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BIBLE HYGIENE.

BY ELD. JAMES WHITE.

THE Bible, from the earliest record of man's creation in Genesis, to the closing Revelation which brings to view his triumphant redemption, exalts man as

THE GLORY OF THE CREATOR.

This is seen in the words of Jehovah to his Son, in the beginning, "Let us make man in our image, after our likeness;" and is no less apparent in the declaration in the last book of the Bible from the four and twenty elders, as they worship at the throne of Heaven, "Thou art worthy, O Lord, to receive glory, and honor, and power; for thou hast created all things, and for thy pleasure they are and were created."

Whether it was man's moral character, his physical form, or both, that was made in the likeness of God, we leave with theologians to discuss. In either case, we behold man as expressed in David's song of praise to the beneficent Creator: "Thou hast crowned him with glory and honor; thou madest him to have dominion over the works of thy hands. O Lord, our Lord, how excellent is thy name in all the earth!" The goodness of God in creation, in the gift of his Son for the redemption of fallen man, and in the ministration of holy angels and the gift of the Holy Spirit, through which his word has been revealed, is feebly expressed in these words of the beloved John, "God is love."

The record of his creation, his ample provisions and glorious surroundings in Eden, fully attest the love of God to man, and the glory he would confer upon him in this life. "And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life, and man became a living soul. And the Lord God planted a garden eastward in Eden, and there he put the man whom he had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight, and good for food."

LABOR A BLESSING.

Man was formed for activity. "And the Lord God took the man, and put him into the garden of Eden, to dress it and to keep it." It was the design of the Creator that he should derive his chief delights of existence from those pursuits that would demand physical and mental action. Before sin entered happy Eden, the representatives of the race were put into the garden, "to dress it and to keep it," where their minds could trace, in a thousand varied forms, the perfections and power of the divine creative Hand. In the estimation of God, his Son, and of the holy angels, labor was honorable and for the good of man, even for sinless hands in holy Eden.

After the transgression, God said to Adam, "Cursed be the ground for thy sake." The earth was cursed in consequence of Adam's sin. But the fact that he was to eat his bread by the sweat of his face was not the curse. Increased labor was simply a consequence which was for his best good in his fallen condition.

"God is love." We must not view the curse in the light of retaliation on the part

of the gracious Creator. The curse upon the earth, with its consequent increased labor, was for man's sake—for his good. The experiences of men and nations prove the physical and moral benefits of labor. What shall we say of those who luxuriate, live at ease, and roll in wealth and moral filth in those countries where the ground brings forth without labor? Contrast the state of these with the physical, mental and moral condition of those who toil in northern latitudes. Why should writers represent labor as the curse upon Adam, and at the next stroke of the pen declare labor to be a blessing and honorable?

When a lad, assisting our father, Dea. John White of Palmyra, Me., at building stone fence, Thomas Lancey, Esq., of our little village, came where we were, when conversation commenced on this wise :—

"Mr. Lancey, I am weary of working on this stony farm. I work very hard to obtain but little. Why was it that, in the providence of God, the Puritans were landed upon the cold, stony, barren New England shores?

"Why, deacon," was the brief and ready reply, "it was to keep them pure."

We call in question that lazy theology that makes work the sum of the curse, and looks forward to the time when immaterial spirits shall go to an immaterial Heaven to get rid of work, and sit on the edge of a cloud and sing hallelujahs to all eternity. But labor, first instituted in holy Eden, is for man's best good in his fallen condition out of Eden. And as for the future, give us the tangible inheritance of the saints in light, in the earth redeemed from the curse, and happy Eden restored again. There the redeemed, in all the gladness of immortal life, will enjoy the delights of activity of body and mind in a world of inexhaustible variety, bearing the impress of both the creating and the redeeming hand.

GOD IS LOVE.

And in love he created our first parents, and richly endowed them with physical and mental power. This was for the glory of the Creator, and the happiness of the creature man. God is the author of life, health, strength, and true happiness. Death, sickness, sorrow, physical and moral wretchedness, are the legitimate offspring of the transgression of moral and natural law instituted by the divine Author of all good.

"God is love." He is not the author of sickness, sorrow, and death. In a general sense, sickness is no more a necessity than sin. At a funeral, a sensible minister once made the startling assertion that it was a disgrace to die. He did not mean that death was avoidable at a good old age; but that its existence, even in ripe age, was the result of the first great transgression on the part of the representatives of the dying race. And he might have added that premature death, in childhood, youth, or in the strength of middle life, was the result of continued transgression.

"God is love." He is not the author of our woes. And it is a stupid reflection upon the divine character to lay our sicknesses, pains, bereavements, tears, and sorrows, to the mysterious dealings of his providential hand. It may, however, be fashionable, on funeral occasions, for ministers, in their words of condolence for the bereaved, to charge the progress of disease and the ravages of death, in those who should live to bless society, to the wise dealings of the loving Disposer of events. They may gravely state that for very good and wise reasons he has removed dear friends from us by death. Fashion and custom may dress and decorate corpses of the youth with muslin and flowers. Taste and expense may adorn our cemeteries with the sculpture of art and the glory of nature; yet we hear the voice of revelation and of reason declaring that death is the reward of sin, and is man's dreaded foe. Poets may sing,—

> "Why do we mourn for dying friends?
> Or shake at death's alarm?
> 'Tis but the voice that Jesus sends,
> To call them to his arms."

Yet the great apostle, when speaking of the resurrection of the just to the joys of eternal life, says, "The last enemy that shall be destroyed is death." 1 Cor. 15:26.

"God is love." And his revealed will relates to man's well-being in this life, as well as to that which is to come. God does not take pleasure in the miseries of this mortal state. He delights in the happiness of obedi-

ent intelligences in this world, as well as in the future joys of the redeemed in the world that is to come. The Bible teaches how to live so as to enjoy that health and happiness in this life, favorable to securing eternal life. True godliness does not neglect the laws of our present being, and dimly view only the immortal existence. It is profitable unto all things. It gives promise of the life that now is, and of that which is to come.

The religion of the Bible was not intended simply as a garment to put on, to cover moral and physical impurities. It was designed to convert the entire man, soul, body, and spirit, that he might be pure within and without. That type of piety which would give license to consecrated gluttony, devoted lust, and sanctified filthiness, is simply a burlesque upon the religion of the Bible.

CAUSES OF DYSPEPSIA.*

BY THE EDITOR.

Eating when Tired.—This is one of the most certain causes of derangement of digestion, and one to which a very large number of cases of dyspepsia may be traced. The third meal of the day is almost always taken when the system is exhausted with the day's labor. The whole body is tired, the stomach as well as the rest. The idea that by the taking of food the stomach or any part of the system will be strengthened, is a mistake. When the stomach "feels faint and tired" at night, as many people complain, what it wants is not food, but rest. An eminent writer on indigestion says very truthfully, "A tired stomach is a weak stomach." When the stomach feels "weak and faint," rest is what is demanded, and is the only thing that will do it good; yet many people insist on putting more food into it, thus compelling it to work when it ought to be allowed to remain inactive until rested. The arm wearies by constant exercise, and so does the stomach, which is largely composed of muscle as well as the arm. Both secretion and muscular activity must be much lessened in a tired stomach, and the habitual disregard of this rule must be disastrous to the best digestion.

Violent exercise at any time just before or just after eating is inimical to good digestion, for the reason already assigned, when the exercise is taken just before the meal, and because the vital energies are diverted to other parts—thus robbing the stomach of its necessary share—when the exercise is taken immediately after eating. An English physiologist performed an experiment which well illustrates the truth of this position. Having fed a dog his usual allowance of meat one morning, he took him out upon a fox hunt, and kept him racing over the country until night, when, having killed the animal, he examined his stomach at once and found the meat in the same condition in which it entered his stomach, no digestion having taken place. In another dog, fed with the same kind of food, but left quiet at home, digestion was found to be complete.

The hurry and press of business among Americans is allowed to override every consideration of health. It seems never to enter the thoughts of the average business man that any time is required for digestion. Rushing to his dinner from the plow, the workshop, or the counting-room, he swallows his food with all possible dispatch, and rushes back to his work again, begrudging every moment spent in meeting the requirements of nature. Many years ago, it was a custom in Edinburgh to suspend all business in the middle of the day for two hours, so as to allow ample time for meals. A similar custom once prevailed in Switzerland, we have been informed, but we presume that such a sensible custom is now considered too old-fashioned to be tolerated.

It should be remarked that severe mental labor immediately before or after, and especially during meals, is even more injurious than physical employment. The habit many business men have of anxiously scanning the newspapers during their meals and when going to and from their places of business, is a bad one. A full hour, at least, should be taken for the midday meal; and if an hour's rest can be secured before eating, improved digestion would well repay the time spent in re-inforcing the vital energies. For persons of weak digestion, the rest before eating is in most cases indispensable.

*"Digestion and Dyspepsia:" Good Health Pub. Co.

Sleeping after Meals.—While rest from accustomed exercise after eating is important, it should be noted that sleep at this time is equally as bad as vigorous exercise of either mind or body. Good digestion cannot take place during sleep. While it is true that digestion is an involuntary act, it should be recollected that it is dependent upon the activity of the nervous system for its proper performance. The same nerve which secures activity of the respiratory organs, the *pneumogastric*, controls the muscular activity of the stomach and intestines. During sleep, from the lessening of nervous activity both the respiration and the circulation are greatly lessened in vigor. It is but reasonable to suppose that the activity of the digestive organs is decreased at the same time, being controlled by the same nerves. Actual experiment shows this to be true. Most people who lie down and sleep an hour or two soon after taking food, awake feeling anything but refreshed. The suspension of the process to a considerable degree during sleep causes imperfect digestion with its numerous unpleasant symptoms. In the case of old people it may sometimes be beneficial, or at least not harmful, to secure a few minutes' sleep after eating, before digestion is well begun, but it must not be long continued.

In order to secure the best conditions for digestion after eating, an individual should take gentle exercise of some kind, as walking, carriage or horseback riding. While violent exertion seriously interrupts the digestive process, a moderate degree of physical exercise facilitates the process by increasing the muscular activity of the digestive organs and thus encouraging both secretion and absorption.

Late Suppers.—Eating late at night, when the muscular and nervous systems are exhausted by the labor of the day, and then retiring soon to rest, is one of the most active dyspepsia-producing habits to which modern society is addicted. As before explained, "a tired stomach is a weak stomach;" and in addition, we may add, a sleepy stomach is a sluggish one. Secretion must of necessity be deficient in both quantity and quality, owing to the exhausted condition of the system; and with the further obstacle afforded to prompt digestion by the slowing of the vital operations during sleep, it is almost impossible that there should be other than disturbed digestion and disturbed sleep in consequence. It is under these circumstances that people often suffer with obstinate insomnia, bad dreams, nightmare, and similar troubles, from which they arise in the morning unrefreshed, and unrecuperated by Nature's sweet restorer, the work of assimilation, by which repair takes place, having been prevented by the disturbed condition of the nerves.

No food ought to be taken within four hours of retiring. This will allow the stomach time to get the work of digestion forwarded sufficiently to enable it to be carried on to completion without disturbance of the rest of the economy. The last meal of the day, if three meals are taken, should be a very light meal, preferably consisting of ripe fruit and simple preparations of the grains. The custom which prevails in many of the larger cities of making dinner the last meal of the day, eating of the most hearty and difficultly digestible articles as late as six or even eight o'clock, is one that ought to be discountenanced by physicians. It is only to be tolerated at all by those who convert night into day by late hours of work or recreation, not retiring until near midnight. But in such cases, a double reform is needed, and so there can be no apology offered for this reprehensible practice on any physiological grounds.

Too Many Varieties of Food.—Many dyspepsias arise from the eating of too many kinds of food at the same meal, another growing custom in modern times which deserves to be distinctly condemned. At great dinners in honor of distinguished personages, when friends are to be entertained, and in the majority of well-to-do families as a general custom, the eaters are tempted to gluttony by having presented to their palates a great variety of complicated dishes, almost any one of which would be too much for the digestive organs of most inferior animals. On the occasion of the giving of a great dinner to some notable, we have known instances in which more than a hundred dishes were served in successive courses. Such gormandizing soon breaks down the most

vigorous digestive organs, since it adds to the labor of digesting food which is improperly cooked, a larger variety than the digestive juices are capable of bringing into a fit state for absorption. Careful experiments have shown very clearly that different classes of food require a particular quality of digestive juices for their digestion. For instance, a gastric juice that will digest animal food the best, is inferior for the digestion of vegetable food, and *vice versa*. The obvious conclusion to be drawn from this fact is that the simpler the dietary, the more perfectly will the digestive process be performed. For persons whose digestions are naturally weak this is a matter of special importance. Such will find it well to avoid eating meat and vegetables together. Meat and grains may be taken together, but not meat and vegetables, by persons of weak digestion, the latter being much more difficult of digestion than either of the others. If the bill of fare taken at a single meal were confined to three or four articles of food, there would be many less dyspeptics scanning the newspapers for some patent nostrum to "aid digestion."

Hot or Cold Bathing after Meals.—Especial mention should be made of the injury to the digestive organs quite certain to result from taking either a hot or a cold bath soon after eating, as few people are aware of the danger of laying the foundation for years of discomfort in this way. If the bath be a hot one, the stomach will be deprived of the blood necessary to support the rapid secretion of gastric juice for the digestion of the food, by the sudden relaxation of the capillaries and arterioles of the skin, drawing the blood to the surface of the body. A cold bath, on the other hand, or any sudden exposure to cold, may, by causing contraction of the blood-vessels of the surface of the body, cause sudden congestion of the stomach, which is equally fatal to good digestion. Very nearly the same danger exists from the taking of baths just before a meal.

