. She was brought to us on the cars, and treated in the same manner as her mother, and with the same result.

No hygienist will doubt that the same plan of treatment would have saved nearly all who have lately perished of the terrible yellow fever (or of the medication), which has recently ravaged Shreveport and Memphis.

Principles of Hygienic Medication.

At last we are enabled to commence putting this long-delayed work into the hands of the printers. We have concluded to issue it in twenty parts, monthly or oftener, of one hundred and twenty pages each, making the whole work to consist of twenty-four hundred pages. The price will be fifty cents per number. The bound volumes will cost $12.00. Those who remit $8.00 will receive all the numbers as fast as published, post-paid.

In this arrangement, each number will contain a group of subjects and be measurably complete in itself, so that those who wish to bind their separate parts can have a tasty library of twenty-four volumes.

The first number will be issued in January next, and will contain the substance of the author's introductory lectures to medical classes, being an examination of the primary premises of all medical systems, and an exposition of the principles of hygeio-therapy.

It is possible that the additional writing required to keep the printers in "copy" may necessitate a suspension of all other writing, and of our department in the Health Reformer; but we hope not. Should this happen, however, we shall be among the contributors to the journal on special subjects as they may occur. We hear from many sources, through a widely-extended correspondence, that the Reformer is doing a noble work, and we feel quite unwilling to omit, even for a few months, anything that we can do, be it little or much, to add to its usefulness, or extend its circulation.

Killing No Murder.

On the third trial of Stokes for the murder of Fisk, which lately took place in New York, the doctors disagreed, as usual under such circumstances. Some of the medical witnesses thought the treatment which the wounded man received was entirely proper, and others testified that it was very improper. One set of physicians expressed the opinion that Fisk died of a bullet wound in the abdomen. Another set of physicians declared with equal assurance that he died of congestion of the brain, occasioned by monstrous doses of morphine.

How is it possible to convict a man of murdering his fellow-man under such a muddlement of medical evidence? Which side of the medical evidence must the court and jury accept, and which reject?

If the jury believes that the pistol bullet which Stokes sent into the bowels of Fisk caused the death of Fisk, they cannot bring in a verdict of murder. When doctors disagree, juries must

doubt, and the prisoner must have the benefit of the doubt. If the jury believes that Fisk died of the medicine, they cannot convict Stokes of murder. Nor can they convict the doctors who administered the morphine of murder, nor even of man-slaughter; for the doctors are legalized, and the practice is according to the books. Moreover, it is not certain that Fisk was killed by the medicine, as one set of physicians testified that he ought to have died of the wound. And so the doctors as well as the prisoner must have the benefit of a doubt. It is a very pretty quarrel, and nobody seems to blame.

Ventilation.

How shall I ventilate a room in winter that is warmed by an air-tight stove? We are often asked the above question, and it once more comes to us with a request that the answer be given through the REFORMER. As simple as this question may seem, it is one for which it is difficult to find an answer that is free from all objections.

It is very important that every room in a dwelling-house be thoroughly ventilated night and day throughout the entire year, if the inmates would have health. The habit that many people are in, of calking every crack and crevice through which air can enter a room, is suicidal, if the room contains an air-tight stove, and has no other means of ventilation, for most of the oxygen is soon used up in consuming the fuel within the stove, and the air within the room is speedily rendered unfit for respiration. We will give several plans for ventilating rooms in winter.

1. Houses that are already built, and in which no special provision has been made for ventilation, can be ventilated by lowering the upper window sash and raising the lower sash. There is an objection to this mode of ventilation, however, as the heated air all rises to the top of the room and passes out of the upper opening, while the cold air, which is denser than warm air, passes in at the lower opening and settles at the lower part of the room. This plan makes the air that surrounds the feet colder than that which surrounds the head, and has a tendency to induce headache or brain congestion; yet this mode of ventilation is far better than none.

Where open fireplaces, grates, or stoves with open fronts, are used, this difficulty is obviated, as the outward draft takes place through the fire at the lower part of the room; therefore, it is unnecessary to raise the lower sash for the outward draft. The upper sash should be lowered, however, to let fresh air into the room. By this means, the air in the upper part of the room is kept equally cool with that in the lower part of the room.

2. Cast-iron ventilators, suitable for insertion into the walls of buildings between the studding, can be obtained of most hardware dealers. Two of these should be placed in each room, in which case the windows and doors may be tightly closed.

These ventilators should be placed in opposite walls, near the ceiling. They should always be placed between studding that runs to the cornice, and the chamber or flue formed by the studding, siding, and plastering, should have a communication with the outside atmosphere by an opening through the frieze or flancier. When ventilation is secured by this method, the cool air coming in at the cornice becomes somewhat warmed as it passes down the wall, and as it enters the room near the ceiling, it becomes well mingled with the warm air of the room. This method of ventilation is less objectionable than the plan of ventilating through the windows, yet it is far from perfect, as the warm air passes out at the upper part of the room, causing the lower air to be always cooler than the upper, as in the first case.

3. A system of perfect ventilation is one that causes a constant change of the air in the room, and by means of which the upper stratum of air is never warmer than the lower stratum. This may be accomplished very cheaply, while the house is building, in the following manner: Make a flue with a capacity of twenty-four square inches, say two by twelve inches. Place this flue between the studding. It should be the same length as the hight of the stay. The lower end of the flue must open externally through the water-table or base board of the outside sheathing, while the upper end opens internally at the ceiling. Through this flue a constant draft occurs, which carries fresh air into the upper part of the room.

Another flue of the same size must be provided, the lower end of which will open into the room through the base, or mop-board, while the upper end extends to the cornice, or, better still, to the ridge of the roof. The upper end must open externally. Through the last flue there is also a constant draft which carries the air from the lower part of the room, while fresh air enters at the upper part. The last plan is the most perfect of any with which we are acquainted, as by this method the temperature is equalized in all parts of the room.

M. G. K.

STILL ALIVE.—Dr. L. of St. Louis, Missouri, who is something of a wag, called on a colored minister, and propounded a few puzzling questions.

"Why is it," said he, "that you are not able to do the miracles that the apostles did? They were protected against all poisons and every kind of peril. How is it that you are not protected in the same way?"

The colored brother responded promptly:

"Do n't know about that, doctor. I 'spect I is. I have tooken a mighty sight of strong medicine from you doctors, and I is alive yit!"

The Health Reformer.

Battle Creek, Mich., December, 1873.

Close of the Volume.

WITH this issue closes the eighth volume of the HEALTH REFORMER. A glance at the past year calls to mind some circumstances beyond our control unfavorable to the welfare of this journal, by which it has not been able to accomplish all that we designed and ardently wished. Changes, however, have taken place, such as give hope for the future as we have not before cherished. Some matters, important to the success of the REFORMER, are now settled, which have hitherto been held in doubt. Several able writers, imbued with the true spirit of reform, are secured as regular contributors, and the conductors of this journal are determined to make it, in all respects, the best of its kind in our country.

