

GOOD HEALTH.



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ANATOMY, PHYSIOLOGY AND HYGIENE.

BY THE EDITOR.

HYGIENE OF THE BONES.

ALTHOUGH the bones when once well formed are much less liable to disease than most of the softer parts of the body, yet they are undoubtedly affected by various morbid influences, and during the period of development are especially liable to become diseased in a variety of ways. We shall attempt to point out in as brief and concise a manner as possible some of the principal sources of danger to the integrity of this part of the system and the means necessary to secure the healthy development of the bones in early life, and their maintenance in a healthy condition in adult life.

PROPER DEVELOPMENT.—First of all, proper development is essential to the health of the bones as well as of other tissues of the body. If a morbid condition has been received by inheritance, of course the defect cannot be remedied; but most frequently faulty development is due to faults which can be avoided. Among the chief causes of faulty development may be mentioned,—

Improper Food. By improper food we mean that which is lacking in the elements of nutrition necessary to form healthy bones. This is sometimes due to poor health, as defective digestion on the part of the mother, so that the food she furnishes her infant both before and after birth is lacking in the proper elements of nutrition, not only for the bones but for all the tissues. The defect may be in the quality of the mother's food. If she at-

tempts to gain nourishment from fine-flour bread, strong tea, and lager beer, with perhaps a long list of harmful articles besides, the child will certainly suffer, not only with defective bones, but with defective mental development, and will be lacking generally.

Not infrequently, perhaps most often, defective nutrition for the bones arises from the attempt to rear an infant by hand upon such trash as corn-starch, tapioca, fine-flour gruel, and almost any one of a dozen varieties of "baby-food" which are lauded in the newspapers, but the only recommendation of which is that they hasten the little sufferers out of misery. No food is so good for the young infant as that furnished it by nature. If through illness or incapacity the mother is unable to furnish the proper quality or amount of food, then cow's or goat's milk, or some other proper substitute, should be provided. Full directions for such cases are given under the proper heading.

Another cause of defective development is deficient or too early exercise. Children that are kept constantly confined indoors cannot develop strong, healthy bones, any more than they can develop vigorous muscles. Exercise is essential to the development of every organ of the body, as well as to the maintenance of health in organs originally well developed.

On the other hand, allowing children to begin to exercise too early, as attempting to teach them to walk before the bones have acquired sufficient firmness to sustain without injury the weight of the body, may dwarf

and deform a child so that proper development may be impossible.

Putting children at work at employments which tax them by requiring continuous application for long periods is a most injurious and inhuman practice. When this is done, ossification is hastened, and becomes completed before the individual has attained his full growth, thus dwarfing him. The thousands of diminutive young men and women to be found in the vicinity of large manufacturing cities bears testimony to the truth of this observation.

The bones of young children are soft and pliable, and yield when subjected to more strain than they can bear, thus becoming distorted. The exercise of children should always be varied, and should be given with frequent intervals for rest. Prolonged action is much more taxing to children than more violent exercise with frequent periods of rest; but both should be avoided. Moderate exertion and plenty of rest are the essential principles of development by exercise for children.

SPINAL CURVATURES.—Almost a volume might be written on the evil results of improper positions assumed in lying, sitting, standing, and walking; but our space is limited, and as the subject will be again referred to under the head of "Hygiene of the Muscles" we shall now simply touch upon the most important points which bear particularly upon the hygiene of the bones. It is in childhood especially that errors of this kind exert most strongly their baneful influence.

Probably to improper positions in school-rooms, where boys and girls as students are usually confined several hours of each of five days in the week, is due a large share of the distortions of the spine which are so exceedingly common nowadays. Dress-makers and most tailors are well posted on the frequency of spinal curvature, on account of the great number of instances in which dresses, coats, and other garments have to be cut and padded to hide deformities of this sort. Spinal curvatures are much more common among young ladies than in the opposite sex, for the reason that young men and boys usually engage in such vigorous, active sports out of school-hours that the evils occasioned by confine-

ment in improper attitudes are in a considerable degree counteracted. We have for several years made a special point of observing with considerable care the persons whom we meet in traveling, in the streets, and in various other ways, with reference to this point; and we have been astonished to see in what a large proportion of young persons, particularly young ladies, some degree of variation of the spinal column from the natural form exists. We have noticed particularly on more than one occasion the very great frequency of this form of deformity in young ladies in attendance at our city schools. In cases in which the curvature is lateral it may be discovered at a glance by the difference in prominence of the two shoulders. The shoulder upon the concave or hollow side of the curve is always lower than that on the opposite side.

One great cause of the serious injury to students, and especially the younger class of school-children, is the use of improper seats and desks, or seats and desks not adapted to the age or size of those who occupy them. It may be well to remark, however, that the evil is becoming generally recognized by our foremost educators, and the improvements already made in this direction by manufacturers give reason to hope that the difficulty will soon be remedied, so far as the mechanical construction of seats and desks is concerned. But this alone will not remedy the evil; teachers must fully appreciate its gravity and must do their part in inducing students to assume and maintain a correct attitude in sitting at their studies. When engaged in study, students, especially if they are near-sighted or if the light is poor or print defective, are very apt to lean forward until the spine is very considerably curved. This is especially the case when engaged in ciphering or writing. The effect of this is to produce a permanent forward curving of the spine, and round shoulders, a deformity the most serious aspect of which is by no means its detraction from the good appearance of an individual. At the same time, most generally, a lateral curvature is produced by sitting with one arm upon the desk while the other is not, the desk being so high as to require the shoulder to be elevated to bring

the elbow upon it. This position is a very common one with students, and to it is due the greater share of the cases of lateral curvature.



FIG. 31.—Section of vertebrae, showing, at 3, Fibro-Cartilage Disc of normal shape.



FIG. 32.—Diagram showing the Cartilage, 3, thickened as the result of an anterior curvature of the spine, the spines of the vertebrae, *ss*, being brought near together.

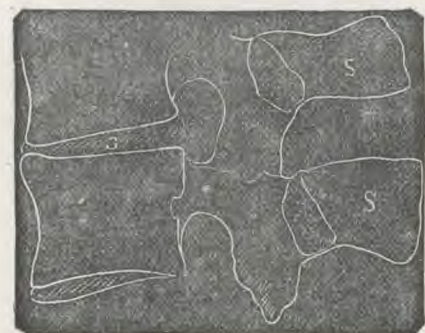


FIG. 33.—Diagram showing the Cartilage, 3, thinned by pressure resulting from a posterior curvature, the ends of the spines, *ss*, being separated more than usual.

At first a curvature is only a functional distortion, being due to weakening of some of the muscles of the back, but by degrees it becomes permanent, as will be seen by a glance at the structure of the spinal column. It will be recollected that the vertebral column

is made up of twenty-four separate bones arranged one above another, with discs of elastic cartilage between. It will also be recollected that the observation was made that these cartilages may lose their elasticity in some degree by continuous pressure, so that they become thinned, thus making a person shorter at night than in the morning, the variation being from one to two inches in different persons, and according to the amount of exercise taken. From these facts it will be readily seen that if the spinal column be bent and retained in a curved position for any considerable time, the discs of cartilage will become thinner upon the side upon which the pressure is applied, that is, upon the hollow side of the curve, than upon the opposite side. Again, it will be readily understood that if this occurs daily for a considerable period, the thinning upon the side brought under pressure may become permanent. This is exactly what does occur. The cartilages, which are naturally of equal thickness on the two sides, become so changed that they resemble wedges. This is well seen in the illustrations.

We have in our possession a section of the spinal column which we removed from the body of an individual in whom it had become so curved as to almost exactly resemble the letter S. In this case the cartilages were in exactly the condition represented in the accompanying cut above referred to. We have recently had under treatment a number of cases of this sort in young ladies, whose bad positions assumed in sitting at school were



FIG. 34.

wholly responsible for the deformity of which they suffered. In one instance in which there was double curvature of spine, as represented in Fig. 34, the young lady's height was increased by treatment two inches in a few weeks, by simply straightening the spine and restoring the cartilage discs to their proper uniform thickness. In another case an inch and a half was gained in the same way, though in the latter instance there was posterior as well as double lateral curvature.

It is too evident to need special explanation that if the permanent thinning of the

intervertebral cartilages has existed a very long time no method of treatment will be of avail. Hence the importance, not only of taking every precaution to prevent the evil in the first place, but of adopting the necessary curative measures as soon as the deformity is discovered.

DEFORMITY FROM TIGHT-LACING.—While the bones suffer the least of any organs from the absurd custom which fashion has imposed upon the gentler sex,—and, we are informed, at times upon the other sex as well,—tight-lacing the waist and encasing the body in a vise of stays of bone or steel, is of positive and often incurable injury to this part of the vital economy, and is indirectly the source of far greater damage to more vital parts.

The reader will recall that in considering the anatomy of the thorax attention was called to the fact that the bony ribs do not join the sternum or breast-bone directly, but indirectly through the medium of flexible cartilages, an arrangement which gives to the thorax the power to expand and thus enable the lungs the better to perform their important functions. Careful study has shown that this flexibility of the costal cartilages is due to their constant exercise. Day and night, sleeping or waking, twenty times a minute, these flexible parts are bent and allowed to return again to their natural position. This constant bending and unbending allows them no opportunity to become stiff and unyielding like the bones. But when the chest is imprisoned in a corset, this constant movement becomes impossible; and the consequence is that a process of stiffening is set up, and after a time the once flexible, yielding cartilages become as rigid as the rest of the ribs. The inevitable result of this change is a permanent limitation of the movements of the lungs. It becomes impossible for them to expand except to a limited degree upward and downward. Lateral expansion is as impossible when the corset is laid aside as when it is in place. The deformity, which was at first temporary, has become permanent. There are thousands of delicate ladies all over the land whose costal cartilages have been thus changed through their own willful abuse of their bodies, and who will undoubtedly go down

into premature graves in consequence, in spite of all that the most skillful physicians can do for them.

The chest ought to be capable of expansion from two to five inches,—even greater expansion is attainable. But if you put a tape-line around one of these corset-stiffened chests you will be unable to obtain more than a scant quarter-inch of difference in measurement between the chest when empty and when filled to its utmost capacity. We have often tried the experiment when making physical examinations of the chest, and though the patient is almost always anxious to do her best, in order to demonstrate if possible what every lady will eagerly contend for, that her corset never did her any harm because it was worn so loose, and so draws up her shoulders to her utmost and makes a desperate attempt to swallow more air than there is room for, we have often found that the expansion of the sides of the chest was so slight as to be imperceptible. If tight-lacing did no other harm than this, we should certainly wish to condemn it in the strongest terms we could find language to express; and we cannot help feeling sometimes that it is a great misappropriation of money to support an army of missionaries among the inappreciative and degenerated inhabitants of African jungles and other heathen countries, who value human life so little that they feed their superfluous little ones to the crocodiles, and sacrifice a score of women to commemorate the death of a king, while there are so many thousands, perhaps millions, in civilized lands who are sacrificing lives which might be a hundred-fold more useful, in ways equally absurd and senseless. Let us have health missionaries to go into every city, village, and community, and preach the life-saving gospel of health.

THE ABUSE OF BABIES.

THE little, bare-legged, dirty-faced tot, whose mother does all the work of a household of six or eight, is in many ways the most fortunate of babies. He can sit in one little calico garment, on the bare floor, and kick and roll with perfect freedom. He can reach the pump-handle, and give himself a comfortable wetting two or three times a

day, and he can laugh or cry unhindered, just as the notion takes him. If this independent little fellow could only live in a clean, healthy part of the city, and be fed with judicious care on coarse but nourishing food, his lot would be far better than that of his aristocratic brother on the fashionable street. As it is, he gets much more solid comfort out of life, though he may be more in danger of sudden death.

The trials and troubles of these little bare-footed incipient freemen are, in most instances, beyond remedy; but it is the children of the better classes, whose parents are able to do all that money can buy, who are crying out all the time with the touching inarticulate voice of childish pain, for the correction of a hundred abuses, which only requires a little thought and self-sacrifice.

These children are overwhelmed with a volume of clothes as useless as they are injurious, too long by half a yard if they are infant's dresses, too many and too heavy for hot weather, too light and too thin for cold weather, and too fine for any weather.

An infant is kept in its nurse's arms when it should lie kicking in freedom on the bed or floor. A little child is be-ruffled and be-sashed, until it can hardly walk, and then a nurse is kept at its heels to see that none of the ribbons or ruffles are displaced. Every childlike, romping movement is suppressed, every childlike scream hushed, till the tyranny of nurses and clothes becomes absolute slavery.

But these are not the worst troubles. Babies are dressed by order of fond mothers until they are nearly smothered in lace and ribbons, and then tucked into dainty carriages and trundled off by thoughtless or over-loving nurses, no one knows where. If the children are pretty and interesting, so much the worse for them; they are noticed by every passer, kissed by mouths foul with breath from a disordered stomach or bad teeth, and hugged up to warm bodies, from which their sensitive little natures will absorb more disease in five minutes, than they would take from any air in an hour.

If they have colored nurses, they are often taken to the filthiest parts of the city, and tossed about from one careless hand to another, until the little things ache from head

to foot with the rough, though good-natured fondling. If they are sick, and consequently fretful, they receive all the twitches and cross words, and perhaps blows, that their nurses are afraid to give them in presence of the mother. If the nurse is young, and receives some attention from the men of her own set, she will make the daily airing of her small charge a rendezvous; and while she and her lover are talking comfortably in the shade of some house or awning, the poor, little helpless child is blinking its eyes against a torturing sun.

