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THE PHYSIOLOGY OF DIGESTION.*

BY THE EDITOR.

A CORRECT understanding of the philosophy of digestion and its derangements cannot be obtained without a knowledge of the nature of food and of its relation to the digestive organs in general, and to each of the digestive juices. The demand for food is created by the wearing out of the tissues by the vital activities in which they are employed. Every vital action, no matter how slight, is performed at the expense of certain portions of the living tissues. New material is constantly required to supply the want created by this waste. As there is a great diversity in the character of the several tissues of the body, it is necessary that the food should contain a variety of elements in order that each part may be properly nourished and replenished. Classified according to their relation to the digestive organs, the elements of food may be divided into the following classes :—

1. Farinaceous and saccharine.
2. Albuminous.
3. Fatty.
4. Indigestible.

These elements are sometimes found in an isolated state; but ordinarily they are combined in varying proportions. Nearly all food contains a larger or smaller proportion of each.

STARCH AND SUGAR.—The farinaceous and saccharine class includes all varieties of starch and sugar. All vegetables and grains, and most fruits, contain starch. In some cases, as in most grains and in such vegetables as potatoes, turnips, and most other fleshy roots and tubers, starch is the most abundant element, often constituting as large a proportion as two-thirds or three-fourths of the whole bulk or weight of the article of food. Each particular vegetable, grain, or fruit has its own peculiar variety of starch; but the difference is chiefly in the form and size of the separate particles or granules. The only exception to this statement is that the starch of vegetables is, in general, less easy of digestion than that of grains.

In its raw state, each little particle or granule of starch is inclosed in an envelope, which protects it from the action of water, rendering it insoluble. By the process of cooking, and in fruits by the ripening process, this envelope is dissolved or ruptured, and the contents of the granules are thus rendered soluble, a change which is necessary before digestion can take place.

There are several varieties of sugar, which differ among themselves much more than do the several varieties of starch. The most common variety is cane sugar, which is chiefly manufactured from the different varieties of sugar-cane, although it is also made from the juice of the sugar beet and from the sap of the maple tree. It is found, also, in considerable quantities, in the date and in a few other fruits. Cane sugar is the sweetest of all the sugars.

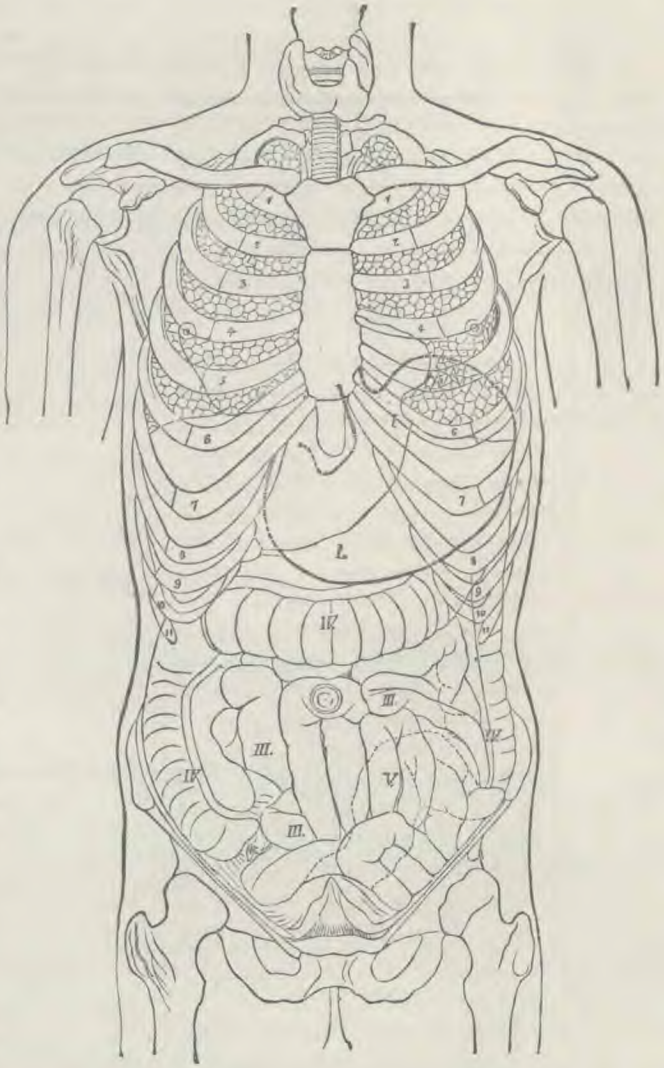
Grape sugar, or *glucose*, is the name of the

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

variety of sugar which is most abundant in nature, being found in grapes and many fruits. It is the most easily digestible of the various sugars, requiring, in fact, no digestion, being absorbed, without further change, along with the glucose produced by digestion, since this is one of the products of the digestion of starch, as will be seen presently. The saccharine ingredient of milk is known as milk sugar, or *lactose*. It is much less sweet than the other varieties of sugar, but possesses the same general properties.

The close relation between starch and sugar is seen by the fact that in the plant one element is derived from the other. The starch of grains, of the potato, of nearly all seeds, in fact, is by the process of germination converted into sugar, when it becomes nourishment for the growing plant. The rapid growth of new leaves formed by the maple and other trees in the spring is through the production of sugar from the starch stored up in the roots of the tree in the fall. In the spring, the vital processes of the plant convert this insoluble starch into soluble sugar, and by its ascent with the sap, the astonishingly rapid growth often noted in the spring is effected. By tapping the tree at this period, as is done in the case of the maple, a portion of the sap may be abstracted, and by its condensation, maple sugar is made.

It is even possible for the chemist to imitate nature in a limited degree in this sugar-making process, since, as is well known, starch may be converted into glucose, or grape sugar, by purely chemical processes. It is even possible for the chemist to produce sugar out of woody fiber, as from paper, straw, cotton cloth, or sawdust, the structures which are formed in the plant by the assimilation of starch or sugar. Being originally formed from sugar, the chemist is able to bring it back to its original condition again, though not in a state in which it can be utilized as food by the human system. This close relation of starch and sugar places them in the same class, although they are treated somewhat differently by the organs of digestion, and can by no means be taken interchangeably as food for reasons which will appear when we have considered the mode of digestion of these two alimentary elements.



The principal nutritive value of this class of foods, like that of the class of fatty elements, is to supply material for the support of animal heat. Just how the changes necessary to the evolution of heat are effected, is not fully understood; but it is well established that such changes do occur.

ALBUMINOUS ELEMENTS.—An example of nearly pure albumen is found in the white of egg. This may be considered as a type of the whole class of albuminous or nitrogenous food elements, a great variety of which are found in both the animal and the vegetable kingdom. In wheat, this class is represented by gluten; in oatmeal, by vegetable albumen; in peas, beans, and other leguminous seeds, by vegetable caseine. In animal foods we have the albumen of eggs, of the blood, and more or less in most animal tissues; the fibrine of muscle; the caseine of milk; etc. All elements of this class sustain essentially the same relation to the system and to the organs of digestion, so that no discrimination need be made between them here. As a class, when digested and formed into blood, they serve to nourish the living or most highly vitalized tissues of the body, as the muscles, brain, nerves, glands, and other active organs. Associated with the albuminous elements are the various salts which nourish the bones and also enter into the composition of a few of the other tissues.

FATS.—Little need be said on this subject, as every one is familiar with the various fats which usually enter into the composition of food. Butter, lard, and suet are the principal animal fats. Most of the grains, some vegetables, a few fruits, and especially nuts, contain various vegetable oils; but the elements of the different varieties of animal and vegetable fats are essentially the same, the three fatty elements, oleine, margarine, and stearine, differing chiefly in consistency at ordinary temperatures. The differences in the various fats and oils are principally due to the different proportions in which these various elements are combined.

Fats are insoluble in water, but dissolve readily in alcohol, and in oils. In mucilaginous and alkaline fluids they are divided into very minute particles, forming what is termed an emulsion.

Like the farinaceous and saccharine elements of food, the fatty elements are chiefly useful for the support of animal heat, although a few other uses are assigned to them.

INDIGESTIBLE.—In addition to the several classes of nutritious elements of food which have been enumerated, all vegetable foods contain a certain proportion of innutritious matter which constitutes the framework of the tissue, being of a woody character. Vegetable cells of all sorts contain more or less of this woody material, or cellulose, in their composition. Most animal foods also contain more or less indigestible elements.

Although wholly indigestible in character, and so not directly nutritious, these elements of food are really very useful; first, in giving the required bulk to the food; and second, in producing the mechanical irritation necessary to excite proper secretion and muscular action to carry on the digestive process. Thus they become a very important accessory to digestion and nutrition. It is partly on this account that oatmeal, wheat-meal or graham flour, and other whole-grain products, are so much to be preferred above the superfine flour which millers take pride in producing of the utmost possible fineness and whiteness. This point will be reverted to again in another connection.

RULES FOR THE PREVENTION OF CHOLERA INFANTUM AND KINDRED DISEASES.

[THE following excellent rules were prepared and published by the "Sanitary Association" of Lynn, Mass. A few of the specifications are applicable to large cities only; but most of them relate to conditions which may exist in any household. They deserve careful study, and if observed will undoubtedly save many lives. July, August, and September are the months during which cholera infantum finds most of its victims. We are now in the midst of the dangerous season, and it is to be hoped that those who are enlightened on the importance of this subject will not fail to use their knowledge to advantage.—ED.]

1. All children under two years of age

should, when practicable, be taken into the country to live during the hot weather. When this cannot be done, they should be allowed to spend as much time as possible, in suitable weather, in parks, open squares, at beaches, and at other places where the air is clean and cool.

2. All sources of impure air about the dwelling should be avoided. The drainage should be carefully looked after. No sink-spouts should pour filthy water on the soil. There should be no untrapped sinks or drains; no stinking privy or pig-sty; no ill-arranged water-closet; no arsenical wall-paper, etc., to poison the air.

3. Great care should be taken to have the air of the dwelling frequently changed, avoiding draughts. This and the preceding rule are as applicable to country residences as to those in the city.

4. As babies who nurse the breast rarely die of cholera infantum, or other diarrhœal diseases, the rule is an obvious one that mothers should, when possible, nurse their children. Failing in this, a perfectly healthy wet-nurse is the best substitute.

5. When it becomes necessary to resort to the milk of the cow or goat, constant care should be exercised that the animal be *healthy* and *properly fed*, and that the milk be supplied fresh, night and morning. It is well for the animal to be kept under observation. Milk brought by dealers from a distance is, as a rule, unsuitable for babies.

6. Whether the baby be nursed or bottle-fed, the meals should be given at regular intervals during the day, every two or three hours until the child is a month or two old, and then never oftener than every three, and later, than four hours; during the night the food should be given less often, once or twice for the first two months, and after that, once, or not at all.

7. The infant should not be allowed to go to sleep during its meals, but should be made to nurse continuously, except for occasional rests of a few seconds, until it has taken all it wants. By this means it soon learns to take just the quantity it needs, and being neither hungry nor over-filled, it sleeps or lies comfortably between the meals.

8. Crying should not always be considered a sign of hunger, and nursing out of meal-times should never be used to quiet the child.

9. With certain exceptions, pure cow's milk is not well digested by infants under six months, and not always by older ones. The hard curds that it forms are often vomited, or pass through the bowels and appear in the discharges. It therefore becomes necessary to dilute it with water, or some other material. When water is used it is commonly found best to give from one-third to one-half milk for the first month or six weeks, and then gradually to diminish the amount of water, until, at the age of six or eight months, the milk is given without water. These rules for diluting milk may only serve as a general guide, for all children have not the same powers of digestion, and some milks contain much more water than others.

10. Enough sugar should be added to the diluted milk to make it of about the same degree of sweetness as before dilution. Theoretically, at least, sugar of milk is better for this purpose than the cane sugar which is ordinarily employed.

11. The greatest care should be taken that the water used be not contaminated. If there be any suspicion of its impurity, and no other can be obtained, it is well to boil it thoroughly before using it for diluting milk. In this way any germs of disease that it may contain will be likely to be destroyed.

12. When, as often happens, children do not thrive well on milk simply diluted, there are several ways of preparing it that will usually make it more digestible. The principle is essentially the same in all, viz., to thicken the milk, and thus prevent the lumping of the curds. Barley, corn-starch, oatmeal, graham meal, arrow-root, flour, rice, gelatine, isinglass, and gum-arabic are used in this way, and they all answer the same purpose. They contain, it is true, some more, and some less, nourishment, but much less than the milk with which they are combined; so that their effect when thus used may be regarded as chiefly mechanical. The starchy parts of them are not absorbed by young children to any great extent.

13. One of the best home-made preparations is of oatmeal. One tablespoonful of coarse oatmeal is left to soak over night in a quart

of water. In the morning it is boiled down to a pint and strained while hot. When cool it is of the consistence of jelly, and should be mixed with milk, generally in equal parts, and only when about to be used. Pearl barley may be used in the same way, and is preferable if the bowels are relaxed.

14. If condensed milk, or any of the manufactured articles, of which there are many in the market, be employed, it had better always be under the advice of the family physician, who is supposed to know the peculiarities of each article, and its adaptability or otherwise to the case in hand.

15. Babies brought up by hand may take their food from a spoon, a cup, the so-called china duck, or from a nursing-bottle. The bottle has the advantage that the food is obtained by the natural process of sucking; the flow of the food is uniform and not too rapid. The spoon, the cup, etc., have the advantage that they are more easily cleansed, and are decidedly preferable if the nurse or mother will not use great care.