The practice very common among boys and young men, of going into the water in the summer time regardless of the condition of the stomach or of other states of the body, is a bad one. With many it is a very usual practice two or three times a week if not more often, to go at once into the water after the evening meal, not allowing even time for the work of digestion to become established. No bath involving any considerable portion of the body should be taken within two hours of a meal.

Errors in Quantity of Food.—If errors in the manner of taking food are active causes of indigestion, mistakes in quantity are still more potent in this direction. It should be noted, however, that errors of this class are very closely connected with errors in the manner of eating, and in the quality of food taken. It is generally true with physical as well as moral transgression, that one bad habit implies another; and especially is this the case in reference to dietetic errors. A person who eats too fast is likely to eat more than is necessary; and the same is true if too large a variety of food is partaken of, or food rendered exciting and stimulating by seasoning with irritating condiments.

Overeating.—Intemperance in eating is, in our opinion, responsible for a greater amount of evil in the world than intemperance in drink. We do not fear to make this statement, since we believe it can be clearly shown that intemperate eating is, in the first place, one of the most potent causes of intemperance in drink, and, secondly, that it is one of the greatest obstacles in the way of the reformation of those who have become the victims of alcoholic intemperance.

If we may believe the statements of historians, gluttony is by no means a modern vice. Indeed, there is quite good ground for believing that overeating, while a very general fault, is rarely if ever carried to the enormous excess to which some of the luxurious Roman emperors indulged; as, for instance, the Emperor Maximus, who consumed forty pounds of flesh in a day; or Caligula, whose custom was to eat until compelled to desist from having distended his stomach to its utmost capacity, and then taking an emetic to enable him to repeat his gormandizing.

The evil consequences of excess in eating are at first simply imperfect digestion, the overtaxed organs being unable to accomplish the complete digestion of the alimentary mass. In consequence of the delay which

occurs, changes take place by which acids are developed which irritate the mucous membrane, together with gases by which the stomach is distended and its muscular walls weakened and partially paralyzed. In course of time, inflammation of the gastric membrane is developed, and permanent dilatation of the stomach occurs.

At first, an individual who overeats will be likely to accumulate flesh quite rapidly; but very soon the digestion becomes so much disturbed that no gain takes place, and, indeed, the patient not infrequently becomes considerably emaciated even while daily taking large quantities of food. When the opposite is the case, the blood is filled with crude, imperfectly elaborated material, which, when assimilated, produces a poor quality of tissue.

Eating too Little.—A far less common fault than that last mentioned, is eating too little. The instances that occur are usually in the cases of those who have attempted to subject themselves to a rigid dietetic regimen for the prevention or cure of disease, and who, from having only a partial view of the subject, entertain extreme notions. By the weakening of the system, which necessarily occurs when an insufficient amount of nutriment is received, the stomach also becomes weak and debilitated, its secretions and muscular efforts being greatly impaired in both quantity and quality. This is well seen in persons who have been long deprived of food. When allowed to eat, they are unable to digest but the smallest quantity of food; and though the system is famishing for nourishment, an amount of food equal to that taken at an ordinary meal would be almost as fatal as a dose of strychnia.

THE DEVASTATING PIE.

THE origin of the pie is involved in some obscurity. Its inventor is unknown to fame, but inasmuch as he did not get out a patent on it, there are not wanting cynical sufferers from its baneful effects to assert that it was originated by the devil. He never takes out a patent on any of his devices. Others are inclined to believe that the pie is the result of evolution—that differentiation caused it. We have seen, indeed, with the naked eye, in the species called mince-pie, certain minute particles which resemble molecules, and if they do not constitute a protoplasm, we have never seen one. But the origin of the pie is a subject about which one can have no well grounded opinion.

The value of the pie is not much more easily determined. There is a certain class of Christians who maintain that a dyspepsia is a disciplinary means of grace. That it is a raging purgatory, no one who has encompassed a real corroding indigestion will be prepared to deny. But the pie problem is beset with difficulties, and about the question of the religious use of dyspepsia, there may well be two opinions. We incline to the belief that if there is anything in this world that has power to topple a man over into spiritual ruin, dyspepsia is that thing. It is a dry delirium tremens, solid horror, so to speak.

The ability of the pie to create a dyspepsia no one will dispute. Here at last we can find agreement. The pie which has descended to us from a Puritan ancestry of great gastric force, was adopted by them as a penance—to make the situation as uncomfortable as possible; but we, like the Irishman who boiled the peas that he was ordered by his confessor to wear in his boots, have epicurized the pie just as we have refined the Puritan Sabbath, and have made a pleasure out of an instrument of discipline.

The pie is an alluring spectacle. When well baked it is hard to resist. Its odor is enough to knock over the good resolutions of the most confirmed dyspeptic. He sees, he smells, he falls. We are convinced that at the bottom of most church and family quarrels there will be found pie; that the pie is the natural adjunct of ultra Calvanism; that the Sunday pie causes more blue Mondays than Sunday over-work or nervous expenditure; that the sky would be brighter, life more alluring, and death less terrible, were the digestion-devastating pie evicted from the daily bill of fare.—*Alliance.*

—It is stated on good authority that the United States Government pays out seventeen dollars for every dollar it receives on account of the liquor traffic.

TOBACCO-USING A CAUSE OF DISEASE.

NEVER was there so great an interest among the people, as well as the medical profession, to discover the causes of the various maladies which afflict the human race as now. As correct notions of the real nature of disease have obtained more and more extensively, the fact that the best mode of curing and stamping out diseases is to remove the causes has come to be more generally recognized, and the work of searching out those causes has been pushed with ever-increasing vigor and earnestness. A careful scrutiny has been made of the air we breathe, the water we drink, the food we eat, the clothing we wear, the houses in which we live, of our occupations, our amusements, our various pursuits for wealth or pleasure, and, in fact, of all our habits of life, together with all our surrounding circumstances, some even going so far as to attempt to trace a connection between the stars and epidemics, earthquakes, famines, pestilences, etc.

In the course of this search it has been discovered that tobacco is indisputably a serious cause of disease. This statement is not based on the evidence of those who are the special enemies of the custom of tobacco-using, but upon the testimony of eminent scientific men and physicians of the widest observation and experience.

Effect of Tobacco on the Blood.—The blood is the life-giving stream which carries to each of the tissues and organs of the body the material out of which it is to be built and repaired. In it are found the various elements which are received into the system through the stomach, the lungs, and the skin, the three great inlets to the body. If poisons are taken into the system, it is through the blood that they do their devastating work. Anything which affects the blood must affect every organ and tissue of the body. When taken in any form, tobacco very readily finds its way into the blood, and according to Dr. B. W. Richardson, an eminent London physician and scientist, it produces in the vital fluid very serious changes. He describes these changes in the following graphic words :—

"On the blood the prolonged inhalation of tobacco produces changes which are very marked in character. The fluid is thinner than is natural, and in extreme cases paler. In some instances the deficient color of the blood is communicated to the body altogether, rendering the external surface yellowish white and puffy. The blood, being thin, also exudes too freely, and a cut surface bleeds for a long time, and may continue to bleed inconveniently, even in opposition to remedies. But the most important influence is exerted over those little bodies which float in myriads in the blood and are known as the red corpuscles. These bodies have naturally a double concave surface, and at their edges a perfectly smooth outline. The absorption of fumes of tobacco necessarily leads to rapid changes in them ; they lose their round shape, becoming oval and irregular ; and instead of having a mutual attraction for each other and running together, a good sign of physical health, they lie loosely scattered before the eye, and indicate to the learned observer, as clearly as though they spoke to him and said the words, that the man from whom they were taken is physically depressed and deplorably deficient both in muscular and mental power."

Tobacco not only deteriorates the blood, poisons it, and greatly impairs the blood corpuscles, but also disturbs the circulation through its influence upon the nervous system.

Having seen the effect of this poison upon the blood, it may be readily understood that it cannot but be a cause of disease.

Tobacco Predisposes to Disease.—By its deteriorating influence upon the system, tobacco lessens the vital resistance of the body to other causes of disease, and so produces a predisposition to nearly all classes of maladies. As bearing upon this point we may quote the following from eminent authorities :—

"Look at the pale face, imperfect development, and deficient muscular power of the inhabitants of unhealthy, malarious districts. They live on, but with only half the proper attributes of life. So it is with the habitual smoker."—*Mr. Solly, F. R. S.*

"I do not hesitate to say that if a community of both sexes, whose progenitors were finely-formed and powerful, were to be

trained to the early practice of smoking, and if marriage were confined to the smokers, an apparently new and a physically inferior race of men and women would be bred up."—*Dr. B. W. Richardson.*

A British officer in India stated that of eleven officers sent out on an expedition only two escaped in good health, and they were non-smokers.

In speaking against tobacco, Dr. Edward Smith, the eminent English author and sanitarian, remarked, "The whole tendency of its action is toward disease, and it is impossible to say how much of good it has prevented."

Smoker's Sore Throat.—The redness and dryness of the mucous lining of the mouth and throat so common with smokers is the result of the direct irritation of the hot fumes of the poisonous weed which are drawn in through the pipe or cigar. This cause of chronic disease of the throat is so very common that "smoker's sore throat" has come to be recognized as a distinct malady. Some smokers pretend to smoke for the cure of throat difficulties; but the excuse is a mere pretense in most cases. Tobacco never cures sore throat. It may temporarily relieve local irritation, but can do no more, and always increases the disease.

Tobacco and Consumption.—The relations of impure air to disease of the lungs is everywhere recognized. It has been very clearly demonstrated that breathing impure air is the great cause of consumption, on account of the effect of poisonous elements upon the blood and upon the lungs. Even the impurities gathered from the blood itself exist in air which has been once breathed in such quantities as to render it unsafe to breathe again. This being the case, it will be readily seen that filling the lungs with the nicotinized smoke and hot fumes of tobacco from a pipe or cigar for several hours a day cannot but be a most certain cause of lung disease. Moreover, experience shows this to be the case. Dr. C. R. Drysdale, the chief physician to the Metropolitan Free Hospital of London, declared in an article in *Public Health*, that smoking in youth is no uncommon cause of pulmonary consumption."

Tobacco a Cause of Heart-Disease.—The effect of tobacco upon the heart is indicated by the pulse, which is a most accurate index to the condition of the heart. The pulse of a tobacco-user says, in terms as plain as any words could, that his heart is partly paralyzed, that its force and vigor are diminished, that it is, in fact, poisoned. Old smokers, and not a few of those who have indulged but a few years, often suffer with palpitation of the heart, intermittent pulse, *angina pectoris*, and other symptoms of derangement of this most important organ. There is, in fact, a diseased condition of the heart which is so characteristic of chronic tobacco poisoning that it has been very appropriately termed "narcotism of the heart." Medical statistics show that about one in every four smokers have this condition. There is good evidence for believing that not only functional but organic disease of the heart may be occasioned by the use of tobacco.

Tobacco and Dyspepsia.—Notwithstanding the fact that tobacco is very frequently recommended as a sovereign remedy for dyspepsia, we have become convinced by careful observation in hundreds of cases that it is never a cure, and is in hundreds of instances a cause of dyspepsia. Tobacco is a narcotic. The effect of narcotics generally is to lessen the secretion of gastric juice, and to decrease the activity of the stomach. This tobacco does in a very marked degree. A man who is hungry may appease his desire for food by using tobacco if he is accustomed to it, or by the employment of some other narcotic. The desire is appeased, although the want still exists. It is through this same paralyzing influence that tobacco impairs digestion. Snuff-taking occasions dyspepsia by producing irritation of the nasal mucous membrane, which affects the stomach through sympathy.

Tobacco a Cause of Cancer.—There is no chance to doubt that tobacco-using is often a cause of this terrible disease. All eminent surgeons testify that they frequently meet cases of cancer of the lips and tongue which have been occasioned by smoking. A number of such cases have come under our observation, and we do not doubt that a large share

of cancers of the lip and tongue originate in this way. This view is further strengthened by the fact that in the great cancer hospital of London, where more than 10,000 cases of this terrible disease have been treated, the number of men suffering from the disease upon the lip and tongue was three times as great as the number of women so affected, although the female cancer patients outnumbered the men five to one.

Tobacco Paralysis.—In the last thirty years there has been a great increase in the frequency of the occurrence of a peculiar form of paralysis which seems to affect especially the nerves which supply the muscles, causing gradual wasting and loss of muscular power, which is fairly attributable to the increasing use of tobacco, as it most often occurs in tobacco-users.

A form of progressive paralysis of the optic nerve, causing "tobacco amaurosis," or blindness, is well recognized by oculists. These cases generally recover when the tobacco is discontinued, and will not get well so long as it is used.

Color blindness, an affection which is increasing to an alarming extent, especially in Belgium and Germany, where smoking is more extensively practiced even than in this country, has been found to be largely attributable to the use of tobacco. This fact was first made known by an eminent Belgian physician who made extensive investigations upon the subject at the request of the Belgian government.

Nervousness from Tobacco.—Tobacco-users suffer much from nervousness, which is manifested in a great variety of ways. One person is easily startled, another is unnaturally irritable, is cross and irascible; another cannot sleep at night; still another suffers with trembling of the hands, which greatly discommodes him in writing. In scores of cases we have seen these symptoms all disappear when the use of tobacco was discontinued. Temporarily, tobacco seems to give tone and strength and steadiness to the nerves, but the seeming strength is deceptive. It is purely artificial, and the ultimate effect is to increase the very difficulty which it seems to cure.