We shall at once commence anew our appeal to the Christian world from the old Bible, and show the harmony of the principles of the health reformation with the religion of that time-honored volume. And while we shall labor to show that professing Christians, who in form revere the word of God, are, in many of their habits of life, virtually at war both with the laws of life and health, and with the sacred declarations pertaining to the higher life, we shall put forth effort in the fear of God, and with Christian regard for those we wish to help.

The World Is Moving.

THE world is moving. The spirit of investigation is out. The old foundations of error and superstition are being broken up. Let the world march along, notwithstanding it may not travel just as we may have marked out. We need not say that he who would stop the wheels of reform because they do not exactly track his hand cart is a bigot. This spirit was ruling, and ruining the influence of the disciples of Christ, until the Master, in the liberality of his divine soul, taught them better. One of them said, "Master, we saw one casting out devils in thy name; and we forbade him, because he followeth not with us. And Jesus said unto him, Forbid him not; for he that is not against us is for us."

While we would be true to the pure principles of health reform, and would ever hold them before the people as important, both to this life, and to that which is to come, we hope to be so far liberal in our views and feelings as to give those who are reforming credit for what changes they are making, and sustain such friendly relations to them as to cheer them on in the good work.

A quarter of a century since, in the ardor and inexperience of younger days, we sometimes detected in our efforts in dealing with minds an inclination to the old mental cramming system. We mean by this, simply the barbarous practice of crowding our theories and views upon minds, that may be as independent as our own, in a style to impress sensible people with the idea that we are narrow and overbearing. This course raises the combativeness of men of taste and good sense, and prejudices the very persons who, otherwise, might be reached, and might become ornaments to any reformatory movement. This course will gather minds, many of whom may unfortunately be of the same stamp of their teachers, or of that lower grade that will be quite as well pleased with the plan of mental stuffing as to take the trouble of thinking and deciding for themselves.

The mind of every true convert must travel over every foot of ground on the highway of reformation until it shall reach the very summit of reform. It is our duty as reformers to deal in principles, in the spirit of true Christian courtesy; or, at least, with the spirit of real philanthropy. We can let the true light shine out to the world by precept and by example. This, well done, our duty is done. If men will not believe, and will not change from error to truth, it is labor worse than lost to undertake to force the truth upon them. And it is quite as great a mistake to go out of our way to provoke contention with them.

The world is moving. "What is truth?" is an nquiry prompted by the spirit of the age. The REFORMER will keep pace with this spirit, and, in a manner that respects the views of others, will reach out a friendly hand to those who may not as yet have reached the position of its conductors.

CHEESE.

THIS article seems to have been known to the ancients, as well as to moderns, although the mode of manufacturing it was of course quite different from that now employed. In the Bible, we read that David was directed to carry ten cheeses to the captain of his brethren. Homer, Aristotle, and other ancient writers, also speak of it.

The essential processes in cheese-making are quite simple. The milk is first curdled. The curd is then separated from the whey, after which it is formed into a cake, pressed and dried, or cured, when it is ready for market.

In cheese factories, various means are adopted for curdling the milk. In this country and England, rennet (the dried stomach of a calf) is commonly employed. In Holland, muriatic acid is used. Other acids are also sometimes employed. It was formerly supposed by scientists, and the belief still holds in the minds of many people, that when rennet is used in cheese-making the milk undergoes a process nearly if not quite analogous to that which takes place in the stomach during the process of digestion, owing to the gastric juice, or its active principle contained in the lining membrane of the calf's stomach.

Careful investigation, however, has demonstrated that this cannot be the case ; for the efficiency of the rennet is not in the least diminished by washing it until it is entirely free from all trace of acid. Baron Liebig and Prof. Youman, known to every one as men of eminence in the scientific world, claim that rennet acts only as a ferment, being itself in a state of decomposition. The decomposing animal matter being added to the milk induces fermentation, which is the first stage of decomposition. By means of the fermentation thus induced, a portion of the saccharine element of the milk is converted into lactic acid, which acts as does any other acid in curdling the milk. It appears, then, that any portion of the intestines of the calf, or of any other animal, or, in fact, the calf's skin, or a sheep's skin, or decaying or putrescent animal membrane of any kind, possesses quite as good cheese-producing qualities as does rennet, and acts in precisely the same manner. The process is simply that of decay or decomposition.

The color of cheese is by no means constant. It is naturally of a dingy white color, but is often colored with annotto, or other coloring matter. Stilton cheese, which is held in high estimation, is of a greenish color, owing to a kind of vegetable growth, of the character of mold.

When the cheese is first made, it is very tough ; but, as the curing process goes on, it gradually softens ; which means, simply, that it undergoes a process of decomposition. During this process, deleterious gases and acids are developed, which give to old cheese its characteristic smell and taste. If the process is allowed to progress for any great length of time, extremely poisonous substances will be originated which may occasion the death of the person who eats the cheese.

The ancient process of cheese-making was to curdle the milk by means of some kind of vegetable acid. The whey was then strained off through a leather sieve, and a considerable quantity of salt added, when the cheese was ready for use. It will be observed that this sort of cheese was simply curd and that it had not undergone any degree of decomposition.

Another very common form of cheese, especially in the country, is that properly termed pot cheese. It is made from milk which has curdled by souring. The process of curdling in this case is essentially the same as when rennet is employed. Fermentation is induced by the natural causes of decomposition. This results in the formation of lactic acid, which occasions the curdling, as in the case of the rennet. Although the process of fermentation is the introductory stage of decomposition, when it has only proceeded so far as to render the milk acetous, or sour, very little if any injury has been done to the nerve-and-muscle-forming portion of the milk, or the casein.

As an article of food, cheese may be regarded as being, generally, of about the poorest quality. It is, nevertheless, very largely used, as are many other hurtful things, so that there are in the United States alone more than 2000 cheese factories, which find ready sale for their products. Cheese, if eaten at all, should never be more than a few weeks old at most. Old cheese is not only very indigestible, but its use is one of the most effectual means of producing constipation and general derangement of the digestive apparatus. Nothing could be more ridiculously absurd than the idea held by many people that cheese, although itself extremely hard of digestion, aids materially in the digestion of other food. This erroneous notion gave rise to the old adage,

> "Cheese is a mighty elf,
> Digesting all things but itself."

The cheese found in our groceries is not only open to the objections already referred to, but is liable to be rendered still more deleterious by the addition of various flavoring materials, etc., so that it is a most pernicious article of food, which cannot be too much avoided. Pot cheese is far more healthful, if it is properly prepared. If it is made from sour milk, it should be carefully washed from all trace of acid ; but it is still better to curdle the milk by the addition of lemon juice or some other vegetable acid. But even this kind of cheese is open to the same objection to which all animal food is subject. Vegetarians can easily dispense with food of this kind so long as they are provided with such an abundance of that which is far superior. Curdled milk may be much more properly employed as food for hogs (if a hygienist can tolerate such a nuisance), or a fertilizer for growing plants.

J. H. K.

It is not honorable to sacrifice the mind and body to gain. It is not a trait of true nobility to bring up children to thankless, unrequited labor. You have no right to make agriculture so disagreeable as to drive all young men of spirit and enterprise into other branches of business.

The Health Reformer.