16. The bottle should be of the simplest possible arrangement, with holes small enough to prevent a too rapid flow. The best consists of a nipple of black rubber snapped over the lip of a plain bottle with a tapering neck. It should contain about eight ounces for young children, and ten or twelve for older ones. Tubes and joints are objectionable unless extraordinary care can be taken to keep these clean.

17. The bottle and nipple should be rinsed out in cold water, and then left entirely immersed in water until wanted for use again. If this is faithfully done, no other washing is required. But if the milk dries upon the glass or the rubber, it sometimes cannot be removed except with carbonate of soda, scalding, and scrubbing. When thoroughness cannot otherwise be assured, it is well to use a weak solution of carbonate of soda (common cooking soda) for rinsing regularly.

18. The food should be about blood warm when given. It is often given when either too cold or too hot.

19. An infant should not be weaned between May and October unless circumstances imperatively demand it.

20. Children should be washed thoroughly all over every day once, and in very hot weather twice. For a few weeks after birth the water should be at about blood heat, or a little below it, from 98° down to 95° Fah.; and later it should be lowered so that at an age varying with the health and vigor of the child, the water should be warmed only enough to take off the chill.

21. Flannel is the best material for clothing at all seasons of the year, because it is warm, and at the same time light. In the cool weather following the heat of August, infants are very susceptible to the influence of cold, and at that time should be looked after with particular care. It is better that the bands of pinning blankets and skirts should be of flannel rather than cotton. Loose blankets and shawls that easily change their position, or get forgotten occasionally, are undesirable garments. The shoulders, arms, and legs should be covered in cool weather, and the stomach and bowels should always be carefully protected from cold.

22. In hot weather, care should be taken to keep the child cool, as overheating is a common cause of sickness.

EFFECTS OF HARD CIDER.

PROBABLY no other beverage is so largely used by those who profess to be temperate as hard cider. Farmers are especially addicted to its use, the idea being that no harm can come from it. Some have objected to the pledge on the ground that it is too strict in requiring abstinence from cider and small beer, which are never known to intoxicate.

It would be sufficient ground of objection to these articles that their use cultivates a taste for stronger liquors and so leads to drunkenness, if no more serious charge could be brought against them; but we recently heard an intelligent gentleman confess before a large audience that he had been made drunk by the use of hard cider. Being away from home in the evening and having several miles to walk in returning, he was invited by a gentleman to take supper, and afterward was urged to drink a little cider, which he was assured was not very hard, and would do him no harm. Though professedly a temperate man, he finally yielded,

after offering some objections, and drank two glasses of the beverage. He soon started on his journey, and before reaching home he found himself staggering so that he was greatly ashamed, fearing that his condition would be discovered by acquaintances who would be not a little astonished to see him in such a plight. Upon reaching home he immediately resolved to sign a teetotal pledge, which he accordingly did. The only difference between the cider which he drank and ordinary hard cider was that it had been concentrated somewhat by boiling.

From this incident it appears that cider is itself an intoxicant, and its use cannot be tolerated by those who possess thorough-going temperance principles.

We should be glad to receive communications from all who are acquainted with the evil effects arising directly from the use of hard cider. By hard cider is meant that which is fermented. When perfectly fresh, and until fermentation has taken place, cider does not contain alcohol, and hence is not objectionable, at least on the score of temperance.—*American Health and Temperance Quarterly.*

MINERAL WATERS, AND THEIR PRACTICAL VALUE.

[We quote the following excellent remarks by the editor of the *Detroit Lancet* on the subject of mineral waters, with great pleasure, as they accord so perfectly with our own views on the subject. We would suggest, however, that the class of patients who are benefited by a visit to a mineral spring would find double advantage from the same length of time spent at a well-managed sanitarium, where they would be provided with pure water for application outside and inside, and where they would be taught better modes of taking care of themselves at home. We feel quite free to add this suggestion to the remarks of the Doctor, as we know from personal acquaintance that he would not disagree with us.—Ed.]

Robley Dunglison taught that nearly all the benefits derived from mineral waters should be attributed to "the corrected habits of life, the change of air and scene, the rest from labor or dissipation, and the increased amount of aqueous fluid imbibed, which are always associated with the springs." Had he added that the same salts taken in the same amount of water would accomplish all that these accessories did not accomplish, he would have expressed our own view in the matter. We are no believers in any mystical properties of water from any springs. Ten grains of chloride of sodium will have the same effect when taken in a gallon of pure water from the Detroit or the Hudson river, and so with all other salts or combinations of salts. It seems to us absurd for learned men to append their names to a testimonial setting forth the virtues of the water from a spring whose exact composition is settled. It is fully established that magnesium sulphate in certain doses acts as a laxative, and in other doses as a cathartic. Now, if a mineral water contains say a drachm of this to a pint, certainly any one can tell what its therapeutic effects will be. Topers, gluttons of full habit, chronic rheumatics, etc., who are full of waste materials, effete matters, are benefited by drinking large amounts of any bland water. Their sewers need flushing, and to guzzle from a spring is more fashionable than to do the same thing from the well at home. Alkalies and acids largely diluted often produce the happiest effects, as all will testify. But why shall not those be made in the chemist's shop as well as in the diversified strata of the earth? The only possible avowal is, that at home the patient gets the benefits of the artificial waters alone, while at the springs he adds to these the effects of the "accessories" of the springs. We have honestly tried to ascertain in what, if any, respects the natural combinations were better than accurately made artificial ones, but the proof of their superiority has been utterly lacking. Still we are inclined to the conviction that to obtain the "accessories" of the springs is worth all it costs to the patient, casting aside utterly any value of the mineral water. So we rather encourage those to visit suitable springs who are able so to do. But we do it with the understanding that the spring will do no harm, while the change of diet, air, surroundings, etc., will rest certain exhausted tissues and glands, while it stimulates others to a normal activity. A change of almost any sort will improve a large class

of invalids, and the mineral spring, with its form of medication, gives, if properly selected, a most complete transformation of the patient's environment.

THE RIGHTS OF OTHERS.

[THE following excellent article is from the pen of Rev. H. L. Hastings, the editor and publisher of *The Christian*, one of the best family papers published.—ED.]

The use of tobacco by any person is a persistent and flagrant transgression of the rights of others. Persons claim the privilege of doing as they please; but no principle of law, gospel, or common sense, allows any man to please himself by displeasing or annoying others. If a man had neither father, nor mother, nor wife, nor child, nor friend; if he lived as a hermit in a hole on some desert island untrodden by any human foot, he might perhaps claim the natural right to do as he pleased, provided there was no God and he was without moral responsibility. But it is impossible for society to exist unless men consent to the abridgment of their personal rights or privileges, and learn to consider and respect the rights and inclinations of others.

All law is based upon the principle that the inclinations of the individual must yield to the good of the community. He who refuses to accept this principle of action speedily finds himself an outlaw. He arrays himself against society, and society avenges itself upon him by compelling him to submit to wholesome authority. No man moving in society has a right to make himself a nuisance or an occasion of offense to others. He is bound to observe the proprieties and decencies of life. As a member of society he must do nothing by which society itself would be subverted.

No man living has a right to defile the water I drink. No man living has a right to poison the air I breathe. Every man who uses tobacco is continually doing this thing. He burns his filthy cigar or nauseous pipe, drawing smoke into his own mouth and then puffing it out for me to inhale. What right has he to poison the air I breathe? What right has he to give me the headache, or in any way deprive me of the privilege of breathing the vital air which God has made necessary to my very life? If he could get away beyond all human fellowship, where no one could see him, hear him, or be in any way affected by his conduct, the case would be different; but he intrudes himself upon others, he poisons the air I breathe, and seems to imagine that he has a perfect right to do this; and that I have no right whatever to object to his doing it. He is mistaken. It is not only my right but my duty to protest against his impudence and selfishness. No man has a right to poison his wife, or make his children sick, by the use of tobacco. Thousands are nevertheless doing it from day to day. Helpless women, little children, feeble and sensitive, suffer headache, nausea, and untold disgust, because some selfish and uncourteous man claims the privilege of doing as he pleases in regard to personal habits, without respect to the rights of those around him. Such men have mistaken their position. They may be able, under the law of brute force, to do as they please, but under the higher law of right and propriety they are unquestionably condemned.

One marked effect of the use of narcotics seems to be to blunt the conscience and render the mind insensible to delicate moral and equitable distinction; consequently, men, without the slightest apparent sense of impropriety, commit the greatest breaches of public courtesy. A man has no more right to smoke in my face than he has to spit in my face; and yet I can hardly go on the street without being sickened by the nauseous puffing of some smoker who seems to have no more idea that he is making a nuisance of himself than a Fejee Islander has of the indecency of going naked. If the men who do this could know the loathing which they cause in the minds of men and women whom they meet from day to day, it is certain that unless their consciences and sensibilities were thoroughly calloused, they would rid themselves of a habit so uncourteous to others and so unjust to themselves.

—The United States sends more money abroad for sugar than for any other article of commerce. According to the best authorities, we annually consume 1,800,000,000 pounds of domestic and foreign sugar.

PYTHAGORAS AND THE COUNTRYMAN.

A FABLE.

"PYTHAGORAS rose at early dawn,
By soaring meditation drawn;
To breathe the fragrance of the day,
Through flow'ry fields he took his way.
In musing contemplation warm,
His steps misled him to a farm,
Where, on the ladder's topmost round,
A peasant stood. The hammer's sound
Shook the weak barn. 'Say, friend, what care
Calls for thy honest labor there?'

"The clown, with surly voice, replies:
'Vengeance aloud for justice cries.
This kite, by daily rapine fed,
My hens' annoy, my turkeys' dread,
At length his forfeit life hath paid.
See on the wall his wings displayed,
Here nailed, a terror to his kind.
My fowls shall future safety find,
My yard the thriving poultry feed,
And my barn's refuse fat the breed.'

"'Friend,' says the Sage, 'the doom is wise—
For public good the murderer dies.
But if these tyrants of the air
Demand a sentence so severe,
Think how the glutton, man, devours;
What bloody feasts regale his hours!
O impudence of Power and Might!
Thus to condemn a hawk or kite,
When thou, perhaps, carnivorous sinner,
Hadst pullets yesterday for dinner.'

"'Hold!' cried the clown, with passion heated,
'Shall kites and men alike be treated?
When Heaven the world with creatures stored,
Man was ordained their sovereign lord.'
'Thus tyrants boast,' the Sage replied,
'Whose murders spring from power and pride.
Own then this man-like kite is slain
Thy greater luxury to sustain—
For petty rogues submit to fate
That great ones may enjoy their state.'"

—*Gay.*

A FASHIONABLE FOLLY.

[THE following very sensible and timely remarks we quote from the *Examiner and Chronicle*.—ED.]

A fashionable woman, suffering from a complication of disorders, recently sought the advice of an eminent New York physician. Having related her symptoms, which were of a character to cause serious alarm, she was surprised to hear him say simply, "Let me look at your shoes." On seeing them, he added, "I cannot treat a patient who wears shoes with such heels as those"—and politely bowed her out.

What this wise doctor had the courage and fidelity to say, every capable physician would say, if he dared, to those of his female patients who submit themselves to the torture, and expose themselves to the perils, of wearing the inordinately high heels prescribed by the tyranny of fashion. We gave not long ago, among our "Facts in Science," some of the physical consequences resulting from this "fashionable folly," as stated by a leading physician of London. They are such as ought to lead every woman who believes her body is given her for a higher purpose than to be abused and tortured into weakness and premature decay, to reject utterly the monstrous foot-gear which adds an inch or so to the stature at the expense of comfort, graceful carriage, and health.

We have seen specimens of shoes with heels measuring an inch and three-quarters in height, to which is sometimes added a metallic "lift" an eighth of an inch thick! To cap the climax of folly, the heel is often placed, not in its natural position, but under the hollow of the foot, where it presses with destructive force upon the sensitive tendons which bind the foot together and give it elasticity. It is impossible to walk with ease or grace in shoes thus constructed. But the awkwardness and discomfort caused by them are the least of the evils they produce. For, it should be noted, the effects of wearing high-heeled shoes do not end with the wearer. The case would be bad enough if it were so; but unhappily the evil extends beyond her. The wife and mother who thus unfits herself for performing properly the duties belonging to her in the care of the household, wrongs her husband and children as really as if she intentionally neglected them. The growing girl whose physical powers are weakened and deformed by this means is preparing for herself a life of misery and dependence, when every thought should be given to making herself strong and helpful. And the peculiar weaknesses resulting from the severe strain upon the system caused by throwing the weight of the body upon the fore part of the foot are not always, it is said, confined to the sufferers themselves, but may

be transmitted, in a greater or less degree, to their offspring.

We have called the custom of wearing high heels a "fashionable folly." But it is a folly by no means confined to so-called fashionable circles. The shop girl totters to her work, and stands all day upon these instruments of torture. No wonder she grows cross and peevish, and can scarcely complete her daily task. The servants in our households stumble about on the highest and slenderest of "Pompadour heels." The very children hobble to school, and catch many a heavy tumble in their play, because thoughtless or silly mothers put these cruel shoes upon them, and thus, at the very beginning of life, sacrifice all beauty of carriage, all healthy freedom of action, to a spirit of foolish vanity.

We have written thus seriously on a topic that, perhaps it may be thought, should have been treated in a lighter mood. But we believe that the proper care of the bodies God has given us is a religious duty, neglect of which will bring its penalty as surely as any other act of disobedience to the divine will.

COLD FEET.