Often times fearful risks are run in crowded streets, and on dangerous crossings, and many a little sufferer from hip disease, or a deformed back, may have its trouble traced to some unknown fall on the street.

These are sad facts to contemplate; but every business man that walks to and fro from his store, and every promenader can testify to their truth.

Small children that are taken for walks, are compelled to go long distances, to stand on corners in the sun, perhaps; are scolded and jerked, and then frightened into silence by the most dreadful threats. The most awful practices are indulged in by nurses before children, and oftentimes drugs are given to keep them quiet. Very often the cheapest candy is given them, candy poisonous with all sorts of bad coloring, and many other things that are bad, out of pure, ignorant, good nature on the part of nurses.

Now the remedy for all this does not lie in a remorseless tirade against these same nurses; they are only human; they have their troubles and their grievances; and they seldom have any resource but the human though wicked one of venting their anger on the helpless children intrusted to them. Most of them are naturally kind, and suffer more patiently children's tyranny than would the parents, should the places of the two classes be changed.

And much of the injury children suffer comes more from carelessness than from viciousness. The remedy lies with the mothers themselves. They must either take the time and the trouble to look after their children constantly, or they must accept the consequence of sickness, death, and, what is worse,

moral taint. They must give up thinking only for style and beauty, and study for comfort and freedom. Wherever a child's dress interferes with its free movements, it is wrong to allow such dress; and any mother, knowing this, and still persisting in all sorts of hampering finery, is a criminal, and deserves any result.

Mothers cannot think too much or watch too closely. Dress, food, surroundings, treatment, all that comes into a child's experience before it is ten years old, makes or mars the whole life.

Then give them clean, but plain clothes, good and simple food, sweet words, sweet looks, sweet thoughts, the utmost freedom consistent with proper moral training, and constant, untiring watchfulness. Let their plays, their airings, their sleep even, be looked after. Better that the dainty dress and shining carriage never be seen off the home square, than that only once, the little one should get a fall, a slap, or a moral scar. Better a healthy body and a lovely spirit, than all the finery in the world.—*Woman at Work.*

Reported for GOOD HEALTH.

MICHIGAN STATE BOARD OF HEALTH.

THE regular quarterly meeting of this Board was held at its office in the State capitol at Lansing, on Tuesday, October 12, 1880. The following members were present during the meeting: Prof. E. A. Strong, of Grand Rapids; Hon. LeRoy Parker, of Flint; Rev. D. C. Jacokes, of Pontiac; H. F. Lyster, M. D., of Detroit; J. H. Kellogg, M. D., of Battle Creek, and Henry B. Baker, M. D., Secretary.

IMPURE WATER.

Dr. Kellogg reported the completion of his paper on contamination of water by decaying wood, and mentioned in that connection some of his observations in regard to ice being contaminated by decaying sawdust and other impurities. He showed the fallacy of the popular belief that ice freezes pure, and said that it incloses all organic impurities that float. He described a water-cooler which was designed to avoid contamination of the water by the ice, as would happen if the ice were placed directly in the

water. A cylinder containing ice and salt was placed in the center of the cooler, allowing the water to come in contact with this cold cylinder without touching the ice. He also reported progress in studies relative to the work of the new committee to which he was appointed,—“the relations of preventable sickness to taxation.”

Dr. Baker made a report of the

WORK IN THE SECRETARY'S OFFICE

during the past quarter, which showed the distribution of a large number of annual reports and other documents to officers of local boards of health and other persons. Heretofore, documents have usually been sent to the county clerks for distribution to local officers; but having seen that it might be as difficult for some persons to get them from the county clerks' offices as from Lansing, the secretary sent a circular letter to presidents of villages, asking them whether they wished them sent to county clerks, or if they would pay the express charges if sent to them direct. Of 102 replies, 73 desired the packages sent direct, 29 wished them sent to the county clerks, and of the latter, many now lived at or near county seats. Many of these officers expressed great interest in the information contained in the documents of the State Board. From evidence collected at Lansing, it would seem that the documents issued by the State Board of Health are in greater demand than any State documents, with the exception of the reports of the State Board of Agriculture and State Pomological Society.

REGULATION OF MEDICAL PRACTICE.

The Secretary stated that in response to communications relative to the proposed regulation of medical practice, he had prepared a paper and a form for a bill. He submitted an outline of it to the Board. He had done this partly because he feared the State Board of Health would be made the examining board, and its usefulness for other important work impaired.

Later in the session Dr. Lyster spoke on the same subject, and the following resolutions were adopted by the Board:—

Resolved, That there should be required of all who are to begin the practice of medicine

in this State an examination as to their qualifications.

Resolved, That such examinations by the State should be restricted to questions in demonstrable knowledge as distinguished from questions of mere opinion.

Resolved, That, as a public health measure, a committee of three be appointed to prepare and report at the next meeting of the Board a plan for furthering the objects stated in the preceding resolutions.

Drs. Lyster and Baker, and Rev. Dr. Jacokes were appointed such committee.

THE ANNUAL REPORT OF THE SECRETARY

relative to property received and disposed of during the fiscal year ending Sept. 30, 1880, showed the purchase and placing of meteorological instruments in different parts of the State, the addition of 414 books and pamphlets to the library of the Board, the receipt of weekly and monthly mortality statements from the principal cities in the United States and some foreign countries, the distribution of similar information respecting Lansing and the State; and the detailed expenditures of office, which are classified as follows:—

Expenses of members attending meetings, \$205.65; instruments and books, \$147.11; paper, stationery, etc., \$192.51; postage for the office, \$581.90; postage by members, \$16.30; printing and binding, \$389.27; secretary, \$2,000; miscellaneous (which includes telegrams, express, freight, etc.), \$120.39; making a total expenditure for the fiscal year of \$3,653.13.

EXAMINATIONS IN SANITARY SCIENCE.

The Secretary reported that Dr. M. Veenboek, of Grand Rapids, and Henry B. Baker, M. D., of Lansing, the applicants for examination in Sanitary Science by this Board, July 14, both passed the examination, and that the Board had since voted to grant them certificates. It was voted to publish the questions asked these candidates, in the Report of the Board for 1880. The Secretary reported that in accordance with instructions from the Board, he had prepared a list of books valuable for reference and study by candidates for the examinations in Sanitary Science, and it was voted to print the list in the Annual Report for 1880.

OZONE.

An interesting paper by J. Mulvany, M.D., of the British Navy, giving the results of ozone observations conducted in various parts of the world, was presented, accepted with thanks, and ordered published in the Annual Report. The paper was read before the Meteorological Society, London, England, but not yet published.

SANITARY CONVENTIONS.

It was voted to hold two Sanitary Conventions for the reading of papers, discussion of sanitary topics, and the exhibition of sanitary appliances, during the coming winter. Rev. Dr. Jacokes and Dr. Baker were appointed a committee to receive invitations and make arrangements for the Conventions. Persons desiring a Convention at any place may correspond with either member of the above committee.

Prof. Strong said the convention at Grand Rapids last winter had greatly stimulated public health work in that city.

The secretary presented an invitation to the international medical congress to be held in London, August, 1881.

Dr. Jacokes presented a drawing and description of a plan for introducing fresh air to be warmed by a coal-stove in the room.

The secretary was directed to investigate the hog cholera now prevailing in the southwestern part of this State, and find, if possible, any relation between that and any sickness in the human species.

Prof. Strong, the new member, was assigned to work on the committees on the "relations of schools to health," and on the "relations of climate to health."

Dr. Baker presented specimens of pine infected with a fungus which had completely destroyed the floors of several rooms constructed of that wood in a new building. The fungus seemed to grow most where the floor was covered, as with oil-cloth or by boxes resting on the floor; and in one room the decayed floor corresponded with the portion not exposed to light, though that case may be explained by a greater amount of moisture in that part of the room, because of dampness underneath. The odor in the room was that moldy or musty odor not infre-

quently met with in close rooms. It caused frontal headache, and a person engaged in repairing the floor had spells of sneezing on two occasions some months apart while thus employed.

The Secretary presented communications from E. P. Christian, M. D., of Wyandotte, relative to diphtheria, etc., and he was instructed to use them in the Annual Report.

A design for an official seal for the Board was presented by Dr. Baker, and adopted.

Dr. Henry B. Baker was appointed delegate to the meeting of the American Public Health Association, at New Orleans, in December.

Auditing of bills and other routine work was accomplished during the day. The next regular meeting of the Board will be on January 11, 1881.

ADULTERATION OF FOODS.

SUGAR.—The different varieties of sugar, sirup, and honey, are the subject of frequent and extensive adulteration. It has long been known that sugar could be manufactured from starch by boiling it for some time with dilute sulphuric acid. By a slight variation of the process, sugar can also be made from woody fiber of all sorts, as cotton, sawdust, shavings, etc. The sugar thus made is called glucose, as it closely resembles the sugar of grapes. It is much inferior to cane-sugar in sweetening properties, and does not crystallize, as does cane-sugar. It possesses chemical properties in several respects different, by means of which it is readily distinguished. In the manufacture of glucose the sulphuric acid is neutralized by chalk, but is not wholly removed, a portion being retained in the sugar in a free state, and also combined with iron, in consequence of the contact of the mixture with iron during the process of manufacture.

On account of the non-crystalizable character of glucose it cannot be mixed with the granular sugars, but it is used in large quantities in the powdered or pulverized sugars.

The cheap grades of sugar have often been adulterated with plaster of Paris, sand, clay, bone-dust, and numerous similar substances used to increase weight. Recently the as-

tonishing discovery has been made that chloride of tin, an exceedingly poisonous salt, is used very extensively in the adulteration of the lower grades of sugar.

The presence of glucose in sugar can be easily detected by the following method: Dissolve in a test-tube half a teaspoonful of the suspected sugar, in two teaspoonfuls of warm water. Add six or eight drops of a strong solution of blue vitriol. This will give to the solution a faint blue tinge. Now add a solution of caustic potash. This will deepen the blue color greatly, and produce a curdy appearance. Continue to add the potash until the solution becomes clear, shaking the test-tube frequently so as to mix the contents well, and then heat to boiling in the flame of a spirit-lamp. If grape-sugar is present, as the liquid approaches the boiling point a yellowish color will appear, which will soon deepen to orange, then orange red, and deep red. The changes in color are due to the precipitation of red oxide of copper, which is the chemical test for grape-sugar.

The inorganic adulterants of sugar mentioned can be readily detected by dissolving the sugar, when they will appear as a sediment.

SIRUP.—Sirups are still more extensively adulterated than sugars, as the fraud is much more easily covered in them. Seven years ago (1873), we examined a large number of specimens of sirup of every grade, varying in price from eighty cents to two dollars per gallon, and found ninety-five per cent of them grossly adulterated with sugar made from the refuse of corn-starch factories. Much of this kind of sirup is also made from potato starch. In the West there are several large firms exclusively engaged in the manufacture of artificial sugar from corn. Probably the most serious injury from the use of these sirups arises from the sulphuric acid which they contain, sometimes in considerable quantity, besides quite large quantities of iron in some cases. We have known of instances in which serious injury has been done by this fraudulent stuff. A case is reported in which the cork of a jug of sirup was said to have been considerably corroded while on the way to a lumberman's camp. In a case

which came under our observation a party of young persons had what was termed a "candy pull," making candy of sirup which had been purchased as "golden drip." The next morning every one who had eaten of the candy found his tongue and teeth as black as ink, from the action of the chemicals contained in the sirup. Such compounds must certainly be wholly unfit to be put into the stomach of any human being.

This fraud is not always easy to detect, but it may generally be discovered through the action of well-known chemical re-agents upon the sulphuric acid and iron which it is almost certain to contain. These substances may be detected by the following means:—

Test for Iron.—It is well known that iron forms with tannic acid a black compound. It is by this means that ink is made from oak-bark or logwood and salts of iron. Hence, by adding a little of the sirup to a solution of tannin, it will become black. Common tea contains tannin in sufficient quantity to make a good test. Into half a cup of moderately strong, clear tea put a teaspoonful of the sirup. If the tea becomes black, iron is present in the sirup. It is true that the iron itself in very small quantities may not be productive of great injury, though in the quantities in which we have found it we think it might do harm; but a knowledge of its presence is of value as indicating the probable presence of sulphuric acid and of glucose. Sirup or sugar which will blacken tea may well be suspected and avoided.

Test for Sulphuric Acid.—Procure at a drug-store a dram of nitrate or chloride of barium. Dissolve in a few spoonfuls of water. Dissolve some of the sirup in warm water in a test-tube or clear, clean vial. Add some of the barium solution and shake. Set aside for half an hour. If a white powder appear at the bottom of the vial as a sediment, the sirup undoubtedly contains sulphuric acid, and should be rejected.

The adulteration of sirups is so common that it is entirely unsafe to purchase or use the article, no matter how alluring its name or fine its appearance, without ascertaining its purity by careful testing.

ADULTERATED AND ARTIFICIAL HONEY.—A large share of the strained honey in market

is adulterated with glucose, as well as are sirups. In some cases, so-called honey contains not a particle of the genuine article, being simply a flavored sirup of glucose. We have examined specimens in which considerable quantities of sulphuric acid were present.