THIS is a monthly journal devoted to physical, mental, and moral culture.

ITS MISSION.

As indicated in the prospectus, its mission is to contribute to the improvement of mankind physically, mentally, and morally. Of the necessity for reform in these particulars, we need not speak; for the alarming evidences of physical degeneracy and disease, mental inefficiency, and moral turpitude, which we see about us one very hand, speak more loudly than can words of the crying need of immediate and thorough reformation.

Progression is the spirit of the times. Social reform, prison reform, civil service reform, and various other reforms, each, in its turn, calls for the careful and candid consideration and hearty cooperation of every intelligent man and woman. And very just and appropriate is this demand; for nothing can be more promotive of the interests of society than improvement—progression—*reform*. Without this, stagnation would result, and civilization would soon degenerate into the veriest barbarism. Its value, then, cannot be overestimated; and every truly reformatory movement should receive our most serious and attentive consideration.

As its name would suggest, the HEALTH REFORMER is published in the interest of a reformation which has a special bearing upon health; health—physical, mental, and moral. Perfect physical development, clear mental faculties, and acute moral sensibilities, constitute the perfection of manhood or womanhood. Can there be anything more important, then, than a reform which aims to secure these three conditions, which, when attained, will place a person in that state of perfection which will enable him to realize the highest degree of enjoyment possible for man to experience? May we not justly claim that, while the reforms which have been mentioned are of great moment and absorbing interest, they are all eclipsed by the far greater importance of this reform which deals with those principles which underlie the whole superstructure of moral and social life, and which strike at the very root of all the evils which curse society, and rest like a mighty incubus upon the world?

PLAN OF ACTION.

In order to accomplish the desired object, which has already been set forth, the conductors of the REFORMER have adopted this as a fundamental principle of action: Physical reform is the basis of all reform. The truth of this principle is evident when we consider,

1. The intimate relation of mind and matter, and the wonderful manner in which the mind is affected by the varying conditions of the body; so that whenever the body suffers from serious injury of any kind, the mind is correspondingly impaired, as is seen in the fever patient raving in the wildness of delirium.

2. The fact that the condition of a person's moral organs depends so largely upon that of the body and mind; as is illustrated by the victim of despair who labors under the impression that his doom is sealed, when his only difficulty is a torpid liver; or the irritable, misanthropic dyspeptic, whose unhappy mental condition is wholly due to a disordered stomach.

In view of these facts, it appears that the most important branch of the work of the REFORMER is in the direction of physical improvement and reform, since the success of each of the other branches is contingent upon the success of this.

But while constantly aiming at reform, and so contending against adverse and opposing influences, the conductors of the REFORMER are careful to avoid those extremes into which so many reformers allow themselves, unwittingly, perhaps, to be led. They also ever seek to manifest that liberality of sentiment which is in harmony with the spirit of the present time, when every man is expected and urged to think and form opinions for himself. By so doing, they hope to incite a spirit of investigation, which, when pursued with candor and an unbiased judgment, can hardly fail to convince the reader of the truth of the positions taken.

Those who conduct the REFORMER endeavor to fill its columns with matter of practical importance and interest to every subscriber. Thorough instruction is given in regard to those two most important subjects,

HOW TO RECOVER HEALTH, AND HOW TO RETAIN IT,

These subjects being treated by those whose personal experience enables them to speak understandingly. In fact, we put forth every effort to make the REFORMER *indispensable to every household*, and of especial interest to that exceedingly large and unfortunate class of individuals who have been brought into the condition of invalids by disease. But the subject of health, proper, by no means receives exclusive attention. Considerable space is each month devoted to general literature, important or interesting discoveries in the arts and sciences, and such other subjects as are of general interest.

PRESENT PROSPECTS.

Notwithstanding the numerous and almost insurmountable obstacles with which it has been obliged to contend, the REFORMER has made constant and rapid progress in extending its sphere of usefulness, until it is now established upon a firm and satisfactory basis, being furnished with an able corps of contributors, numbering its pa-

trons by thousands throughout the United States and Territories.

The publishers of this journal are actuated by purely philanthropic motives, and hence offer it at such terms as will enable every person to obtain it who has any degree of interest in the important subjects, How to GET WELL and how to KEEP WELL. Terms, $1.00 a year, in advance. Specimen copies sent free on application. Address, Health Reformer, *Battle Creek, Mich.*

The Health Institute.

LOCATION.

This model health institution is situated in the most healthful and delightful part of the proverbially neat and enterprising city of Battle Creek, Michigan, an important station on the Michigan Central R. R., about half way between Chicago and Detroit. Several railroads intersect at this point, making it easy of access from all directions.

GROUNDS.

The grounds are ample, consisting of a site of about twenty acres, a large portion of which is covered with shade, ornamental, and fruit trees. They are also high, overlooking the entire city, and affording a fine view of the landscape for miles around.

The soil is of such a nature that mud is almost entirely unknown, a few hours of sunshine after a rain rendering the walks and roads in and about the grounds so free from dampness that the most delicate invalid may indulge freely in the benefits of out-of-door life and exercise.

In front of the main building, and between it and the road, is a beautiful grove, which extends along the street in each direction from it, some thirty rods, affording a delightful place of resort during the summer months. The grove is also provided with such means of exercise and recreation as are both healthful and entertaining; as croquet grounds, conveniences for gymnastic exercises, etc.

BUILDINGS.

These comprise a large main building, and seven fine cottages, all situated upon the same site. The main building contains commodious parlors, dining halls, bath and movement rooms, etc., etc., while the other buildings are fitted up as private apartments for patients. By this means are secured that quiet and retirement which are of such paramount importance to the invalid, and which cannot be obtained in an institution where scores of suffering individuals are crowded together under one roof.

ROOMS

Are large and well ventilated, and are furnished much better than in any other institution of the kind, thus affording the patient all the luxuries and comforts which he enjoys at home, and many more.

PLAN OF TREATMENT.

At this institution diseases are treated on strictly hygienic principles; that is, only those remedies are employed which will assist nature in her healing work, and will in no way endanger the life or constitution of the patient. Drugs and poisons of every description are entirely discarded as curative agents; but all known means of restoring health are constantly employed, poisons alone being excluded from our materia medica.

OUR REMEDIES,

Then, are *light*, *water*, air, electricity, exercise, cheerfulness, rest, sleep, proper clothing, proper food, and, in fact, all hygienic and sanitary agents.

OUR PHYSICIANS.

The medical faculty of the institution is composed of an adequate number of conscientious, watchful, and efficient physicians, who give personal and unremitting care and attention to their patients, anticipating, as far as possible, their wants, carefully studying their cases, and applying every means in their power to restore them to health.

OUR FACILITIES.

Very few institutions are provided with conveniences and advantages equal to ours. Our bath rooms are both capacious and convenient, and are furnished with an inexhaustible supply of pure soft water. Several rooms are also prepared especially for the administration of the sun-bath.

SPECIAL ADVANTAGES.

In addition to the appliances usually employed in such institutions, we make use of the hot-air bath (which possesses all the virtues of the Turkish bath while avoiding its evils), the much-renowned electric or electro-thermal bath, the Lift Cure, and the celebrated Swedish Movement Cure, which is so successful in many cases which cannot be reached by other means.