ALTHOUGH most people suffer from cold feet much less at this season of the year than in the winter, the following suggestions on the subject by a writer in the *Virginia Medical Monthly* are so valuable that they are worth remembering to be acted upon when occasion may require:—

"Cold feet predispose to colds in the head, throat, ears, and lungs. Many people are troubled with sweaty feet, their feet consequently becoming cold. This is often caused by wearing woolen stockings. Cotton stockings should be worn under the woolen pair. A good remedy for cold feet is to bathe them at bed-time, commencing with water at blood heat, and gradually raising the temperature till the water is as warm as can be borne. They should be dried with a coarse towel, rubbed well with an inunction, and then incased in a well-warmed pair of cotton stockings. Vaseline is recommended as an inunction. Salicylic acid and bromide of potassium (five grains of each to one ounce of vaseline) will often remove fetor if present, and plunging the feet in cold water on rising in the morning will often act well. Boots that are thin, or tight and low shoes, should be avoided in cold or damp weather. Heavy, loose-fitting boots, with double uppers and wide soles, are proper. India-rubber overshoes should be worn in damp weather only, and should be removed as soon as the wearer enters the house. Slippers should not be worn by either sex during cold or even cool weather. One of the ways in which a cold is contracted is to exchange warm boots for low slippers. Those who do this forget that their feet and ankles have been protected all day, and that they have not only uncovered them, but placed them in the coldest stratum of air in the room. If they take the precaution to draw on, over the stockings which they usually wear, a pair of heavy woolen socks, the chances for taking cold from wearing the slippers are greatly decreased.

"Dr. Rumbold says that most women use elastic garters, which compress the veins and hinder the return of blood from the feet and legs. Almost every patient claims that her garters are not tight, yet most of them will acknowledge that when they are removed at night deep creases are found under the knees. In order to keep up the stockings without garters at all, they should be pulled on over the stocking-knit drawers and fastened with tapes. Four of these tapes, about six inches long, should be sewed on the drawers at about the middle of each thigh, one on the outer side and one on the inner side; also four tapes of the same length should be sewed one on the outer and one on the inner side of each stocking. The tying of the four pairs of tapes secures the hose in their place, and as they are long enough to come above the knees, more of the limbs is then covered than when they are held up by the strangulating, elastic or non-elastic garters."

NEGLECT OF THE EYE.

WHATEVER an ounce of prevention may be to other members of the body, it certainly is worth many pounds of cure to the eye. Like a chronometer watch, this delicate organ will stand any amount of use, not to say abuse, but when once thrown off its balance, it can very rarely be brought back to its original

perfection of action, or, if it is, it becomes ever after liable to a return of disability of function or the seat of actual disease. One would have supposed from this fact, and from the fact that modern civilization has imposed upon the eye an ever-increasing amount of strain, both as to the actual quantity of work done and the constantly increasing brilliancy and duration of the illumination under which it it is performed, that the greatest pains would have been exercised in maintaining the organ in a condition of health, and the greatest care and solicitude used in its treatment when diseased. And yet it is safe to say that there is no organ in the body the welfare of which is so persistently neglected as the eye.

I have known fond and doting mothers take their children of four or five years of age to have their first teeth filled, instead of having them extracted, so that the jaw might not suffer in its due development, and become in later years contracted; while the eye, the most intellectual, the most apprehensive, and the most discriminating of all our organs, receives not even a passing thought, much less an examination. It never seems to occur to the parents that the principal agent in a child's education is the eye; that through it it gains not only its sense of the methods and ways of existence of others, but even the means for the maintenance of its own; nor does it occur to the parents for an instant that many of the mental as well as bodily attributes of a growing child are fashioned, even if they are not created, by the condition of the eye alone.

A child is put to school without the slightest inquiry on the part of the parent, and much less on the part of the teacher, whether it sees objects sharply and well defined, or indistinctly and distorted; whether it be near-sighted or far sighted; whether it sees with one or two eyes; or, finally, if it does see clearly and distinctly, whether it is not using a quantity of nervous force sufficient after a time not only to exhaust the energy of the visual organ, but of the nervous system at large.—*Dr. Edward G. Loring.*

—Queen Victoria has established an Order of Nurses, composed of ten select nurses from the different hospitals of London, to be styled the Order of St. Katherine.

TEA AND SICK-HEADACHE.

THE most common objection which is met by solicitors for pledges when the teetotal pledge is presented is, that tea is necessary as a remedy for sick-headache. A lady will affirm that when she suffers from sick-headache, as she does frequently, nothing will relieve her so quickly as a cup of strong tea. On this ground she objects to signing the pledge. In answer to this argument there are two important things to be said,—

1. The use of tea is one of the most frequent causes of sick-headache. We have met scores of instances in which persons have suffered with periodical attacks of sick-headache, but have recovered very shortly after discontinuing the use of tea. In one case now in mind a gentleman had suffered in this way for twenty years and had been told by excellent physicians that he could never recover. He discontinued the use of tea, and within three weeks was wholly free from his old malady, and has never suffered with a recurrence of it. At a recent meeting at Eaton Rapids, Mich., at which a State H. & T. Society was organized, half a dozen reliable persons bore testimony to the same fact.

2. Tea does not remove the cause of sick-headache, and so cannot effect a radical cure of the disease. It is simply a deceptive means of obscuring the real difficulty, relieving the immediate suffering, but making the individual still more liable to suffer in the future. The principle is exactly the same as that acted upon by the drunkard who takes a morning dram to cure the effects of the previous night's dissipation. The best way to cure sick-headache is to totally discard tea, coffee, and all other narcotics and stimulants, adopt a wholesome dietary, and abandon all causes of the disease, which are generally those which occasion disorder of the digestive organs. A little appropriate treatment will be sufficient to relieve the immediate suffering, and with the removal of the cause the disease will speedily disappear.—*American Health and Temperance Quarterly.*

—It is estimated that the grape crop in France will be only one-half as large as last year; nevertheless there will doubtless be as much champagne as usual.

LITERARY MISCELLANY.

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

THE BEST COSMETICS.

Ye who would save your features florid,
Lithe limbs, bright eyes, unwrinkled forehead,
From Age's devastation horrid,
Adopt this plan—
'T will make, in climate cold or torrid,
A hale old man:

Avoid, in youth, luxurious diet;
Restrain the passions' lawless riot;
Devoted to domestic quiet,
Be wisely gay;
So shall ye, spite of Age's fiat,
Resist decay.

Seek not, in Mammon's worship, pleasure;
But find your richest, dearest treasure,
In books, friends, music, polished leisure:
The mind, not sense,
Made the sole scale by which to measure
Your opulence.

This is the solace, this the science,
Life's purest, sweetest, best appliance,
That disappoints not man's reliance,
Whate'er his state;
But challenges, with calm defiance,
Time, fortune, fate. —*Sel.*

"CATCH-UP WORK."

Mrs. Ferguson was called by all who knew her a model housekeeper. Mrs. Ferguson protested against what she was pleased to call so much indiscriminate praise, but modestly granted her great efforts in this direction.

"Whatever I have accomplished in the business of housekeeping," she said, "has been done by improving every moment of my time. For the waiting or spare moments, or for the hours I give to my friends when they call, I always have some 'catch-up work.' In my basket here are two kinds of crocheting"—Mrs. Ferguson was then knitting as fast as her fingers could fly—"some embroidery, and a quantity of hamburg to point. There is work cut out in that other basket all ready for the needle, and over there is some mending. When waiting or entertaining my friends, I select either piece of work I happen to feel most like doing at the time. In this way they all grow, and almost before I know it I have finished an incredible amount of sewing and knitting. Why, the time folks waste with company is something terrible to me. If women only would have their work arranged so they could catch it up at any time, they would n't be so behindhand as most of 'em confess they are."

Mrs. Ferguson stooped a little, her chest seemed hollow and contracted, and she had a slight cough. But these were trifles, not worth a moment's serious thought. Mrs. Ferguson had to do half of her housework, because she could never find a capable servant; and then it cost so much to have a seamstress, and seamstresses were generally so slow and incompetent, that she had a thousand times rather do her own family sewing than be bothered with one.

"You must be very tired by night," we ventured to remark, somewhat doubtful of how this little feeler would be received.

"Oh! tired is no word for it," she answered. "Sometimes I am so exhausted that I can't sleep to save my life."

After this we ventured to suppose that the lady took a nap in the daytime.

"No, indeed!" she answered, with a slight show of irritability. "What would become of my family if I should fritter my time away in that fashion, I should like to know!"

In and out went the glittering needles in a way that would have been poetic under other circumstances; but there was too much thrift and hurry here; too much scrabbling—if we may use the old Yankee word—for completion. It was painful to note the color rush to her cheeks, and die out as quickly. We thought of a famous London physician who had been called to a friend—a well-known Massachusetts lady. The patient felt better, and was sitting up in bed knitting when the doctor was announced.

"I see you work with four spades instead

of one, madam," the gentleman remarked as he took a seat by the bed.

The patient looked puzzled and confused, and confessed that she did n't understand.

"A professional grave-digger," replied the physician, "will make a very good and serviceable grave with one spade; but when a woman starts to dig her own grave, she soon finds one insufficient."

"Is it possible that you consider knitting detrimental?" inquired the patient in unfeigned astonishment.

"That depends," said the doctor. "I consider that when a lady is ill enough to require the services of a physician, she is certainly unfit for such work. I also consider both knitting and crocheting, when carried to any considerable extent, exceedingly detrimental. A person with weak lungs should never knit. The action on the chest is harmful to the last degree; and the nerve-strain with fast and industrious knitters is something impossible to exaggerate. If a lady will sit perfectly erect and knit moderately, provided she is well and has fair lungs, there is, of course, no danger."

Oh! for courage to say all this to Mrs. Ferguson, whose hands were trembling, and whose nerves were strung to the last pitch, not only with the work she held in her hands, but with the accumulated piles in her different baskets. But it would have been to no purpose. Mrs. Ferguson had very little respect for opinions that differed from her own, and then the mighty *must* was all powerful in her case. To shirk this work would have been impossible; to have found other hands to labor with the same skill and efficiency, equally so. After all, what was Mrs. Ferguson to do but to go on digging her own grave with those thin, eager fingers that trembled, but never faltered, in the performance of what she considered her duty?

How rarely the happy medium between idleness and constant occupation is reached by our American women! The effects of no work are probably more to be dreaded than the effects of overwork; for that "Satan will find some mischief still for idle hands to do," has been strikingly accomplished ever since the world began. Why can not the workers of the world understand the amount of material on hand, and come to some kind of an estimate of how long it will last?

Dr. Abernethy advised his friends and patients to take an accurate account of physical stock every four weeks, and then to continue or hold up, according to results; but how surely and utterly most of us ignore the strain on our nerves, going on from day to day in the same old tread-mill, working when we ought to sleep, and driving away at our "catch-up work" when our hands should lie idle in our laps. We all of us know many Mrs. Fergusons with their plethoric baskets and constant occupation; but how often do we find such workers well and cheerful, with a reserve force of strength equal to any demand on it? Are they not nervous, apprehensive, worried and anxious over trifles, with very little faith in the present, and none in the future?

While at luncheon, one day, with one of these unintermittent workers, the servant accidentally broke a very delicate and expensive cut-glass spoon-holder. The lady of the house was a well-bred, cultured woman, but her nerves were in so demoralized a condition that it was impossible for her to retain anything like a respectable equanimity of manner. Her face flushed painfully, her hand trembled so she was unable to pour the tea, and she finally burst into a perfect tempest of tears.

"I do n't know what is the matter with me," she said, as soon as she could command her voice sufficiently to speak. "The spoon-holder is easily replaced, and, of course, you know I am not silly enough to cry over a little thing like that, but I could n't help it, to save my life."

Of course not; but what was the use to talk, especially as after the meal was ended she informed us that she would run up to her room, and get some "catch-up work," for she never enjoyed herself without something in her hands to do.

"What was the matter with her?" we inquired once of our family physician, who announced the death of one of his patients.

"Well, as near as I can judge," he answered, "she died of 'catch-up work.' She was a lady who thought it wicked to fold her hands. Like the most of you," he went on,

"she had no idea that there was the slightest connection between her brain and her fingers, and thought that her hands acted independently of nerves and muscles. So she counted with her fingers—of course her brain had nothing whatever to do with all the perplexing and intricate stitches—made loops with her fingers, and crocheted and tucked, and embroidered all her children's clothes with her fingers, and died because she had used up all her vitality with her fingers. I warned her of this result, but she only laughed at me."

There are times in all of our lives when we are obliged to overdo—in cases of protracted sickness, and in the emergencies that arise in almost every family; but what help has the woman to give in such cases when there is no reserve force to fall back upon? Let us fold our hands at odd times and resolutely turn away from the "catch-up work," which is neither rest nor amusement, but only a continuation of the hard work of the day.—*Eleanor Kirk.*

FLOODING THE SAHARA.

THE French and English engineering schemes to flood the great Eastern desert with the waters of the Mediterranean and Atlantic, thus opening water communication with the rich Soudan region for European commerce and civilization, seems at first visionary and impracticable. "Across the Sahara by steamer" would be a surprising announcement even in this age of mechanical and engineering triumphs; but scientists sanction the undertaking, and the French Chamber has already begun its appropriations.

The cataracts of Africa's great rivers have seemed, hitherto, to confine the district south of the Sahara to almost complete isolation from civilization. Her coast-line has but few indentations, and harbors are consequently rare on her coast, while the great desert has been a barrier through which the civilizations of the Mediterranean could not pass.