We have often known wives and young children to suffer very severely from various nervous disorders which were wholly due to the effect upon their delicate organizations of the poisonous fumes of tobacco which they received through the poison-laden exhalations of their smoking husbands and fathers.

Hereditary Effects of Tobacco-Using.—There is no vice or habit to which men are addicted the results of which are more certainly transmitted to posterity than are those of tobacco-using. A vigorous man may use tobacco all his life and be able to convince himself all the time that he is receiving no injury; but the children of that man, who ought to inherit from him a vigorous constitution and high health, are instead robbed of their rightful patrimony, and enter upon life with a weakly vital organism, with a system predisposed to disease and destined to premature decay. The sons of an inveterate tobacco-user are never as robust as their father; and the grandchildren, in case the children are tobacco-users, are certain to be nervous, weakly, sickly creatures. This fact we have verified in so large a number of cases that we make the statement fully prepared to maintain it by indisputable facts.

Various Diseases Caused by Tobacco-Using.—In addition to the maladies already noticed we might enumerate a large number of other diseases which are either the direct or indirect result of tobacco-using, but will only call attention to the following, as being among the more important:—

Vertigo, deafness, catarrh, blindness, loss of smell and taste, apoplexy, insanity, diseases of the liver, pancreas, kidneys, and other internal organs, disease of the gums and teeth, also of the fauces and bronchial tubes, together with a large number of nervous disorders and other affections of a most serious nature.

—The question now attracting much attention in some circles, "Is life worth living?" was well answered by the physician who asserted that "it all depends upon the liver."

—Said the celebrated Dr. Guthrie: "I have four reasons for being an abstainer; my head is clearer, my health is better, my heart is lighter, and my purse is heavier."

LET US COUNT THE COST OF RUIN.

[THE following interesting and instructive statistics were compiled by Mrs. Elizabeth Thompson, the philanthropic lady who did so much and contributed so liberally for the relief of yellow fever sufferers. The facts stated were drawn from reliable—chiefly official—sources.—ED.]

Rum vs. Education in the United States.

EDUCATION.

Schools in the United States,	141,629
Teachers,	221,042
Pupils,	7,209,938
Annual Expense for Education,	$95,402,726

RUM.

Retail Liquor-sellers in the U. S.,	166,000
Cost of Liquors in the States and Territories in 1878.	$715,575,000

RECAPITULATION.

Rum,	$715,575,000
Education,	$95,402,726
Rum over Education,	**$620,172,274**

Rum vs. Religion in the United States.

RELIGION.

Clergy in the United States,	83,637
Church Members,	11,459,534
Sunday Schools,	78,045
Teachers,	853,100
Sunday-School Scholars,	6,504,054
Total Contributed for the Support of Religion,	$47,636,495

RUM.

Retail Liquor-sellers in the U. S.,	166,000
Men and Women in the U. S. who drink Liquors,	18,000,000
Number per annum killed by Rum,	65,000
Rum Retailed in 1878 in the U. S.,	$175,575,000
Total Contributed for the Support of Religion,	47,636,495
Rum over Religion,	**$667,938,505**

Cost to Each Person in the United States.

Religion—Annual Contribution,	$1.11
Education—Annual Contribution,	2.02
Rum—Annual Contribution,	17.00

Rum vs. Necessaries of Life.

Value of Fruits and Grains wasted per year in the Manufacture of Liquors,	$65,000,000
Total invested in the Manufacture and Sale of Alcoholic Liquors in the United States,	2,000,000,000
Total Crop—Wheat, Rye, Oats, Corn, Barley, Buckwheat, and Potatoes in U. S. in 1877,	1,111,820,575
Rum Interest over all,	**$888,179,425**

The liquor traffic imposes a tax of 33 per cent on the people. The saloons outnumber all other kinds of business houses of any one class in the country. We pay about one-eighth as much for education as for rum; twice as much for intemperance as for the support of the government, and fifteen times as much to the dram-shop as to the church. We waste over seven hundred millions of dollars a year for the debasement of the intellect and the destruction of the body, and pay with reluctance less than one hundred millions for education and culture; and we throw over fifteen times as much into the seething caldron of rum as we contribute annually to the cause of religion! Are not these startling statements? Do you comprehend the enormity of this national vice? With these facts before us, is it strange that our measure of misery is full? This vast waste would provide a school-house, thoroughly appointed, for every fifty of our youth, and set teachers in the midst of them of the highest possible culture. Aside from the lamentable havoc and waste caused by the use of rum, we are compelled to support courts and prisons, and an army of official benefactors in the name of charity that would be almost wholly unnecessary were the people taught to shun rum as their greatest enemy. Then would we have work instead of charity, plenty instead of starvation, clean and sightly garments instead of rags, wholesome houses instead of hovels, and health instead of beggary and distress.

A Temperance Sermon in a Nut-Shell.—One of the best temperance sermons ever delivered, is in this sentence by the Rev. Samuel J. May: "If it is a small sacrifice for you to give up drink, do it for the sake of others; if it is a great sacrifice, do it for your own sake."

The man who feels that he can easily do without drink, is setting a good example to others, that costs him but little; while, on the other hand, if he finds it a great sacrifice, if the habit is so deeply set that it requires a struggle to break it off, then he may rest assured that he is in great danger, and the sooner he frees himself the better; duty to himself and to his God demands it.—*Temperance Anvil.*

—Chinese philosophers assert that the stomach is the seat of the human understanding.

FRESH AIR.

Do you wish to be healthy?—
  Then keep the house sweet;
As soon as you're up
  Shake each blanket and sheet.

Leave the beds to get fresh
  On the close crowded floor;
Let the wind sweep right through—
  Open window and door.

The bad air will rush out
  As the good air comes in,
Just as goodness is stronger
  And better than sin.

Do this, it 's soon done,
  In the fresh morning air;
It will lighten your labor,
  And lessen your care.

You are weary—no wonder,
  There's weight and there's gloom
Hanging heavily round
  In each over-full room.

Be sure all the trouble
  Is profit and gain,
For there's headache and heart-ache,
  And fever, and pain

Hovering round, settling down
  In the closeness and heat:
Let the wind sweep right through
  Till the air's fresh and sweet,

And more cheerful you'll feel
  Through the toil of the day;
More refreshed you'll awake
  When the night 's passed away.

RICE.

Rice (*Oryza Sativa*) is one of the great articles of food, whole nations making it their principal nourishment. It has been cultivated in the East Indies from time immemorial, and from its Arabic name, aruz, comes the Spanish name, aroz, and our appellation also, through the Latin. There are one hundred and sixty-one varieties known, most of them requiring a marshy ground, like the wild rice of our northern lakes. Still there are varieties, such as the dry, or mountain rice (*Oryza Mutica*), raised in Ceylon, Java, Hungary and Virginia. This latter kind is, however, not prolific, producing only fifteen or twenty bushels to the acre, while the swamp rice has produced ninety bushels, yielding forty-eight pounds of clean rice to the bushel. To the Chinese, as to the Southern Hindoos, it is the great staple of food, and their word for rice (fan) enters into many combinations. A beggar is called "tou-fan-tee"—that is, "the rice-seeking one." Even the ordinary salutation "che-fan," answering to our "How do you do?" means "Have you had your rice?" Rennie mentions that our country-woman, Madame de Bourbolon, when walking near the French Legation, at Pekin, while her husband was Minister in China, was invariably saluted by the women of the neighborhood with the "Che-fan?" showing a kindly feeling to this French-American lady that they had never extended to men, of whom they never inquired whether they had their rice or not. Rice-growing in swampy lands subject to a fever, is a grain that defies European constitutions. Negroes, Hindoos and Coolies seem alone able to bear the malaria. Rice grows in a sort of hull that does not easily come off, and has to be removed by rubbing or basting. An old illustration shows a Chinese apparatus for thus cleaning the grain. The hopper in the center receives it, and it is then ground between the stones, not set so as to crush the grain, but only to free it from the hulls. A rice bowl and chop-sticks are added, as these are the most uniform articles set before the people, and with which rice is eaten. Of the whole rice crop in China we have no statistics. In the United States, in 1850, more than two hundred and fifteen millions of pounds were raised; though in 1860 it had declined to one hundred and eighty-seven millions, and is now undoubtedly much less, as housekeepers no doubt infer from the higher prices.—*Am. Miller.*

Medicine by the Bucketful.—In Austin almost everything is plastered over with big patent medicine advertisements. In the courtyard of a hotel there is a big cistern, and on it is an advertisement in letters a foot and a half long, "Smith's Diseased Liver Remedy." A stranger from the North saw the hotel clerk draw a bucket of water from the cistern on which the above sign was plastered, and then he said, as though to himself, "I've heard it was sickly in Austin, but I never expected to see people draw off their medicine by the bucketful."

LITERARY MISCELLANY.

Devoted to Mental and Moral Culture, Social Science, Natural History, and other Interesting Topics.

ANTE-MORTEM.

How much would I care for it, could I know
That when I am under the grass or snow,
The raveled garment of life's brief day,
Folded, and quietly laid away,—
How much do you think it would matter then
What praise was lavished upon me, when,
Whatever might be its stint or store,
It neither could help nor harm me more?

If, while I was toiling, they had but thought
To stretch a finger, I would have caught
Gladly such aid to buoy me through
Some bitter duty I had to do:
Though when it was done, they said (may be,
To others—they never said to me—
The word of applause so craved, whose worth
Had been the supremest boon on earth
If granted me then), "We are proud to know
That one of ourselves has triumphed so."

What use for the rope, if it be not flung
Till the swimmer's grasp to the rock has clung?
What help in a comrade's bugle-blast,
When the peril of Alpine height is past?
What need that the spurring pæan roll
When the runner is safe beyond the goal?
That worth in eulogy's blandest breath,
When whispered in ears that are hushed in death?
No! no! if you have but a word of cheer,
Speak it while I am alive to hear.

—*M. J. Preston.*

APPEAL TO MOTHERS.

BY MRS. E. G. WHITE.

MOTHERS, God would have your children start out on the journey of life with a good inheritance. He has a work for man to do in the world; and in order to perform this work for the benefit of his fellow-men and the glory of God, he must have physical, mental, and moral power.

Many whom God would use as his instruments have been disqualified at their birth by the previous wrong habits of the parents. When the Lord would raise up Samson as a deliverer of his people, he enjoined upon the mother correct habits of life before the birth of her child.

The angel of God appeared to the wife of Manoah and informed her that she should have a son; and in view of this he gave her the important directions: "Now therefore beware, I pray thee, and drink not wine nor strong drink, and eat not any unclean thing." And he informed her that her son would be a Nazarite from his birth, and that God would work through him to deliver Israel from the oppression of the Philistines. The woman sought her husband, and after describing the heavenly visitant, she repeated the message of the angel. Then Manoah entreated the Lord, "Let the man of God which thou didst send come again unto us, and teach us what we shall do unto the child that shall be born."

And when, in answer to this petition, the angel again appeared, Manoah's earnest, anxious inquiry was, "How shall we order the child, and how shall we do unto him?" The angel answered, "Of all that I said unto the woman, let her beware. She may not eat of anything that cometh of the vine, neither let her drink wine or strong drink, nor eat any unclean thing. All that I commanded her, let her observe."

In instructing this one mother, the Lord gave a lesson to all who should be mothers till the close of time. Had the wife of Manoah followed the prevailing customs, her system would have been weakened by violation of nature's laws, and her child would have suffered with her the penalty of transgression. The basis of a right character in the future man is made firm by habits of strict temperance in the mother prior to the birth of her child. The divine command was very explicit, prohibiting the use of the fruit of the vine. Every drop of liquor taken by the mother as a gratification of the appetite is endangering the physical, mental, and moral health of her offspring, and is a direct sin against God.

This lesson should not be regarded with indifference. Parents who indulge in excess of eating and drinking, or in the gratification of the animal propensities, trans-

mit their corrupted blood and vitiated appetites to their children, who have less self-control and less power to resist temptation than the parents had. Many children die in infancy, while many more are ruined for time and eternity, in consequence of the sinful indulgences of the parents.

The thoughts and feelings of the mother will also have a powerful influence upon the legacy she gives her child. Strong traits of character, as well as perverted appetites, are transmitted from parents to children. Thus, many have received as a birthright almost unconquerable tendencies to evil. If the mother allows her mind to dwell upon herself, if she becomes peevish and fault-finding, the disposition of her child will testify to the fact. If she suffers strange freaks of appetite to control her, she will see the same reproduced in her offspring.

The enemy of souls understands this matter much better than many parents do, and he is ever ready with his temptations, while custom and tradition have a strong influence upon the mind of the mother. She does not always flee to God for grace that she may be an overcomer, but follows impulse rather than principle; and she sees reflected in the character of her child her own defects prior to its birth. Fathers as well as mothers are involved in this responsibility. Unwise advisers will urge upon the mother the gratification of every wish and impulse as essential to the well-being of her offspring. But in the light of facts presented to us in Bible history, the mother is by the command of God himself laid under the most solemn obligation to restrain perverted appetite.

One great cause of the degeneracy of the race is the deplorable ignorance of parents in regard to the effect of their own condition upon the future well-being of their children. The mother is frequently overtaxed; too many burdens are allowed to rest upon her prior to the birth of her children. Care is not exercised to make her surroundings as cheerful and pleasant as possible. An opposite course should be pursued. We should not then see so many with diseased bodies and ill-balanced minds, unfitted for any responsible position.