DIET.

While we reject from our dietary those pernicious drinks and condiments which are the potent agents in bringing thousands to untimely graves, we take care to supply our table with an abundance of nutritious and palatable food, consisting of fruits, grains, and vegetables. We do not enforce, however, a radical and immediate change from old habits, but give the patient time to accommodate himself to the new diet.

OUR SUCCESS.

The class of invalids who seek aid at our institution is very largely composed of those who are afflicted with chronic diseases, and who have been drugged and poisoned, until their vitality has become well-nigh exhausted, and they are

given up by their friends and medical advisers to die. Under these circumstances, they come to us as a final resort, and, thanks to a true and potent system of treatment, this last hope is seldom disappointed. Among the hundreds who have thus come to us and found relief from their ills and pains, during the eight years since the establishment of this institution, the following cases, here briefly reported, have been treated within the last few months :—

CONSUMPTION.—Many cases might be cited, and references given, in which this most insidious and hopeless of all diseases has been robbed of its victims and a new lease of life given them by a few months' stay with us.

DYSPEPSIA.—Hundreds have come to us afflicted with this most deplorable disease in its most aggravated forms, and, after staying a proper time, have returned to their friends relieved of their sufferings.

PARALYSIS.—Even this formidable disease is, in many cases, treated with entire success, the use of paralyzed organs being wholly restored.

DROPSY.—In one case, the patient came to the Institute after having been given up to die by friends and physicians. He had been tapped many times, as the accumulation of fluid was so rapid that respiration was rendered extremely difficult in a few days. Cured in a few months, and reports himself still in good health.

SCROFULA.—Many cases of scrofula, often complicated with dyspepsia, affections of the lungs, etc., have been treated with marked success. In one case, the patient had several large tumors, one nearly as large as an ordinary bowl. After a few weeks' treatment, nature began the curative work of absorption, thus effecting a cure. This case had been considered entirely hopeless.

But space will not allow further description of the desperate cases which have received treatment and restoration at this institution; but we may add that equally good success has attended the treatment of asthma, kidney difficulties (of the worst forms), chronic diarrhœa, chronic congestion of the brain, cancer, palpitation of the heart, rheumatism, neuralgia, epilepsy, bronchitis, piles, ulceration of bowels, catarrh of bladder and bowels, constipation (in some cases without a natural passage for many years), spermatorrhea, and, in fact, chronic diseases of all kinds.

The most flattering success has attended the treatment of uterine difficulties, and all other diseases of women, which receive special attention.

ACUTE DISEASES.

Our mode of treatment is specially adapted to this class of diseases, meeting with the most uniform success with fevers and inflammations of every type and form, all eruptive diseases, etc., etc.

To the sick, we say, Do not delay seeking our assistance until your case is hopeless. Write at once for our circular, which will be sent free on application. Address,

HEALTH INSTITUTE, *Battle Creek, Mich.*

Report of Cases.

THE following letter is from a lady patient who was badly afflicted with hip disease. She had for many months endured terrible pain and distress in the hip, and passed very many nearly sleepless nights. Circumstances did not permit her to stay at the Institute as long as she should. She was under treatment only a sufficient length of time to get relief from great suffering and have the system put in the direction of recovery, and then she left, to go home and carry out the measures requisite for nature to effect the cure. Such reports and words of encouragement we are continually receiving, and they will continue to be received by those who remain in the work of reform, abiding faithful to hygienic principles, for truth is mighty, and will prevail.

DEAR DOCTORS: It is with gratitude toward you and the Giver of all blessings that I write you that I am still improving. I have no pain that hinders me from sleeping well. My appetite is good. I have walked eighteen rods at three different times since I came home. I was very tired when I arrived at home, having been three nights almost entirely without sleep. And then so many came to see me I had not much strength left, but I recovered in a few days, and am now much stronger than when I left the Institute.

I have tried to take your advice in regard to keeping quiet. I have not tasted butter since my return, nor meat but once or twice. I would not have to be wheeled in the chair to my meals now if I were at the Institute, for I can walk that far with ease three or four times a day. My limbs are yet weak, and get tired very easily. I do not expect to do much this winter. It seems so good to go to bed and sleep all night that I cannot feel thankful enough. Love to all.

Your affectionate patient, O. F.

This is in happy contrast with the statements of some who have suffered many things of drugs and physicians, and were nothing bettered, but rather grew worse. We will mention the case of a young woman possessing a good constitution and usually robust health. She moved into a malarious district, where her system took in unhealthful gases until it occasioned ague. She resorted to quinine and a popular "ague cure," to prevent the chills and fever, and "Vinegar Bitters" for a tonic. These remedies (?) poisoned and unbalanced the system, and power to control the muscles was so lost that a large share of the time one or more sets of muscles were in uncontrollable spasmodic action. The respiratory muscles were especially affected; at times she would be in such convulsion from head to feet that, when lying on a spring

bed, it would cause it to rock like a cradle. The last state of the woman was worse than the first, for the drug disease can only have its symptoms mitigated. Perhaps there are those who are not aware that there are some drug poisons of such a nature that they cannot be antidoted. Strychnine is of this class.

Another case is that of a young lady of opposite character, who has a delicate constitution, is of the mental temperament, and a teacher. She suddenly became severely ill, and sent for the doctor. He gave one dose after another, till his resources were exhausted, but they all proved unavailing, and failed to bring relief. He was convinced that he had administered poison sufficient to kill her. He then thought to produce vomiting, that the stomach might be disgorged. He prepared an emetic. She had become disgusted with the medication, and positively refused to swallow another particle of drugs. As he could do no more, he left her, and reported that she could not live till morning. On hearing, next morning, that she was alive, he expressed great surprise. Though she got up from the sick bed, she never fully recovered from that course of medication. Facts are stubborn things, and such as these should admonish us that the only safe way is to let drugs alone. This lady stayed with us but a short time.

Since writing the above, the following letter from her has been received :—

FRIENDS : I am glad to be able to tell you of my improvement in health since I last wrote. My general health is much better ; have gained four pounds since the weather has become cooler. The pain and soreness of my lungs have gradually grown less, but there is still some soreness of the upper part of the left lung. I think, however, that I can see that it is slowly decreasing. On the whole, I am much better than I ever expected to be, and feel truly thankful that I went to the Institute instead of depending on drugs.

PHYSICIANS, HEALTH INSTITUTE.

Exertion of the Mental Faculties.

MENTAL as well as bodily excess is attended with destructive consequences ; and it is worthy of remark, that too great exertion of the mental faculties, and the waste of the vital power connected with it, produce on the health and vital duration almost the same effects as a waste of the physical powers—loss of the power of digestion, depression, dejection, weakness of the nerves, consumption, and premature death.

Much, however, depends here on the difference of structure and constitution ; and those who have naturally a stronger and more active organization of soul, must suffer less from such exertion than those who are destitute of that advantage. Those, therefore, are most affected by it who, with a moderate structure of mind, attempt to force it beyond its powers ; and that excessive mental exertion which we make involuntarily, and without pleasure in the object of it, will hence weaken us most.