Recent researches have shown that, contrary to the general impression, the larger part of the 3,000,000 square miles of the great Sahara is diversified with snow-capped mountains, verdant valleys, and occasional groves; and is watered by rivers and torrents which, while burying themselves in the sands, impart new life to the vegetation growing above them.

Tradition reports that in the year 681, A. D., the Arabs found the north of Africa well wooded and watered. Sheltered by the forests, the inhabitants repelled invaders for more than a century, until the Arabs, by instituting a wholesale destruction of the forests, drove the natives far into the interior.

In the western Sahara, between the parallels of eighteen and thirty degrees, there lies a large tract of impassable desert, nearly sixty thousand square miles in area, and two hundred feet below sea level, which is supposed to have formed at one time an arm of the Atlantic, as tradition reports the former existence of an extensive lake in this vicinity, which was in course of time transformed into a sandy waste. This depression reaches within 100 miles of Timbuctoo, the commercial metropolis of Soudan.

Explorers agree that a channel once connected the north-western extremity of this great depression with the Atlantic, at a point near Cape Juby, opposite the Canary Islands. This channel terminates in a sand-bank, some 300 yards across, which prevents the waters of the ocean from flowing into its bed. The mouth of the channel is two and one half miles broad. Thus the desert could easily be flooded by simply excavating a ship canal 300 yards long through the sand-bar at the mouth of the channel.

Here the English engineer, Donald Mackenzie, proposes to operate after making a thorough survey of the interior, to show that the submergence of the Sahara will not work harm to the residents in the vast regions that environ it.

The French engineers, M. Roudaire and M. de Lesseps, of Suez renown, are now engaged in preliminary work with the view to admitting the waters of the Mediterranean to the basins of Tunis and Algeria, also found to be below the sea level, which will make other lakes entirely distinct from that described, connecting with the Mediterranean.

The population of Soudan is large, living on extensive plantations, and in walled cities. Although the caravan transit to the Mediterranean ports is a distance of over 2,000 miles of desert, the present foreign trade is $20,-

000,000 per annum, and the proposed scheme is expected to increase the amount to $60,000,000 a year.

AN AGE OF WONDERS.

THIS is the appellation which an English writer applies to the present time, referring to the following among many others of the wonders of modern invention and discovery which justify the title:—

We have seen a substance which our ancestors proudly used to obliterate a pencil mark so molded to our use as to make man almost an amphibious animal; a noxious vapor, from which they would turn with disgust, made the means of brilliant light, which enables the night almost to rival the day. We have seen the surgeon's knife, to him an instrument of necessary torture, divested of its horror by a discovery which gives a temporary insensibility to pain, which enables the suffering patient to wake from nothing more than a troubled dream, and find that over, under which, without this, his fortitude might have faltered, or his constitution sunk. We have seen a power which is inexhaustible so long as the elements of fire and water remain, the effects of which our grandmothers may have witnessed with a sigh, when terminating, by a sudden crash, the serene music of their tea-kettles; but which, by the combined efforts of modern science, has become the very hands and feet of the world, the great and almost universal manufacturer for man, the great propeller by which we rival the flight of the bird, and which so unites the human family that degrees of latitude and longitude are little more than mile-stones on the great highway of the world. And, lastly, we have seen that subtle power which our ancestors recognized only in the minute spark of the electric circle, transformed into the faithful, untiring agent of the human mind, bearing its thoughts from one end of a vast continent to the other with an accuracy which would be in vain looked for in any other messenger, and with a speed which far outstrips the action of the mind which formed them. "Quick as thought" will not do now to express the greatest speed, and "quick as lightning" has become a practical, not merely a figurative expression. Had it happened two or three centuries ago that some superior mind had discovered the expansive power of steam, or the rapid passage and magnetizing effect of electricity, and at the same time had possessed the mechanical genius for contrivance to render those properties available, as we now see them in daily and hourly use, what would have been the probable result? It is not unlikely that to the discoverer of such wonders the discovery might have been anything but profitable. He would not then have been courted by companies, or fêted by shareholders; neither riches nor honors would have rewarded his labor and anxiety; but his discoveries might have been looked upon as miracles effected by no heavenly power, and the monument of his fame might have been the fagot and the stake.

REASON IN INSECTS.

IT was formerly held that man alone is possessed of reason, while lower animals are governed wholly by instinct. It is now generally conceded that the higher animals share with man in the gift of reason, but it is not so well established in the minds of many that insects possess intelligence. The following incident related by Prof. Gredler, of Boston, seems to show evidence of the existence of reasoning faculties in ants which cannot well be explained on the theory of instinct alone:—

"One of his colleagues had for months been in the habit of sprinkling powdered sugar on the sill of his window, for a train of ants, which passed in a constant procession from the garden to the window. One day he took it into his head to put the powdered sugar into a vessel, which he fastened with a string to the transom of the window, and in order that his long-petted insects might have information of the supply suspended above, a number of the same set of ants were placed with the sugar in the vessel. These busy creatures forthwith seized on the sugar, and soon discovered the only way open to them, viz., up the string, over the transom, and down the window-frame, and rejoined their fellows on the sill, whence they could resume their old route down the wall into the garden. Before long, the route over the new

track, from the sill, to the window-frame, transom, and string, was completely established. But one morning it was noticed that the ants were stopping at their old place, the window-sill, and again getting sugar there. Not a single individual any longer traversed the path that led thence to the sugar above. This was not because the store above had been exhausted, *but because some dozen little fellows were working away vigorously and incessantly up aloft in the vessel, dragging the sugar crumbs to the edge, and throwing them down to their comrades below on the sill*—a sill which, with their limited range of vision, they could not possibly see."

A TERRIBLE CARNIVOROUS PLANT.

MOST of us are familiar with the little marsh plant called sun-dew *(Drosera rotundifolia)*, common to upland bogs and very poor soil, with its small round leaves fringed with crimson hairs, each headed with a tiny drop of cool, sparkling dew through all the burning heats of summer, whence its poetical name of sun-dew. The minute drops of harmless dew which adorn every hair, or tentacle, as Mr. Darwin calls the crimson filaments, from the use to which they are applied, is in reality a drop of very viscid secretion surrounding an extremely sensitive gland. Attracted either by the glitter or possibly by some honeyed odor, or whatever mysterious instinct it is that draws the child to the unwholesome sweet, insects alight on the leaf. If the delicate feet of the smallest gnat do but touch one of the drops of dew at the end of a single filament, its doom is sealed. Caught by the tenacious secretion, with the sensations one would imagine in this strange world of insect peril of a child stuck up bodily to a gigantic bull's eye to whose attractions it has incautiously yielded, in vain it endeavors to escape. Slowly the filament begins to bend at its base, transmitting at the same time a motor impulse to the filaments next it, that in their turn begin to converge with pitiless precision on the luckless victim, which is carried to the next inner row of tentacles, and so on to the next, with a curious sort of rolling movement, till it reaches the center of the disk, the glands at the same time pouring out an acid secretion. By degrees the central glands, acting centrifugally on the rest, all the tentacles become closely inflected on the prey, which is bathed on all sides in the secreted acid, while the disk of the leaf often becomes strongly incurved, forming a sort of impromptu stomach, the whole movement taking place in a period varying from four to ten hours. When the insect alights on the center of the leaf, the short central filaments are not reflected, but the glands transmit not only motor power to the external filaments, but also some influence which, before they are brought into contact with the prey, causes them to secrete more actively, and the secretion to become acid. According to Dr. Nitschke, insects are generally killed in about a quarter of an hour, suffocated in the secretion. The number of insects which thus meet their death must be prodigious. On one leaf alone Mr. Darwin found the remains of thirteen flies, and as a single plant has some six or seven leaves, and the plant is itself very abundant, the tale of the slain must be enormous. The commonest victims are small flies *(Diptera)*, but the Rev. H. M. Wilkenson, on one occasion, observed a large dragon-fly, with his body firmly held by two leaves.—*Contemporary Review.*

A New Race of People.—The Portuguese explorer, Major Pinto, in his recent explorations in Southern Africa, claims to have discovered a race of white men, hitherto entirely unknown, living near the source of the Zambezi River. Of them he says:—

"A great white people exist in South Africa. Their name is Cassequer; they are whiter than the Caucasians, and in place of hair have their heads covered with small tufts of very short wool. Their cheek bones are prominent, their eyes like those of the Chinese. The men are extremely robust. When they discharge an arrow at an elephant the shaft is completely buried in the animal's body. They live on roots and the chase, and it is only when these supplies fail them that they hold any relations with the neighboring race, the Ambuelas, from whom they obtain food in exchange for ivory. The Cassequeres are an entirely nomadic race, and never sleep two nights in the same encamp-

ment. They are the only people in Africa that do not cook their food in pots. They wander about, in groups of from four to six families, over all the territory lying between the Cuchi and the Cubango. It would seem that from a crossing of the Cassequeres with the negroes of other races sprang those mulattoes of the south whom the English call Bushmen. The latter are, however, better off than the Cassequeres, and use pots in cooking their food, while their dispositions are good, though quite opposed to civilization."

Marvelous Automata.—An automaton is literally a self-moving machine; but the term is generally applied to machines which imitate the actions of human beings or lower animals. These marvels of ingenuity are by no means wholly modern inventions, since we have accounts of their production in very early times. The *Encyclopedia Britannica* gives the following very interesting account of some of the most remarkable automata which have been invented:—

"Four hundred years B. C., Archytas of Tarentum is said to have made a wooden pigeon that could fly; and during the Middle Ages numerous instances of the construction of automata are recorded. Regiomontanus is said to have made an iron fly, which would flutter round the room and return to his hand, and also an eagle, which flew before the Emperor Maximilian when he was entering Nuremburg. Roger Bacon is said to have forged a brazen head which spoke, and Albertus Magnus to have had an androides, which acted as door-keeper, and was broken to pieces by Acquinas. Of these, as of some later instances, e. g., the figure constructed by Descartes and the automata exhibited by Dr. Carnus, not much is accurately known. But in the eighteenth century, Vancanson, the celebrated mechanician, exhibited three admirable figures,—the flute-player, the tambourine-player, and the duck which was capable of eating, drinking, and imitating exactly the natural voice of that fowl. The means by which these results had been produced were clearly seen, and a great impulse was given to the construction of similar figures. Knauss exhibited at Vienna an automaton which wrote; a father and son named Droz constructed several ingenious mechanical figures which wrote and played music; Kaufmann and Maelzel made automatic trumpeters which could play several marches. The Swiss have always been celebrated for their mechanical ingenuity, and they construct most of the curious toys, such as flying and singing birds, which are frequently met with in industrial exhibitions. The greatest difficulty has generally been experienced in devising any mechanism which shall successfully simulate the human voice."

Stop the Tap.—Sir Wilfrid Lawson relates a very good story which well illustrates the folly of the "moderation" theory of temperance reform, as follows:—

"It was a species of temperance meeting. Three excellent clergymen spoke. They harped on the elastic and indefinite word 'moderation,' condemning intemperance, but setting up Timothy as their model man morally and constitutionally, lauding and magnifying sobriety, but commending the temperate consumption of alcohol. When they had concluded, an elderly farmer arose and said, 'I've heard of that kind of talk for the last forty years, and I can't see that people are a bit more sober now than when it commenced. It reminds me of what I once saw take place at a retreat for imbeciles. It is the custom there, after the patients have been in residence for a certain time, to put them to a kind of test to see whether they are fit to leave the asylum or not. They are taken to a trough full of water, with a small pipe continually running into it and supplying it. They are given a ladle, and told to empty it. Those who have not regained their senses keep lading away, while the water flows in as fast as they ladle out; but them that is n't idiots stop the tap.'"

A Gossamer Dress.—According to a late English journal, "a dress woven from the webs of the large spiders common in South America has been presented to Queen Victoria by the Empress of Brazil. It exceeds in fineness any manufactured silk known, and is very handsome. Spaniards, nearly two hundred years ago, endeavored to make gloves,

stockings, and other articles of spiders' webs; but they yielded so little profit, and necessitated so much trouble, that the manufacture was abandoned. In 1810 the calculation was made that the webs of 700,000 spiders would be required for about forty yards of silk. Such dresses are occasionally seen in South America."

Infusorial Earths.—In various parts of the world there are more or less extensive deposits of a curious earth which upon examination is found to consist almost entirely of microscopic particles which are the product of low forms of vegetable life, being really the siliceous skeletons of diatoms. The city of Richmond, Virginia, is built upon a deposit of this kind which is eighteen feet in thickness, and of indefinite extent. Similar deposits exist at Dolgelly in North Wales, South Mourne in Ireland, and the island of Mull, in Scotland. In Sweden and Norway deposits of this sort exist, being known as *berg-mehl*, or mountain flour, so called because the inhabitants of those countries, in times of scarcity, are accustomed to mix this curious earth with their flour, thus giving greater bulk to their loaves, though it is scarcely possible that any appreciable amount of nutriment can be obtained from such a source.