Unscrupulous men are in different parts of the country engaged in the manufacture of artificial honey from cane-sugar and various flavoring ingredients. We were informed by a gentleman not long since that in a Western State he had encountered a man who was traveling through the country selling a recipe for making artificial honey. When solicited to purchase, he very properly responded that he had nothing whatever to do with frauds of any kind.

It is stated that another very ingenious form of adulteration of honey has been quite extensively practiced. What is termed the foundation of the comb is made of paraffine, a wax-like substance made from kerosene oil. This saves the bees much labor, as they have but to build up the cells on the foundation furnished them. Then, to still further economize their time and labor, they are abundantly supplied with glucose in solution, which they have but to transfer to the comb, thus avoiding the trouble of gathering sweets from distant fields. Of course no transformation takes place in the artificial sugar, it being simply transferred from the feeding vessel to the comb. Thus we have honey which is wholly artificial with the exception of a portion of the wax. This certainly caps the climax of adulterations.

The tests for artificial and adulterated honey are the same as those for glucose in sirups.

CANDY.—Of all mixtures put into the stomach, probably candy is nearly, if not quite, the most thoroughly adulterated. With the exception of rock candy, which is pure crystalized cane-sugar, there is probably no variety of candy which is not adulterated more or less. Very little cane-sugar is employed in its manufacture, it being chiefly composed of glucose. Considerable quantities of gypsum and terra alba are also used, especially in the cheaper grades. The flavoring substances employed are all artificial and un-

wholesome, often poisonous. But the most deleterious adulterant used is found in the colors with which candies are made attractive to unsophisticated eyes. No less than twenty-four different coloring substances, mostly mineral, are employed, all of which are rank poisons. Numerous cases have occurred in which poisoning has been traced directly to colored candies, and in some instances death has occurred.

We need not give directions for the detection of adulteration in candies, for all are bad, and should never be allowed to enter a human stomach. Children especially should of all persons be forbidden these poisonous dainties. They would be harmful enough to warrant their disuse if they were wholly pure; but as it is, they are absolutely dangerous; and the manufacturers should be dealt with as foes to the public health.

TOBACCO.

BY T. B. SPALDING, M.D., OF TROY, ILL.*

[The following vigorous article we copy from the *Scientific American*. The writer enunciates correct principles on this subject, and has evidently studied the subject with some care. If a similar address could be delivered before every county medical society in the country, undoubtedly very excellent results would follow; for the medical profession probably have more influence in sustaining the vile practice of tobacco-using than all other classes combined. If the doctors would reform, the people would soon follow their example.—ED.]

In a recent essay before this society, I considered the action of alcohol within the human system, and on this occasion I am pleased to respond to your courteous invitation with observations on the action of tobacco. These agents might be profitably presented as almost identical in action, and shown to be largely accessory to each other's sins, but the *temperance* is waived for the *physiological* phase of the argument.

Of tobacco's origin, its introduction, its composition, its cost, the extent of its consumption, and the processes of its preparation, I purposely pass, to deal more directly with it in its physiological relations to the functions and forces of human life.

Eminent authority in every country and in every department of science, concur in classing tobacco among the narcotic poisons, than which none are more deadly; indeed, like Aaron's rod, it has secure within itself the most magical and worst of all its rivals. Nicotia, sulphureted hydrogen, hydrocyanic acid! What a den of deadliest poisons, all having their *habitat* in this colossal curse, termed tobacco!

A poison is declared to be "anything whose natural action is capable of producing a morbid, noxious, and dangerous effect upon the organization of anything endowed with



TOBACCO PLANT.

life." Thus we perceive the definition is the perfect picture of tobacco's action. Acquainted with this agent for over two hundred years, medical science, speaking with the tongue of every science, declares tobacco wholly innutritious, and further still, declares it nauseous; not only that, but noxious; and further yet, a repository of deadliest poison. From this dictum there is no appeal; in its truth medical men are forced, by their culture, to concur. But even then dandle with Delilah till shorn of strength, and science must still be summoned and held aloft for the healing of the nation. If tobacco is a poison, it ought to act as such, and it may be safely affirmed that it *has no other action!*—no other use in medicine than to depress vitality. Thus it nauseates, it paralyzes the nerve centers,

* An address before the Madison County Medical Society.

producing relaxation of the muscular system, and produces such dreadful prostration that medical literature is full of warning, and abounds with reported cases of fatal poisoning by this agent. When medical science was in her cradle, and chloroform in the embrace of chaos, ere anesthetics had come, as the olive-leaf dove, to the ark of Æsculapius, surgeons soothed their suffering patients with powerful potations of tobacco, and thus they utterly prostrated the vital powers, relaxed the muscular system, and then proceeded to reduce laxations! How direful must have been a patient's difficulty, if half so dreadful and distressing as the remedy!

It may be affirmed and demonstrated of tobacco, what is strikingly exceptional, namely, that it alone of all the vegetable kingdom possesses two active principles,—the one an alkaloid, and the other oil, and both the deadliest of poisons.

It has been urged in support of fashionable poisons that because multitudes use them, therefore they cannot be especially dangerous; but professional science and experience teach that there is not an agent in the entire armory of toxicology that the human system, by continued use, may not at length be brought to tolerate.

One-fifth grain of strychnia, or one grain of morphia, will destroy life, yet, by constant and long-continued use, the blunted susceptibilities of the nerve centers may be made so to tolerate these and like poisons that eventually enough may be taken to destroy fifty men. It is demonstrated in the observation of every one that the use of noxious agents, especially tobacco, begets a morbid appetite which continually demands that more of it *may* and *must* be employed to produce the same impression.

Such we know are facts respecting what is noxious, but is not the case with what is nutritious. Medical science is not satisfied with *statements*, but sounds the depths in search of a *philosophy* for asserted facts, and she declares, in this regard, that nutritious agents create and renew nerve cells and structures, and endow them with the finest physiological sensibilities, while noxious agents disturb the conditions essential to their renewal, and so benumb and paralyze

their normal sensibilities, and produce inevitably the pathological and characteristic condition of continually requiring more of the disturbing poison to produce the same impression. With these truths we enter the most fascinating field in nature to consider the conduct of this agent in the laboratory of life. Nowhere has Deity evinced such evidences of an intelligent, divine supernatural as here presented in the adaptation of means to end,—in the perfect play of affinities and forces ever operative in the construction and destruction, the waste and renewal, of this physical organization.

The whole sublime but sensitive train of transition involved in the conversion of solid food, first into fluidity, and, under the auspices of vital force, transformed upward through intricate gradations till it attains the climax of its course in other solid forms, either of flesh or bone or brain, and then the oxidation of these and the evolution of heat and force is the perfect process of what we term nutrition. The brain is the depot of life's dynamics! It is the sun of the physiological system which, with its accessory centers and nerve cords, receives and transmits to the system a force that propels the mightiest and minutest processes of physical life.

But the ability of these organs—as instruments of the mind—thus to receive and transmit this vital force, depends essentially on their structural health and perfection. Paralyze or impair the perfection of structural integrity of the brain, disturb the subtle harmony of those changes of waste and renewal ever operative and essential to its structural perfection, and at once its power is impaired to forcibly and healthily perform its functions; and this adverse influence is precisely the action of tobacco as a depressing poison. The proposition is plain, the truth is self-evident and irresistible, that, with the nerve centers thus benumbed and blighted, and the vital force impaired, then every digestive process dependent on the harmonious action of vital force is weakened and discordant, and the physical and mental man is degraded to the extent that the physical machinery is injured.

The noxious influence of tobacco is more actively operative upon one class of persons

than upon others. I may, therefore, for convenience, divide the victims of tobacco into two classes, assigning to the first class all those who do manual labor. These suffer least from fashionable poisons, because the deadening influence of noxious agents upon the nervous system is largely counteracted by physical toil, which strengthens the entire system and conduces to health; and thus it is that active poisons are thought to "kill slowly," and laboring people live long, apparently uninjured, and practice poisonous indulgences. In all this great and glorious class of humanity, however, may be found the fruits of tobacco's use, in the form of cancer on the lips and tongue, dyspepsia, constipation, and hemorrhoids. But let us consider the other class, wherein are included ladies and gentlemen of wealth, of fashion, and of leisure, those who live idle as well as those devoted to literary pursuits and purely sedentary occupations. Physicians, ministers, and lawyers are of this class, and in all these we find paralysis very prevalent, and that diversified and interminable train of nervous derangements whose name is legion. With constitutions enfeebled by physical inactivity, and sensibilities heightened by social and literary culture, consider for a moment the effect upon these highly nervous natures. To all of this priceless portion of humanity, the use of tobacco is unmixed evil and rapidly ruinous.

Again, it is affirmed by eminent authority that tobacco is the most prolific, if not, indeed, the only source of delirium tremens.

First, the ancients were entirely unacquainted with these terrible terrors of the inebriate, and the records beyond the discovery of tobacco (1560) reveal no case of *mania a potu*.

Second, the normal action of tobacco is the production of tremens, and the most frightful forms of delirium tremens are daily produced by the use of tobacco alone.

Third, it is rarely possible to find an inebriate who does not also use tobacco; and careful inquiry will confirm the statement that, with 90 per cent of such cases, the tobacco habit was first formed. Its influence deranged the nerve centers, an initial tremens was entailed upon the nervous system, which

suggested to the morbid taste of the sufferer the soothing, sedative action of alcohol, and thus the allied agents forge for each other and fasten more firmly the chains of the servilest slavery.

I have employed professional science to loosen the pillars of tobacco's position, and with authority and with argument have carefully criticised its action and influence on the functions and forces of organic life. Earnestly, in this direction, I invoke the sober judgment of scientific medicine; and when you shall have ordered tobacco to abdicate, then only will it fall from popular use and favor, and with that will end the ruin it has wrought.

In view of these truths, scientific and self-evident, in the name of science that classifies all knowledge, in the name of science that seeks the essential nature of things, in the name of science that truthfully interprets the teachings of nature, issue the edict of your eminent authority and drive from popular use and favor this poisonous plague; and when this is secured, a heavenly halo of light, an ineffable effulgence, will open up over the poisonous wastes of the world a broad and bright and beautiful pathway of crimson and of gold, wherein garlanded angels will gladly gather, proclaiming "peace on earth and good will toward men," and from highest heaven all over the earth shall you cause to be heralded God's emancipation proclamation to a world that is wasting its highest and holiest possibilities in the ruinous, depressing practice of popularized poisons.

THE SUSTAINING POWER OF WATER.

DR. B. W. RICHARDSON recently contributed to the *Gentleman's Magazine* a very able and interesting article on this subject, which is in part quoted and commented upon by the *Temperance Record* as follows:—

"Whether the experiment said to have been carried out by Dr. Tanner in abstaining wholly from food for no less a space than forty days was honestly and truly carried out has been much debated, and a considerable amount of skepticism upon the point has been evinced. Yet it would appear from an interesting paper contributed by Dr. Benjamin

W. Richardson to the *Gentleman's Magazine* for the current month that it should not be regarded as a feat impossible of accomplishment. We are in no way concerned in maintaining the genuineness or otherwise of Dr. Tanner's professions that no food in the ordinary sense passed through his lips during the continuance of his experiment; it may be, and probably was, as he asserted; but it will be remembered that he partook during the whole period more or less copiously of water. We do not know that Dr. Tanner had any belief grounded upon scientific or other evidence as to the sustaining power of the natural fluid; but no doubt the great majority of his countrymen who flocked in such numbers to see him, as well as those on this side of the Atlantic who so keenly followed the daily sensational reports of his proceedings, were fully persuaded that the drinking of water was an innocent freak, and that it could have no effect in enabling him to resist the effects of the deprivation of food. Had he called for and drank either bottled stout or porter, or even ale, it would doubtless have been regarded as a violation of his compact to fast; for are not these manufactured from barley, and, in the estimation of the ignorant, do they not contain nutriment sufficient to support the body in health under almost any circumstances? and if, when the stomach was disordered, as it frequently was, he had swallowed a little brandy, would it not, if he had happily survived the attack, have been flashed over the world by telegraph as a striking and incontrovertible proof of the value of alcohol under the most distressing circumstances? It is therefore matter for congratulation that if this experiment was to be carried out no other liquid was imbibed, and Dr. Richardson has done well in calling attention to the wonderfully sustaining power possessed by water.

"Dr. Richardson gives shortly the particulars of two cases which run parallel with that of 'Dr. Tanner up to the period of forty days, and which then differ only in one respect, viz., that the perpetrators of the experiment, not content with forty days, continued longer to withstand natural law, and fell victims to their own temerity and the unswerving justice of nature.' The first instance is that of a man who, after a falling off

in his appetite, at length absolutely declined to take food and live, only occasionally taking water, for the great space of fifty-three days, when he died. This case is quoted from Dr. McNaughton, in the 'Transactions of the Albany Institute' for the year 1830, and Dr. Richardson adds:—

"Dr. McNaughton very reasonably supposed that the system in this case, as in the cases of hibernating animals, lived on its own resources. When the body is emaciated, the fatty part is taken up by the absorbents and conveyed into the blood,—the chief condition for which state of things to be carried on without causing delirium, raging fever, and death, is a supply of water to dissolve and dilute the saline and alkaline fluids. No other drink would answer the same intention in case of abstinence from all solid food; strong drinks would consume the vital powers, inflame the digestive canal, and prevent absorption from taking place. The nutritives, so-called, as porter, beer, and the like, would oppress the brain, and cause fever and stupefaction and dropsy."