But it may here be asked, What is meant by excess in mental exertion ? This, in general, is as difficult to be defined as excess in eating and drinking ; because the whole depends on the difference in the capacity and state of the mental powers, and these are as different as the powers of digestion. That may be excess of mental exertion for one which is not so for another who is endowed with stronger faculties. The circumstances, also, under which that function is exercised, make a very essential difference. I shall, therefore, define more accurately what is to be understood by excess in the function of thinking.

1. When one, while employed in abstruse thought, neglects too much the body. Every irregular exertion of our powers is hurtful ; and, as a man is infinitely more weakened when he exercises his thought without attending to bodily exercise, it is equally certain that those can undergo more mental labor, and with much less injury to their health, who, in the meantime, give to the body suitable and periodical exercise.

2. When one thinks too incessantly on the same subject. The same law prevails here as in regard to muscular motion. When one moves the arm continually in the same direction, one, in a quarter of an hour, will become more fatigued than if the limb had been moved two hours in various directions. Nothing exhausts so much as uniformity in the pursuit and employment of the mental powers ; and Boerhaave tells us that, after having bestowed intense study, for a few days and nights, on the same subject, he fell suddenly into such a state of lassitude and relaxation that he lay some time in an insensible and deathlike condition. A proper change of objects is, therefore, the first rule in order to study without injury to the health, and even to accomplish more work upon the whole. I am acquainted with great and intense thinkers, mathematicians, and philosophers, who, at an advanced period of life, are still happy and contented ; but I know also that they have made this variety a law, and that they always divide their time between these abstract studies and reading history, agreeble poetry, travels, and works of natural history. It is of great benefit, in this respect, to unite always a practical with a speculative life.

3. When one employs the mind on too abstract or difficult subjects, as, for example, problems of the higher mathematics and metaphysics. The object makes a very essential difference. The more abstract it is, and the more it obliges one to disengage one's self from the sensual world, and, as it were, to insulate the mind separated from the body, the most unnatural state, without doubt, that can possibly be, the more weakening

and overstraining is its effect. Half an hour of such abstraction exhausts more than a whole day employed in translation. But here, also, a great deal is relative. Many are born for such labor, and have those powers and that frame of mind which it requires; while, on the other hand, many are destitute of both, and yet endeavor to force them. It appears to me very singular that, when it is requisite to raise up a corporeal burden, people always first try it by their strength, to discover whether it be not too heavy for them; but, in regard to a mental burden, never consult their powers to know whether they are sufficient to sustain it. How many have I seen miserable and enervated, merely because they attempted to dive to the depths of philosophy without having philosophical heads! Must every man, then, be a philosopher by profession, as seems to be the mode at present? In my opinion, a particular organization is necessary for that purpose; and it may be left to the chosen few to investigate and unfold the secrets of philosophy; as to others, let them be contented with acting and living like philosophers.

4. I consider it also as excess, when one labors always in creating and never in enjoying what has been created by others. The labor of the mind may be divided into two parts: The *creative*, which produces of itself and gives birth to new ideas; and the *recipient*, or passive, which merely receives and enjoys foreign ideas, as, for example, by reading or hearing others. The former is by far the most exhausting; and one ought, therefore, to vary them, and to enjoy them in turns.

5. When one begins to overstrain the mind too early in infancy. At this period, a small exertion is highly prejudicial. Before the age of seven, all mental labor is an unnatural state, and attended with consequences as fatal to the body as the most exhausting excess.

6. When one studies *invita Minerva*, that is, applies to subjects on which one labors unwillingly, and not *con amore*. The more inclination one has for any kind of mental enjoyment, exertion will be the less hurtful. More caution, therefore, is necessary in the choice of studies; and wretched must those be who neglect an object of so much importance.

7. When one overstrains the mind during the time of digestion. This occasions double injury; one weakens one's self more, as more exertion is then necessary for thinking, and interrupts at the same time the important function of digestion.

8. When one employs, in mental labor, that time which ought to be devoted to sleep; a custom highly prejudicial to life.

9. When one unites study with hurtful external circumstances; and of these there are two in particular, *sitting in a bent posture*, and *confined air;* which are often more destructive in their consequences than intense thinking itself. People, therefore, ought to accustom themselves to study in the open air; and they will then suffer much less from those diseases which are so incident to men of letters. The ancient philosophers undoubtedly studied as much as the modern literati; and yet never suffered from bodily disease induced by such a study. The sole cause of this was, that they meditated more in the open air. They never drank coffee or used tobacco; and, at the same time that they exercised the mind, they never neglected the care and the exercise of the body.—*Hufeland.*

Keeping Winter Apples.

THERE has been a great advance within the last ten years in the handling of apples for winter keeping, and also for sending long distances. Very many otherwise good fruit-growers, however, do not yet appreciate the full force of packing tightly in barrels, not knowing that there is any difference in bruising an apple without breaking and bruising by breaking the skin.

The facts are, if an apple be bruised with the skin unbroken, the apple does not necessarily rot; but if the skin be broken so as to give admission to the air, the apple immediately rots; for, with the admission of air, fungus growth ensues. Hence, worm holes and other punctures invite rot, while the pressing of the head of the barrel into the top layer of apples never rots them if the skin remains unbroken. The watery matter of the bruise dissipates, just as it does in the animal economy.

There is a diversity of opinion as to the best means of handling apples at picking time; some preferring the old-time practice of first sweating in heaps, and then sorting and barrelling. Our preference is to pick carefully and sort immediately into sound barrels, leaving the barrels lightly covered for a few days to allow the excess of moisture, or first sweat, to escape; and then to head, pressing the head in so firmly that the apples cannot in any way move in transporting them.

Every sorting of apples tends to cause them to rot, and so also does alternating temperature. Keep them as uniformly cool as possible without freezing. The barrels, if tight, may be subjected to a temperature as low as twenty-four degrees for a considerable time without injury, but from this temperature they should not be suddenly moved to one much above the freezing point. Uniform and low, dry temperature is the all in all for the successful keeping of fruits for long periods. If there must be change, let it be gradual.

If fruit be kept in a cellar, it must be so arranged that the air can be kept dry, and so thoroughly ventilated that it may be entirely closed in extreme weather and thrown open in mild weather; especially in the fall and spring should this be attended to, keeping the building closed during the day, when warm, and opening at night, that the benefit of the cool atmosphere may be had.

Above all, do not expose the apples to moving

air, which constantly absorbs moisture, and causes the fruit to shrink, when, from the rupture of the cells, it soon decays. Hence the necessity of keeping in tight packages.—*Western Rural.*

Pestilence.

HISTORY records the fact that, from remote periods down to the present time, earth's inhabitants, or large portions thereof, have been frequently smitten with plague and pestilence. At one time it appears as a malignant fever, at another time, as cholera, then again, as small-pox. These diseases have each frequently appeared as a devastating pestilence, before which the children of men melted down as ice before the noonday sun. Owing to their ravages, cities have been depopulated in a few weeks, while a few short months have sufficed to leave whole provinces without inhabitants. When the disease made its appearance in a town or city, no one knew that he was safe. Strong men were cut down in a few hours, and sent to fill untimely graves, while others, panic-stricken, fled to distant towns, hoping to escape the pestilence, but succeeding only in extending the ravages by carrying the germs of disease and the seeds of death with them.