The strange lack of principle which characterizes the men and women of this generation is heart-sickening to those who are endeavoring to advance the cause of reform. They do not seek to become intelligent in regard to the laws which govern them. They do not study how they may preserve to themselves a good physical constitution, which is the foundation of mental and moral power. The anxious inquiry is, "What shall we eat, and what shall we drink, and wherewithal shall we be clothed?"

If we tell the liquor-drinker and tobacco-devotee that his indulgence in these poisons is gradually and surely wearing away the life-forces, he will say, "I know it, but I cannot give up the indulgence. I would rather die before my time and enjoy these stimulants while I do live." Those who are content thus to shorten their own existence must answer to God for the life which he gave them to devote wholly to his service.

But man's accountability extends beyond his own well-being. Those parents who gratify inclination at the expense of health, in the use of tea, coffee, tobacco, and liquor, because the habit has become second nature, are not only working against their own physical life and moral advancement, but they leave their appetite, and their want of moral power to overcome these indulgences, to their children. Thus the evil of their course is accumulating and multiplying; society is demoralized, the church is cursed, and God is dishonored.

The constant inquiry of every one should be, What is duty? What shall I do to benefit my children and society, and to glorify God? If we would reach a high standard in moral and spiritual attainments, we must live for this every day. Our present course of action may be determining the course of hundreds. We must render an account to God for the good we might have done but failed to perform because we had placed ourselves, through sinful indulgence, in a position of physical and mental weakness, where he could not accept our service. Many have but little sense of their sin in robbing God by selfish extravagance, and indulgence of perverted appetite. The cause of reform to-day is suffering for the want of men and women of integrity and moral worth.

The will of God has been plainly expressed to all mothers; he would have them, by precept and example, advocates of health reform. They should plant their feet firmly upon principle, in no case to violate the physical laws which God has implanted in their beings.

"Standing by a purpose true," with firm integrity, mothers will have moral power and grace from Heaven to let their light shine forth to the world, both in their own upright course and in the noble character of their children.

We have now brought before the reader what God has spoken in reference to the course of the mother before the birth of her children. But this is not all. The angel Gabriel was sent from the heavenly courts, to give directions for the treatment of children after their birth, that parents might become intelligent upon this important subject.

About the time of Christ's first advent, an angel appeared to Zacharias with a cheering message, telling him that his wife should bear a son, whose name should be called John. "And," said the angel, "thou shalt have joy and gladness, and many shall rejoice at his birth. For he shall be great in the sight of the Lord, and shall drink neither wine nor strong drink; and he shall be filled with the Holy Ghost."

Thus Gabriel enjoined upon Zacharias that John should be brought up with strictly temperate habits, that he might be fitted for the important work of reform which God would lay upon him to prepare the way for Christ. When the voice of the reformer was lifted up in the wilderness, intemperance in every form existed among the people. Indulgence in wine and luxurious food was lessening physical strength and debasing the morals, so that the most revolting crimes did not appear sinful. While the voice of John was to be heard in stern rebuke to the people for their sinful indulgence, his own abstemious habits were also to be a reproof of the excesses of his time.

Important results were to be realized in the lives of Samson and John, which could not be reached without strict obedience to the laws of life and health. Hence, temperate habits were indispensable to them. The communications from Heaven were not given solely for those two marked characters, but were to be handed down through successive generations to our time.

If parents would have their children come up with pure morals and firm integrity of purpose, with power to sway rather than to be swayed, they must have a full sense of their own responsibilities, and ever stand for the right. The education and training of their children must commence in infancy if they would qualify them for usefulness in this life, and give them a fitness for the immortal life.

The training of John was not to be in accordance with the ordinary customs of society. He was to be instrumental in giving new direction to the thoughts of the people of his day, and awakening them to the necessity of a nobler type of manhood. God would have the character of his servant moulded after the Divine Model. The wilderness was his schoolroom, the mountains his familiar haunts. There he learned to deny himself, and to cultivate simplicity of diet and of dress. His habits of life were so pure and natural that his ideas were not perverted, and his character was not warped by the wrong influences which he was afterward called to meet.

The great book of nature, with its inexhaustible stores, was open before the prophet. He was fitted through privation and hardship to control his physical and mental powers, that he might stand among the people as unmoved by surrounding circumstances as the rocks and mountains of the wilderness. The world's Redeemer said of John, "Verily I say unto you, Among them that are born of women, there hath not risen a greater than John the Baptist."

THE CHEAP DOCTOR.

I WISH everybody knew Mrs. Carter, the school-mistress in our village; she is really one of the best women I ever saw. To see and hear her work and talk, is enough to do anybody good. Early and late, morning and night, that woman is busy, and always about some good thing. One would think she had enough to do with the fifty children in her school all day, without anything else; but, would you believe it, she goes about between school-times to see the children's mothers, and tries to be of use to them? The folks in our place are often ill, and Mrs. Carter always says it is because they are in such bad air, and live in a very unhealthy way; and whenever she gets a chance, she has a little talk with them about these things. I was with her the other day, when she went to ask after little Jim Brown, who has been ill ever since Christmas. I thought what she said to Jim's mother was well worth knowing, and I took care not to forget it.

"Good morning to you, Mrs. Brown," said she, "I have just stepped in to ask after Jim. I hope he is better, poor fellow! I was quite grieved to see him look so pale and sickly the other day; I am afraid it will be some time yet before he is fit for school again."

"Thank you, ma'am, for your kind thought of him. The doctor says he is better, but I don't feel quite comfortable about him. He does n't seem to get strong again, as he ought to do, though I keep him quite warm in bed, and he gets beautiful broth and puddings, which the Squire's lady sends him off her own table."

"You are a good, careful mother, and I know how hard you work to feed all those little ones, and keep them so tidy. It grieves me sometimes to see you so poorly clad, because I know all your little savings go to buy doctor's stuff, instead of a gown, or a bit of flannel for yourself."

"Well, ma'am, that is true enough. I don't know how it is, but one or the other of the children always seems poorly, and sickness does throw one back so."

"I have been thinking so, too, Mrs. Brown, and I want to have a chat with you; for I believe, if you would follow my advice, I could help you to mend matters a little. I don't see why your children should not be as strong and healthy as mine, or some others I could name."

"I'm sure I take all the care of them I can; and no one can say I neglect them, poor dears."

"I am sure you try to do your very best; but you must not be hurt, Mrs. Brown, if I tell you the truth, which is, that you and the children are half-poisoned every night of your lives, and ——"

"Oh, ma'am, you quite frighten me! Whatever can have made you think that?"

"Well, I will tell you. You remember that day when you took me up first to see poor Jim—I am a plain body, and don't care a straw what kind of a room I sleep in, if it is only clean—but, upon my word, though yours looked so tidy, it was a hard matter for me to stay there many minutes, I felt so faint and queer. I did n't wonder, then, that Jim was so long getting well, or that the children looked sickly, and that you were so often laid up with the headache. I only wish, Mrs. Brown, you would just try *my* doctor; he is a very cheap one; and if you would let him come in every day, you would soon see a change, I know. *I* cannot live without him, and though he cannot *cure* all complaints, he can *keep off* a great many."

"I'm sure I can't afford any more doctors; Jim's illness has cost so much already."

"Well, now, my good friend, I want to *save* your money, and not to spend it; or you will say next you cannot afford to send the children to school, and I shall lose some of my favorite scholars. My doctor's name is *Fresh Air*. He only asks you to set the window open, and he will never keep you waiting any day, but walk in at once, and charge you nothing for his visit. You are all being poisoned for want of him."

"I don't quite understand you, ma'am. The room is n't a large one, to be sure, for me and the four children; but it is as big as I can pay rent for. I keep the door shut because of Jim; and as for the window, it 's been broken a long time, and won't stay open."

"Do spend a trifle, then, in having it mended; and, take my word for it, it will pay you well in the end. The room will be big enough if you'll let my doctor in. Don't you find a difference, now, when you come in from hanging out your clothes to dry, and go up-stairs? Does n't the room smell close, and hot, and fusty? You would not, for the world, stint the dear little fellow in food, or, as long as you have a half-penny in your pocket, let the children go without their bread and milk for breakfast. You would rather work all night than do that, and would not grumble if they ate twice as much as they do."

"No, that I should n't."

"And yet it would be of no use to fill their stomachs with good food, if you did not fill their lungs with good air. Suppose you took that cat now, and shut it up in a box, and after a little while peeped in, you would find the poor creature only half alive; and if you were cruel enough to keep it there long, it would die, all for want of air. You might have given it a good saucer of milk just before, but that would not help it. We can live longer without food than we can with-

out air. Yes, and what is more, all the air we breathe out is *poison*, and is of no use to us again; it has done its duty in our bodies, and the sooner we turn it out of the house the better. That is why I said you were all half-poisoned, because if you do n't open your windows wide, to let in my doctor *Fresh Air*, there is nothing left but bad air; and if you put the children to bed at seven, there you and they are, drawing in that nasty, foul air, till six o'clock in the morning. It is just that which gives you a headache when you wake, and makes the children so pale, and restless, and uncomfortable."

"I think I begin to understand you, ma'am; but no one ever told me of it before."

"I dare say not, but you may depend upon it, it is all true; you are a kind mother, and are always ready to listen if I tell you of anything that is good for the children. When your cupboard is empty, you go to the shop and buy more victuals, the best you can afford, though it is often a hard matter to pay; and when all the good, wholesome air is used up in your room, why do n't you go to your window, and open it? There's plenty of air to come in, and nothing to pay."

"Well, I really will get that window mended; it 's been broken ever since Jim was taken ill."

"And it has been the reason of his not getting well sooner; every day the air is getting worse, and it takes away his appetite for the nice food he might have, and hinders his getting stronger. I know you have found it hard work 'to make both ends meet' since your good husband died; and it's only because you manage so well, and work so hard, that you contrive to keep the children so tidy, and send them to school. I would not for the world put you to any expense, but I want you to try my plan for a few months, and see if it does not answer. As soon as ever you wake, then, set the window open; at first only a little way, if you are afraid of cold; but as soon as you and the children are dressed and washed, put both door and window wide open; strip off the bed-clothes, and spread them over two chairs, so that the fresh air may sweeten them. Do n't be in a hurry to make your beds; for the more they are blown on, the fresher they'll be. Even while you are sleeping you should have the window open a little way. I do n't think you will find it too cold; and if you do, it's easy to have a thin curtain or blind, to keep out the wind. This will make your little room fresh and sweet, and you will find it much pleasanter to sleep in; the children will not be tossing about, hot and restless; and, when you wake in the morning, I hope you will feel brisk and strong, and ready for your day's work."

"I have n't felt like that for a long time. My head 's sometimes very bad, and I have n't any appetite for my breakfast."

"I do n't wonder at that, for nobody can feel well who sleeps in bad air. We all want a hogshead of it every hour of our lives; it ought to be the very freshest we can get, and if you wish to see your children grow up strong, let them have plenty of it, and plenty of fresh water and constant exercise—they are the finest medicines in the world. Depend upon it, it is very expensive to live in bad air, bad smells, and dirt, though some of our neighbors do seem very fond of them. God has so made us that we cannot be well without plenty of fresh air, any more than the fish can live without water, or the kettle boil without fire. Do n't let us try, then, to be wiser than God. He sends us what we want, cheap blessings, and when we do n't use them, then he sends us ill-health, to remind us how foolish we are, and how, if we *will*, we may help ourselves. But I must go now, or the children will be coming in to school."

"I'm sure, ma'am, I'm much obliged to you for stopping so long. I shan't forget about your 'cheap doctor,' and I shall just speak to some of the neighbors about him, for I'm sure many of them want him quite as much as I do."

"That's right, Mrs. Brown; we'll try if we cannot do something between us to make the children about here more rosy and strong. The mothers would not have half so much trouble with them if they were well, and I should have better scholars if they came more regularly to school. Good air to breathe by day and night, and fresh water to drink and to wash in from top to toe, are the finest things in the world for health and com-

fort—the sooner you give them a trial the better. By the way, there is a story I should like to tell you. It is quite true, and will not take many minutes. A hundred years ago, one hundred and forty-six Englishmen were taken prisoners in Calcutta. The great man who took them ordered them to be shut up in a dungeon called the 'Black Hole.' He only wished them to be there for one night, because he meant to have them brought up to judgment before him in the morning. Now this 'Black Hole' was only eighteen feet square; the door was locked, and there were only two very small windows by which air could come in. As soon as the door was shut, these poor creatures began to feel the dreadful heat and suffocation; every minute made it worse, and in a short time they all began struggling and fighting with each other, to get as near as they could to the windows; they knew it was their only chance for life. But it was of no use, there were too many of them; all the good air was now gone, and there was nothing left for them to breathe but *poison*. If the door could have been set open so as to make a draught, the bad air would have been carried off, and they might have been saved; but the cruel men outside would not listen to their cries for help. Eleven hours after, when the door was opened, only twenty-three out of the one hundred and forty-six were found alive; and even these poor creatures were ill with fever, caused by the poisonous air."—*A. B. P.*

INDIAN IDEAS CONCERNING THUNDER AND LIGHTNING.

AT the Saratoga meeting of the Association for the Advancement of Science, Dr. J. G. Henderson gave some interesting details of Indian ideas concerning thunder and lightning, of which the following, quoted from the *Scientific American*, are a few:—

"In the Illinois language, the word for thunder is *wa-kiu-yan*, the meaning of which embodies the belief that thunder is caused by the noise made by the wings of a huge spirit bird. It was thus that these Indians satisfied their curiosity in regard to the philosophy of the phenomenon. Almost all the tribes in the United States believed the thunder to be produced by the wings of a great bird, and that the lightning was the serpents that were invariably connected with the thunder bird. Among the ancient tribes of the Mississippi Valley, the thunder, therefore, soon became a thunder god, who could be propitiated by sacrifices. The Illinois Indians offered up a small dog when a child happened to be sick upon a day when there was much thunder, supposing the latter to be a cause of the malady. Many accidents, like conflagrations, were attributed to this angry god, and some tribes did bloody penances in propitiation, often burning to death their own children. The Peruvians had as an idol a stone that had been split by lightning. They offered it gold and silver. The natives of Honduras burned cotton seed when it thundered.