The Educated Young Lady.—What better is she for education if she persists in silliness, and loudness, and obtrusive manners? Her researches among the treasures of science, and familiarity with the thought of genius, are of no value if they cannot furnish her with subjects for conversation more mighty than the gossip of society, the scandal of the day, and the probable intentions of young men who never had an intention in their lives, and are not capable of one until their brains acquire more solidity. Her artistic accomplishments are absolutely worthless, unless they teach her how to beautify and adorn her home, how to distinguish the false from the true, how to be in her own person an embodiment of that grace and purity and chaste beauty which the world worships in the marble and canvas of the old masters; unless they teach her a radical abhorrence of all the hideous distortions of fashion; of outward show and inward untidiness; of tawdry ornaments, obtrusive finery, and unclean, trailing tatters. Of what avail is it that she knows every law of her own body, and can trace for you, with scientific accuracy, the working of every organ, and the linked steps of each wonderful process of life, if she lives in daily violation of them all; laying a murderous hand upon respiration and circulation, lunching at midnight upon fruit, cake, and pickles, and dreaming unutterable things in a room with all the windows hermetically sealed?—*Emily Huntington Miller.*

Proper Use for Whisky.—Rev. Dr. Guthrie says: "Whisky is good in its own place. There is nothing like whisky in the world for preserving a man when he is dead. But it is one of the worst things in the world for preserving a man when he is living. If you want to keep a dead man, put him in whisky; if you want to kill a living man, put whisky into him. It was a capital thing for preserving the dead admiral when they put him in a rum-puncheon; but it was a bad thing for the sailors when they tapped the cask and drank the liquor, till they left the admiral as he never left the ship—high and dry."

A Novel Invention.—An American gentleman has recently invented a machine by means of which silk reeling can be done with much more facility than heretofore. The great difficulty in the process has been the constant breaking of the thread, which required such constant watching on the part of the operator as to make the work very slow and expensive. The novel invention just perfected provides an electrical device which stops the machine as soon as the thread breaks, and rings a bell to call the attention of the operator, who by the aid of this ingenious mechanism can superintend a large number of machines, and reel as much as forty pounds of silk in a week.

When America Was Named.—This country was named America at the suggestion of a German professor of geography who published a map of the new continent in 1507, fifteen years after its discovery.

POPULAR SCIENCE.

—A cubic foot of air weighs a little more than one ounce.

—A telephone between Petersburg, Va., and Wilmington, N. C., a distance of 226 miles, is said to be a success.

—A French scientist has discovered trichinæ in a hippopotamus which was presented to the city of Marseilles by the Khedive. The animal recently died.

—Pearls have been discovered in the Little Miami River, Warren Co., Ohio, and the pearl fishery is regularly carried on there. A pearl recently found sold for $2800.

—The *Comptes Rendus* gives an account of a species of microscopic organism which will withstand a boiling temperature for many hours. It is quickly killed by a temperature of 239°.

—Prof. Loomis, who has for some years been investigating the cause and phenomena of storms, has discovered that they are almost wholly confined to the lower regions of the atmosphere.

—Gold is supposed to have been the first metal with which man became acquainted, and it is the only metal which is found in any quantities in a metallic state; it is the most easily worked of all metals, and the most imperishable.

—Linen can be converted into sugar; sugar into alcohol (spirits) and carbonic acid, also into pure charcoal (carbon) and water; alcohol can be changed into ether and water, and vinegar; while starch may be transmuted into either sugar, alcohol, gum, or vinegar.

—In the reign of George II., the Rajah of Bengal confined 146 English prisoners in Calcutta in a place called the "Black Hole," only 18 ft. square by 16 ft. high, and ventilated only by two small grated windows. One hundred and twenty-three of these prisoners died in the night, and most of the survivors were afterward carried off by putrid fever.

—A curious illustration of automatic action is presented in an incident which occurred in Philadelphia not long since. A dancing master who had danced for thirteen hours on a wager, when the end came was unable to stop. His feet and limbs refused to obey his will, and his friends were obliged to stop him by force.

—An eastern gentleman has invented a method of making sugar from cornstalks equal in quality to that made from sugar-cane. The stalks yield about eight per cent of sugar, which is less than half the quantity obtained from the sugar-cane, but enough to make the business very profitable, especially when the worth of the corn raised on the stalks is taken into the account.

Gold in Petroleum.—A German periodical asserts that a chemist has extracted $34 worth of gold from a ton of the residues from petroleum stills.

Color Blindness.—An examination of a large number of railroad employees shows that twelve per cent, or nearly one-eighth, are affected with color blindness, which may account for many of the railroad accidents in which an investigation renders a verdict of "nobody to blame."

Snow in Summer.—A gentleman reports having seen snow fall in Portland, Maine, on the fourth of July last. He thinks the anomaly was due to the meeting of two currents of air, one of which was warm and moist, the other being cold and dry. The occurrence was certainly very singular, at least, and worthy of record.

Vegetable Pepsin.—A German naturalist claims to have discovered that the juice of a tropical fruit known as the *pawpaw* possesses the same digestive properties as pepsin. In Quito the use of this aid to digestion is said to be very general. The toughest meat becomes very tender when boiled in water containing a little pawpaw juice.

A Remarkable Meteorite.—Last May a meteorite fell in Iowa which weighed nearly 1000 lbs. The mass exploded just before reaching the earth. One fragment weighing

nearly 500 lbs. penetrated the earth to a depth of over fourteen feet. The meteorite was composed of iron, and an alloy of iron, nickel, and tin, with quite a proportion of stony matter.

Prolonged Suspended Animation.—An article has recently been going the rounds, describing a method of preservation by means of which it was claimed that human beings could be kept for any length of time without food in a state of suspended animation. Of course no intelligent person believed the yarn, though many may have marveled at it; and now the paper which first published the account acknowledges that it was a hoax.

Parrot Speech.—A writer in the *Journal of Mental Science*, who has been studying the speech of parrots, asserts that a parrot learns to talk just as a child does; that is, by suggestion, by connecting sounds with forms or objects. The writer gives parrots, and other animals also, credit for a high degree of intelligence, and suggests that "the chief difference between man and animals is to be found in the smallness of knowledge of the fine arts possessed by the latter."

Early Life of a Mosquito.—The general ignorance respecting the natural history of the mosquito often leads people to tolerate in close proximity to the house, even beneath the windows of their sleeping rooms, the very conditions most favorable for their development, such as rain-water in tubs, barrels, old tanks or troughs, and stagnant pools. A writer in the *Scientific American* gives the following interesting description of "How Mosquitoes are Developed":—

"For several years past I have noticed in warm weather that my wooden cistern, which is above ground, has been infested with peculiar looking little red worms. I have heard many others like myself complain of these worms, and I had taken it for granted that they were a species of earth-worm. However, last summer I procured a glass jar and sprinkled the bottom of it with a very small quantity of sand and clay. I then half filled the jar with clear fresh water, and after putting a dozen of these worms in a jar, I tied a piece of cloth over the mouth, and placed it in a light, airy place.

"The worms were from half to three-fourths of an inch in length, of a bright red color, and had rather a jointed appearance about the body. They would crawl on the bottom of the jar, swim through the water by a rapid bending of the body backward and forward, and occasionally come up to the surface of the water and float.

"Within twenty-four hours after placing them in the jar, I noticed that they had all gone down to the bottom of the vessel, and had enveloped themselves separately in a kind of temporary shell made of earth and sand.

"In a few days after this I saw one of these worms crawl out of his temporary house at the bottom of the jar, and swim to the surface of the water. Here, after twisting about for a few seconds, he ruptured a thin membrane that enveloped his body and came out a full-fledged mosquito ready for business. I noticed many of the other worms going through the same performance within a short time afterward. Some of the mosquitoes were much larger than others, but, as I have already stated, some of the worms were also larger than others."

Increase of Earthquakes.—The record of earthquakes, those terrible physical convulsions which often demolish cities in a moment and bury thousands in one common grave, shows a most startling increase in the frequency with which, in modern times, these throes of nature visit some of the most populous districts of our globe.

According to a recent writer in the *Boston Journal of Chemistry*, the volcanic region of which Vesuvius and Etna are the centers, is being visited each century more and more frequently by earthquakes and volcanic eruptions. Up to the beginning of the sixteenth century the yearly number of shocks ranged "from ten in the seventh to sixty-eight in the twelfth; while for the sixteenth, seventeenth, and eighteenth, the figures are respectively one hundred and ten, one hundred and eighty, and six hundred and sixty; and in the first two-thirds of the nineteenth the number was no less than nine hundred and twenty-five."

GOOD HEALTH.

BATTLE CREEK, MICH., SEPTEMBER, 1879.

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

LOOK OUT FOR TYPHOID.

THE season of the year has now come when those who do not attend to the requirements of correct sanitation will be liable to suffer from typhoid, typhus, and other febrile diseases, due to the reception by the system of disease germs and the results of animal and vegetable decomposition. Moldy rooms, damp cellars, foul cisterns under or near the house, foul drains and cesspools, privy vaults, pigsties, hen-coops, barn-yards, and all similar nuisances, should be removed. Typhoid fever and kindred diseases are easily preventable; and hence to tolerate them in any community is a crime. This doctrine is so thoroughly believed in England that stringent laws have been enacted for the prevention of these diseases. The ready communicability of typhoid fever is also so well understood that not long since an innkeeper, one of whose guests was suffering with the disease, was informed that "he would be held criminally responsible if any other case could be traced to the one under his roof." A similar law in this country applied to every household as well as to innkeepers, would doubtless do much to lessen the annual mortality from infectious fevers.

ADVICE TO CONSUMPTIVES.

THE summer is the golden opportunity for consumptive invalids in temperate climates. When the disease does not rapidly progress toward a fatal issue the patient usually gains a little each summer, although he loses what he has gained, and more, each winter. It is in the colder months that the foundation of the disease is generally laid, and in the same portion of the year the disease makes greatest headway, and extends its ravages most rapidly. Hence, the summer and early fall are the favorable months for the patient whose hacking cough, slight morning chills, evening fever, and occasional night sweats, indicate that consumption is already making serious advances upon his respiratory organs. During the months of June, July, August, September, and the early part of October, the consumptive should live out of doors almost entirely. If he can spend his days in roving about among the woods and streams of some pleasant country place, sleeping in a tent at night and eating good, wholesome food, he will be doing a great deal to fortify himself against his disease and to stay its progress. If, in addition to this, appropriate treatment can be applied, all is being done that can be done for the patient.

Drugs do little or nothing for consumption, except harm. We have met many persons suffering with serious lung troubles who had been sadly injured by extensive drugging, by which the digestive organs had been greatly impaired, thus cutting off the patient's supplies of strength and nourishment. In most cases everything depends on the preservation of the integrity of the digestive organs. The better a consumptive patient's digestion, the better his chance for life. If both lungs and stomach are in bad condition, the prospect of recovery is very small unless the digestion can be speedily improved.

We very heartily indorse the remark of Dr. Thomas F. Rochester, an eminent member of the American Medical Association, in his address before the association at Atlanta, Ga., last May, that what consumptives need is "less of medication and more of hygiene—hygiene in its largest sense—embracing occupation, habitation, good nutrition, marriage relation, and, with all the rest, and above all in its importance, systematic and practical in-door and out-of-door judicious exercise."

A NEW PLAN OF SEASONING.

A FRENCH agriculturist of some note has conceived the novel plan of seasoning the flesh of animals before they are killed. He shows by numerous experiments that the flesh of animals is greatly affected by the character of their food; and to such an extent that its flavor may be modified almost at will. It has long been known that the flesh of herbivorous animals becomes very unpalatable when they are fed on animal food, but further than this little attention has been paid to the subject. M. Monclar states that hares killed in a wormwood field and eggs laid by hens which had eaten diseased silk-worms had such a nauseous taste that no one could eat them. This accords well with an account which we published several years ago of the poisoning of a family by eating chickens which had feasted upon potato bugs.

The Frenchman's suggestion is not only that animals intended for food should be fed on wholesome articles, but that certain strong flavoring substances should be added to their food, thus imparting to the flesh whatever flavor the epicure may desire. We do not anticipate that the idea will ever be considered sufficiently practical to warrant its very extended adoption, but the experiments referred to are both interesting and instructive as they show most conclusively the influence of food upon the flesh of animals, and thus necessarily upon the health of human beings. In the light of these investigations the flesh of animals fed on putrid swill with frequent admixtures of rancid meat and similar delicacies, for scavenger animals, will be scarcely considered fit food for human beings. Yet to-day thousands of people are eating pork which is made of exactly this kind of material. It is well known that hogs do not object to eating carrion of almost any sort which comes in their way. If one of a herd of hogs dies, the rest will generally turn about and eat it. Not long since a man who was accidentally killed in the woods some distance from home was found several days after far advanced in decomposition and half eaten by hogs.

Even when kept in pens, hogs have frequent opportunities to partake of food of this sort in the shape of dead rats, which are themselves scavengers of a similar sort, to say nothing of the fact that when confined in pens a good share of their food is eaten after being mingled with their own ordure.

Fowls are not more dainty respecting their food than swine. An instance once came under our observation in which people who were quite fastidious in their taste, or professed to be, and who would about as soon eat a negro as a hog, served up and ate with relish at a Christmas dinner a brace of chickens which had fattened upon the putrid carcass of a dead hog which lay behind the barn, adjoining the chicken-coop. We thought there was much sense in the remark of a lady patient for whom we prescribed a diet of eggs some time since, that she never ate the articles unless she knew that the hens which laid them were fed on grain. We would suggest to all the propriety of looking carefully after the quality of the food they are taking at second hand. After seeing an account of the experiments referred to above we can give full credit to the story of the cannibals who refused to eat one of a number of sailors who fell into their hands because, as they afterward said, "he taste too like tobacco."

A TEMPERANCE HOSPITAL.