It is in this manner that cholera, a disease that had its origin amid the filth and degradation of Central Asia, has extended its limits, and, as it were, leaped from city to city, crossing desert wastes, and the ocean's wide expanse, and overrunning continents in one or two seasons.

In times past, whenever a pestilence has broken out among the people, it has usually continued in a place as long as it found subjects through which to manifest itself, while the poor victims of the disease had no redress, no way to escape. The high and the low, the rich and the poor, when once taken, had naught to do but to lie down and die.

In later times, the causes of some of these plagues have been discovered; and wherever whole communities have acted in unison for the purpose of removing those causes, and preventing the approach or spread of the disease, they have usually been successful, so that at present there is not that dread of the disease that formerly existed.

There is, however, one great danger that grows out of the increased security that a knowledge of these causes would otherwise give, and that is, the people are liable to settle down into a feeling of security in the thought that these pestilential diseases are controllable; and that, if they break out, the doctors can easily control them and prevent their spread, and that, therefore, they need borrow no trouble concerning the matter. When this feeling exists, the people settle down into a state of carelessness and indifference concerning the causes that occasion these diseases, and the neglect these causes until they accumulate to such an extent as to occasion the sudden manifestation of pestilence in its most aggravated form.

During the past summer, a pestilence has prevailed in several of the Southern States, by which thousands have been swept into the grave. Now, it follows that if pestilential diseases can be controlled by human beings to such an extent as to prevent their prevalence as an epidemic, or so as to prevent their spreading from city to city, then some person or persons are responsible for the fearful mortality that has occurred as the result of pestilence in Shreveport, Louisiana, and in Calvert, Texas, and in Memphis, Tennessee, where, according to the papers, there has not been enough well persons to care for the sick and bury the dead.

Who is to blame in this matter? Against whom shall this criminal neglect be charged? There are three classes of individuals who are to blame in the matter.

First, every person who has charge of a residence is in a measure responsible if he does not observe strict neatness and perfect cleanliness, as all pestilences are more or less occasioned by filth. In fact, every individual whose habits of life are not in harmony with the laws of health is liable to take the disease.

The use of improper food and the breathing of impure air and irregularity of habits and the use of tobacco and intoxicating liquors weaken the vital organs and induce a condition of body that is highly susceptible to the disease.

Secondly, a double share of the responsibility rests upon medical men. They assume the responsibility when they take the position of guardians of the health of the people. It is true that they are self-appointed, yet, inasmuch as the people are constantly taught to place their health interests in the hands of the physicians, the physicians are responsible for all the epidemics and pestilences that occur, unless they instruct the people fully in respect to the causes of those diseases and the importance of avoiding them. They should lift up their voices against every unphysiological habit, and cry aloud and spare not until every cause of pestilence is removed from the land, and until every false habit of the people is corrected.

Thirdly, every municipal government is responsible for every epidemic that prevails within the limits of its territory, provided that the epidemic is occasioned by preventable causes; and it is now admitted by the majority of medical men that all past pestilences might have been avoided had proper sanitary measures been adopted, and had the people individually lived in accordance with the laws of life and health. It is true that certain atmospheric conditions and planetary influences may exist at times, that may so affect human beings as to cause them to be more susceptible to

the pestilential poison than they would under other circumstances, yet it is clearly demonstrable that where proper sanitary measures are adopted, where habits of regularity and cleanliness are observed, and where all make use of proper food, pure water and free ventilation, taking proper exercise and rest, that neither atmospheric changes, nor planetary influences alone, nor both combined, can induce a pestilence.

The pestilence that has prevailed in the Southern States the past summer seems to have nearly exhausted itself, ar at least to be dying out since the approach of cold weather; but the danger is not yet over. It is true that we hardly expect that cholera and yellow fever will prevail very extensively during the winter months, yet we expect to see epidemics prevail to some extent the present winter, and to see, not only cholera and yellow fever prevail extensively the next spring and summer, but small-pox also. Our reason for expecting this is, the habits of a large portion of the American people are such as to place them in just that condition where a little additional unfavorable influence will cause disease in them to assume the pestilential or epidemic form.

Whether we shall have influenza, or small-pox, or typhoid pneumonia, or putrid fevers, no one can foretell; but we do expect increased mortality in all parts of the country, unless the people become more hygienic in all their habits of life.

M. G. K.

Alcoholic Medication.—No. 4.

BY RALPH E. HOYT.

In concluding these articles on the subject of Alcoholic Medication, I am aware that the merits of the question have not been discussed as fully nor as ably as could be desired by the friends of physical reform. A multiplicity of cares and duties has rendered it impossible for me to devote as much time and thought to this discussion as I had expected at the beginning. And yet, I am encouraged to believe that the facts which I have presented, together with those to be added in this closing article, may prove of some slight value as a contribution to the health-reform literature of the age.

I am profoundly impressed with the paramount importance of the subject under consideration, for, in the light of many years of experience and close observation, I see no prospect of anything worthy of being called success for the temperance cause till those engaged in it shall lay the ax at the root of the tree. It is sad to see how much "temperance ammunition" is being wasted every year on the false assumption that alcohol, as a beverage, is one thing, and alcohol, as a "medicine," another. It is still sadder to note the health-crushing, soul-destroying habits and customs which inevitably grow out of this terrible error concerning the real nature and effect of the most insidious enemy to mankind ever tolerated in a civilized country. But these things must be, so long as the larger portion of the medical fraternity preach and practice on an alcoholic basis, and the people confide the matter entirely to their physicians. I find that about nineteen of every twenty so-called temperance men with whose views and habits I have become acquainted, still cling to the idea that liquors, of some kind, are indispensable for "medical purposes." Hence their limited success in the work of popularizing the principles of total abstinence.

It is in vain to invoke the aid of legislation so long as the thing to be legislated upon is believed by the masses to be essential to life and health. Did I hold views upon this question similar to those commonly entertained by "temperance men," I could not favor the enactment of any law tending to prohibit, or even to limit, the sale of alcoholic liquors. On the contrary, I should aim to make the liquor traffic as free and easy as possible. I should say, The more saloons we have the better, for there cannot be too much of anything so good and so needful as alcohol is represented to be.

And now let me put a few questions to my well-meaning friends who are beating the air with feathers and imagining they are battering down the strongholds of intemperance.

Do you really believe that if one bottle of alcoholic liquor is labeled "beverage," and another bottle of the same kind of spirits is marked "medicine," the effect of one can be bad, and of the other, good? Where, how, and by what chemical or physiological law or laws can you draw the line between alcohol as a beverage and alcohol as a medicine? Has it never occurred to you that you have for years been fighting the liquor traffic at a terrible disadvantage? Have you never reflected that while your organizations profess to be total-abstinence societies, and your pledges total-abstinence pledges, they are really nothing of the kind? I implore you, as you love the truth and desire to promote the welfare of our common brotherhood, to cease wasting your ammunition and strength in skirmishing with the outposts of the enemy while his great stronghold remains unattacked. All the talk about "drying up the fountains of intemperance" amounts to nothing, so long as the fountains remain untouched. Prohibitory laws can be of no avail, practically, while public sentiment and individual habits relative to the use of alcohol are what they have been for ages past.