"Another case reported is still more interesting and remarkable, inasmuch as the fast continued for fifty-five days. It is drawn from Dr. Richardson's own experience, and refers to a gentleman who, it appears, suffered from a mental perversion that it was useless for him to take food, and brought himself at length 'to an entire failure of desire for it, and finally to a resolute determination not to take any more food at all unless appetite or desire for some particular kind or quality of food revisited him. From that moment the rigid fast commenced. Of water he would partake readily, but not largely, for he said that in quantity it was heavy and cold, and caused painful distension. He would take it to allay thirst and nothing more.' This patient, for so we think he must be termed, went about the house and garden for ten days, after which he took to his bed and remained there until his death.

"A further and very striking instance is given, on the authority of Dr. H. Cutter, referring to a young Japanese, aged only fifteen years, who, with two companions, was lost in a snow-storm on March 22d, of the present year. They had with them but a very scanty

supply of boiled rice, which was all disposed of by the third succeeding day. Two of the three young men died; but one of them, eating snow while it lasted, and afterwards sipping water from a pool, was found alive twenty-five days after the last food had been taken. He was speechless and pulseless, but with due care he gradually recovered.

"In commenting upon these curious illustrations, alike of the vital powers of the human body and of the important part which water plays in maintaining it in health and existence, Dr. Richardson points out that a valuable lesson 'which may be learned from the experiment of Dr. Tanner, relates to the sustaining power of water as a food. During the first days of his fast, Tanner is reported to have taken but a small quantity of water, and his loss in weight and physical power was rapid. When he commenced to fast he weighed $157\frac{1}{2}$ lbs. In the first fifteen days he had lost twenty-four pounds, and on the sixteenth day he had lost twenty-five pounds and a half. On this last-named day he began to drink more freely of water, and at the close of the day he was found, on being weighed, to have gained a pound and a half since the weighing on the previous day. It was also observed that his hands and feet were a little swollen, as occurs in the form of dropsy known as *oedema*. On inquiry into the cause of this, Drs. Miller and Gunn found that during the day Tanner had swallowed forty-four ounces of water. He had lost in the time eleven ounces that could be directly measured, which left thirty-three ounces to be accounted for. Twenty-four ounces were accounted for by increase of weight, and the remaining nine were reasonably set down as lost by perspiration and respiration. The quantity of water taken on this day was considered to be excessive for him, and the same quantity in the same time was not repeated, but sufficient was supplied throughout to maintain life.

"The lesson here taught is that the life was sustained by the water, and that, in instances where a long period of existence is maintained on mere aqueous fluids, it is the water that sustains. In short, in a sense, water becomes a food. The knowledge of this truth is corrective of some of the most grievous and

mischievous errors. Persons undergoing severe privation and fatigue, persons suffering from disease, persons suffering from repugnant dislike to animal and vegetable foods, have for long seasons been supplied with drinks of wine or of spirits and water. Forgetting the water altogether, or treating it as a thing of no consideration, they have declared—and others, even medical men, have declared for them—that they were sustained on alcohol, and therefore alcohol was a food. It was vain to indicate that in such cases the alcohol was largely diluted with water. It was vain to urge that the Welsh miners were able to live ten days on water alone, for that time was not sufficiently long in the way of proof. Such proofs as these we now have were wanted to demonstrate the actual nature of the sustaining agent, and to exclude the agent which, obtaining all the credit, did, in point of fact, more evil than good.

"In the same way we have explained to us why some men, after shipwreck, have subsisted for long periods by laving their bodies with water, and have been refreshed beyond all expectations by a fresh-water bath from rain, and by a copious drink from the same pure liquid supply.'

"We need offer no apology for bringing this matter of fasting before our readers. We are well aware that abstainers from intoxicating drinks soon learn by practical experience the utter futility of depending upon any form of them for supplying that healthy vigor which the wear of life necessarily impairs. Notwithstanding the force of habit may have been strong upon them, leading occasionally, upon the withdrawal of the use of an accustomed drink, be it wine, beer, or spirits, to a feeling of depression oftentimes more imaginary than real, the body speedily recovers itself, and a healthier and more pleasant existence results from a perseverance in the abstinence from the unneeded and useless stimulant; but yet we may not have realized how important a factor in bringing about this good result is the water, which has, in the case of the abstainer, superseded the spirituous fluid.

"We laymen, to whom these evidences come almost as a revelation of the importance of water, may well be surprised at the grand part which it plays in the economy of life,

but as Dr. Richardson observed, the physiologist, who knows that about 75 per cent of the human body is made up of water, will not wonder, so much as others will, that water should possess the life-sustaining power which now is seen to belong to it.

"It is not probable, nor is it desirable, that any very great number of persons will be induced to follow Dr. Tanner's example, but we may usefully avail ourselves of the light which it throws upon the means of existence. It is, beyond doubt, clear that life may be sustained, and all its duties usefully and effectively discharged, upon a much less amount of food than great numbers of our countrymen are in the habit of consuming; and may we venture to hope that not only will the lesson be heard, but the practice largely adopted of taking a smaller quantity of food, and that of a plain character, together with entire abstinence from all alcoholic drinks."

FOOD ADULTERATIONS.

A CHICAGO chemist has recently made the following statement. At the request of a highly respectable citizen of Chicago, he examined fourteen brands of sugar, bought in this city,—some granulated, some white, some colored, some coarse, and some fine. In twelve of the samples he found tin in the form of a chloride, an active poison. He examined several groups made essentially of glucose, and found in them chlorides of tin, calcium, iron, and magnesia, and in quantities which made them very poisonous. In one case a whole neighborhood was poisoned, and the doctor was told of one death. He has, in several cases, found sugar of lead in vinegar. He uses fruit acids in place of vinegar, such as lemon juice, etc. Pickles he has found, in various cases, to be poisoned with copper and lead. The cheap tinware sold in our markets is dangerous to use for canning fruits, vegetables, meats, or fish. They are liable to contain lead and tin,—both active poisons. He has found alum instead of cream of tartar in many baking powders,—a thing dangerous and injurious in all cases. Almost all the hair cosmetics are poisonous, and many of the face powders contain arsenic or lead.

Another chemist, in the same city, says he

never uses the vinegar or pickles sold in our market. Sulphuric acid is used in making much of the vinegar; lead is used in making yellow pickles, and verdigris in making the green. He has examined a large number of specimens of oleomargarine, and has found in them organic substances in the form of muscular and connective tissues, various fungi, and living organisms which have resisted the action of boiling acetic acid; also, eggs resembling those of the tape-worm. The French patent, under which oleomargarine is made, requires the use of the stomachs of sheep or pigs. This is probably the way the eggs get in. He regards it as a dangerous article, and would, on no account, permit its use in his family. He has made more than a thousand microscopical examinations of milk in this city, and not over ten per cent of the milk sold here is wholesome and unadulterated.—*Virginia Medical Monthly.*

A Good Way to Take Medicine.—An anecdote is told of a physician who was called to a family to prescribe for a case of incipient consumption. He gave them a prescription for pills, and wrote the directions,—“One pill to be taken three times a day in any convenient vehicle.” The family looked into the dictionary to get at the meaning of the prescription. They found “cart, wagon, carriage, buggy, wheelbarrow.” After grave consideration they came to the conclusion that the doctor meant the patient should ride out, and while in the vehicle take the pill. He followed the advice to the letter, and in a few weeks the fresh air and exercise secured the advantage which otherwise might not have come.

A Good Recommend.—A London physician gives to a “sample” of whisky, submitted for his examination, the following “first-class” certificate: “Gentlemen, I have tasted your whisky, and, having tried various vermin-killers in my time, believe yours superior to them all. You are at liberty to make use of this.”

—A daughter of Mayor Prince of Boston, died of poisoned blood, and an investigation shows that the cause was eating meat tainted by sewer gas, which arose through a pipe into a refrigerator.

LITERARY MISCELLANY.

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

LOOK UP, NOT DOWN.

LIFE to some is full of sorrow,—
Half is real, half they borrow,—
Full of rocks and full of ledges,
Corners sharp and cutting edges.
Though the joy-bells may be ringing,
Not a song you'll hear them singing;
Seeing never makes them wise,
Looking out from downcast eyes.

All in vain the sun is shining,
Waters sparkling, blossoms twining:
They but see, through these same sorrows,
Sad to-days and worse to-morrows,
See the clouds, that must pass over;
See the weeds among the clover,—
Everything and anything
But the gold the sunbeams bring.

Drinking from the bitter fountain,
Lo! your mole-hill seems a mountain.
Drops of dew and drops of rain
Swell into the mighty main.
All in vain the blessings shower,
And the mercies fall with power.
Gathering chaff, ye tread the wheat,
Rich and royal, neath your feet.

Let it not be so, my neighbor;
Look up, as you love and labor.
Not for one alone, woe's vials;
Every one has cares and trials,
Joy and pain are linked together,
Like the fair and cloudy weather.
May we have, oh, let us pray,
Faith and patience for to-day.—*Anon.*

INCIDENTS BY THE WAY.

BY MRS E. G. WHITE.

WHILE on our way from Michigan to California a few months since, we had occasion to stop over one night in Council Bluffs. Thinking to improve this opportunity to visit a friend residing in the place, we took the street-car for her house, only to find that she was out of town and probably would not return for several days. Retracing our steps, we took lodging in the nearest hotel, and in the morning, after breakfasting from our well-filled lunch-basket provided by our friends at the Battle Creek Sanitarium, we

took the transfer car across the Mississippi to Omaha. Here we were obliged to wait several hours in the depot, where we had a favorable opportunity to study human nature.

Among the many who were continually thronging this way and that, there was one lady who particularly attracted our attention. She was apparently about forty years of age, and was surrounded by a flock of children all the way from four to twenty-four years old. One of the boys, of about ten summers, caused her a great amount of trouble. Curiosity and willfulness seemed to be more fully developed in him than in the rest of the little ones, who sat demurely perched upon the seats, with their arms folded and their feet dangling, while he, keeping close watch of his mother's eyes, would, when they were turned, improve every opportunity to dodge out of the door and watch the engines as they were moving back and forth. His mother, fearing he might get hurt, and becoming vexed at his repeated disobedience, at last went out after him, and soon returned dragging him in with her. She scolded, and he resisted at every step. They finally reached the seat, into which she pushed him with such violence as to bring his head with considerable force against the seat, really hurting the lad.

Then came screech after screech, equaled only by the loud blasts of the engines without. The mother threatened, but to no purpose. He was desperate. When he became too tired to scream longer, he lowered his voice to a monotonous, long-drawn-out wail, which continued for something like half an hour. The mother looked troubled; but who was most at fault? The boy was stubborn; she was passionate.

We afterward had some conversation with the mother. She stated that the boy refused to come in when called, and threw himself at full length upon the platform to provoke her.

Then she brought him in by main force, and, said she, "Oh, if I only had him alone in some place, I would pay him well for this behavior!" "But," said I, "that would not change his inward feelings. Violence would only raise his combativeness, and make him still worse. The more calm a mother can keep at such times, however provoking the conduct of her children, the better will she maintain her influence and dignity as a mother, and the easier will they be controlled." She admitted that it might be so.

I then inquired how many children she had. She replied, "Eleven," and, pointing to two bright-looking little girls, said, "These are my youngest; one is four, the other six. My eldest are grown-up boys. We are now on our way from Iowa City to Nebraska, where there is plenty of land, and work for the children." Not a bad idea, certainly, to give those sharp, active boys employment. There is nothing so good to keep boys from being ruined by the temptations and allurements of evil as plenty of work.

In this little incident we have a good illustration of the kind of management quite commonly adopted by mothers, although so public a demonstration of it is seldom seen. Had this mother oiled the machinery with patience and self-command, as every mother should, she would not have aroused the combative spirit of her children. But all she seemed to know of government was to threaten and intimidate, to reprove and scold. Her younger children seemed afraid to stir, others looked hard and defiant, while the older ones appeared ashamed and distressed at the exhibition they were making.

The mother had not learned the all-important lesson of self-control. "He that is slow to anger," says the Wise Man, "is better than the mighty; and he that ruleth his spirit, than he that taketh a city." The man or woman who preserves the balance of the mind when tempted to indulge passion, stands higher in the sight of God and heavenly angels than the most renowned general that ever led an army to battle and to victory. Said a celebrated emperor when on his dying bed, "Among all my conquests, there is but one which affords me any consolation now, and that is the conquest I have

gained over my own turbulent temper." Alexander and Caesar found it easier to subdue a world than to subdue themselves. After conquering nation after nation they fell,—one of them "the victim of intemperance, the other of mad ambition."

Had this mother realized her responsibility, she never would have pursued the course she did. Her burdens were necessarily heavy, but how much heavier was she making them by her lack of self-control. Every harsh word, every passionate blow, would sometime be reflected upon herself. If she had been ever kind, patient, and calm in her discipline, it would have been seen in the deportment of her children. How much she needed the Christian graces and the help of Jesus to mold their minds and fashion their characters. Such mothers will gain no souls to the fold of Christ. They train, they rule, they ruin, but do not bless and save.

