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DISEASED FOODS.

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DR. GIBBONS, the gifted and witty editor of the *Pacific Medical Journal*, said a few years since that between the microscopists who were discovering parasites, etc., and the scientists who were tabooing one after another of the foods in common use, one had but little left to eat that he might feel safe and sure about. Be this satire merited or not, we feel certain that the public are consuming many food products that are pernicious and unwholesome. Often, indeed generally, such foods are used ignorantly, being fraudulently sold for pure articles. We may consider the subject under three heads:—

1. Foods inherently and absolutely pernicious.

2. Foods rendered deleterious in their preservation or preparation.

3. Foods relatively injurious.

1. Of foods positively injurious, we will first consider meats. Unsound meat has for ages been deemed unfit for food. It was the subject of Hebrew legislation, and they had their inspectors, whose duty it was to see that no meat unfit for use found its way to the consumer. The Romans had similar laws in operation. In old England, during the 17th century, butchers were not allowed to sell meat by candle light, so that customers might not be deceived in the quality.

The flesh of animals suffering from any form of disease constitutional in character, is not fit for food. Cattle suffering from splenic fever, from foot and mouth disease, from cancer, or tubercle, hogs with chol-

era, sheep with foot-rot, animals in an unhealthy, morbid condition from any cause, are not only unfit, but exceedingly dangerous, for food. Yet such animals have been slaughtered and sold for consumption in our large cities so frequently and to such an extent that public attention has been called to it in many localities. Often the meat thus obtained is not offered for sale in the locality where it is killed, but is in various forms shipped to different sections, to be consumed by unsuspecting purchasers. To show the extent of this practice, it is only necessary to look at the result of the inspection of cattle as now practiced in Chicago. The inspection was incomplete, being done only by one inspector, another having since been appointed; yet during six weeks last fall 85 head of cattle were condemned as unfit for food. During October last it is said that three car-loads of cattle affected with *actinomyces*, a parasitic disease of the head, were shipped to Grand Rapids to be used as food. Dr. Sozinsky, of Kansas City, affirms that when hog cholera, splenic fever, epizootic, or a similar disease, breaks out among herds of marketable animals, the affected ones are at once sold to the butchers and packers at a slight sacrifice. Much of such meat is made up in various forms, and shipped to distant parts of the country. The writer has known instances when poultry which had soured, was shipped east, sold at a sacrifice, put through some process to recover it, and sent back as prime canned goods.

Again, meat may be affected by poisonous substances eaten by the animal, without it having suffered any ill effects. In parts of the Alleghanies the flesh of cattle, as well as their milk, is rendered poi-

* Extracts from a paper read before the Sanitary Convention at Hillsdale, Mich.

sonous at certain seasons of the year, by substances eaten by the animal. The same thing is true of birds, and even, it is said, of oysters and crabs. Instances of trichinosis from infected meat are only too common, but trichinæ are not the only parasites that infect meat. Another form of microbe has been found in ham, called pork bacillus, in England. The symptoms which follow the use of the infected meat are those of enteric inflammation, with vomiting, cramps, etc., and supervene rapidly. A severe case is said to resemble cholera. There is reason to believe that erysipelas and kindred diseases may be originated in man by eating meat of animals suffering from these conditions; but aside from specific diseases many profound general disturbances arise from eating diseased meat. Gastric irritation, vomiting, diarrhea, faintness, and inability to swallow, have been noticed most prominently. Sometimes deranged vision is seen. In one instance, paresis of accommodation, lasting a number of weeks, was the most prominent symptom noticed. It is well to state in this connection that similar results have followed eating unsound fish.

Milk is an animal product easily influenced by the condition of the animal, as well as by its surroundings. It absorbs readily, and may be easily contaminated by proximity to deleterious substances, and rendered unfit for food. Dr. Brush, of New York, thinks the condition of the milk is a fruitful source of the acute infantile diseases of summer. He suggests that cholera infantum would be more popularly styled *acute milk-poisoning*. Instances of infectious diseases conveyed through milk as a vehicle, are too numerous to be doubted. Outbreaks of typhoid fever originating in this manner are not at all infrequent. Dr. Morrill Mackenzie, a most trustworthy observer, has conclusively traced epidemics of diphtheria to the milk supply. In one instance it was shown that the milk was contaminated by water containing a large proportion of sewerage; in another instance, the milk-pans were washed in impure water. It is said that tuberculosis is not an uncommon disease among cows. Experiments by different observers have shown that the use of milk from a tuberculous cow may induce the disease in the human species. There is reason to believe that the use of meat of tuberculous animals is liable to induce tuberculosis in the consumer. These dangers are *lessened*, but not wholly

avoided, by cooking the suspected milk or meat.