FOR several years there has been in operation in London, England, under the care of an eminent physician, Dr. Edmunds, a medical institution known as the temperance hospital, because all patients are treated there without the use of alcohol in any form. Of the many thousands of patients who have received treatment at this hospital during the six years of its existence, not one has been allowed to make use of wine, beer, brandy, or any other alcoholic beverage or liquid. According to the annual report of the workings of the hospital, the experiment has thus far been a very gratifying success. This would also seem to be indicated by the fact that measures have recently been taken for the enlargement and permanent establishment of the institution. More than $50,000 have been raised by subscription for a hospital building, and a few weeks ago the corner-stone was laid by an eminent member of parliament, several other M. P.'s being present and assisting in the ceremonies of the occasion. It is not impossible that it may soon

be demonstrated that alcohol is altogether useless even as a medicine, since there are other remedies which may be substituted for it not only without loss, but with actual advantage in many cases. It is certain at any rate that the various preparations of alcohol are prescribed by physicians much more frequently than even apparent necessity demands, and to the immediate as well as more remote detriment of their patients.

EXCESS IN THE USE OF FATS.

THERE is a common belief that the use of fat meats and other forms of fat is one of the most prolific causes of "biliousness," notwithstanding the growing fashion among physicians of recommending the free use of animal fats by all persons either as a remedy for, or a preventive of, consumption. A series of experiments conducted by two eminent German physiologists on the relation of fat foods to the secretion of bile demonstrates beyond question that the popular notion is a correct one, notwithstanding the advice of the doctors. These experimenters found that when fats were eaten freely, there was a very great diminution of the quantity of bile formed.

A medical writer in the *Popular Science Monthly* calls attention to this prevalent evil, and attributes to it the production of a state of the system especially favorable for the reception of such diseases as yellow fever and other febrile diseases, diarrhœa, etc., which are common in hot climates, and in the warm season of temperate latitudes. We quote a few of his remarks as follows:—

"The experience of all tropical and subtropical nations has taught them to avoid animal food and fat, and to counteract the influence of a sultry climate by cooling, nonstimulating drinks and fruits; for a three or four years' neglect of these precautions is sure to undermine the soundest constitution, as demonstrated by the fate of countless employes of the East India administration who left Great Britain as models of Saxon or Celtic *vis virilis* to return tremulous invalids."

The Doctor further remarks that the 500 to 5,000 barrels of pork, etc., which are daily consumed in the South during the warm season, "produce yellow fever in New Orleans and Memphis as systematically as the New Orleans ice factory evolves cubes of congealed water by the evaporation of ether in and around its copper water tanks." "Cold air is a tonic and antiseptic, and under its influence many substances which nature never intended for our food become healthy, or at least digestible, for a Kamtchatka fisherman can swallow as his daily ration a dose of blubber and brandy that would kill seven Hindoos."

The same writer also says:—

"As its name implies, a fever epidemic is a contagious disease, and it cannot be denied that by prompt removal from the infected atmosphere innumerable candidates of the winding sheet might be saved; but it is quite as certain that even persons of a frail constitution, but innocent of dietetic sins, may breathe with impunity the air in which thousands of their stricken fellow-citizens have recently expired. Everywhere the mortality lists show a great preponderance of males over females, of men of sedentary pursuits over open-air laborers, and of epicures over ascetics. Catholic seminarists, Sisters of Charity, vegetarians, and tramps, have enjoyed a remarkable immunity, owing to their voluntary or involuntary habits of abstinence. Worried physicians, spectral old spinsters, and smoke-dried presbyters, have generally survived, while corpulent beer-brewers, lusty landlords, and chubby butcher-boys, went down like grass under a sweeping scythe; and the local papers of New Orleans and Vicksburg have repeatedly called attention to the fact that the business-men who declined to close either their earthly career or their stores were mostly Italians and Jews."

"The vegetarian school has demonstrated beyond the possibility of a doubt, that farinaceous dishes, sweet milk and fruit, are sufficient to maintain a hard-working man in perfect health, and such a diet might certainly be substituted for our greasy steaks and ragouts."

"The *black death* that ravaged Asia and Southern Europe in the fourteenth century spared the Mohammedan countries—Persia, Turkistan, Morocco, and Southern Spain—whose inhabitants generally abstained from

pork and intoxicating drinks. In the Byzantine Empire, Russia, Germany, France, Northern Spain (inhabited by the Christian Visigoths), and Italy, 4,000,000 died between 1373 and 1375, but the monasteries of the stricter orders and the frugal peasants of Calabria and Sicily enjoyed their usual health (which *they*, of course, ascribed to the favor of their tutelar saints); but among the cities which suffered most were Barcelona, Lyons, Florence, and Moscow, the first three situated on rocky mountain-slopes, with no lack of drainage and pure water, while the steppes of the Upper Volga are generally dry and salubrious.

"The pestilence of 1720 swept away 52,000, or more than two-thirds of the 75,000 inhabitants of Marseilles, in less than five weeks; but of the 6,000 abstemious Spaniards that inhabited the 'Suburb of the Catalans' only 200 died, or less than four per cent."

Another physician, writing in the *Scientific Record*, states that "some years since the Massachusetts State Board of Agriculture addressed circulars to all the physicians in that State, asking opinions as to the cause of so much unhealthfulness among the farmers, and consequent high death rate. The nearly unanimous response attributed the chief cause to use of grease in food and in cooking. The peasantry in Great Britain endure as much labor as any similar class in the world, and rarely touch meat or grease, and suffer little from phthisis; but when removed to America their descendants, although using meat and grease at every meal, suffer from pulmonary disease precisely as the natives in the particular community where they reside. We believe the longevity of the Jew in America will equal that of his race in the British Isles, where it rates higher than that of any other sect or race, and yet he eschews pork and its fat. The Arab, whom Sir Joshua Baker regards as the highest type of physical humanity, eats no fat but lives on dates and simple diet. The negro in Washington City, though numbering only one-third of its population, furnishes as many cases of pulmonary disease as the whites, and yet young and old, without exception, use fat pork as food in quantities bounded only by ability to provide it at every meal."

The facts last quoted are useful in showing that the indiscriminate recommendation, by many physicians, of fat as an article of food for the prevention of consumption, has little evidence in its favor.

How Yellow Fever Is Preserved.—A correspondent of the *New York Tribune* points out a mode in which yellow-fever germs have been preserved which seems to have escaped notice heretofore. He states that many poor people, thinking it too great a loss to burn or otherwise destroy the clothing used by friends who have suffered with the disease, place it carefully away in trunks and closets. When the warm weather of spring and summer comes, these germs develop and begin their hideous, devastating work. There can be no doubt that not only yellow fever but typhoid fever, diphtheria, and other infectious diseases may be preserved in a similar manner for long periods of time. The most vigilant care should be exercised to thoroughly destroy or disinfect everything which may in any way become a means of communicating the infection of yellow fever or any other disease of a similar nature. It ought to be considered as great a crime to secrete clothing or to preserve in any way the media of contagion as to furnish a hiding place for a cut-throat or to harbor without chaining or caging a wild animal or a venomous reptile.

What Is Farina?—We have so often been asked this question that we have formed the opinion that there is a general ignorance on the subject, many supposing that it is distinctly a "corn product." The following paragraph from the *American Grocer* is so full and concise on this point that we take pleasure in quoting it:—

"The word 'farina' is of Latin origin, and comes from *far*, meaning a kind of grain —'spelt,' known as German wheat, which was formerly used by the Romans, either roasted whole or ground into flour. Hence the name was originally applied to the matter; but as this matter was also ground into

flour, the name came to be applied to the flour likewise, and, by degrees, to the ground product of other cereals. 'Farine' is, at present, the French name for flour, and we may quote the word 'flour' as very similar in use to 'farina.' 'Flour' means the matter; as when we speak of 'flour' without any prefix or qualification it is understood to mean wheat flour; but flour also applies to the form, and is used in a secondary sense to mean anything ground into powder. Dr. Ure defines 'farine' as 'the flour of any species of corn, starchy root, such as the potato, etc.' The name 'farine' is given in this country to the hard, flinty, and most valuable part of wheat. It is made by a process of high grinding, which secures granulation, the wheat from which it is made being previously cleaned and scoured. Spring wheat being the hardest, yields more farina than does winter wheat, but both are used in its manufacture. From farina is manufactured what are termed 'new process flours;' it is put up in bulk and in packages for domestic use."

An Unsanitary Island.—The island of Malta, one of England's most valuable foreign dependencies, is described by a traveler, who is quoted by the *Lancet*, as being one of the most unsanitary of all inhabited regions. According to this writer, "the poor population of Valetta live chiefly in cellars, or pits, to which access is given by a common staircase, the cellars being usually three deep, hundreds of people living in them at a monthly rent of thirty-five to sixty cents.

"They have no fireplaces, and therefore no chimneys, and serve singly for a whole family —man, wife, and children. They have no windows, and some have no other aperture of any kind than the door; and when you have reached the bottom of the well, you find the floor, the solid rock, wet with urine and foul with the ordure of the children. So little air reaches the bottom that the floor of the yard or well never dries, and so little light that when you are asked to enter and stand in the doorway it is dark as pitch, and you have to light a wax match to avoid falling down the two or three steps within the doorway. . . . The excrement in many of them is put into a box over the sewer, about twenty inches square and high. It goes right down into the untrapped sewer, and there accumulates in the dry season, unmixed with ashes or dry dust of any kind."

"In one of these filthy dens, under a handsome house in the Strada Maza Muscetto, the writer found, in an area of 1692 feet, three stories or tiers of six cellars each, and in the lowest of all above thirty people were living, thirty-nine feet below the level of the street."

Antimoniated Livers.—One of the most pernicious of all poisons is antimony. The metal closely resembles arsenic in its appearance and in its chemical properties. It derived its name from the not very singular circumstance that the man who first used it, in experimenting upon some Roman Catholic monks, observed that they died from its effects, from which he named it anti-monk, from the Spanish term from which antimony is derived. The drug seems to have a similar effect upon geese in Strasburg, world-famous for its goose-liver pies, the livers for which are prepared by placing the geese in the dark and stuffing them with food at intervals of two hours, until their livers become so large and flabby as to fill almost the entire cavity of the fowl. Antimony is also fed to the poor creatures to increase the diseased condition of the liver, which is thereby rendered palatable for French, English, and American gormands. It takes about thirty quarts of corn to complete the stuffing process, by the end of which the poor geese are so nearly dead that it is certainly a mercy to kill them; but it would seem much more appropriate that such creatures should be carried away by the public scavenger instead of being eaten as a delicacy by human beings.

Writer's Cramp.—This troublesome affection, which was formerly considered very difficult of cure, is now better understood, and is easily cured by the use of electricity and massage. Our improved knowledge of the disease and the proper mode of treatment is chiefly due to our friend Dr. Geo. M. Beard, of New York, who has made the disease a very careful study, and has lately published his results.

The preventives and palliatives of the af-

fection consist in the use of ring penholders, which obviate the necessity of grasping the penholder with the thumb and fingers; the employment of large penholders; attaching to a common holder a piece of sponge at the point at which the hand grasps it; holding the pen between different fingers, instead of between the thumb and forefinger exclusively, as in the reporting fashion; using quill or other very flexible pens, or pens with broad points which move easily, like quill pens; and avoiding confinement too long a time in one position, especially in a cramped one.

Germs as a Cause of Disease.—One of the arguments against the theory that diphtheria and many other diseases are caused by the reception into the system of germs which originate in decaying animal and vegetable matter is, that a specific germ cannot be distinguished for each class of disease. This, however, may be well answered by the fact stated by Prof. Carpenter and confirmed by many other scientists, that the very same kind of germs may, under different circumstances, develop into a great variety of forms. For instance, there is abundant reason to suppose that the very same spores which under certain circumstances develop into mold, under others produce the yeast by means of which bread is raised and various other forms of fermentation produced. So germs which appear to be exactly alike, may, under different conditions of the system, produce very different effects.

Another Source of Lead Poisoning.—According to the *Medical Press*, a French journal has recently described a new and remarkable source of lead poisoning. Within the last few years "wicker-work perambulators, protected against the inclemency of the weather by a self-folding cape, made of American leather and colored with various grey tints, have been much used in Germany, especially in Berlin and in the Rhenish districts of Prussia. For some time it has been noticed that many children who had been in the habit of using these perambulators presented all the symptoms of lead poisoning. The heat of the sun appears to have exercised some influence in the production of these cases of accidental poisoning, for they only occurred in the month of July.

"The Society of Hygiene took the opportunity of examining some patterns of the leather covering, which appeared to be made up of several materials. The presence of a large quantity of lead having been easily detected, a quantitative analysis was made, when, to the astonishment of the analysts, as much as 42.7 per cent of metallic lead was found in the material examined. It was only necessary to burn with a lighted match a small piece of this American leather to see drops of lead escaping from it. Another piece of the stuff was on the 24th of July exposed for six hours to the direct rays of the sun, by which means the varnish was raised and began to peel off. It appears also that in many instances these perambulators served as cradles, a circumstance which of course aggravated the danger attending their use."

Air-Bathing.—Exposing the body to the air and light and briskly rubbing the skin with the hand is the best substitute for a water bath, and is almost as efficient for cleansing the skin. For weakly persons it is preferable to frequent bathing, as the latter is often rather debilitating to such persons. A hearty centenarian when asked how he had managed to preserve his health so long replied that he attributed his good health and prolonged life to his habit of rubbing himself all over with a cob every night before going to bed. Such a grooming process would be rather too severe for many persons of delicate sensibilities, but a dry-hand rub and an air bath can be borne by any one, and will soon be considered a luxury which cannot be missed without feeling a loss. Benjamin Franklin was in the habit of taking an air bath each evening before retiring. It is a good plan to keep the skin well ventilated.