Picture the governor of a State or the mayor of a city in the act of affixing his official signature to a prohibitory liquor law. It is a scene which

thousands of temperance men have long desired to look upon, imagining it to be the certain forerunner of an earthly millennium.

But the picture cannot be complete without another feature. Not far from the executive officer stands a physician, feeling the pulse of an invalid with one hand, and in the other holding a glass of liquor, which he calls "the elixir of life," and which alone, he declares, can impart strength and restore health to the suffering patient.

How do you like the picture, good prohibitionists? Perhaps you turn from it in disgust; and yet it fairly represents the absurd position you hold on this question. Squirm and wriggle as you please, you cannot dodge the issue nor ignore the facts. The whisky shops and beer saloons will close whenever the people cease to patronize them, but the people will never do that till a different temperance platform is adopted by the leading workers in the cause.

Abrogate the saving clause found in all your pledges and "obligations;" inscribe upon your banners, "total abstinence from all intoxicating beverages and medicines;" plant yourselves firmly and boldly upon the only true temperance platform; post yourselves and others thoroughly in relation to the scientific principles on which the whole question rests; teach the people that alcohol is *a poison*, always and under all circumstances; that stimulation is disease, and disease an effort of nature to rectify abnormal conditions—teach and prove these facts, and you lay the foundation for a temperance reform that will be permanent in its duration and glorious in its results.

Chicago, Ill.

An Open Secret.

A WRITER in our household department this week questions the possibility of so training a family of healthy children that their manners at table will be good in the absence of company, and, referring to a recent editorial article on the subject, wants to know whether its writer speaks from experience or merely gives vent to an untested theory. The subject is an important one in itself, and it involves also the whole question of family government; wherefore we gladly come back to it.

That it is possible, and not only possible, but extremely easy, to teach young children perfectly good manners, we know very well from personal experience; and the only thing about the matter at which we are disposed to wonder at all is the extreme ease with which it may be accomplished.

A young child, whether it be healthy or otherwise, imitates the people with whom it associates in everything. All its performances are copies. If you speak grammatically, your child will learn to do the same thing. If you have a drawl or a nasal twang in your speech, he will imitate it. And so it will be with everything else. What the boy sees older people do, he will do, whether he be told to do so or not. Indeed, precept is almost worthless in the training of children, because they forget the percept as soon as they hear it, or, remembering, do not know how to apply it. It does no good to tell a boy that "the verb to be takes the nominative case after it," but we know a sturdy little fellow who never yet said, "It's me," and this is because he has always heard his parents say, "It is I." He has never been told how to behave himself at table; but as his parents are always careful to be courteous and polite, not only to each other, but to him as well, he has unconsciously absorbed the habit of courtesy, which no amount of direct teaching would have given him.

If he is still at table when his parents leave, they ask him to excuse them, and he very naturally does likewise if he is compelled to leave before the meal is finished.

And he is not a solitary case by any means, nor is he a morbidly good boy either. He simply imitates the people around him as all children, and, in a smaller degree, all grown folks, do.

The whole secret of child-training lies in this one thing, example. Ill-mannered children are the children of ill-mannered parents except in those cases, which are unfortunately common, where the children associate more constantly with servants than with their parents. If the child associates with servants, its manners and its morals too will be those of servants, and in the present state of our civilization these are certainly not as good as we could wish. For ourselves, we have no patience with domestic arrangements which have no place for the little people at the family table and in the family circle. Self-indulgent "nerves" have cost many a parent the purity of his child. We may as well speak plainly on this subject as we do on all others. No father has a right to consult his own comfort at the expense of his child's well-being, and the father or mother who turns little receptive souls over to the ignorance, and worse, of hired nurses, is guilty of a grievous wrong-doing. Your child has a right to your society. It has a right to sit at your table when you do, even though his presence crowds the table uncomfortably. He has a right to be with you in the parlor when you sit there, and he has a right to the very best example you know how to set him. You exact of him obedience and respect, which is well enough; but it is of far more importance that you recognize his rights than that he recognize yours. He will be noisy now and then; but he has a right to be so, and you may easily enough restrain his turbulence when necessary, not by stamping your foot, and crying out, "Stop that noise instantly, sir," but by telling him a story or otherwise recognizing him as a rational being, capable of being interested.

Make your child your companion, and then behave yourself well, and there will be no trouble about his manners.—*Hearth and Home.*

TO THE PEN.

BY MISS MINNIE R. RIZER.

Swift gliding Pen, thou messenger of soul,
How could we trace our thoughts wert thou unknown?
By thee bright words are sped from pole to pole,
And tidings glad to every clime and zone.
Thou art more powerful than two-edged sword
To guide the mighty march of human mind;
And thou canst win thy way with blood unpoured,
And move as one the hearts of all mankind.

Though small, yet tireless in a skillful hand,
Thou hast a mission in this moving world,
To scatter knowledge in each darkened land,
And bid truth's banner there to be unfurled.
Thou art the helper of the good and great,
In every sphere of action here below;
They seek thy aid, then gladly work and wait;
For thou canst sway the world full well they know.

Thou hast the right to fix the seal of death,
Or from his chains to set the captive free;
And of a nation's life renew the breath,
Or bid it pass with things no more to be.
Thy might is known and felt o'er all the earth,
For good or ill, to every human heart.
Dark, scheming thoughts, and hopes of priceless worth,
To be revealed must claim thy stroke of art.

Ye wise, who guide the Pen, pause not to-day;
For all your garnered wisdom yet there's room.
Send forth your teachings on their silent way—
Sow the good seed, it yet will bud and bloom.
And let the power of the Pen be found
To be that monitor which is to quell
All strife and sin, until mankind are bound
In stronger ties of light and love to dwell.

Dayton, Ind.

A LADY who had charge of a young ladies' Bible-class, speaking of defective home training, said that her best pupil, eighteen years of age, had caused her the most acute anxiety. Rain or shine she was always at her post. The girl's whole soul seemed to be absorbed in the straightening out of intricate theological problems; "and yet," said the teacher, "the girl was so pale and wan that I was afraid every Sabbath would be her last in class. One day she fainted, and in trying to restore her I loosened her dress, and what do you think I found? Corsets so tightly drawn that a full respiration was impossible. I removed them and found that her ribs actually lapped! I took her to her mother, a very prominent and useful church member, and stated the case without reserve. "Well, you see," said the parent, "Fanny never had any figure. I should n't be surprised if the facings were drawn a little too tight. Her waist is naturally so large that it is almost impossible to make anything fit genteelly on her. How is your class prospering, Miss ——? I hope you are drawing many souls to Christ."

THE entire Fire Department of Boston is ordered to sign the total-abstinence pledge.