Having purchased our sleeping-car tickets for Ogden, we soon found ourselves and numerous baskets and satchels well disposed of in an elegant palace sleeping-car. There were only seventeen passengers in our car,—no babies, no invalids, no one to cry, "Please close the ventilators;" "Will you be so kind as to shut down that window?" We were at perfect liberty to open and close windows as best suited our convenience.

While crossing the plains there was nothing in the scenery to especially engage our attention but the prairie fires. These looked grand and awful in the distance. As the train moved slowly onward, we could see the lurid flames stretching like walls of fire for miles across the prairies; and, as the wind would rise, the flames would leap higher and higher, brightening the darkness of night with their awful light. Farther on we could see where deep furrows had been broken with the plow around haystacks and settlers' homes to protect them; and we could see also dark objects in the distance, which were persons guarding their homes.

Thursday noon we reach Cheyenne, having been three days on our journey. After leaving this place, we had an interesting view of the Rocky Mountains. But suddenly dark clouds obstruct our view, and as we near Laramie, a hail-storm dashes down upon

us. Occasionally the sunshine would break through the clouds, striking full upon the snow-clad mountain-tops, and causing them to sparkle like diamond beds. An additional engine is hitched on to help draw the train up to Sherman, the highest point on the route. The distance between Cheyenne and Sherman is about thirty-three miles, and the difference in altitude is more than two thousand feet. The train moves slowly and smoothly along, giving the passengers a good opportunity to view the scenery.

At length the summit is reached, and the descent begins. Two miles west of Sherman we pass Dale Creek Bridge, one of the most interesting places on the route. It looks frail, and incapable of sustaining the weight of so ponderous a train; but it is built of iron, and is really very substantial. It is six hundred and fifty feet long, and one hundred and thirty feet high. A beautiful, silvery stream winds its way in the depths below, and as we look down upon the dwellings they seem in the distance like mere pigeon houses.

At Ogden we receive additional passengers. A tall, dignified gentleman enters, accompanied by his wife and little daughter. We learned that he was an active temperance worker, and had for some time been delivering lectures on that subject in the great Mormon Temple at Salt Lake City. Noticing that our party were all busily engaged in writing most of the time, and having some curiosity to know who we were and what we were doing, he made himself known to us toward evening. He stated that he had traveled extensively in the East, and had established several institutions in which to treat inebriates, and that he was now visiting California to establish a similar institution, having already obtained pledges for that purpose to the amount of several thousand dollars.

This celebrated temperance lecturer, we are sorry to say, was an inveterate tobacco-user. Oh, what ideas of temperance! Would that he might see the utter inconsistency of his position in trying to reform inebriates while himself indulging in a habit which every year leads hundreds to a drunkard's grave! Could he but reform in this respect, we are sure that his influence for good in the world would be increased a hundred-fold.

Near us sits the far-famed Stokes, a pleasant-appearing, middle-aged man, but whose hair is as white as a person's usually is at a much more advanced age. Having retreated to the mountains, he is now actively engaged in mining operations, and was on his way to Sacramento on business.

Moving slowly over the great American Desert, with not an object in view but the sage-brush and distant mountain-tops, we seem much like a ship at sea. Finally our faithful iron horse, steaming along so grandly, and seeming like a thing of life, begins to ascend the Sierra Nevadas. The scenery is beautiful. Passing Truckee in our descent on the opposite side, we enter snow-sheds. From light to darkness and from darkness to light is the only change for miles. Most of our last night on the train was spent in viewing the scenery. A winter view of the Sierra Nevadas is indeed grand. Pen cannot describe it, as the soft light of the moon sifted down through the grand, frosted evergreens, revealing the deep canyons below and the lofty mountain peaks above. We chose to enjoy this rather than to spend the time in sleeping.

We arrived at Oakland several hours before we had expected, and rejoiced that we had completed our journey without accident, and with hardly a feeling of weariness. People making this trip across the plains usually patronize the eating-houses along the line, and partake of three hearty meals per day, besides an almost endless variety of nuts and candies, cigars and liquors, between times. But we preferred to limit ourself to only one meal per day, that we might have a better opportunity to rest, and thus be prepared to enter upon arduous labor as soon as we reached our destination. For seventeen years we have eaten only two meals a day while engaged in almost incessant labor.

At that time the light of health reform dawned upon us, and since that time the questions have come home every day, "Am I practicing true temperance in all things?" "Is my diet such as will bring me in a position where I can accomplish the greatest amount of good?" If we cannot answer these questions in the affirmative, we stand condemned before God, for he will hold us

all responsible for the light which has shone upon our path. The time of ignorance God winked at, but as fast as light shines upon us he requires us to change our health-destroying habits, and place ourselves in a right relation to physical law.

We have crossed the plains fifteen times, and we would recommend to those contemplating such a journey strict temperance in all things. Take your lunch-baskets with you, well filled with fruits and plainly cooked bread. Eat at regular hours, and nothing between meals; and whenever the train stops for any length of time improve the opportunity by taking a brisk walk in the open air. By so doing, the journey will not only be more enjoyable, but far more beneficial healthwise.

"WHATSOEVER YE DO,"

"BLESS me!" said Miss Hannah Perkins. Then she bent forward and read the words again, slowly, thoughtfully, with wrinkled forehead, and astonished, not to say disturbed, face.

"What a verse that is! And to think that it has got to last a lifetime instead of one day. It's queer where my eyes have been that I have never seen that verse before. As many times as I have read it, too! I must say I do n't see, either, just how it is to be lived up to with all the plans I had for to-day; almost any other day in the week I might have managed it better. But there, now! it is lifetime work instead of a day's. What am I talking about?"

And Miss Hannah bent with renewed perplexity over the volume of Daily Food, lying open on her dressing bureau. She had found an unusually hard morsel to digest. "To think," she muttered, "that it should come right into the middle of one's eating and drinking!"

"Whether, therefore, ye eat or drink, or whatsoever ye do, do all to the glory of God." What I do n't see is," she said, as she threw open the windows and let the crisp, sweet air rush in, "how this thing is to be done and what people are about. It can't be that none of them have discovered it, and yet, as true as I am Hannah Perkins, I can't think of one who seems to be doing it."

"Will we be putting up them lace curtains in the up-stairs room?" questioned Keziah, as she made her last journey to the dining-room with steaming cakes.

Her mistress regarded her with an air of puzzled wonder. "There it is again," she said, at last. "I declare, now, if it is n't a puzzle!"

"Oh, there's nothing to puzzle, ma'am, I can climb the step-ladder and fix 'em as well as not."

Miss Perkins laughed. "It is a puzzle that refuses to be settled with hammer and tacks. What have lace curtains in my spare bed-room to do with the glory of God, Keziah?"

"Ma'am!" said Keziah, in unbounded astonishment.

Miss Perkins laughed again,—a short, troubled laugh. "No," she said, presently, "we won't put up the curtains to-day, at least; I may to-morrow, and I may not. I do n't see my way clear. If the lace curtains fit, I'd like to have 'em up; and if they do n't they can't go up, and that's the long and short of it."

"They fit to an inch," said Keziah, promptly. "I measured them myself only yesterday with the rule."

"But they've got to fit a rule in a Book up-stairs, you see; that's the trouble."

What could Keziah do but say, "Ma'am!" again, in a very mystified way? and what could her mistress do but laugh and dismiss her, though really the confusion in her brain was deepening so rapidly that she saw no place for laughter?

Her breakfast concluded, Miss Perkins, still revolving her problem, trying to fit it to the day's programme, stepped to the front door, and set it open, and thence wandered to the gate to set up a drooping bush, and was there accosted by her favorite nephew, a handsome young fellow with laughing blue eyes and pleasant smile. "Well, auntie, how does life use you this morning?"

"Better than I use it. Things are in a muddle."

"No! you don't say that you are muddled! That alarms me. I have always had satisfaction in thinking of the straightforwardness with which you took up life. What has happened?"

Miss Perkins coughed slightly. "Do, Charley, if you must smoke, turn your head so that every whiff of wind won't send the fumes right down my throat. I like to keep control of my own throat, and I do n't choose to choke it up with tobacco."

"Aunt Hannah, you are awful peppery this morning. I believe King Frost has nipped you. Come, tell me what has happened to put you in ill humor with all the world in general, and your worthless nephew in particular?"

"I am not in ill humor with the world. I have n't thought of the world once this morning. My puzzle has to do with those who have come out from the world and are separate, or that say they are, and the worst of it is, I'm one of them, and you're another,—you fit right into the muddle, Charlie. For instance, now, what has that cigar smoke, that you make a bellows of your mouth to puff out, got to do with the glory of God?"

"What?" asked the startled nephew.

"Oh, yes, you may well be astonished; but it's a fact that if you have a right to puff it, it ought to fit the pattern, 'Whether ye eat or drink.' That is the rule. To be sure, smoking is neither eating or drinking. What is it, anyway? What list could you put it in,—intellectual, mental, moral; where does it belong? But in any case it is included, because the rest of the verse is, 'Whatsoever ye do.' It is a difficult matter to get away from that, you see. Now, how do you work in the smoking for the glory of God?"

"Upon my word, auntie, I fail to see what you are driving at. So far as I know, smoking has never been extolled as one of the Christian virtues. I do n't pretend that it is necessary to Christian development, I'm sure."

"I'm not talking about 'Christian development,' nor 'Christian virtues,' nor any other phrase that will hide the square, unadorned truth. There's the rule, 'Do all to the glory of God.' Now, cigar-smoke either fits in, or else it doesn't; and if it does, I'm asking how."

"But, Aunt Hannah, there would be no end to your speculations if you should get on that line. Why, the very puckers on your sleeves would have to be ripped up and looked

into if you narrowed things down to that rule. How do they fit? come, now."

Miss Hanmah looked down at the innocent little ruffle on her trim morning dress, with a grave, thoughtful face, and answered quickly, "I don't know; ruffles and cigars occupy different positions, and one is more harmful, to say the least, than the other; but it's a fair question, and needs looking into, which is just what I've set out to do, and it does n't alter one whit the position which you have taken on the cigar question. I'm ready, however, to look them squarely in the face, and if they won't fit, rip them off. Are you ready to take an equally square look at cigars? What are the arguments for smoking, anyway?"

Charlie laughed. "It is something I never took the trouble to argue about. Smoking is a luxury, I suppose—a harmless one, I think, and so I indulge."

"Then you don't do it for the glory of God?"

"Aunt Hannah, I hope you will pardon me for saying so, but honestly, that sounds almost irreverent to me."

"What does—the not living up to it, or the talking about it?"

"The trying to apply such solemn words to a trivial indulgence."

"Bless me! how can I help it? I did n't make the application. 'Whatsoever ye do,' is the exact phrase. If the Bible is irreverent, I am not to blame for it."

"But, my dear auntie, do you honestly think the verse applies to our everyday movements in the way you are trying to fit it."

"What does it mean?"

"Why, it refers, in a general way, to our living consistent Christian lives,—being careful to do nothing that will bring discredit on the cause."

"Why doesn't it say so, then?"

"That is just what I think it has done. That is the way in which I interpret the verse, and the only reasonable interpretation I think it will bear."

"If you had written a letter to me, the object of which was to admonish me in a general way to be careful that I did nothing to bring discredit on your father's family, would you have written: 'Now, Aunt Hannah, whether

you eat or drink, or whatsoever you do, do all to the glory of our family'?"

"Aunt Hannah, you're famous for putting a fellow into a corner."

"I haven't put you in any corner; you have put yourself there. I advise you to study logic before you make a commentary. It is as plain as the rule of three. There is the direction from One whom we acknowledge has a right to direct us. Now, smoking is either for the glory of God, or else it isn't. If it is n't, according to the rule, what right have you to do it? and, if it is, you ought to be able to tell me how it fits."

"Aunt Hannah, how does that fit?" The nephew nodded his head toward the old-fashioned, roomy carriage, drawn by two sleek horses, which was at this minute coming round the curve that led from Miss Perkins' ample barn.

"Now, that is a nice, comfortable carriage, and I dare say you take great pleasure in riding around in it, and I know our folks enjoy it ever so much; but how does it fit into your new notions?"

"They are not my notions, Charlie Parker. You need n't go to comforting yourself with the idea that I have anything to do with the getting up of that verse. Take your Bible as soon as you go home, and see if I have n't quoted it word for word. As to how that carriage fits in, I do n't know. I see it is going to be one of my puzzles. I do n't believe it will puzzle me quite as badly as your cigars will you, for I can think this minute of ways in which I might use the carriage and horses to His glory, and, in my opinion, you will have a hard time to do the same about smoking."

Miss Perkins went in, full of new ideas. Her nephew was very dear to her, and his habit of smoking had long been a trial that she had endured in silence, not feeling safe as to what was best to say. But the innocent-looking ruffles on her quiet dress and the sleek horses attached to her comfortable carriage had each given her a twinge. It was not that they held special troubles, but that they represented a legion of plans and occupations, and delights, that puzzled her because they did not seem to fit.—*National Sunday-school Teacher.*

THE VALUE OF READING.