Gormandizing for a Wager.—*Hand and Heart*, an English journal, comments as follows on a strange wager recently made between two Frenchmen, the only utility of which is to demonstrate the possible capacity of that most accommodating and most abused of all organs, the human stomach:—

"Some 'animals'—we can scarcely call them men, though we ought to apologize to the brute creation for calling them 'animals'—a few days ago, got two negroes in Paris to 'eat for six hours without interruption,' to settle a wager for 1,000 francs. The wretched gormands consumed 8 soles, 12 lamb cutlets, a morsel of roast veal weighing 8 lbs., with 6 lbs. of asparagus, an omelette of twelve eggs, a Dutch cheese, 12 lbs. of bread, and 15 bottles of wine. The consumption of food and drink, in all probability, equaled about 60 lbs. It would be difficult to think of anything more truly *disgusting*."

Danger from Borax.—Within the last few years borax has been recommended by some as a means of preserving meat, it being added to the salt brine usually employed. A Frenchman has been investigating the matter, and finds that the use of borax in this way even in small quantities, is exceedingly detrimental to health, producing serious intestinal disturbances.

All who learn of this danger should take pains to inform others of it, as the practice has become quite wide spread through the medium of country newspapers.

Testimony against Tea and Coffee.—It is very refreshing to those who have for some years been waging the battle against the most popular of all stimulating beverages to find now and then a writer of distinction who is frank and brave enough to assert the truth on this subject. The following we quote from *Public Health*, a new health journal recently started in New York:—

"Tea and coffee are more useful for the water they contain, when prepared for the table, than for any property they possess of a food nature, though they have nutrient properties. Habitual use has made them very palatable, and through custom we have acquired the notion that they are necessities. Their inherent pernicious properties, however, do in time assert themselves, and the constitution through the nervous system gradually pays the penalty of a systematically abused and over-stimulated digestive system. People often die before experiencing the ultimate results of a long devotion to the mildly stimulating table drinks. It would be unjust not to admit that many people arrive at a hale old age—having used tea and coffee all their lives—without any appreciable bad results."

"Tea and coffee are often grossly adulterated to assist the profits of trade, but they probably are not invariably tampered with in a way to render them more noxious than they are in their purity. Both tea and coffee have a stimulating effect upon the brain, by which we mean the circulation of blood within the brain, and when these beverages are taken at night they often drive away sleep. They may thus be useful if we wish to remain awake for any special and important purpose, but very injurious, if it should be our duty to sleep."

Ice and Typhoid Fever.—Dr. Austin Flint, of New York City, had occasion some time since to investigate the probable origin of several cases of typhoid fever, and was unable to trace the disease to any other source than ice. This may seem impossible at first, but the apparent difficulty disappears when we consider the fact, which seems to have been well established, that the germs of the disease are not killed by freezing. Indeed, most of these low forms of life will readily withstand a temperature far below the freezing point of water. Ice conceals the germs which it does not kill. It is quite a mistaken notion that water will freeze itself pure. While some of the grosser impurities may be removed by freezing, germs and organic matter in a finely divided state may be retained. We have often seen ice which gave forth a very unpleasant odor when melted, and gave to the water in which it was placed a very unpleasant flavor.

"Great quantities of ice are taken from canals, from creeks, from stagnant ponds, and from streams that are either the natural or artificial recipients of surface drainage, of the outpourings of sewers, and of uncleanliness from various sources," and it is not at all improbable that it may be a vehicle for typhoid infection.

It is important to notice that "the danger from ice taken from improper places is not only from that which is drunk, but from its use in refrigerators and preservatories, where milk,

butter, fruits, vegetables, and meats are subjected to its saturating influence as it vaporizes." All would do well to look sharply to this possible source of disease and death. Find out the source of the ice which is purchased, and if there is a possibility of its being contaminated, reject. It will be better to do without ice altogether than to run any risk of contamination.

Gnappee.—This odd term is the name of a loathsome dainty peculiar to Burmah. It is composed of decomposed fish, and is thus described by a correspondent of the London *Daily Times*, who suggests that the consumption of fish in a similar state at Astrachan may have been the cause of the outbreak of the plague now prevailing in some parts of Russia:—

"This horrible mass of putrefaction is one of the choicest dainties of the Burmans. A quantity of fish, caught in the sea, is pickled, and then buried in the earth, and left there to attain the desired pitch of rottenness, for a time varying from one to four years, according to the taste of the particular market for which it is destined. Just as the wine manufacturers of Epernay and Rheims give to their champagnes particular flavors to meet the various tastes of their clients, so the dealers in *gnappee* are said to prepare their delicate commodity. Whether kept for one or four years, it is absolutely putrid, and swarming with loathsome animal life. Not only do the Burmans love the horrible viand itself, but they actually revel in its effluvium, and the native passengers on the flats which carried it nestled and snuggled up to the vicinity of the nastiness, inhaling its stench with as much gusto as a hungry London gamin sniffs the odors of a cookshop. Can human beings consume this loathsome putridity without suffering evil consequences? I remember on the eve of my departure for a previous visit to India, that Mr. Jonathan Hutchinson, the eminent surgeon, asked me to observe, if I had the opportunity, whether the salt fish on which a large proportion of the population of the Indian sea-board subsisted, appeared productive of any specific disorder. The opportunity for such an inquiry did not then offer itself; but in Burmah there are two facts which may have some relation one with the other, that this putrid, pickled fish is an extensive article of consumption as human food, and that leprosy is so prevalent in the jail of Rangoon that it is found necessary to have a special ward for lepers."

Bathing.—For sedentary persons and those engaged in labor which excites a considerable degree of activity of the skin, frequent bathing is as essential to health as sufficient sleep, proper food, and the inhalation of pure air. The sedentary person will find in the daily bath an excellent substitute, in part at least, for the physical exercise which he may be unable to take. It is a splendid quickener of the vital activities, and by stimulating the activity of the skin, frees the blood from impurities which become a source of irritation and disease when retained.

Those whose occupation is active, and who perspire freely, need to bathe very frequently to keep the skin free from impurities. It is equally important that the clothing should be frequently changed, as a considerable amount of impurities are absorbed from the body by the clothing each day. Underclothing should be changed as often as twice a week at least. When a person does not perspire very freely, simple airing of the undergarments for twenty-four hours will render them fit to be worn again for a day or two.

The number of baths to be taken each week must vary according to the season of the year. There are few, except emaciated invalids, who will not be benefited by a daily bath during the warm months when the skin is naturally very active. During the winter, a weekly bath is generally sufficient.

Crooked Spines.—Dr. Warren of Boston makes the following astonishing assertion:—

"I feel warranted in asserting that of the well-educated females within my sphere of experience, about one-half are affected with some degree of distortion of the spine."

—An exchange thinks a temperance league for the promotion of temperate eating would find a large field for usefulness. This is one part of the work of the American Health and Temperance Association.

FARM AND HOUSEHOLD.

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

THE HOUSEKEEPER'S RESPONSIBILITY.

A VERY great responsibility, seldom realized, devolves upon every manager of the household, for in a great measure upon her depends the health and happiness of its inmates. No one questions the importance of health, but few comprehend the magnitude of the relations between the selection and preparation of food and the well-being of the individual who partakes of it—between the process of digestion and mental conditions; we might add, between food and virtue.

Persons caring for criminals and lunatics have experimented with the different kinds of food on the moral and spiritual states of their patients, with very conclusive results. In one example, related by the *Farmer's Journal*, a child which was entirely unmanageable by his parents, was placed under the care of an eminent physician, and in six months he grew to be a general favorite of the household, ceased to swear, and became docile and affectionate. "This result was obtained without one word of correction or reproof; merely by changing his diet. When he came he would eat nothing but animal food, and had become animal in character. By depriving him of that which rendered him cross, irritable, and excitable, and substituting a diet of fruit, grain, and vegetables, plainly cooked but nourishing, he became entirely changed in disposition and appearance."

The simple fact that a person's temper, and accordingly a large proportion of his conduct, depends upon such an alternative as, whether his stomach is in a healthy, vigorous condition, whether the food he eats is properly converted into healthy material suitable for the continuous work of rebuilding brain and muscle, or whether unhealthy products constantly pollute the system, demonstrates the great responsibility resting upon every housekeeper, and shows to what an extent she has the power to exert a beneficial influence over her family by leading them into plain, healthy habits of eating and drinking.

With care, food can be made plain and wholesome and at the same time palatable. A strong, vigorous person will relish food without any assistance from condiments and stimulants, and a weak stomach can be restored to strength by an avoidance of those things which tend to weaken it. If one-half the time now spent in concocting elaborate, indigestible, and unhealthy dishes, were spent in obtaining knowledge as to the laws which govern our being and the means of retaining and promoting health, a large share of the crime, misery, and sickness would be avoided. This is a study which ought to engage the attention and employ the best energies of every wife and mother in our land. E. E. K.

BOUQUET MAKING.

THE *Floral Cabinet* gives the following artistic hints for arranging bouquets:—

"Don't crowd your flowers. Flowers have their individualities and affinities, which we must recognize and respect. For example, a spike of brilliant scarlet gladiolus, with a feathery bunch of asparagus, and a gleam of white feverfew here and there, will light a shady corner like a torch; but smother your stately blossoms with phlox, verbenas, and most of floral beauties, you will see at a glance how the effect is weakened. Again, petunias, with their stiff, sprangley stems and delicate blossoms, are very difficult to combine with any other flower, but give them a wide-mouthed vase, and no rivals, and they are positively graceful, while their delicate perfume fills the room with its fragrance.

"Mass your colors. This is of great importance. Put your scarlets, and crimsons, and purples in separate bunches, use white to blend them, and you cannot fail of good effect. Yellow is the sunshine of a bouquet,

but it must be used sparingly, or it will produce a glare. A wise choice of this color always lends cheerfulness.

"A low glass dish filled with damp moss, edged with geranium leaves and filled in with sweet alyssum for a groundwork, then pansies nicely stemmed for the purpose and set star-like against the whiteness, makes the loveliest center-table ornament one can have. By saturating with fresh water, such a bouquet will keep its freshness much longer than ordinary bouquets. A large shell filled with damp sand, and smilax, Kenilworth ivy, or any fine creeper falling over its edge, a few trusses of verbena, some golden calliopsis, and a dash of white, will throw a glow of brightness from a bracket shelf.

"In cutting flowers for bouquets, provide yourself with a tin basin having a little water in it. Cut your flowers, never break or pull them; it bruises the stems and hastens decay. Stand your flowers up in the dish, and put all of one color together carefully; then, when ready to begin combining, you can readily see what you have to work with, and make your selection without tumbling them over. The water prevents them from wilting. Flowers picked on a warm summer morning and carried closely in the hand while gathering will be so wilted that they will take a long time to revive. In choosing vases, select delicate white or some neutral tint, no gaudy color, for the flowers should be the point of color, not the vase."

Cupboard Ventilation.—In the erection of dwelling-houses the ventilation of the cupboards and closets is generally considered of minor importance; while the want of a thorough draught is apt to make itself unpleasantly apparent to the organs of smell. An English mechanic offers a very simple method for remedying this defect. "If possible, have perforations made through the back wall of the closet, and a few in the door; when the wall of the closet cannot be perforated, bore holes freely in the door at the top and bottom. To prevent dampness, with the accompanying unpleasantness and injurious effects of mildew in cupboards, a tray of quicklime should be kept in them and changed from time to time as it becomes old."

—Feed your land before it is hungry, rest it before it is weary, and weed it before it is foul.

—Tea stains may be removed by wetting in equal parts of ammonia and alcohol, then washing in warm suds, or by exposing them to the fumes of burning sulphur.

—Polished floors should be swept with a broom covered with flannel, and should be polished twice a year. They should not be scrubbed nor scoured, as it is quite injurious to them.

Remedy for Burdocks.—It is said that a small quantity of kerosene oil poured into the heart of a burdock plant directly after cutting will permanently destroy it.

To Soften the Putty on Old Sash.—A mixture of three parts of potash and one of unslaked lime applied to the putty on old window sashes, and allowed to remain twenty-four hours, will soften it so the glass can be easily removed.

Removing Stains from Books.—A solution of either oxalic, citric, or tartaric acid will extract most kinds of writing ink from books without disturbing the printing, and can be used for restoring books where the margins have been written upon, without injury to the text.

To Remove Grease from Woolen and Silk Goods.—Wet a soft sponge in a solution formed of one-third aqua ammonia with two-thirds alcohol, and apply to the grease spot. It may require several applications if of long standing. If the fabric be woolen or black silk, the spots may be gently rubbed when the liquid is applied; but rubbing light or colored silks is apt to leave a whitish spot quite as ugly as the grease spot.

Cleaning Black Silk.—The Parisian method, which is said to be superior to any other, is as follows: "The silk must be thoroughly brushed and wiped with a cloth, then laid flat on a board or table and well sponged with hot coffee thoroughly freed from sediment by being strained through muslin. The silk is sponged on the side intended to show; it is allowed to become partially dry, and then ironed on the wrong side."

NEWS AND MISCELLANY.

—The yellow fever is decreasing in Havana.

—The London Underground Railway is lighted by electricity.

—The present season in Georgia has been the dryest since 1839.

—Four Hindoo women have graduated from the Madras Medical College.

—The troops returning to India from Afghanistan are suffering from cholera.

—Louisiana and the Carolinas produce annually 80,000,000 pounds of rice.

—Wheeling, Va., makes one-fifth of all the nails manufactured in the world.

—The local option law has closed the saloons in nearly 400 towns in Kentucky.

—It is estimated that Americans eat more potatoes than any other nation on earth.

—Eighty-four different languages and dialects are spoken in the city of New York.