TAKE CARE OF THE EYES.— Looking into a bright fire, especially a coal fire, is very injurious to the eyes. Looking at molten iron will soon destroy the sight. Reading in the twilight is injurious to the eyes, as they are obliged to make great exertion. Reading or sewing with a side light injures the eyes, as both eyes should be exposed to an equal degree of light. The reason is, the sympathy between the eyes is so great that, if the pupil of one is dilated by being kept partially in the shade, the one that is most exposed cannot contract itself sufficiently for protection, and will ultimately be injured. Those who wish to preserve their sight should preserve their general health by correct habits, and give their eyes just work enough, with a due degree of light.

AMONG other things on exhibition at the American Institute Fair, in New York, was a quantity of glass-lined iron water pipe. Says the *Journal of Applied Chemistry*:—

"Glass-lined iron water pipes ought to drive the poisonous lead and galvanized iron pipes out of use entirely for conveying drinking water. The wonder is that pipes lined with glass or porcelain have never been introduced before. Cases of poisoning from the use of water that has passed through lead pipe are so numerous, and the sad condition in which it leaves its paralyzed victims so pitiful, that every lover of the human race who would save his fellows from early death, or an enfeebled existence worse than death, should take up arms against lead. Leaden bullets kill fewer people than insidious lead poisons derived from the liquids we drink, and the hair dyes we use. Every inventor of a pipe which will not be acted upon by the water is a public benefactor, whether he lines lead pipe with tin, or iron with glass."

THERE is probably a great deal of truth in the following: "The universal error as to the unhealthfulness of pies, puddings, and pastries, taking it for granted that they are well made and properly cooked, has arisen from the simple fact that after we have made a full meal of other things, the stomach is oppressed by them, and, if the process is repeated, becomes eventually dyspeptic; that is, has not the power to work up the food because it had been worked to death already. It would be quite as philosophical if a man has become very tired by plowing all day, and afterward by chopping wood has 'worked himself out,' to conclude that it was very unhealthy to chop."

"HUMPH!" said an Englishman to a Scotchman, as they were walking over the fields, "oats are all very well in their way, but in England we feed them to our horses, while here they are food for men."

"Ay, ay!" said the Scotchman, "an' just see what fine horses there are in England, and what fine men we have in Scotland!"

SCIENTIFIC.

Power of Insects.

It is a curious fact that increase of size does not necessarily imply proportionate increase of force. So far from this being true, the opposite is really the case. The elephant, for instance, although possessed of enormous muscular power, can manifest only about one-half the force in this direction that may be exerted by a man of ordinary physical development, considering the difference in weight. That is, a man can drag after him, upon a level surface, nearly his own weight; while an elephant can only draw a weight not exceeding one-half that of his own body. The horse, also, although much superior to the elephant and other larger animals in this respect, is still inferior to man, his proportionate muscular power being only two-thirds that of the latter.

Passing down the scale from man, we find the ratio constantly increasing, until in the smallest birds and insects we are presented with such prodigious manifestations of power as are most astonishing. Think, for a moment, of the force required to keep the wings of a humming-bird in such rapid motion as to complete several hundred vibrations in a minute; or of that required to enable a dragon-fly to keep pace with an express train going at the rate of forty miles an hour; or of the still greater power exhibited by many insects in causing so rapid a vibration of their wings as to produce a musical tone so exceedingly high in pitch as to be inaudible to any except the most acute ear, and consequently exceeding 40,000 vibrations per second. The common musquito, whose tiny note, though musical, seldom receives very satisfactory compliments, is another marvelous instance of insectile force. Could man produce a tone two-thirds as great in proportionate dynamic quality, his voice could be heard across the Atlantic, and the telegraph and postal systems would be entirely useless.

Other insects manifest their extraordinary powers in another direction. Thus ants and beetles may often be seen carrying to their homes large masses much heavier than themselves. Beetles have been thus observed carrying above their heads masses forty or fifty times their weight. If man possessed the agility of a flea, he could almost span the abyss between us and the moon at a single bound, far outstripping that famous jumping animal, the kangaroo.

It must be seen at once that this arrangement of things is an exceedingly wise one on the part of the Creator. The very thought is almost deafening, when we for a moment contemplate a condition of things in which the roar of a hungry lion in some jungle of Southern Africa should be heard mingling with the bleating of sheep and the lowing of cattle in the fertile fields of California; while the dismal music of the Sandwich Islanders mingled its discordant strains with the melodious symphonies of a New York orchestra, which, in turn, sadly interfered with the heathenish incantations of some Hindoo devotee. All would be discord and confusion; and such a thing as quiet would not be known; for the remotest recesses of the earth would echo with the roar of angry beasts, the hum of insects, the anthems of peace jubilees, and the horrid din of Indian warwhoops.

Darwinism.

There is, perhaps, no theory at present promulgated by scientists which is the occasion of so much controversy as the theory of evolution, of which Prof. Darwin has been the chief champion, and who has thus attached his name to it. Nor is this discussion confined entirely to those who may properly be termed scientists, for so widely has it extended that it is no uncommon thing to find this theory the subject of animated disputation in college lyceums, and even hotels and public thoroughfares. In the latter cases, however, it is very rare that the real question of Darwinism is ever discussed at all, so few there are who really understand what the theory claims. Owing to the importance of the question, this extensive discussion is certainly not inappropriate; but it is certainly of paramount importance that the claims of Prof. Darwin should be thoroughly understood.

The following brief extract from a lecture recently delivered in Chicago by Prof. Morse gives a concise and truthful statement of what Darwin teaches in reference to the principal point of the discussion:—

"Darwin has never taught that man is a development from a monkey, or from any lower species. Nor is there anything in his philosphy that even admits of inference to this effect. He simply teaches, or suggests the probability, that man or monkey is simply 'evolved' from a lower basis of life. The several streams, all starting from one source, as they branch—the one goes to the monkey, and there stops; and the other to man, and there stops. It is not Darwinism that man himself, or the monkey itself, shall keep on till there is development into something higher and different."

Although this theory has been generally adopted by German scientists, and in fact by most of the leading scientists of every other country, it is still admitted by the most candid of its supporters that it is as yet far from being established, being largely, if not wholly, hypothetical, and likely to remain so for some time to come. It seems to be adopted as a sort of supplement to the "nebular hypothesis," its chief recommendation being that it affords a better explanation of some of the phenomena of life than is elsewhere found when nature alone is appealed to for a solution.

According to the *Scientific American*, a Canadian inventor has originated a method of producing, from the milk-weed, or other plants of the genus *Asclepias*, as also from flax and other seeds, a gum designed to serve as a substitute for India-rubber. The substances are macerated and fermented, and the liquid is then reduced, by evaporation, to a thick, gummy mass, possessed of many of the valuable qualities of rubber.

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PUBLISHERS.

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The work is written in four parts. The subjects treated are, in Part I., Health and Hygienic Agents; Part II., Disease and Drugs; Part III., the Bath; Part IV., Diseases and their Treatment. A more minute description of each part is found below.

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☞ See notice of Farmer's R. R. and Township Map on second page of cover.

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GENERAL ARTICLES.