"The grandest conception of all, the author thought, was that of the Iroquois, who said it was their great god Heno who rode upon the clouds, split the forest trees with thunderbolts, or hurled stones at his enemies. His home was under the roaring Falls of Niagara. He was a patron of husbandry, and in the spring he was invoked to water and nourish the growth of their productions, while at the harvest festival they gave him thanks for rain. He was also the avenger of evil deeds, and the Iroquois trembled when his deep shout was heard rolling along the firmament.

"Notwithstanding the thunder was so feared as a god, there were warriors brave enough to defy him, and the Sioux have an association whose exclusive privilege it is to fight the thunder. Instead of propitiating, they resisted in mock battle the advance of the storm cloud."

—Rev. G. B. Atwell, an aged Baptist minister, of Pleasant Valley, Conn., who recently died, was known for his laconic speech. He once asked a blessing at a public dinner in this style:—

"Adam sinned by eating, and Noah by drinking. Save us, Lord, from the sin of the one and the folly of the other. Amen."

—A large English city spends twenty times as much for whisky as for education.

POPULAR SCIENCE.

—A cave has recently been discovered in Moravia, in which were found twenty-nine different species of animals.

—A learned professor in one of the great cities of Europe has announced the discovery that the soul is in the nose. He claims to be able to distinguish by the sense of smell persons who are sad from those who are mirthful.

—Dr. Smith of Paris has made a careful examination of the masses of peculiar iron ore which are found in considerable quantities in Greenland, and which have been supposed to be of meteoric origin; and he comes to the conclusion that they are volcanic in character, and hence of terrestrial origin.

A Rare Metal in Bones. — An eminent chemist has recently discovered the presence of cerium, one of the rare metals, in bone ashes.

Musical Fishes.—A scientist residing in Paraguay has made the discovery that two or three species of fish abounding in the rivers of that country possess the power of making sounds of a somewhat musical character by means of their air bladders, which are peculiarly constructed.

The Black Mildew of Walls. — Prof. Paley of England, and Prof. Leidy of Philadelphia, have each separately made the discovery that the black stain upon brick walls which is usually attributed to smoke is really in many cases due to the growth of a peculiar black fungus not previously known.

Origin of Flowers.—An English savant has recently advanced the theory that flowers are no advantage, but rather a detriment, to plants; that they are in reality excrescences produced by the irritation of insects which visit plants for the purpose of obtaining food. The supposition is that the irritation thus produced causes an increased flow of sap to the parts visited, which occasions unnatural growth.

A Curious Relic of the Discovery of America.—In one of his voyages to America, Columbus lost an anchor near the southwestern extremity of the Island of Trinidad. This anchor, it is reported, has now been found, and, it is said, "was dug up from a depth of six feet below the surface of the ground, at a spot 372 feet from the nearest point of the coast line. The land, it is well known, is gaining upon the sea along the shores of Venezuela, so that where once ships rode at anchor, gardens are now planted."

"Evolution."—It was Herbert Spencer who made the following definition of evolution: "Evolution is a change from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity, through continuous differentiations and integrations." It was the mathematician Kirkman who translated the definition into plain English: "Evolution is a change from a nohowish, untalkaboutable, all-alikeness, to a somehowish, and in-general-talkaboutable not-at-all-alikeness, by continuous something-elseifications and sticktogetherations."

Extinct Animals of New Zealand.—Scientists declare that the most thorough search has not discovered the remains of a single land mammal or reptile in New Zealand. The remains of animals found are all of immense wingless birds, beside which the ostrich would appear like a chicken. The remains of only one bird of flight has been found. There were more than fifteen species of these extinct birds. A living representative of this curious race of bipeds lays an egg nearly twice the size of that of the ostrich; but, very curiously, lays but once a year.

Effects of Temperature on Animal and Vegetable Life.—A writer in the *Popular Science Review* states that "in the Himalayas, the Andes, and other great mountain chains within the tropics, a phenomenon may be witnessed which is always interesting and instructive. A traveler climbing one of these ranges advances first across valleys and small hills covered with the jungle and luxurious vegetation of the tropics. As he continues the ascent, he leaves behind him the beautiful palms and immense cotton trees, the brilliantly marked birds, reptiles, and insects, the inhabitants of the tropics, and reaches the oak, the elm, and the birch, the growth of the temperate zone. These, in their turn, give way first to the larch and the fir, then to low bushes and scrub-wood, then to lichens and mosses, and finally to the region of

perpetual snow. The whole of the flora and fauna have changed. Even in this short time a journey has in reality been effected from the equator to the pole; yet the lie of the land is the same, and the air is the same, the whole atmospherical conditions are only slightly modified, with one great exception—and that exception is, temperature."

A Novel Clock.—A native Peruvian Indian has recently constructed a clock made entirely of bread. Being very poor and without means to purchase the necessary metal, he deprived himself regularly of a portion of his daily bread which he devoted to the construction of this curiosity. He utilized a certain salt to solidify his work, which rendered it perfectly hard and insoluble in water. The clock is of medium size and goes perfectly well. The case, which is also made of hardened bread, displays great talent in design and execution.

New Fossils.—The Yale Museum has received a number of new fossil reptiles from the Rocky Mountains. Prof. Marshes classifies them among the dinosaurs, but they are different from any species heretofore discovered. One specimen represented an animal which must have been at least eighty feet in length. Elephants would be puppets compared with the immense quadrupeds which roamed the marshes of the antediluvian world. It appears that the brute creation, as well as man, is growing weaker with the lapse of ages, though whether or not they are growing wiser we will leave for the savants to determine.

Identification of Human Blood.—Microscopists are now-a-days often called upon to testify in court in criminal cases respecting the identity of blood found upon the garments of persons supposed to be guilty of murder. The question usually raised in these cases is whether the traces of blood found are produced by the blood of a human being or that of some lower animal. Frequently it is claimed that the blood is that of an ox which has been killed, or of a dog. It is generally conceded that the blood of an ox can readily be distinguished from that of a human being by the great difference in size of the red blood corpuscles, those of the ox being little more than half as large as those of human blood. In the case of the dog, however, this is not true, the difference being so slight that the best microscopists, among whom may be mentioned Dr. Woodward of the Army Medical Museum, affirm that they cannot be distinguished with certainty in the present state of microscopical science.

The Color of Human Hair.—Much time has been spent in the study of the hair for the purpose of determining the cause of the differences in color and other properties characteristic of different varieties of hair. An English scientist, Mr. Sorby, seems to have solved the problem, according to a recent scientific journal. "His researches lead him to the conclusion that hair is a colorless, horny substance, the tint in different specimens being due to the presence of three or perhaps four distinct pigmentary bodies. These pigments, being protected by the horny matter of the hair, are unaffected by water, alcohol, and other common solvents, and sulphuric acid more or less dilute appeared to be the best medium for separating the coloring principles. From the different kinds of human hair which he examined he obtained a reddish, a yellow, and a black pigment, the first of which, being an unstable body, may possibly pass into yellow by a process of oxidation. In bright red hair the red constituent was found to be present unaccompanied by other pigments; while dark red hair contains a certain proportion of the black coloring matter. Golden hair contains less red and more yellow coloring matter, while in hair of a sandy tint a proportion of the red and black principles are associated with a large quantity of the yellow pigment, and in dark brown hair the black principle increases, and the yellow and red are greatly reduced in quantity; until in black hair the two latter substances almost disappear, being replaced by the black pigment. In some cases, however, as in that of the black hair of a negro, the black coloring matter was accompanied by a quantity of the red pigment, equal in amount to that found in the bright red hair of Europeans, which leads to the conclusion that had the supply of black pigment failed from any cause, the negro's hair instead of being white would have been of as bright a red as the hair of the most typical Celt.

GOOD HEALTH.

BATTLE CREEK, MICH., FEBRUARY, 1880.

J. H. KELLOGG, M. D., EDITOR. TERMS, $1.00 A YEAR.

SUN-SPOTS AND COMMERCIAL PANICS.

Now that the folly of the perihelion pestilence agitators has been so thoroughly exposed that they have ceased their attempts to frighten the ignorant and the superstitious by an awful array of scientific facts which have no relation whatever to the subject, a gentleman has come forward with the theory that there is some mysterious relation between the periodical changes in the sun in regard to the formation of sun-spots and the occurrence of commercial panics. It is known to scientists that about once in twelve and one-half years the number of spots which appear on the sun's face is very greatly increased. Half way between these periods of maximum disturbance the number of spots is the least. Having studied up the history of commercial panics, Mr. Jevons finds a coincidence between these financial depressions and the periods of minimum spots, which he takes to be evidence that commercial panics are occasioned by the influence of forces at work in the sun.

As in the case of the perihelion-pestilence notion, it is unfortunate for this theory that the number of coincidences is much less than the failures of the supposed result to follow the assumed cause. That is, a larger number of commercial panics have occurred at or near the time of the greatest number of sun-spots than at the minimum period. When people get to looking to the stars for the causes of plagues, pestilences, epidemics, and diseases generally, and have become so hopelessly visionary as to regard the center of the solar system as the cause of commercial panics, "hard times," and "financial strictures," there is little hope of improving either the physical or material condition of the race. In our humble opinion the people will be benefited a vast deal more by being taught that disease is the result of their own indiscreet acts, and can be avoided by obedience to nature's laws; that the causes of pestilences, plagues, epidemics, etc., are usually scattered about the back door, in the shape of chip-yards, hen-coops, cess-pools, vaults, heaps of garbage, kitchen refuse, etc., or lurking under the house in damp cellars, unclean cisterns, defective drains, etc.; that the real causes of hard times are shiftlessness, wastefulness, idleness, extravagance, foolish indulgences, and bad management. A little less of wild theorizing and more sound common-sense is what the good of the people demands.

HOW TO VENTILATE.

In the last number, we illustrated the fact that at least two openings are required to secure ventilation. A current cannot be produced without a place for entrance and exit of air. These conditions can be rudely secured in any ordinary building by opening two windows, preferably on opposite sides of a room, or by opening a window and a door, or even with one window, in case of necessity, by lowering the upper sash and raising the lower one. A practical question often asked is, How much must a window be raised or lowered in order to secure the proper amount of air? Since each person requires at least 3,000 cubic feet of fresh air each hour, it is evident that each of the two openings must be of sufficient size to allow the passage of that amount of air in the time specified. Allowance must also be made for gas-lights, lamps, candles, etc. A candle should be counted as about half equal to a person, a lamp as equal to two persons, and a gas-light as equivalent to six or eight persons. Careful experiments have shown that in order to secure the proper amount of air under ordinary circumstances, without producing unpleasant and dangerous drafts, it is necessary to

raise or lower a window of ordinary width one inch for each person. Hence if the occupants of a room consisted of three persons and a lamp, it would be necessary that the window on one side of the room should be lowered five inches, and on the other side raised five inches.

DIAGRAM 1.

When a strong wind is blowing, and in very cold weather, the opening may be decreased in proportion to the force of the wind or the degree of coldness. It must be acknowledged, however, that this is a very poor mode of ventilation, at the best. The only reason why we have given it any attention is that it is the only mode that many persons can be induced to adopt, and it is better that a poor method should be used rationally than that those who employ it should be left to go to such extremes as do many persons. We have known people who prided themselves in sleeping in a room in which, in the coldest weather, the wind was allowed to blow a hurricane through windows lowered a foot or two on all sides of the room, when a half-inch opening in two windows would have furnished them with all the air they could possibly make any use of. We have also known many people—and we are sorry to say that this class of persons much exceeds in numbers the other class referred to—who imagined that all the fresh air their systems required could find its way in through the keyhole of the outside door, around the carefully listed window-casings, or through solid brick walls. Fortunately for the latter class, a little air does find entrance through the narrow channels mentioned, else the cases of chronic smothering would be much more frequent than they are. Let us now notice a few of the most common errors in attempts at ventilation; and first we will call attention to some of the evils of window ventilation, the method just described.

EVILS OF WINDOW VENTILATION.

The accompanying diagram, No. 1, almost explains itself, so that few words are necessary. It represents a section of a room in which is shown a stove, one window, and a man seated between. The space represented by straight lines is occupied by warm air, which is seen to be passing out at the upper opening of the window. Through the lower opening in the window cold air, represented by the dotted space, is seen to be entering and filling the lower part of the room. The cool air flows along the floor to the stove, by which it is warmed and thus caused to ascend, filling the upper part of the room and passing out at the upper opening in the window, as before noticed. This plan undoubtedly secures to the gentleman who is reading a newspaper an abundant supply of fresh air; but, as is readily seen, it seriously disturbs the distribution of heat in the room, causing an accumulation of the heated air in the upper part of the room, about the gentleman's head, while

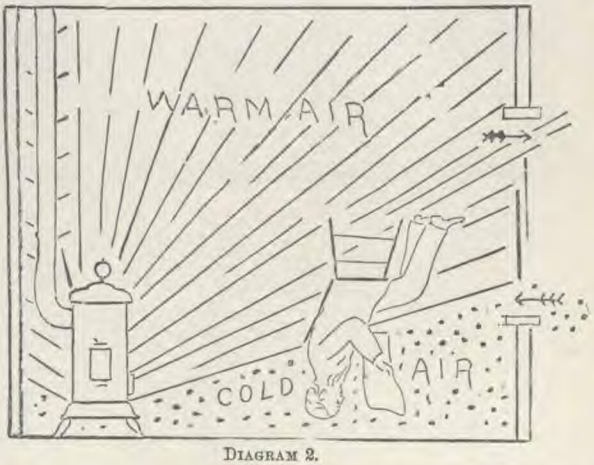

DIAGRAM 2.

his feet are surrounded with cold air direct from out of doors, which is the very reverse of what is desirable for health. If the gentleman could reverse his position, as shown in diagram No. 2, without inconvenience otherwise, he would secure the best possible conditions regarding heat and ventilation.