—The Chinese ambassador at Berlin, Li-Fang-pao, is reputed to be a very learned man.

—Only nine per cent of the 61,000,000 inhabitants of European Russia can read and write.

—It has been estimated that 100,000,000 tons of water pass over Niagara Falls per hour.

—According to the most recent estimates, the population of the globe numbers 1,439,000,000.

—Osman Pasha, the hero of Plevna, is commander-in-chief of the Turkish army watching Greece.

—The number of persons emigrating from Germany in the last ten years is estimated at 845,244.

—More than 1,500 of the English soldiers in the army in Zulu land are under twenty-one years of age.

—China has 2,000 colleges, but of all its vast number of people there is hardly a woman who is educated.

—The balances due the government from banks, on bond accounts, were reduced in July more than $106,000,000.

—A movable steam engine has been patented in France, which consumes, for fuel, only sawdust and lumber waste.

—It is said that France is about to annex the New Hebrides, a group of islands lying about 300 miles northwest of Fiji.

—It is expected that the St. Gothard tunnel will be completed by the end of November. It is nearly eleven miles in length.

—It is stated that the British working classes receive $2,250,000,000 annually, and spend $500,000,000 in drink and tobacco.

—According to a return published in Jan. 1878, twenty-two thousand lives were lost by snake bites in India the previous year.

—In the United States there are seven Philadelphias, eighteen Brooklyns, ten Bostons, sixteen Buffalos, and thirty Washingtons.

—The largest cultivated wheat farm on the globe is said to be the Grondin Farm, near Fargo, Dakota, which embraces some 40,000 acres.

—The new treaty between Spain and China provides that Chinamen emigrating to Cuba shall hereafter enjoy the full rights of citizenship.

—While digging a channel near Lake Neuchatel, Switzerland, a canoe made by the ancient lake-dwellers was found. It was 21 feet in length.

—The Wyoming, an American war vessel which is about to cruise in the Black Sea, is said to be the first American frigate to enter those waters.

—The St. Patrick's Cathedral of New York City, just completed, is next in size to that of Notre Dame at Paris; it will accommodate 17,500 persons.

—According to the General Land Office Report, some over 6,000,000 acres of public land were taken up during the past year under the homestead law.

—The longest subterranean construction in the world is in the mines of Freyburg in Saxony. A series of galleries extends a length of over 123 miles.

—Florence Nightingale is now sixty years of age. She lives in London, but her health is so poor from over-work that she is almost a prisoner in her room.

—The French Minister of War announced in the Senate, that on account of the state of the crops, 40,000 men would be furloughed at the end of August.

—A dispatch recently sent from Shanghai, China, to New York, arrived in six hours from the time of starting, the distance traveled being about 36,000 miles.

—The *American Ship* states that in the last forty years since steam navigation began there have been lost at sea 145 steamships, resulting in the death of 6,500 human beings.

—It is estimated that the wheat crop of Indiana for this year will be nearly 50,000,000 bushels, and will add from $35,000,000 to $40,000,000 to the invested wealth of the State.

—It is a singular fact that none of the imperial Napoleons have died on French soil. Napoleon I. died on the island of St. Helena; Napoleon II. died in Austria; Napoleon III. died an exile in England; and now the Prince Imperial has met his fate in South Africa.

—The amount of space required for standing room for the whole human family is much less than is usually supposed. Allowing two square feet of space for each person, every man, woman, and child in the world could stand on the Isle of Wight, and leave room for half as many more.

—The Rome, Watertown and Ogdensburg, and the Great Western (Canada) railways are soon to begin a new bridge across the Niagara River at Lewiston. It will be one of the finest of the kind in the world, being a steel truss structure of one span. The river, at the point to be crossed, is 600 feet wide.

—It is stated by those who have had opportunity to know that the downfall of Ismail Pasha, late Khedive of Egypt, was chiefly occasioned by the failure of his numerous schemes for improving the condition of his country, which the people were not prepared to appreciate. He did more for Egypt than any ruler since the Pharaohs.

LITERARY NOTICES.

THE FARMER'S MAGAZINE. Louisville, Kentucky. John Duncan, editor.

This is a monthly journal "for planters and for country homes," containing in each number very much information of value to those engaged in agricultural pursuits. Every farmer who is animated by the right sort of ambition, reads to inform himself in his great art. To all such we would recommend this journal as an instructive and efficient help.

THE COUNTRY PRACTITIONER; OR NEW JERSEY JOURNAL OF MEDICAL AND SURGICAL PRACTICE. E. P. Townsend, M. D., editor. Beverly, N. Y.

The second number of the first volume of this journal comes to our table with an extensive and instructive list of articles, among which is an interesting review of the semi-centennial meeting of the Burlington County Medical Society, held at Burlington last June. This is a new journal, but if its succeeding numbers equal the first, we can predict for it a most successful future.

THE HIGHER EDUCATION. By James B. Angell, LL. D. Ann Arbor, Mich.

This excellent address, delivered at the annual commencement of the University of Michigan, by its worthy president, is a stirring appeal for the higher education as well as common-school education, to be made accessible to the poor as well as the rich, and an earnest plea that in justice to the true spirit of learning, the gates of Michigan University be opened wide to all, rich or poor, whom God by gifts of intellect and by kindly providences has called to seek a liberal education.

THE SANITARIAN. New York: A. N. Bell, M. D.

This, the oldest of the sanitary journals, comes monthly to our table filled with most excellent instruction on sanitary subjects. The *Sanitarian* is a standard journal, and ought to be in the hands of every sanitarian in the country. Its editor and publisher, Dr. A. N. Bell, has had a rich experience in sanitary matters, and knows well how to make a useful and valuable periodical. The journal has now become so well established, and its merits are so well known, that we can say nothing to add to its reputation. It needs only to be examined to be appreciated.

THE LANSING REPUBLICAN. Lansing, Mich.: W. S. George & Co.

We have no hesitation in pronouncing the *Republican* the cleanest, neatest, most correct, and spicy newspaper in the State. The long experience of the editor and publisher in newspaper business as both editor and publisher, and his early association with many of those who have stood in the foremost ranks of American newspaper men, eminently qualify him for the position which he has long held as a newspaper publisher and as State printer. As a writer, Mr. George is terse, concise, and plain spoken. He always says what he thinks, and in a manner calculated to make himself clearly understood, generally illustrating his points by telling anecdotes and witticisms, of which he possesses a remarkable fund.

THE PLUMBER AND SANITARY ENGINEER. New York.

This excellent journal, now in its third volume, is one of the most welcome of our exchanges. While containing much that may be considered somewhat technical, being in a considerable degree addressed to professionals in sanitary science, architects, plumbers, and sanitary engineers, each number contains a variety of useful and interesting matter which is made sufficiently simple and plain to be comprehensible by any one. If such journals as this could be in the hands of every plumber and house-builder in the land, there would be far less work for State and local boards of health, as well as for doctors and undertakers.

PUBLIC HEALTH. New York: Dr. Edward J. Bermingham.

Each number of this new sanitary journal contains eleven pages of interesting and instructive reading matter, comprising invaluable information on the various branches of sanitary science of practical importance to the masses. The editor of the journal shows admirable good sense and tact in avoiding that which is too technical for the ordinary understanding, and presenting in his journal a readable class of matter on the various subjects which come within its province. *Public Health* enjoys the honor of being the first weekly devoted to popular sanitation ever published in this country. We predict for it a growing success.

PUBLICATIONS RECEIVED.

AN ACCOUNT OF THE PERINEOSINUEXEREEINATOR. By Jacques Robinson, A. M., M. D., Louisville, Ky.

OBSERVATIONS ON AMPHORIC RESPIRATION. By M. L. James, M. D., Richmond, Va.

IN MEMORIAM OF DR. LANDON R. LONGWORTH. An address read by F. Forchheimer, M. D., Cincinnati.

METHOD OF PERFORMING POST-MORTEM EXAMINATIONS. North Carolina Board of Health. Raleigh, N. C.

THE MEDICAL JOURNAL ADVERTISING BUREAU GAZETTEER. C. W. Bernacki, M. D., New York City.

ON TWO FORMS OF COMPARATORS FOR MEASURES OF LENGTH. By Prof. W. A. Rogers. New York: Hitchcock and Wall, 150 Nassau St.

CONSTITUTION AND RULES OF THE SCOTTISH FOOD REFORM SOCIETY. Glasgow: George F. Allan, 84 Mitchell St.

AMERICAN NERVOUSNESS: ITS PHILOSOPHY AND TREATMENT. By Dr. Geo. M. Beard, New York.

CURE OF HEMORRHOIDS BY THE HYPODERMIC SYRINGE. Edmund Andrews, A. M., M. D., Chicago.

URETHRISUMS, OR CHRONIC SPASMODIC STRICTURE. By F. N. Otis, M. D. New York.

PERINEORRHAPHY. By E. W. Jenks, M. D., New York: William Wood & Co., 27 Great Jones St.

Publishers' Page.

☞ The Sanitarium is flourishing. The number of patients is now so large that it has become necessary to hire rooms in neighboring cottages for the accommodation of helpers. Still there is room for a few more of the sick and suffering.

☞ The publishers of GOOD HEALTH have just issued the twenty-fifth thousand of the HOUSEHOLD MANUAL, a work too well known to most of the readers of this journal to need description. It is a most useful little compendium of hygienic information, and ought to be in the hands of every family. The book is cheap at 75 cents.

☞ The H. & T. Club of Battle Creek at a recent meeting adopted resolutions to secure an active cooperation on the part of each member in the carrying out of sanitary measures calculated to improve the health of the community and to prevent the occurrence of typhoid fever and kindred diseases. Active, and, it is hoped efficient, measures are being taken to this end.

☞ The Health and Temperance Association is making most excellent progress, and there is now every indication of the accomplishment of much good through the agency of this organization. On the 4th ult. a State Society was formed in Michigan with a membership of between seven and eight hundred, which is rapidly increasing. State Societies are now organized in Missouri, Wisconsin, Kansas, Minnesota, Dakota, and Indiana, as well as in this State, and preparations are made for effecting an organization in eight or ten other States in a very short time.

☞ Just as this number is going to press, the first number of a new temperance periodical, the *Health and Temperance Quarterly*, is being prepared, which will be published in the interest of the Health and Temperance Association. The first number will be chiefly devoted to giving thorough instruction to members and officers of the various H. and T. organizations respecting their duties, the proper manner of organizing clubs and societies, the best mode of conducting meetings, how to keep up an interest, etc. All who are interested in this new movement will want a copy or two. Send address with stamp to the American Health and Temperance Association, or to any of its officers.

☞ We have received from Dr. T. V. Gifford of Kokomo, Ind., a copy of the constitution and by-laws of an association which he has been chiefly instrumental in forming, the object of which is to advance the interests of medical reform. Although we notice some points which will hardly bear the test of scientific criticism, yet we do not doubt that the organization will accomplish much good, on the whole, and we wish it success. There is need enough of reform in almost every branch of social life; and in none more than in those which relate to the life and health not only of individuals, but of the race.

BOOKS! BOOKS! BOOKS!

DIGESTION AND DYSPEPSIA.

THIS work, promised some time ago, is at last completed. Several unavoidable causes have occasioned an unexpected delay, much to the regret of the publishers as well as many who have been waiting anxiously for its appearance. The numerous orders which have been received for it will now be filled at once, and agents can be supplied with sample copies.

The work consists of 176 pages of the most concise and compact information on the subject of dyspepsia to be found anywhere. In pointing out the causes, symptoms, and treatment of the disease, the author has availed himself of the most accurate and recent knowledge on the subject, and has pointed out the nature of the disease in all its different phases and the methods by which a cure can be effected, so thoroughly and so clearly that the popular mind can readily comprehend the subject. By heeding the suggestions given, any one may escape from suffering the ills of the hydra-headed disease; and by following carefully the instructions given, almost any dyspeptic can cure himself.

Not the least valuable feature of the work is a colored frontispiece which beautifully illustrates the position of the digestive organs and their relation to other parts of the body. Every family ought to have the work, and it will prove a boon to every dyspeptic.

The work is beautifully bound in muslin, heavy paper, 176 pages. Price 75 cents, post-paid.

NEW EDITION OF PLAIN FACTS.

THE new edition of this work is now in the market, and is selling well. Everywhere it meets with the highest commendation. The following from the *Cleveland Leader* of a recent date is a fair specimen of how it is received by "the press":—

"This book belongs to a class of which too many are written, and yet too few that may be commended. Among the latter we think it may safely be ranked. The author's name—he is a member of the Michigan State Board of Health, the American Public Health Association, and other learned bodies—is some guarantee of this; and the fact that his book has passed to a second edition is evidence that it has approved itself to the favor of the public. He has gone quite thoroughly into the peculiar facts treated, and has handled them with singular tact and delicacy, yet with power. Opening with an elaborate definition and explanation of sexual life, occupying over a fourth of the book, he passes to consider, in successive chapters, the sexual relations, chastity, continence, marital excesses, the prevention of conception, infanticide and abortion, the social evil, and solitary vice; with the last of which another fourth of the book is filled. It needs no words of ours to enforce the importance of these topics to every man and woman, and every youth that has arrived at the age of puberty. The entire volume may be read with safety. Scarcely a line in it has not its mission of instruction and healing. Unlike many, perhaps the majority of books which have dealt with such topics, it is fitted rather to purify than to pollute, to cure rather than disease, to save and not destroy. We shall be glad to know that it will reach its hundredth edition before the next century comes in. The publishers have done remarkably good work with it, in all respects." Price $1.50; gilt, $2.00. Good Agents Wanted.