WE cannot linger in the beautiful creations of inventive genius, or pursue the splendid discoveries of modern science, without a new sense of the capacities and dignity of human nature, which naturally leads to a sterner self-respect, to manlier resolves, and to higher aspirations. We cannot read of the ways of God to man as revealed in the history of nations, of sublime virtues as exemplified in the lives of great and good men, without falling into that mood of thoughtful admiration, which, though it be but a transient glow, is a purifying and elevating influence while it lasts. The study of history is especially valuable as an antidote to self-exaggeration. It teaches lessons of humanity, patience, and submission. When we read of realms smitten with the scourge of famine or pestilence, or strewn with the bloody ashes of war; of grass growing in the streets of great cities; of ships rotting at the wharves; of fathers burying their sons; of strong men begging their bread; of fields untilled, and silent workshops, and despairing countenances,—we hear a voice of rebuke to our own clamorous sorrows and peevish complaints. We learn that pain and suffering and disappointment are a part of God's providence, and that no contract was ever yet made with man by which virtue should secure to him temporal happiness.

In books, be it remembered, we have the best products of the best minds. We should any of us esteem it a great privilege to pass an evening with Shakespeare or Bacon, were such a thing possible. But, were we admitted to the presence of one of these illustrious men, we might find him touched with infirmity, or oppressed with weariness, or darkened with a shadow of a recent trouble, or absorbed by intrusive and tyrannous thoughts. To us the oracle might be dumb, and the light eclipsed. But, when we take down one of their volumes, we run no such risk. Here we have their best thoughts embalmed in their best words; immortal flowers of poetry, wet with Castalian dews, and the golden fruit of wisdom that had long ripened on the bough before it was gathered. Here we find the growth of the choicest seasons of the mind, when mortal cares were forgotten,

and mortal weaknesses were subdued; and when the soul, stripped of its vanities and its passions, lay bare to the finest effluences of truth and beauty. We may be sure that Shakespeare never out-talked his Hamlet, nor Bacon his Essays. Great writers are indeed best known through their books. How little, for instance, do we know of the life of Shakespeare; but how much do we know of him!

For the knowledge that comes from books, I would claim no more than it is fairly entitled to. I am well aware that there is no inevitable connection between intellectual cultivation, on the one hand, and individual virtue or social well-being, on the other. "The tree of knowledge is not the tree of life." I admit that genius and learning are sometimes found in combination with gross vices, and not infrequently with contemptible weaknesses; and that a community at once cultivated and corrupt is no impossible monster. But it is no overstatement to say that, other things being equal, the man who has the greatest amount of intellectual resources is in the least danger from inferior temptations,—if for no other reason, because he has fewer idle moments. The ruin of most men dates from some vacant hour. Occupation is the armor of the soul; and the train of idleness is borne up by all the vices. I remember a satirical poem, in which the Devil is represented as fishing for men, and adapting his baits to the taste and temperament of his prey; but the idler, he said, pleased him most, because he bit the naked hook. To a young man away from home, friendless and forlorn in a great city, the hours of peril are those between sunset and bedtime; for the moon and stars see more of evil in a single hour than the sun in his whole day's circuit. The poet's visions of evening are all compact of tender and soothing images. It brings the wanderer to his home, the child to his mother's arms, the ox to his stall, and the weary laborer to his rest. But to the gentle-hearted youth who is thrown upon the rocks of a pitiless city, and stands "homeless amid a thousand homes," the approach of evening brings with it an aching sense of loneliness and desolation, which comes down upon the spirit like dark-

ness upon the earth. In this mood his best impulses become a snare to him; and he is led astray because he is social, affectionate, sympathetic, and warm-hearted. If there be a young man thus circumstanced within the sound of my voice, let me say to him that books are the friends of the friendless, and that a library is the home of the homeless. A taste for reading will always carry you into the best possible company, and enable you to converse with men who will instruct you by their wisdom, and charm you by their wit; who will soothe you when fretted, refresh you when weary, counsel you when perplexed, and sympathize with you at all times.—*George S. Hillard.*

Nothing To Do.—Many mothers, accustomed to hard work themselves, allow their daughters to grow up in comparative idleness. These unfortunate girls, with no special purpose before them, are in danger of learning only how to dress, to play the piano, possibly to cook a dinner—although that is not very common—but with no more idea that they are important factors in the great plan of humanity than if they were not human beings at all. If they ever do any work in the world through necessity, it is likely to be inefficient and unsystematic work; or, if they do achieve anything really good, it is done with the pain and difficulty which those must suffer who work without proper discipline or knowledge. They are not contented and happy, for they have nothing to do with the time, which often hangs heavily upon their hands. All girls should be occupied; if housework is distasteful, let them learn some trade. Useful work has a marked effect on character; and it will be a great stride toward that earthly millennium, for which some cherish vague hopes, when every woman, as well as every man, shall enter mature life, prepared by a training in useful work, to feel that she is one member of a great human family mutually dependent, and yet with an individual independence—where each has a part to do.—*Sel.*

—Take a company of boys chasing butterflies; put long-tailed coats on the boys, and turn the butterflies into guineas, and you have a beautiful panorama of the world.

POPULAR SCIENCE.

—A sea captain thinks he has devised an apparatus by means of which sound is converted into light.

Paper Dishes.—A German genius is manufacturing dishes out of paper, wood shavings, and gelatine.

An American Glacier.—Mr. Pickering, while on an excursion in the White Mountains, lately discovered a small glacier in Tucker-man's ravine. The rate of motion of the center is about eight inches daily.

—An ostrich, long on exhibition at Rome, having been suffocated by thrusting its neck between the bars, there were found in its stomach four large stones, eleven smaller ones, seven nails, a necktie pin, an envelope, three copper coins, fourteen beads, one French franc, two small keys, a piece of a handkerchief, a silver medal of the Pope, and the cross of an Italian order.

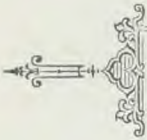
A Remarkable Meteor.—On the night of June 29 a meteor passed over Macon, Georgia, and vicinity, which, for size and brilliancy, has not been equaled since the great meteoric shower of 1833. It appeared in the zenith as a great mass of fire as large as a barrel, radiating the country around with a light something like electric light, but whiter, and a thousand times more powerful, and passed slowly and majestically in a north-easterly direction to the horizon. Three minutes after it had disappeared, it exploded with a deep-toned report which reverberated in the air for thirty seconds.—*Sel.*

The Telephone.—It is reported that a company of leading business men from all parts of the country have bought up all the telephone patents antedating those now in use known as the Bell, Gray, and Edison patents. It is conclusively proved, by evidence in possession of this new company, that the inventor of the telephone is Daniel Drowbaugh, a poor mechanic living near Harrisburg, Pa. The company has sole possession of this invention, which antedates those now in use, and also

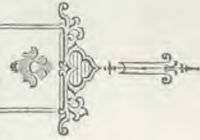
of the patents for telephones granted to Mr. Klemm, of New York. It is confidently expected that they will in a short time have entire control of the telephone, and be able to establish lines by which messages can be sent for a mere song.—*Sel.*

The Course of a Lightning Flash.—Prof. Tait, of Edinburgh, insists that when people think they see a lightning flash go upward or downward they must be mistaken. The duration of a lightning flash is less than the millionth part of a second, and the eye cannot possibly follow the movement of such extraordinary rapidity. The origin of the mistake seems, he says, to be a subjective one, viz., that the central parts of the retina are more sensitive, by practice, than the rest, and therefore that the portion of the flash which is seen directly affects the brain sooner than the rest. Hence a spectator looking toward either end of a flash very naturally fancies that end to be its starting point.—*Scientific Record.*

A Wonderful Lake.—In Colorado is a ten-acre field which is no more nor less than a subterranean lake, covered with soil about eighteen inches deep. On the soil is cultivated a field of corn which produces thirty or forty bushels to the acre. If any one will take the trouble to dig a hole the depth of a spade handle, he will find it to fill with water, and by using a hook and line, fish four or five inches long can be caught. The fish have neither scales nor eyes, and are perch-like in shape. The ground is a black marl in nature, and in all probability was at one time an open body of water, on which was accumulated vegetable matter, which has been increased from time to time, until now it has a crust sufficiently strong and rich to produce fine corn, though it has to be cultivated by hand, as it is not strong enough to bear the weight of a horse. While harvesting, the hands catch great strings of fish by punching a hole through the earth. A person rising on his heel and coming down suddenly can see the growing corn shake all around him. Any one having the strength to drive a rail through the crust will find on releasing it that it will disappear altogether.—*Scientific Investigator.*



GOOD HEALTH.



BATTLE CREEK, MICH., NOVEMBER, 1880.

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

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COLD FEET AND SLEEPLESSNESS.

THE following observations and advice are timely, and are none the worse because they come from so conservative a source as the renowned *British Medical and Surgical Journal*. It is really refreshing and encouraging to receive such simple, common-sense advice from a source from which one would naturally expect only "pills," "powders," or "potions." We have recommended the same plan hundreds of times with satisfactory results, and so can fully endorse the advice given.

"The association betwixt cold feet and sleeplessness is much closer than is commonly imagined. Persons with cold feet rarely sleep well, especially women. Yet the number of persons so troubled is very considerable. We now know that if the blood supply to the brain be kept up, sleep is impossible. An old theologian, when weary and sleepy with much writing, found that he could keep his brain active by immersing his feet in cold water; the cold drove the blood from the feet to the head. Now, what this old gentleman accomplished by design is secured for many persons much against their will. Cold feet are the bane of many women. Light boots keep up a bloodless condition of the feet in the day, and in many women there is no subsequent dilatation of the blood-vessels when the boots are taken off. These women come in from a walk, and put their feet to the fire to warm,—the most effective plan of cultivating chilblains. At night they put their feet to the fire and have a hot bottle in bed. But it is all of no use; their feet still remain cold. How to get their feet warm is the great question of life with them,—in cold weather. The effective plan is not very attractive at first sight to many minds. It consists first in driving the blood-vessels

into firm contraction, after which secondary dilatation follows. See the snow-baller's hands. The first contact of the snow makes the hand terribly cold, for the small arteries are driven thereby into firm contraction, and the nerve-endings of the finger-tips feel the low temperature very keenly. But, as the snow-baller perseveres, his hands commence to glow; the blood-vessels have become secondarily dilated, and the rush of warm arterial blood is felt agreeably by the peripheral nerve-endings. This is the plan to adopt with cold feet. They should be dipped in cold water for a brief period; often just to immerse them, and no more, is sufficient; and then they should be rubbed with a pair of hair flesh-gloves, or a rough Turkish towel, till they glow, immediately before getting into bed. After this, a hot-water bottle will be successful enough in maintaining the temperature of the feet, though without this preliminary it is impossible to do so. Disagreeable as the plan at first sight may appear, it is efficient; and those who have once fairly tried it continue it, and find that they have put an end to their bad nights and cold feet. Pills, potions, lozenges, 'night-caps,' all narcotics, fail to enable the sufferer to woo sleep successfully. Get rid of the cold feet, and then sleep will come of itself."

PHTHISICAL COWS.

THE English medical journals are devoting considerable attention to the subject of consumption in cows and other animals. A recent number of the *British Medical Journal* calls attention to the late report of Mr. Law, of Cornell University, to the National Board of Health, quoting from the report as follows:—

"Phtisical cows are often eaten without

causing obvious disease in the consumers. I have known large dairies of tuberculous cows in the hands of vigorous and healthy looking owners, who consumed the milk freely. It may be freely concluded that a large number of individuals while in the enjoyment of robust health will withstand the influence of tubercle taken in by the stomach; but it must be otherwise with the weak and young, those with poor feeding and worse air, those living in damp, sunless localities, and subjected to much exposure. In a case that recently came under my notice in Brooklyn, N. Y., a family cow was found in an advanced state of tuberculosis, and the owner and his wife were evidently rapidly sinking under the same malady. In another case reported to me, a family cow, supposed to be suffering from lung-plague, was found to be afflicted with tuberculosis instead, and the owner's wife (a consumptive), who had been making free use of the milk, warm from the cow, was persuaded to give it up, and underwent an immediate and decided improvement. It is for infants and adults who are somewhat infirm or out of health, or whose surroundings are not of the most salubrious kind, that the danger is greatest; but this embraces such an extended class that the moral interests involved are almost illimitable. The destruction of infancy and wasting of manhood from this cause is unquestionably far greater than has heretofore been realized."

Notwithstanding the opinion of Prof. Law that the milk and flesh of consumptive cows may be eaten by robust persons without injury, it is evident that there is at least a possibility that even the well may be affected, and where there is a hereditary tendency to consumption, the possibility will undoubtedly become a probability. Again, while a person might successfully resist the infection when in health, a sudden temporary indisposition, even that from a simple cold, might be sufficient to make a person susceptible to, and entail upon him, a fatal malady. We agree with Mr. Law in thinking that this danger is far greater than is generally realized, and the present prospect is that the danger will increase rather than diminish.

— Eat slowly and live long.

THE CINCHONA HUMBUG.