Next month we will illustrate some other defects in common modes of ventilation, and will suggest easy and quite efficient means of remedying the difficulty.

THE FIRST SANITARY CONVENTION IN AMERICA.

THE first sanitary convention called in this country convened at St. Andrew's Hall, Detroit, Mich., in accordance with the appointment by the State Board of Health of Michigan, by whom the convention was proposed and organized. Physicians and sanitarians from all parts of the State were present at the several sessions of the convention, which held two days, together with many ladies and gentlemen of the city of Detroit. The interest of the newspaper press was shown by the fact that there were eight reporters present, some of whom took the proceedings, papers, etc., *verbatim*. The city papers published very full and correct accounts of the meeting, reproducing some of the more important papers in full.

Ex-Governor Baldwin, president of the Association, being absent at Washington on political duty, Dr. Bowdie, of Detroit, vice-president, presided over the sessions of the convention. Dr. R. C. Kedzie, president of the State Board of Health, delivered a very appropriate opening address. In explaining why this convention was called, the Doctor remarked as follows:—

"We have conventions to guard our political rights, as embodied in the various political parties of the country. We have conventions to consider our educational system and protect our religious rights; and these are recognized as perfectly proper, needing no explanation and no apology. We have conventions to determine great matters of trade and commerce, and this is recognized as right and proper; and amongst the various conventions, I noticed the other day that there was a convention of undertakers, to consider the question how best to put people out of the way when they have got through with this world. [Laughter.] If we can have conventions to decide in regard to our liberties, our political rights, our pockets, our educational rights, and to decide in regard to how we shall be disposed of after we are dead, it seems to me it is certainly proper that we should have a convention to consider the question of how we should live. The question of health is more vital to us than these. Our political and religious rights are very important; we may use them in connection with health, and if we have not health these other rights pass for but very little, except the right of being buried. We have great conventions to determine our suffragatory rights. Let us have what is more important—great conventions to determine methods and means for securing the best possible health to all the people of this country. For the discussion of these questions we are gathered here this morning. We come not as much to listen to the discussions of experts who have given months and years to the investigation of these various questions; all these are valuable, and we trust will be of great benefit to us; but in addition to these we want to pool all the facts which relate to our public health—to throw them into a common fund, that out of this common fund we may each of us derive the benefit to which we are entitled.

"And now, in the discussion of these various topics, we want not only a presentation of facts and theories by experts, but we want the common-sense views and opinions and facts which are in the possession of us all, some in the possession of one and some in the possession of others. Let us bring our knowledge together into one common stock, that from it we may receive one common benefit."

Dr. Brodie, the next speaker, called attention to numerous evils which require the attention of sanitarians. He also referred to the present agitation of the vaccination question in Europe, stating that prominent medical men in England, Scotland, Germany, and Italy, together with the *Medical Times* and *Gazette* of London, have lost faith in vaccination, making some startling declarations concerning the evils and dangers attendant upon the practice of vaccination, the claim being made that consumption, cancer, and syphilis, together with

other constitutional diseases, are communicated by vaccination. The speaker's personal views were not affected by the anti-vaccination arguments adduced by the agitators of this subject. It seems to us, however, that enough has been proven to show conclusively that the use of humanized virus—that is, vaccine virus from human beings—is unsafe.

Prof. Vaughan of Ann Arbor read a very interesting paper on the contamination of drinking water, which detailed the results of a large number of experiments made for the purpose of determining the relative amount of danger from contamination in different soils.

"He related several instances in which he and others had noticed the contamination of cistern and well water by nearness to cess-pools and privy vaults, which had led to investigations as to how much organic matter was absorbed by the soil through which it passed. He found that a cubic foot of gravel soil, after three successive additions of organic nitrogenous liquid impurities, retained no more of the impurity, allowing it all to filter through. He said this proved conclusively that in a short time the soil of small yards in country towns, where the privy, well and cistern were all in the same yard, and where slops were thrown, soon became perfectly saturated with organic impurity; and on the occasion of every rain the impurity dissolved in the water would be washed into the well. 'Certainly,' said the speaker, 'we would be horrified should we find the servant girl pouring her slops into the cistern or well; but she does almost as bad when she pours them into a drain leading to a cess-pool, only a few feet from a cistern or well, out of sight in the ground.' Gravel soil was the least retentive of impurities; clay loam was most so. In gravel soils the water tended to dig out little channels, through which after a time it would run *en masse* into the well or cistern adjoining. Organic impurities should not be buried in the soil, but left near the surface, where oxygen, their great destroyer, would render them harmless.

"The speaker also discussed the relation of graveyards to disease, and said that there was no doubt as to the deleterious effects of cemeteries on the health of those whose drinking water came from wells near them.

"Dr. Kedzie said he had examined a large number of wells in Lansing, where typhoid fever has prevailed to an alarming extent, and in every instance had found the well-water contaminated with decomposing organic matter. He said, 'I believe we are drinking a cold infusion of death; and it is time to stop it.' Dr. Kedzie also said that in his experience in Grand Rapids, where one of the cemeteries is right in the midst of the city, underlaid with a bed of impervious clay, sloping toward the wells on a certain street, every family in the vicinity had had the typhoid fever, from which many had died. He thought this a great outrage, the extent of which was not comprehended. He had examined a well thirty rods from the nearest grave in another cemetery, and found unmistakable evidences of contamination. He tried to find the history of the people who lived in the house; but it was significantly marked 'To let.'"

Alex. J. Murray, V. S., read an able paper on Contagious Diseases in Animals, giving particular attention to the description of the Texas cattle disease, which he declared to be the worst disease from which cattle are suffering in this country. This disease is imported from Texas, and occasions the death of at least four hundred cattle in Detroit annually. The speaker also asserted that many persons are in the habit of killing their animals and selling them for food as soon as they are found to be suffering with this disease, a practice which must be in the highest degree detrimental to the public health.

Excellent papers were read on "Light in the Public Schools," "The Prevention of Pulmonary Consumption," "Cooking Schools," "Cosmetics," "Adulteration of Milk," and other sanitary subjects, some of which we shall give to our readers in full or in part in future numbers.

The exhibit of sanitary appliances, publications, etc., showed a good degree of enterprise in this direction. One of the exhibits of greatest interest to us was presented by Mr. Jno. K. Allen of the office of the State Board of Health at Lansing, Mich., consisting of the publications of the Ladies' Sanitary Association of London, and of the Italian Society of Hygiene, comprising in all more than sixty different works on various subjects of practical interest.

All who attended the convention thought it an entire success, and it is to be hoped that it may be only the beginning of a series of similar gatherings, not only in Michigan, but in all parts of the United States. Arrangements have been made for another convention to be held at Grand Rapids, Mich.

WHAT IS A COLD?

PROBABLY there is no other common malady the real nature of which has remained so much in the dark as is the case with that most common of all diseases or morbid conditions, "a cold." One thing which has undoubtedly contributed very considerably to the perpetuation of the mystery, is the fact that the term "cold" has been used to designate a number of morbid conditions which are quite different in character and unlike in origin. There are at least four distinct conditions commonly included under the title "a cold."

1. By exposure to cold when the body is very warm, or in a state of perspiration, the sudden contraction of the blood-vessels of the surface of the body may occasion congestion of the mucous membrane of the air passages, and of other internal organs. This form of cold is often accompanied by sneezing, which indicates, not that a cold will be taken, but that a cold has been taken. Shivering, or a distinct chill, also frequently occurs at the beginning of this form of cold. The chill, being always followed by a reaction, gives rise to a fever which may be slight and transient, or more severe in intensity and prolongation.

2. Another form of cold is produced by a draught of cool air striking some exposed portion of the body. The result of this exposure is a disturbance of the nervous and blood supply of the part, thus disturbing its functions and occasioning a local morbid condition.

3. Again, a person may suffer a general depression of all the vital functions in consequence of exposure to extreme cold. In this form of "cold" the patient is sometimes exceedingly prostrated, and suffers from general derangement of the vital functions.

4. Another form of "cold" is one, the true cause of which is seldom recognized. A person is exposed to a draught of impure air, cold air laden with disease germs. The elements of disease taken into the system occasion a febrile action, which is attributed to the effect of exposure to cold air. It thus appears that foul air is as much a cause of "colds" as cold air. The most common method of taking cold is to remain an hour or two in a crowded lecture hall or theater, where the air is laden with impurities, and then expose the heated body to a cold atmosphere without sufficient additional protection. In these cases both cold air and impure are the active causes of "taking cold."

It is not enough to know simply what a cold is, but we should also know how to avoid colds, and what to do for them when they have been contracted. These subjects we will consider more at length another time.

DIPHTHERIA AND FILTH.

PROBABLY there is no disease which in localities where a malignant epidemic of diphtheria has prevailed is more dreaded than this. Even small-pox would almost be a welcome visitor in a household where diphtheria had been manifested in its worst forms; at any rate, it would be preferred. Notwithstanding this general dread of the disease, there seems to be a strange apathy on the part of the people in relation to the discovery of the real cause of the malady and the application of the proper means for its prevention. The facts presented in the history of numerous outbreaks of the disease seem to show quite conclusively that it may and often does originate spontaneously from filth, although when once established it is undoubtedly propagated by contagion.

We have seen no better illustration of the real origin of the disease as well as of the popular disposition to disregard the evidence on the subject than that afforded by a case which was described to us a few weeks ago by Dr. Griffin, president of the Wisconsin State Board of Health. The case was this: A German owned a farm which he rented, situated a few miles from the village in which he resided. The cellar of the house and its surroundings were in an exceedingly insanitary condition, the natural result of which was an outbreak of diphtheria in the family of the tenant. After several deaths, the family left the house and another tenant occupied it. In a short time the disease appeared again, with a like result, several deaths and the desertion of the house.

As there had been no diphtheria in the neighborhood, and no communication with other places where the disease existed, it appeared to be very evident that the disease originated in the house and its unclean surroundings. The physicians of the neighborhood accordingly very properly condemned the house and warned people against occupying it unless the evils existing should be corrected. The owner of the property was much exasperated at this, and contended very strongly that the doctors had a grudge against him and had conspired to injure him. He jeered at the idea that any insanitary conditions about the house had anything whatever to do with the sickness and deaths in the families of his tenants; and, at last, to prove the falsity of the claims of the physicians, he moved his own family into the house. Within a week or two several of his children were sick with the same dread malady, and in a very short time he buried nearly all of his numerous family of children. He was now convinced, but too late to save his children who had been sacrificed to his foolhardy ignorance.

All persons who will continue to neglect to observe the necessary precautions to avoid the disease, and to prevent its spontaneous origination from filth, become equally culpable with the Dutchman for loss of life which may follow their carelessness or temerity.

THE PROPER TEMPERATURE OF LIVING-ROOMS.

THIS is one of the most practical subjects which can be considered at this season of the year, since the general custom is to keep living-rooms at too high a temperature. The effect of this is to render the system more susceptible to cold at the very season of the year when it ought to be hardened and fortified against the influence of a low temperature. This is especially true of invalids, and sedentary people who remain much in-doors. If people could be induced to wear more clothing and use less artificial heat in winter, it would undoubtedly obviate a large share of the colds, pneumonias, pleurisies, and other pulmonary affections which are especially prevalent during the winter months.

The following excellent remarks by Prof. Kedzie, president of the Mich. State Board of Health, embody more exact and practical information on this subject than we have found in the same compass elsewhere:—

"The temperature of the air in a room in which a person is engaged in sedentary occupation is intimately associated with health. The temperature of the blood fluctuates between 98° and 100° in health; if the vital heat varies much in either direction, disease and death are close at hand. While the bodily temperature is nearly uniform, that of the air is fluctuating, and the difference in temperature between the body and the air must be supplied by oxidation and tissue changes within the body, or supplied from external sources. The tissue changes are secured most rapidly when a person is taking exercise, and such person will not require so so high a temperature as one sitting still. Warmth must be obtained as the first demand of nature, and without it the mind becomes torpid and will refuse to do more than to complain.

"The young have less capacity to resist cold than adults, and hence require a warmer atmosphere when keeping still. The feeling of discomfort is our vedette of danger, and a wise general will not disregard his warning shot. The hardening process, while giving an appearance of health, does not insure long life; the red cheeks of the children of the poor often pale in death from acute disease, while the less vigorous but better guarded children of the rich live on. The doctrine of "the survival of the fittest" breaks down in ignominious failure, if this red-cheeked robustness is to be taken as the type of "the fittest." Prize-fighters and athletes die near the normal noon of life, while the man of delicate frame often lives to his appointed three-score and ten. Do not suppose I underrate vigorous health; it is the greatest of physical blessings, and without it, all other blessings become useless toys. But the rude and boisterous energy which is often accepted as the highest type of health is far from being its best exponent. In their extreme forms, coddling and hardening are alike to be avoided.