For the last two or three years considerable has been said in temperance journals and newspapers about the "red-bark" cure for drunkenness. This "red bark" is the bark of one of the varieties of the cinchona tree, from which quinine is obtained. Its chief active principle is cinchona, which closely resembles quinine. We have several times called attention to the absurdity of the claim that this drug will cure the appetite for liquor when used as a substitute, but as the inventor of the fraud, a certain Mr. D'Unger, of Chicago, is still prosecuting his business, we again notice the matter. In a recent number of the *Temperance Record*, Dr. Norman Kerr, an eminent English physician, remarks as follows on this subject:—

"The directions given by Mr. D'Unger for the preparation of his panacea show that, at its best, it is a strong alcoholic mixture. On examination I found it to be very strong indeed in spirit. All experienced in the treatment of dipsomania know how dangerous it is to allow the patient to drink any alcoholic liquor; and if for nothing else than its spirituous strength, this Chicago nostrum ought never to be prescribed by the enlightened and honorable practitioner.

"Ample confirmation of my exposure is to be found in an interesting article by Professor Earle, M. D., physician to the Washingtonian Inebriate Home at Chicago, in the current number of the *Chicago Medical Journal*. The professor has traced the after-history of a number of drunkards whom D'Unger publicly claimed to have cured, most of these subsequently coming under Dr. Earle's treatment. Not one was improved in the slightest by the cinchona cure. On minute analysis, Professor Earle found that D'Unger's 'concentrations,' 'sold to physicians, ten dollars per pint, six concentrations,' were simply prepared by adding the muddy water of Lake Michigan. Dr. Earle further found that D'Unger's specific contained about one grain of bitter principle to the teaspoonful of water and alcohol, and alcohol in varying proportions, reaching in some samples as high as 24 per cent. In other words, these latter specimens were as

intoxicating as well-branded port and sherry! Professor Earle declares his belief (and as he is engaged in hospital practice where he prescribes for nearly four hundred cases of alcoholism annually, his opinion ought to have weight), not only that the Chicago 'humbug' is useless as a cure for dipsomania, but that it has made more drunkards in that city during the past year than any one saloon."

MEDICAL PRACTICE IN VIENNA.

DR. PALMER, Professor of the Theory and Practice of Medicine in the Medical Department of the University of Michigan, who is now traveling in Europe, sends to the *Physician and Surgeon* a very interesting letter, describing his observations in Vienna, the seat of one of the most eminent medical schools of Europe. The professor remarks that he saw "patients with skin diseases, ulcers and bed sores, kept constantly in the warm bath, and one patient, a young person, had been constantly in the bath for eleven months—five months longer than the one mentioned in the letter from Berlin. All of the patients that had been long in the water complained of uncomfortable sensations when taken out, and requested to be returned. A loose, yielding, wire frame-work was placed in a large bath-tub, a thick blanket was spread over the wires—the frame, elevated at the head, could be raised or lowered in the water by means of a windlass—the head rested upon a pillow of horse-hair, and a heavy blanket covered by a water-proof cloth, supported by slats, was placed over the bath tub. Warm water flowed in from pipes from time to time, keeping the water in the bath at a temperature agreeable to the sensations of the patient.

"Alcohol is very seldom used in the treatment of any form of disease—only in occasional cases of extreme depression in fever, and its good effects, as of most other forms of medication, are doubted."

In speaking of the treatment of typhoid fever and pneumonia, he remarks: "There seems to be but little confidence felt in any treatment for anything, and most fevers and inflammations are treated on the expectant plan." But surely the professor will not dispute that there is some faith in baths!

THE "ODOR OF SANCTITY."

WITHOUT knowing what is really meant by this phrase, we have somehow come to associate it with the dank, fusty smell usually found in a church from which the disinfecting sunbeams have been long shut out, giving one an irresistible impression of the graveyard, toward which the unwholesome atmosphere must encourage an unmistakable tendency. A medical exchange, however, explains the origin of the expression to be in the idea once prevalent among the old Catholic monks that the degree of a person's holiness was to some extent proportionate to his lack of cleanliness. It is said that St. Ignatius was accustomed to appear abroad "with old dirty shoes; that he never used a comb, but allowed his hair to clot, and religiously abstained from paring his nails. One saint attained to such piety as to have nearly three hundred patches on his breeches, which after his death were hung up in public as an incentive to imitation. St. Francis discovered by certain experience that the devils were frightened away by such kind of breeches, but were animated by clean clothing to tempt and seduce the wearers; and one of their heroes declares that the purest souls are in the dirtiest bodies. Brother Juniper was a gentleman perfectly pious on this principle; indeed, so great was his merit in this species of mortification, that a brother declared that he could always nose Brother Juniper within a mile of the monastery, provided the wind was at the due point. Many stories are told of lions and other fierce beasts of prey rushing upon such holy men in the desert, but suddenly stopping in their career, and flying away with every sign of fear and terror; which may well be credited, the 'odor of sanctity' being too much for the olfactory nerves of a lion."

Undoubtedly there was a time during the general prevalence of counterfeit religion in the Dark Ages, when filthiness was considered as a mark of humility, and cleanliness an evidence of pride; but, as elsewhere remarked in this number, Christianity is in no way responsible for such perverted notions. But whether the "odor of sanctity" refers to the damp, musty smell of unventilated churches

or to the odors due to want of personal cleanliness, sanitary uprightness evidently requires that it shall be abolished by the thorough ventilation of our churches and the free admission of sunlight, as well as by absolute cleanliness in every other respect.

A SANITARY CONGRESS.

At the recent Sanitary Congress held at Exeter, England, Prof. De Chamont delivered a very able and interesting address, in the course of which he remarked as follows, as reported by the *House and Home* :—

“THE WORD MEDICINE,

like the word religion, has had more than one meaning in its time, and even in the present day confusion arises, particularly when it is employed in an unfamiliar way. To the savage, medicine is synonymous with witchcraft; to the civilized man, it often presents merely the idea of a drug; or, if it be used by extension to embrace the profession, the giving of drugs appears to be the most important part of it. But drugs may to some extent be called the opprobrium of medicine, as the knife is of surgery. For the highest medicine is that which obviates the use of drugs,—the highest surgery that which saves the limb, not that which lops it off. The Greek for physician can be traced back to a primitive Aryan root, ‘yu,’ which signifies ‘to avert,’ ‘to ward off.’ It is in this sense that we here employ the term ‘medicine,’ and public or preventive medicine is thus the science that wards off disease from the community.

“CHRISTIANITY VS. SANITATION.

“Sanitary questions in one form or other are of very old date, and many of the earliest writings are occupied with rules and instructions as to how health is to be preserved and plagues to be avoided. Advantage was taken in many cases of the superstition of the people, when the more enlightened rulers sought to enforce those rules and practices by giving them the sacredness of religious observance, this fact making their discharge a religion or outward sign of the faith they professed. In matters of practical sanitation the ancients were in many things in advance of the moderns. The hygiene of both cities

and camps was understood to a remarkable degree, whilst the habits of personal cleanliness and the healthy outdoor lives most men led, no doubt greatly conduced to the well-being both of the individual and the community. Although we read of plagues and pestilence from time to time, it is not until we have passed the Christian era that we begin to encounter those appalling pestilences that so often struck terror into the heart of Europe, and made its wretched inhabitants think the end of the world was at hand. The fall of the Roman empire was in a great measure the era of retrogression in a sanitary sense, although it may have had its advantages in other ways. It may shock the feelings of some, but it must be admitted that the progress of Christianity had an evil influence on the sanitation of the world. It so happened that both Pagan and Jew were clean, and the Christian could think of no better way of testifying his opposition to both than by doing the reverse of what they did. Therefore the more fanatical ceased to wash their person, clothes, or dwelling because Pagan and Jew cleansed all three. Dirt became the odor of sanctity, as the hideous tales of St. Simeon Stylites and other unsavory fanatics only too truly tell. The baleful influence of those misguided views continued to be felt through succeeding generations down to our own day, and it may be a question whether we do not owe some forms of malady at the present time to the effects of the accumulated filth of ages. Our learned friend, Dr. Richardson, has called attention to the remarkable immunity enjoyed by the Jews, who have continued to practice those purifying observances handed down to them in the law of Moses. Let us hope, however, that if a sad recoil took place at the beginning of our era, it was one to be followed by a more vigorous bound forward in the time to come, and that if we have not yet got rid of dirt altogether, we at least know that it is matter in the wrong place, and may set ourselves to place it rightly when opportunity presents itself.”

We are pleased with the professor's opinion that “the highest medicine is that which obviates the use of drugs.” We have been working upon this principle for a num-

ber of years, and are continually becoming more firmly convinced of its truth. We are glad to see that the most eminent members of the profession everywhere, but particularly in Europe, and especially among German physicians, are recognizing the principle and making practical applications of it. The prescriptions in our most recent text-books are far less complicated than they were half a century ago or even ten years back. In fact, it is not infrequent to find a frank acknowledgement of the inutility of drugs in some particular disease, and a recommendation of remedies of a more potent character. This candid and consistent course naturally has the effect to render those who had become utterly skeptical of the utility of drugs under any circumstances, somewhat more liberal in their views, and seems to open the way for the approach from both extremes to the ground of real truth which lies somewhere between the opposing views. We cannot quite agree with the professor, however, in his remarks about the responsibility of Christianity for the retrograde in sanitary matters which has taken place in modern times. What is said upon this subject would be wholly true if the word Catholicism were substituted for Christianity. True Christianity inculcates the principle that "cleanliness is next to godliness"; and it can be very readily shown that the nations which are to-day the most advanced in matters of sanitary reform also stand at the head as the supporters of enlightened Christianity. The most thorough-going sanitary reformers are also reformers in a religious sense. Sanitary reform and Christianity are in no way antagonistic. Superstition is the enemy and bane of all reforms; and it is from this influence that sanitary reform has suffered, not from Christianity.

AN OLD AUTHOR ON HEALTH.

WE have often been surprised when searching for "hidden treasures" among the musty volumes of the great libraries of our large cities, to find some of the most precious gems of hygienic advice in volumes written hundreds of years ago, when, as we would naturally suppose, the subject of hygienic reform

was little thought of, and received much less attention than at the present day. One of our English exchanges has recently made a valuable "find" of this sort, and is reprinting some of the best chapters of a little work entitled "The Way to Health, Long Life, and Happiness," by Thomas Tryon, Student in Physic. London: 1697. Among many other good things which we might select we take the following, which, apart from its quaint and antique style, sounds very much like the teachings of some modern writers, illustrating again the truth of the Wise Man's assertion that there is "nothing new under the sun:"—

"Temperance, Cleanliness, and Abstinence have greater power over the Soul and Body than most in our days imagine. Did not our fore-Fathers live to wonderful Ages in perfect Health, their Food in those days being chiefly Herbs, Fruits and Grains, and pure Water their Drink? They did not make their Stomachs the Burial-places of dead Bodies, but their Meat and Drink was innocent and simple, by which they were able to check and regulate the extravagant motions of the Mind and insurrections of the Flesh: Hence some of the Antients have deliver'd it as a Maxim, That none could understand God and his Works, and enjoy perfect Health and long Life, but those that abstain from Flesh, Wine, and Vices, bounding their desires according to the Ends and Necessities of Nature. For where Uncleanliness and Intemperance reigns, the Soul is subjected with the Body that it cannot discern things Coelestial; but Sobriety and Purity of body and mind renders it the Temple of God, wherein his blessed Spirit delights to dwell, and communicate its Gifts and Graces.

"Happy it were if men did but use the tenth part of that Care and Diligence to preserve their minds and bodies in Health, as they do to procure Money and Riches, which many never obtain, and those that do, it serves them chiefly to procure those Dainties and Superfluities, which do generate Diseases, and is the cause of committing many other Evils, there being but few men that do know how to use Riches as they ought: For there are not many of our wealthy Dons that ever consider, that as little and mean Food and Drink will suffice and maintain a Lord in

perfect Health as the poorest Peasant, and render him more capable to enjoy the benefit of the Mind, and pleasures of the Body, far beyond all Dainties and Superfluities. But alas! the momentary Pleasures of the Throat, Custom, Vanity, &c., do ensnare and intice most People to exceed the Bounds of Necessity or Convenience; and many fail through a false Opinion or Misunderstanding of Nature, childishly imagining that the richer the Food is, and the more they can cram into their Bellies, the more they shall be strengthened thereby; but experience shows to the contrary, for are not such People as accustom themselves to the richest compounded Foods, and most cordial Drinks, generally the most Infirm and Diseased?"

How to Preserve the Eyesight.—Mr. Rudenell Carter, a recognized authority on subjects pertaining to the eyes, in a little work on "Good and Bad Eyesight," asserts that the employment of the eyes upon fine work is beneficial to them. His remarks on this subject are so excellent that we quote the following paragraph:—

"The man who would preserve the full integrity of his functions to a ripe old age, must avoid excesses of every description, and must endeavor to employ the higher faculties of his mind somewhat more energetically than is now always customary. A time comes to every one when the physical powers begin to decay, and then, unless the brain has been kept active and recipient by exercise, there is nothing left to live, and the man perishes. We say that he died of gout, or of over eating, or of heart disease, or of the failure of the particular organ which was the first to exhibit symptoms of the approaching end. In reality he has died of stupidity, artificially produced by neglect of the talents with which he was endowed. That which is true of the organism as a whole is true also of its parts; and the eyes, among others, are best treated by an amount of systematic use which preserves the tone of their muscles and the regularity of their blood supply. The acuteness of sight, moreover, is in a great degree dependent upon the mental attention habitually paid to visual impressions; and I have often observed this acuteness to be below the natural aver-

age in agricultural laborers, who, if able in some sense to read, were not in the habit of reading, and who were not accustomed to look carefully at any small objects. I have even had reason to think that the wives of such men were indebted to their household needle-work for the maintenance of a higher standard of vision than that of their husbands; and I have no doubt that idleness of the eyes, if I may use such an expression, is in every way hurtful to them, and that proper and varied employment is eminently conducive to their preservation in beauty and efficiency."

Pork Unwholesome Food.—In many foreign countries the dangerous character of American pork, on account of its liability to communicate disease to those who eat it, is so generally recognized that in quite a number of countries a very careful inspection of all imported pork is made before it is allowed to be sold. Yet Americans go on using the very same unwholesome meat as though not the slightest danger were incurred in so doing. The opinion of American pork in Great Britain may be understood from the following paragraph, which is going the rounds of the English papers:—

"Several months ago a considerable amount of attention was excited by the death of more than one person by eating American pork. In one instance an examination of the remainder of the food showed that the tissue of the animal which supplied it had been largely infested by minute worms, the result of a disease from which the pig had suffered. Medical testimony was also adduced to prove that the porcine race in some districts of America was diseased to a great extent at that period, and that eating such flesh unless it had first been subjected to thorough boiling would be tolerably certain to generate a frightful and fatal disorder in human beings. This subject has again become prominent, owing to an outbreak of fever at Nantwich. A whole family, with the exception of a baby that did not partake of the food, has been attacked simultaneously with illness after dining on American ham. In his report of this case to the sanitary authorities there, Dr. Fox recommends that this kind of meat

should either be avoided altogether or cut into very thin slices, so that the heat generated in the process of cooking may penetrate the whole substance. The same gentleman states that in a neighboring parish an outbreak of typhoid fever has just occurred through the consumption of tinned fish, but he has not, so far as we can learn, been able to ascertain its condition before it was eaten. It is, however, no secret that cooked fish, if allowed to remain in the tin after opening it, speedily undergoes a chemical change which renders it a dangerous food. It would, therefore, be desirable to have this fact inscribed upon the labels of such tins, in order that the unwary may receive timely warning."

The Penalty for Physical Transgression.

—We clip the following paragraph from an exchange; it contains more practical instruction than a whole volume of sanitary lore:—

"According to the recent census of New Zealand, the Maories, or primitive inhabitants, are rapidly decreasing, their numbers, which in 1861 were 55,334, having fallen in seventeen years to 43,595, or about twenty per cent. The causes given for this national decay are love of drink, bad food and clothing, neglect of cleanliness, and unwholesome dwellings. The natives of Hawaii are disappearing still more rapidly. In 1866 they numbered 57,125, and had fallen off in the next twelve years to 44,088."

TALKS WITH CORRESPONDENTS.

A GENTLEMAN writes: "Will you please state through GOOD HEALTH the name of that wall paper that has no poison in it, and where one can get it?"

Ans. We would willingly do so were we able; but we do not know of any kind which may not contain arsenic, neither do we know of any manufacturer who does not use it. The only way to be safe from the injurious influence of this dangerous source of poisoning, is to provide yourself with a Sanitary Detective, and test every sample of paper purchased.

Another gentleman writes us from the

Wisconsin Academy of Sciences, Arts and Letters, as follows:—

"I have read with great interest your article in the September number of GOOD HEALTH on 'Adulteration of Sugar,' and in speaking of the matter to others, I have often met with the remark,—'Well, what if all you say is true, what great harm is done? What evidence have we that glucose is not healthful? We get sugar that answers every purpose,—what difference does it make whether it is made from cane, or from beets, or from corn, or from sorghum, or from the various articles mixed?'

"Would it be asking too much to request you in some future number of GOOD HEALTH, to throw some light upon this matter? Show in what way these adulterations are injurious, and to what extent."

The objections to glucose are chiefly these: It is an artificial, not a natural, product. We do not believe that the chemical laboratory can ever furnish substitutes for the food elements produced in the laboratory of nature. Glucose is made from starch or woody fibre by the action of sulphuric acid combined with long boiling. We can hardly deem it possible that so powerfully corrosive an agent as oil of vitriol can remain long in contact with vitalized elements capable of being utilized in the vital processes of the body, without permanently injuring them by destroying, or at least greatly impairing their nutritive value. Another objection to the use of glucose as a food is the fact that it contains various elements which are known to be unwholesome and extremely injurious. These substances result from the process of manufacture; and if the glucose itself were perfectly harmless, these impurities would be sufficient to condemn its use. No plan has been introduced by which the accidental impurities can be removed, so that it is impossible to find a sample of glucose sugar or syrup which is wholly free from them. 3. The employment of glucose as an adulterant of cane sugar is a fraud, and as such it ought to be discountenanced, even if there were no other adequate reasons for condemning it. If this kind of sugar and syrup is to be sold at all, let it be sold under its true name, and then people will know what they are buying, and will have a chance to decide for themselves which is preferable, the artificial or the genuine.

LITERARY NOTICES.

THE CINCINNATI LANCET AND CLINIC. Cincinnati, Ohio.

This is an excellent journal devoted to medicine and surgery. Each number contains a goodly amount of fresh medical information, and being a weekly, it is of great value to the practitioner. Subscription price \$3.50.

THE TEACHER. Philadelphia: Eldredge & Bro.

Few journals in the interests of education are more worthy the patronage of educators, and all interested in educational subjects, than this. Its appearance is neat and pleasing, and its columns are well filled with valuable matter.

THE THERAPEUTIC GAZETTE. Detroit: G. S. Davis, publisher.

The October number of this monthly presents a rich variety of instructive and interesting articles from the pen of able contributors, besides some valuable translations and correspondence. The department on "Therapeutic Progress" is of especial interest to every practitioner.

BOYCE'S SATURDAY ANVIL. Washington, D. C.

This wide awake temperance journal is ever a welcome visitor to our table. It is an ably conducted weekly, and should find its way to every home in the land. There are far too few journals devoted to the cause of temperance. No other means will accomplish more for the cause of temperance than a live temperance paper. Let us have more such.

BOSTON MEDICAL AND SURGICAL JOURNAL. Houghton, Mifflin and Co.: Boston, Mass.

This journal is one of the oldest published in the interests of medical science, and also one of the best. Its articles are chiefly original, and are valuable contributions to the various subjects treated. It is published weekly, and should be in the hands of every physician who endeavors to keep up to the times in medical knowledge.

OPTICO-CILIARY NEUROTOMY. Baltimore.

This is a reprint of a paper from the "Transactions of the Medical and Chirurgical Faculty of Maryland" upon the proposed substitute for extirpation of a lost and painful eye-ball. The author, Julian J. Chisolm, M. D., occupies the chair of Ophthalmology and Otology in the University of Maryland. The paper is a valuable

contribution to medical literature, being ably written and suggestive of an improved method of treatment.

APPLETON'S JOURNAL for November has already come to our table. The leading paper for this month is an important article on "The Rights of Married Women," by Mr. Francis King Carey, of Baltimore, in which he gives a rapid glance at the history of marital relations, and a discussion of the present status of married women in the principal States of the Union. The other articles are usually interesting. This Journal stands in the foremost rank among periodicals of general literature. Subscription price, \$3.00 per annum: D. Appleton and Co., Publishers, New York.

BIBLE HYGIENE. Philadelphia: Presley Blakiston. Price \$1.25.

This is the title of a book upon Sanitary subjects, the object of which can perhaps be best stated by a quotation from the author's preface.

"The volume has a three-fold purpose: 1. To impart in a popular, easily understood, and condensed form, the elements of the all-important study of Hygiene, or the art of health preservation. 2. To show how numerous, varied, and important are the health-hints contained in that most ancient of all authorities—the Bible. 3. To prove that the secondary trendings of modern philosophy run in a parallel direction with the primary light of the Bible."

The book is full of sound practical knowledge, besides being a most interesting study.

WHY AM I A VEGETARIAN? Glasgow, Scotland.

This little pamphlet is a lecture, delivered in 1879, by J. S. Herron, upon the subject named. Among the arguments adduced in support of vegetarianism are the following:—

All those who abstain from flesh are advocates of temperance, and go in strongly for abstinence from liquor. If all the temperance advocates were abstainers from flesh, they would bring to their aid a mighty lever in the good cause. Abstinence from flesh, and abstinence from drink should go hand in hand; but abstinence from drink will never be fully established or supported with a beef diet. Persons drink from many causes, and in this case it is not so much the morals you must appeal to as the physical infirmities. To make temperance people, we must first remove their infirmities and cure them of their diseases, and if a diet of grains and fruit is substituted for beef, their nerves will become steady, their digestion will improve, and they will feel so much better in health, so much more cheerful in spirits, and their brains will be so much clearer, that they will be able to do without the alcoholic stimulant which has become an artificial necessity.

Publishers' Page.

Now is the time for a large share of the patrons of GOOD HEALTH to begin to think of sending in their subscriptions for renewal. We have been glad to note the growing popularity of our journal, as shown by a steady increase in the subscription list, which is now larger than it has been before for several years, having steadily increased during the year. We hope to be able to retain all our old patrons during 1881, and to obtain as many new ones in the year as have been added to our lists during the year now nearly closing. Now is the time to subscribe and to get your neighbors to take the journal also.

At the recent annual meeting of the stockholders of the Sanitarium the following persons were elected to act as the Board of Directors for the next year: S. N. Haskell, G. I. Butler, L. McCoy, H. W. Kellogg, W. H. Hall, U. Smith, and J. H. Kellogg. At the organization of the Board, the following persons were elected officers for the year: S. N. Haskell, Pres.; J. H. Kellogg, Vice-Pres.; U. Smith, Sec.; L. McCoy, Treas. The report showed a larger patronage than any previous year since the founding of the institution.

The American Health and Temperance Association held its annual meeting at this place a few days ago, with a good attendance of members from all parts of the United States. Maine, Vermont, Massachusetts, New York, Pennsylvania, Ohio, Indiana, Illinois, Iowa, Wisconsin, Minnesota, Dakota, Tennessee, Kentucky, Kansas, Nebraska, Missouri, and California were represented as well as Michigan. Members were also present from Canada and Norway. The report of the Secretary showed that the present membership of the Association is over 12,000, the number of members having nearly doubled during the present year. Another very interesting feature of the report was the fact shown by the reports of the secretaries of the several State Societies, that nearly two thousand persons addicted to the use of stimulants and narcotics had been reformed during the last year. This is certainly a good showing for the second year's work of this new Association. Thus far there have been reported no cases of violation of the pledge, and it is hoped that the reformatations made will prove permanent. The following persons were elected officers for the next year: Pres., Dr. J. H. Kellogg; Vice-Pres., W. C. Gage; Sec. and Treas., Miss M. L. Huntley; Executive Committee, G. I. Butler, S. N. Haskell, and B. L. Whitney, with the president and vice-president.

Agents who wish to canvass for the Hand-Book in Massachusetts, Connecticut, Rhode Island, or New Hampshire, should address Eld. S. N. Haskell,

So. Lancaster, Mass. Those who wish to work upon the Pacific Coast should write to W. C. White, Oakland, Cal. Owing to various hindrances, the chief of which is the great demand for the work, making an edition of 10,000 necessary, instead of 2500 as first intended, the book will not be ready before the first of December.

Those of our patrons who wish to subscribe for other periodicals as well as GOOD HEALTH should look over our clubbing list, which will appear next month. We are able to furnish almost any first-class journal with GOOD HEALTH at a rate that will save from fifty cents to the price of the journal.

We would call attention to the new Text-Book of Anatomy, Physiology, and Hygiene, noticed in this number. The work embodies the course of lectures which has been given annually in Battle Creek College and the School of Hygiene for the last five years. The work is now in use in Battle Creek College as a text-book.

Those who are interested in the subject of adulterations will do well to obtain a "Sanitary Detective," which will enable them to verify the facts stated from time to time in this journal. The "Detective" is very popular where it has been introduced.

The Temperance Song Book, published by the American Health and Temperance Association, is having a very warm reception everywhere. Over three thousand copies have been sold already. Every temperance club ought to have a good supply.

We have tested a sample of the unfermented wine advertised in this number, and know it to be all that is claimed for it. No other ought to be used in communion service. Numberless instances have occurred in which reformed drunkards have relapsed into their old habits through the influence of a sip of fermented wine taken at communion. Sweet wine is also an excellent drink for invalids. We prescribe it almost daily.

The Eureka Ventilator is much needed in many households at this time of the year. It works like a charm. Can be attached to any stove in fifteen minutes, and will secure good ventilation of any ordinary room when there is a good chimney draught. See advertisement.

The Home Hand-Book is sold chiefly by subscription at the following prices: In the Eastern States, Muslin style, \$6.00; Sheep, \$7.00; in the Middle States, Muslin \$6.25; Sheep, \$7.25; in all States west of the Mississippi River, Muslin, \$6.50; Sheep, \$7.50.

INDUCEMENT TO OLD SUBSCRIBERS.—To every old subscriber to this journal who will forward the price of the Hand-Book to the publishers before Jan. 1, 1881, both the book and a copy of GOOD HEALTH for one year will be sent postage-paid. Every subscriber to GOOD HEALTH ought to have the Hand-Book, and every owner of the Hand-Book ought to be a subscriber to GOOD HEALTH.