"What is the best temperature for living-rooms? Writers on hygiene differ: De Chaumont says 59° to 61°; Morin gives 59° as the maximum for school-rooms; Ficker places it at 64°; Varentraph at 65¾°; and Lincoln of

Boston says that 'school-children can be made comfortable at 66°.' Here is a difference of 7° between Morin's 'maximum' and Lincoln's 'comfortable.'

"In 1873 I made a careful examination of the physical conditions, including temperature, of 41 school-rooms in this State, and during the session of the school, the average temperature at desk-level was 66.92°; at floor-level, 61.80°. The range of temperature at desk-level was 63° to 73°; at floor-level, 42° to 71°. We find an average difference of more than 5° between the average temperature at desk-level and floor-level; if we compared the temperature at the floor and six feet above the floor, we should find greater difference. If Morin's maximum (59) was taken at the usual height above the floor, the temperature at the floor where the children live would be 51°. Can a child with ordinary clothing be in such comfort at this temperature as to insure the mental activity desirable in schools?

"Americans demand a higher temperature than that advised by European writers on hygiene. A part of this difference may be explained by difference in methods of warming. They aim to warm the person by radiant heat without warming the air surrounding him; we try to warm the person by warming the air around him. I was walking along Washington avenue last summer, when a merchant, sunning himself before his store, hailed me: 'Doctor, from what source do we derive our heat?'—'Ultimately from the sun.' 'Then what warms me now is heat derived from the sun?'—'Yes.' 'How can that be, when the heat coming from the sun must pass for millions of miles through space colder than anything we ever find on earth? Why is not the sun's heat used up in warming space, and lost long before it reaches the earth?'—'Because space is transparent to heat, and arrests none of the heat rays any more than those of light, and it is only when radiant heat is arrested that it becomes capable of manifesting changes of temperature. A lens of ice may bring the heat rays passing through it to a focus and melt gold; yet the ice is not warmed in the least, because it is transparent to heat and does not arrest it. In like manner radiant heat may warm a person without warming the air around him to any great degree.

"In Europe, house-warming is mainly by radiant heat,—by the blazing grate full of glowing coal or peat in Great Britain, or by the huge porcelain stove in France and Germany. In this country we only had the blazing open fire, but this has given place to 'that sullen gnome, the air-tight stove,' and this is now fast giving place to the hot-air furnace, or hot air secured by steam-coils. It is obvious that when we warm a person by heating the air, we must have that air hotter than when we send the heat through the air by radiation from some highly heated surface. In a room heated by hot air, I find I must have a temperature at least ten degrees hotter than that advised by European writers, and cannot sit in comfort in such a room when the usual room thermometer marks less than 70°.

"We have almost banished luminant heat from our homes. The light of our fires is hidden under a bushel-like stove, or buried in some scant furnace-pit in the cellar, and not placed in the scriptural position, where 'they which come in may see the light.' We need to study nature's plan of warming, which is by associated heat and light. We do not often get the start of nature in our methods, and when we do, we usually find ourselves going in the wrong direction. 'Walk in the light' is sound theology and good hygiene. We do not secure in our living-rooms enough association of heat and light, which we find in nature's plan, as seen in the solar ray. The marriage of heat and light gives health as their offspring. What God hath joined together in nature's plan, let not man put asunder in warming his home."

The Nature of Fur on the Tongue.—An English scientist has recently been investigating the nature of the "fur" or coating which appears on the tongue in certain diseases and morbid conditions. Microscopical examination showed that the coating consists of (1) Remains of food and bubbles of saliva and mucus; (2) Epithelial cells from the mucous membrane; (3) Vegetable growths of the nature of fungi, of which several varieties are usually present, among which are *micrococcus* and *Baterium termo*, two species of germs which are very commonly found in great abundance in cases of diphtheria.

VINEGAR AND DYSPEPSIA.

FOR some time a lively discussion has been in progress in Paris among the medical savants of that learned city respecting the subject of digestion and the hygiene of the digestive organs. The discussion has finally terminated in a public lecture by one of the most eminent physicians of France, M. Charles Richet, in which were presented many most interesting and eminently practical facts relating to the relation of different articles of food to the organs of digestion. For several years we have maintained that vinegar, baking powders, and similar substances were active causes of dyspepsia, notwithstanding these same articles are highly recommended by not a few eminent writers on food and dietetics. Now M. Richet, at the head of an august body of French savants, comes forward and asserts that by careful experiment he has proved that these things are "bad food for the stomach." He does not hesitate to pronounce vinegar and tartaric acid as prolific causes of dyspepsia, and highly condemns the use of vinegar and pickles by young ladies. It is no wonder that young ladies who indulge in these unwholesome articles of food grow pale and "interesting" with dyspepsia. According to M. Richet, the use of acetic and tartaric acids causes a decrease in the secretion of gastric juice, without which no digestion can take place.

The Doctor also asserts that eating between meals is a most pernicious practice. He affirms that no food should be taken into the stomach after the meal is finished until the work of digestion is entirely completed, since the introduction of food checks the process of digestion and greatly disturbs it. He also lays special stress upon the importance of regularity of meals.

It will be seen that the discoveries of Dr. Richet are quite opposed to the teaching of many who have been looked upon as authorities in dietetics. The theory that acid foods aid digestion he has proven to be the opposite of truth, as also the theory that a weak stomach needs food often, since it is evident that the weaker the stomach the more slowly will digestion be performed, and, consequently, the longer will be the interval required between the times of taking food.

Value of Fresh Air in Fevers.— At the late sanitary convention at Detroit, in the discussion of a paper on ventilation, an old army surgeon related a very interesting experience illustrating the importance of securing to the sick, and especially persons suffering with fever, an abundance of pure air. He stated that during the war he had charge of a large hospital in which at one time in the winter season he had under treatment three hundred and twenty cases of measles. Just at this time the hospital took fire and burned to the ground. The patients were placed in tents, and all but one or two recovered. He had no doubt that the number of deaths would have been thirty or forty at least had the patients remained in the hospital. He afterward sent one hundred men who were only slightly ill to the general hospital at Nashville, and seventy-five of them died. Upon visiting the hospital, he found it so poorly ventilated that the air was exceedingly foul, producing a sickening sensation when he had only been in it for a few minutes. The Doctor concluded by remarking that he regarded pure air and water as most important agents, and believed them to be capable of controlling the ravages of raging disease.

A Sensible Course.—The papers announce that several parties have entered suits against Friggett Bros., of Brooklyn, N. Y., to recover $60,000 damages on account of their selling hams infected with trichinæ, the eating of which caused the death of two persons and the serious illness of a number of others. If all parties guilty of selling diseased pork were similarly treated, we should soon have a decided depression in the pork trade. The hog would become a drug on the market, and the pork-selling and pork-packing business would greatly decrease.

A Depraved Brute.—It is claimed by a certain class of dietetic philosophers that man is an omnivorous animal, being in this respect akin to the hog and the bear, which are the best known examples of the omnivora. The best evidence of man's kinship to the bear which we have yet seen has just come to light. It is reported that at a lumbering camp in Northern Michigan there is a tame bear which has become so far humanized as to drink whisky, smoke a pipe, and chew tobacco.

FARM AND HOUSEHOLD.

Devoted to Brief Hints for the Management of the Farm and Household.

THE KITCHEN.

It is a mistaken idea to suppose that any room, however small or unpleasantly situated, is "good enough" for a kitchen. This room, where the most time and labor are required, should be the brightest and most cheerful in the house; for upon the results from no other department of woman's domain depends so greatly the health and comfort of the family as from those of this "household workshop."

Undoubtedly much of the distaste for, and neglect of, "housework," so often deplored, arises from the unpleasant surroundings accompanying this department of labor. If the kitchen be light, airy, and tidy, and the utensils bright and clean, the process of compounding from the raw materials those articles of food that grace the table and satisfy the appetite, and the labor connected therewith, will only be a pleasant task, and one entirely worthy of the most cultivated woman.

A correspondent of the *Country Gentleman*, in a recent number, offers an admirable plan for a kitchen which we give in this connection.

"In the first place, there should be plenty of windows, and the sun should have free entrance through them, for light and fresh air are the chief essentials for good health in parlor or kitchen. Good drainage should also be provided; and I would attend as closely to the ventilation of a kitchen as of a sleeping-room. No foul air or sewer gas should find an entrance. Then I would have a large circular device—an immense funnel—suspended over the cooking-stove, with a pipe leading to the top of the house, to carry off all the disagreeable odors which the process of cooking generates. However savory and agreeable they may be at first, they soon grow rank and are apt to detract from the edge of one's appetite. This pipe can be arranged so as to pass through the servants' room, and help to make it more comfortable in the cold weather. I would have a good-sized sink with a permanent soap-stone wash-dish set into it. A drain-pipe should open out of it with a strainer affixed. There should be various closets and cupboards arranged conveniently. There should be several small drawers, as well as large ones, in the pantry, to contain the numerous articles required in cooking, and also a place for everything and everything kept in place."

CARE OF HORSES.

The *National Live-Stock Journal* offers the following excellent hints concerning the hygiene of horses, the neglect of which leads to deterioration and loss:—

"*Dry, Warm, Ventilated Stables.*—For the horse, especially, it is all important to see that the stable is comfortable; for under the excitement of work, the perspiration, and the occasional violent efforts of breathing, he is more than any other domestic animal subject to colds and chest diseases. A damp bed, or a draft of cold air acting on the heated and perspiring animal, will often lay the foundation of a malady that utterly ruins his usefulness. Open windows and doors on opposite sides of the stable, or openings in the walls or floor, should be carefully guarded against, epecially when the horse has just come in from work. But in securing comfortable warmth, we must avoid impure air, from confinement of the breath or emanations from dung or urine. Cleanliness, and sufficient openings for the ingress and egress of air, on one side of the stable only, or above the level of the animals on both sides, will guard against cold, while securing purity of the atmosphere.

"*Clothing.*—Blanketing when returned wet to the stable, and when stopped for some time out of doors, need only be suggested. When returned to the stable with wet muddy heels, which cannot be rubbed dry at once, light, dry woolen bandages may be applied to prevent chilling and chapping, and the mud may be brushed off later when it has dried.

"*Daily Exercise.*—A horse that is to be used for work, should be exercised at regular intervals, for at least half an hour on every

day on which he is not required for work. Many sudden deaths in winter and spring result from the neglect of this salutary precaution. Certain diseases of the feet, too, may be warded off by daily use."

TO GET RID OF RATS.

A WRITER in the *Scientific American* says: "We cleaned our premises of rats by making whitewash yellow with copperas and covering the stones and rafters with it. In every crevice in which a rat may tread, we put the crystals of the copperas and scattered the same in the corners of the floor. The result was a perfect stampede of rats and mice. Since that time not a footfall of either rats or mice has been heard about the house. Every spring a coat of the yellow wash is given the cellar, as a purifier, as a rat exterminator, and no typhoid, dysentery, or fever attacks the family. Many persons deliberately attract all the rats in the neighborhood by leaving fruits and vegetables uncovered in the cellar, and sometimes even the soap is left open for their regalement. Cover up everything eatable in the cellar and pantry, and you will soon starve them out. These precautions, joined to the service of a good cat, will prove as good a rat exterminator as the chemist can provide. We never allow rats to be poisoned in our dwelling, they are so liable to die between the walls and produce much annoyance."

How to Dust.—Florence Nightingale says that "dusting in these days is nothing but flapping dust from one part of a room to another, and says she cannot see why it is done. A duster should be well shaken out of a window every few minutes, but if one be in too great a hurry to take the number of steps necessary for this or if it be impossible to keep the window open while one is dusting, it is possible to rid the furniture of every atom of dust by using two cloths, one very slightly damped and the other dry. The former will remove the dust, and the latter the slight moisture left by the former. Do not wet a duster which you mean to use in this way. Sprinkle it and roll it up over night as if you meant to iron it, and when you have done using it the next morning, dry it thoroughly, shake it out, plunge it into cold water, and dry it again."

The Oleander.—The best way to root this gem among flowers is in a bottle of rain-water set in the window. The cutting should be placed no deeper in the water than half way up to the second joint, and it should be carefully potted in rich, sandy loam as soon as the rootlets get to be half an inch long. The *Scientific American* advises concerning the care of this plant as follows:—

"After the plant blooms, cut back to within a foot or fifteen inches of the ground, when three branches will come out; let them grow until it again blossoms, after which cut them all back about six inches from the main stalk, and every time it blooms repeat cutting back, and in a few years a very beautiful plant will be the result; in fact, with proper care, it will grow more beautiful with age."

Importance of Airing Beds.—An exchange says:—

"The desire of an energetic housekeeper to have her work completed at an early hour in the morning causes her to leave one of the most important items of neatness undone. The most effectual purifying of bed-clothes cannot take place if no time is allowed for the free circulation of pure air to remove all human impurities which have collected during the hours of slumber. At least two or three hours should be allowed for the complete removal of atoms of insensible perspiration which are absorbed by the bed. Every day this airing should be done, and occasionally, bedding constantly used should be carried into the open air, and, when practicable, left exposed to the sun and wind for half a day."

To Mend Kid Gloves.—A very admirable and easy way of mending rents in kid gloves is to work a fine button-hole stitch all around the tear, then draw the edges together by putting the needle back and forth through the button-hole stitches.

—Rusty stove-pipe may be made to look nearly as good as new by simply rubbing it with a bit of cloth moistened with sweet oil.

NEWS AND MISCELLANY.

—It costs $30,000 a year to keep St. Peters, at Rome, in repair.

—A large underground lake has recently been discovered in Algeria.

—Indiana has the largest school fund of any State in the United States.

—A platinum mine is said to have been found in South Granville, N. Y.

—One of the subjects of a recent patent, is paper manufactured from grass.

—There are 957 railway tunnels in the world, with a total length of 291 miles.

—A mine at Virginia City, Nev., has reached the remarkable depth of 2,920 feet.

—According to Prof. Merriman, Manhattan Island is sinking at the rate of three inches a century.

—The actual cost of the Metropolitan Elevated Railway, New York City, was over $800,000 a mile.

—The richest university in the world is that of Leyden in Holland. Its real estate is worth four million dollars.

—A continental exposition will open Sept. 15, 1880, at Buenos Ayres. The United States will be represented.

—Calico derives its name from Calicut, a port in India, and linen is a corruption of the Latin *linum*, which means flax.

—The third International Congress of Hygiene will take place at Turin, in April, 1880, under the patronage of the Italian Government.

—It has been calculated from the mortality tables of known countries that the annual number of deaths throughout the world is 35,693,350.

—The estimated number of Indians, of all tribes in the United States, is 300,000. The government paid $181,000,000 on Indian account last year.

—According to the report of a London committee on intemperance, out of 31,012 arrests for drunkenness in that city in 1875, 14,524 were women.

—The first book published in America was printed in the city of Mexico, Dec. 13, 1540, and was used by the Spanish priests as an aid in converting the natives.

—The Roumanian Chambers have passed an act naturalizing 800 Jews, who took part in the war of independence. Many more have petitioned for the same privilege.

—Diphtheria is prevailing to such an extent in Russia that private citizens have formed relief organizations to aid the government in caring for the victims of the disease.

—The reading room of the British Museum has been illuminated by means of the electric light with such good effect as to render the smallest print as legible as by daylight.

—Representative Pound has suggested an amendment to the Constitution providing for a six years' Presidential term, which is said to be meeting with considerable approval.

—February, this year, has five Sundays. This is a circumstance which has happened only twice before in the present century, in 1824 and 1852, and will not occur again until 1920.

—The great cathedral at Cologne is to be completed this year. The first stone of this immense church was laid Aug. 14, 1248. The church is in the form of a cross 511 ft. long by 231 ft. wide.

—A Japanese publisher recently printed, in Japan, an edition of the book of Genesis in the Chinese language, which is the first publication of any portion of the Scriptures ever allowed by the Japanese Government.

—The history of France for the past century exhibits three women who have perhaps experienced more splendor and more bitter grief than any other three women in the world—Marie Antoinette, Josephine, and Eugenie.

—M. Malarevsky, a Russian physician, claims to have proven by experiments with fifty persons, that if books were printed in white ink on black paper, the strain upon the reader's eyes would be less, and shortsightedness not so prevalent.

—During September, 1879, a million and eighty-one thousand dollars in revenue taxes, on distilled liquors, was paid in Peoria, Ill., the largest sum ever received by the Government for internal revenue tax, in one month, from a single city.

—The distress in Ireland is increasing, and hundreds of people are on the brink of starvation. The streets of Cork are patrolled by mounted police, and the magistrates of the city have trouble in suppressing demonstrations partaking of the nature of bread riots.

—The seven Bibles of the world are: the Koran of the Mohammedans, the Eddas of the Scandinavians, the Yry Pitikes of the Buddhists, the Five Kings of the Chinese, the three Vedas of the Hindoos, the Zendavesta of the Persians, and the Scriptures of the Christians.

—A Swiss workman has constructed a clock, which indicates the day of the week and month, the signs of the zodiac, phases of the moon, and the hour of sunrise and sunset. The pendulum is a barometer. It strikes the quarters, and at every hour plays one of eight tunes.

—Mr. Tremlett, the British consul at Sargon, in his annual report, mentions as a peculiarity of the natives, that they have the great toe of each foot separated from the others, like the thumb on the hand, and it can be used much in the same manner though not to the same extent.

—"Nature" for December reports the snow in Europe of so great a depth as to almost entirely interrupt all telegraphic communication in France and on the Continent. The quantity of snow which fell in Paris on the 4th of Dec., according to a calculation made by a member of the Municipal Council, amounted to 245,000,000 cubic feet.

—Dr. Uriah Boyden, a wealthy Boston inventor, who died recently, bequeathed the greater portion of his property for the purpose of making scientific investigation concerning the properties of heat and the phenomena relating to it. After such investigations have been thoroughly made, he provides for observatories for the gratuitous use of students of astronomy and kindred sciences.

LITERARY NOTICES.

PHYSIOLOGICAL ANTAGONISM THE THERAPEUTIC LAW OF CURE. By Electus B. Ward, M. D.

This suggestive little paper was read before the Detroit Academy of Medicine. It contains many excellent thoughts, and whether his conclusions are accepted or not, it must be granted that the positions taken respecting the relation of drugs to the human organism and curative powers of the vital organism are undoubtedly correct.

THE OBSTETRICAL FORCEPS. By G. M. B. Maughs, M. D. St. Louis.

This paper, reprinted from the St. Louis *Medical and Surgical Journal*, is an admirable summary of information concerning the use of the forceps in obstetrical practice. The prejudice against this ofttimes necessary procedure is gradually lessening; and such papers as this are of value in affording the necessary practical information to insure success to those whose opportunities for gaining information by practical experience are more limited than those of the writer.

CHICAGO MEDICAL GAZETTE. Chicago: E. C. Dudley, M. D.

This new journal makes a creditable appearance, and its table of contents shows an interesting variety of subjects pertaining to the various departments of medical science. Although the West seems to be already well supplied with medical literature, we see no reason why this new journal may not secure a fair share of professional patronage, at least if it fulfills the fair promises made by its first number.

AMERICAN MONTHLY MICROSCOPICAL JOURNAL. New York: Romyn Hitchcock.

We have received the prospectus of this new journal, which is announced to begin with the present month. We doubt not that it will supply a want which is now supplied by no other journal. The editor, Romyn Hitchcock, F. R. M. S., is certainly well qualified to make the journal all that such a journal should be to enable it to fill the place designed. According to the prospectus, this journal will be "an authoritative and reliable periodical for naturalists, amateur microscopists, medical students, practicing physicians, and all persons who are interested in scientific studies."

LACERATION OF THE CERVIX UTERI. By A. Reeves Jackson, A. M., M. D.

This is an able paper on a subject which has of late years been of much interest to gynochologists. The author does not claim to add anything of importance to what has been previously known, but gives ample credit to Prof. Emmet, the originator of the operation, and only claims to have confirmed the statements made by Prof. Emmet by his own experience. The assertion of Dr. Jackson that a large share of the suffering of ladies who have been mothers is due to laceration of the cervix, if not fully one-third, as claimed by Dr. Emmet, we have reason to believe from personal observation; and we have never been more gratified with the results of our efforts as a physician to relieve the suffering of a chronic invalid than when we have seen a patient who had suffered for many years from most distressing maladies, until she had given up all hope of recovery, after an operation for the restoration of a lacerated cervix, rapidly recover her health.

LIMITATION AND PREVENTION OF DIPHTHERIA. By R. L. Payne, M. D. Raleigh: North Carolina State Board of Health.

This very excellent little pamphlet has been prepared by a member of the State Board of Health of North Carolina for distribution among the citizens of the State, to limit, if possible, the spread of a malady which annually destroys thousands of victims, and invades every State and Territory of the Union. A careful perusal of the pamphlet convinces us that it is admirably adapted for the purpose named, and we do not doubt that its wide circulation would do much to limit the ravages of this disease. We are particularly pleased to see that the author calls attention to the fact that one attack of the disease, instead of affording protection from subsequent attacks, increases the liability to the disease. This fact we have frequently noted, and we have been surprised to see that some authors of considerable eminence take the opposite position.

CRIMINAL ABORTION. By Edward Cox, M. D., Battle Creek, Mich.

The paper bearing the above title was presented by the author as his presidential address at the last meeting of the Michigan State Medical Association. The subject treated is one of the most important moral and social questions with which medical men have to deal. It calls for earnest, solemn, soul-stirring words from all who are alive to the enormity and frequency of the growing crime which in Christian America annually murders more infants than are sacrificed by deluded, idol-worshiping Hindoo mothers during the same period. The author has spoken ably and in no uncertain words in his address, and it is to be hoped that much good will result from his laudable attempt to call the attention of the profession to this terrible crime. The only point in which we cannot agree with the author is in the intimation that the instruction given to young women in the public schools in anatomy and physiology may have had some influence in increasing the crime. The doctor well says, "A little learning is a dangerous thing;" but his conclusion that because a little is dangerous, all information should be withheld, we cannot assent to. Our conclusion would be that if a *little* learning is dangerous, the evil should be corrected by imparting more. Instead of giving girls less information, give them more. We do not believe that the teaching of physiology in the public schools has anything to do with the increase of criminal abortion. We should regard it equally rational to argue that because botany is more taught now than forty years ago the knowledge of vegetable anatomy and physiology, including, perhaps, some knowledge of vegetable reproduction, has occasioned an increase in the frequency of abortion. A young woman has just as good a right to know about the structure and functions of her own body as about those of a plant or insect, knowledge which no one would think of denying her. We have no sympathy with that prudish caution which would attempt to preserve womankind or any branch of the human family in innocence through keeping them in ignorance. Ignorance is the mother of *vice*, not of *innocence*.

Publishers' Page.

☞ For the benefit of numerous correspondents who have for several years been calling loudly for a new work embodying the principles of hygiene in its various departments, and the application of correct principles and simple agents in the management of disease, we will say that after having been at work upon such a treatise for several years, and having despaired of being able to complete it satisfactorily to ourself at home, while burdened with numerous other duties, we have at last secured a leave of absence for a few weeks for the purpose of completing the work. Personal letters may be addressed to us at 1215 G. St. N. W., Washington, D. C. J. H. K.

☞ As many of the friends of the Sanitarium doubtless saw in the newspapers the exaggerated account of the fire in the main building, the night of Jan. 6, we take this opportunity to say that the matter was greatly overstated. The fire was a very small one, and the damage done can be repaired by a very slight expenditure. It was discovered within five minutes after it started, by the watchman, who immediately informed us. Being engaged in our office writing, and expecting to take the eastern bound train in an hour or two, to attend the Sanitary Convention at Detroit, we were quickly on the spot, and with the aid of a number of efficient assistants, the flames were quickly controlled, thanks to our efficient fire protection. As the Sanitarium is provided with its own fire-pipes, hose, fire-extinguishers, and other appliances for the same purpose, not more than three minutes elapsed after the fire was discovered before efficient means were at work to extinguish it. The safety of the building consists in its thorough and efficient protection. Patients, helpers, and all in and about the building at the time of the fire, conducted themselves in a most creditable manner. Although every one was up and dressed for an hour or two in the middle of the night, all retired to rest again, and most slept soundly until morning, by which time a casual observer would have been unable to discover that anything very unusual had occurred.

In estimating the damage the next morning, the insurance agents remarked that they regarded the incident the most trying test of home protection from fire that they had ever known. All parties concerned feel safer about the building since the fire than before, as we have had an opportunity of trying our facilities for putting out a fire, and under circumstances which tested them most severely, yet they proved efficient. Not a single patient left the institution on account of the fire, although several packed their trunks at the time.

An Important Work.—The publishers congratulate themselves and their patrons on the prospect of soon being able to present them with a work for which there has long been an urgent demand, and which we trust will fully meet the expectations of the friends of health and temperance reform. As will be seen elsewhere, Dr. Kellogg is now engaged in completing a work which he has for several years had in preparation, calculated as a complete handbook of the principles of hygiene, and a book for ready reference in all families where those principles are put in practice. The friends of reform will be justified in expecting a valuable book, and we trust they will not be disappointed.

Diphtheria.—Reports from all sections of the country indicate an alarming prevalence of this terrible scourge, with about the usual proportion of fatal cases. Notwithstanding the adoption of improved methods of treatment by nearly all physicians, the fatality of the disease is not materially decreased so far as appears from the reports, and it is justly regarded with fear and dread. The prevention of its fatality is to a great extent in the hands of the people. The observance of sanitary conditions, and the prompt treatment of the disease in its first stages, are the true principles of safety in dealing with it, as it often happens that before a physician's aid can be obtained the disease has made such progress as to render his best services ineffectual.

In view of this fact, the importance of popular education on this subject will be apparent. Every mother ought to know what to do when the disease first appears, and every household should be acquainted with the necessity of removing its causes, which often exist in the surroundings. In fact, every family in the land ought to possess Dr. Kellogg's work on Diphtheria, and become thoroughly posted on the subject. It is safe to say that hundreds owe their lives to the possession of the knowledge contained in the book, and for the sake of humanity we desire to see it scattered far and wide.

Local agents who would like to canvass for this or any other health publications, will find the present a golden opportunity.

The Trial Trip.—Many are availing themselves of the liberal offer of Good Health on trial, four months for twenty cents. The friends of the journal are sending us many names, and the magazine will visit thousands of new readers during the next few months. We trust that many of them will become permanent subscribers.

Our New Calendar.—All subscribers who renewed prior to Jan. 15, have by this time received the Good Health Calendar for 1880, and are doubtless pleased with it. Every one who has seen it pronounces it a gem of the typographic art, and an ornament to any place of business.

Omission.—When too late to rectify the error, we discovered that no credit had been given to a selected article, in last number, entitled "The Smoking Christian." It was taken from the *Temperance Anvil*, a wide-awake temperance journal, published at Washington, D. C.