The evils to be feared in this direction are by no means imaginary. In England it is stated by competent observers that one-fifth of the milk sold was from cows affected with tubercle, or some analogous condition. Probably the proportion is not so large in this country, but it is large enough to demand attention. Three years ago in Aberdeen, Scotland, a number of cases of severe disease occurred from eating milk of cows fed on diseased turnips. These were rigors, headache, backache, high temperature, sore throat, swelling and engorgement of the lymphatic glands. There is abundant evidence to show that the foot and mouth disease of cattle may spread to the human subject by means of the milk of the affected animal. This may arise from the poisoning of the milk from the vesicles formed on the udder, or through the medium of the blood; it is not definitely settled in which of these ways it does occur. Dr. Creighton, in his address before the British Medical Association last summer, made this assertion: That many forms of disease in the human species, called scrofula, were in reality only manifestations of bovine tuberculosis.

2. Foods rendered deleterious in their preparation or preservation. Baking-powders are very generally adulterated with alum. The adulteration of bread with alum is an old practice, and was known in England centuries ago. It serves the double purpose of concealing other adulterations, and of assisting fermentation; flour adulterated with other substances than wheat would lack plasticity which the alum supplies.

All canned goods are open to suspicion. Cases of poisoning have followed their use so frequently as to excite attention. Meats, vegetables, fish, and especially fruits are more or less contaminated by the metal used. Tin can be found in nearly all specimens; and in some, lead is present in dangerous quantities. It is said that tin can be tasted when present to the extent of one-half grain to the pound. This amount may not be large enough to do much mischief. Certain sugars are said to contain about the same proportion. While a *small* quantity of tin may not be deleterious, when so *many* *littles* are taken, the effect may be serious. There is danger from lead-poisoning from some canned goods, which arises from the use of impure tin and careless soldering. These dangers

seem to be greater in the presence of an acid.

Some foods are adulterated to give them proper color. Vegetables are colored green with sulphate of copper. In some instances as much as five grains of copper have been found to the can. Copper is found in small quantities in wheat, and small quantities of the drug may not do damage; but the use of the article in excess of the proportion normally found may easily be pernicious. M. Pasteur, the eminent French chemist, found copper in most canned vegetables, and says that peas, beans, asparagus, and similar vegetables owe their green color to copper. Cream of tartar is an article almost universally adulterated. Dr. Squibb found the adulteration to vary in different samples from 10 to 90 per cent, and that they were generally lime and terra alba.

Sugars are now largely mixed with glucose; syrup, almost wholly so. Cheap sugars should be looked upon with suspicion, as the cheapness may come from an admixture with glucose. Loaf sugar is most often so adulterated; it may be distinguished by its smooth look, and dead, heavy sound. Granulated sugar is the least likely to be adulterated. It is, however, in confectionery that the greatest adulteration is practiced. Of one sample of molasses candy examined, all was glucose. Caramels are nearly all glucose, usually containing from 75 to 80 per cent. Cream candy is said to be the purest, containing but about 12 per cent. Glucose has about two-thirds the sweetening power of cane sugar, and when pure, is not in any way injurious; but as made, it is often mixed with lime, copperas, sulphuric acid, and lead. According to analyses made of some specimens, it is anything but pure. Confections are not only adulterated with glucose, but terra alba, which is entirely indigestible, enters largely into their composition. Various deleterious coloring agents are also used.

In late years, butter has occupied the attention of the adulterator, and is often no longer what it seems. The supremacy of the cow is being replaced by the hog, and the residents of large cities at least may eat but little bovine butter. The bogus article is so perfectly manufactured as to deceive experts in the business. This counterfeit butter is becoming very common. Many materials are used in place of cream. A few days ago a bill was introduced in the New York legislature pro-

hibiting the sale of oleomargarine. Mr. Low, who had it in charge, said that one-half of the butter sold in the State was made from lard and oils, imported from France, colored by chemicals, and deodorized by other chemicals. He further said that nearly all the farm industries of the State were stock-raising and dairy products; and that the oleomargarine had reduced the price of butter ten cents per pound, and that of cheese one cent per pound, involving a loss to the State of nearly \$10,000,000.

Ground coffee and spices are nearly always adulterated, and sometimes even the unground coffee is tampered with.

Ice is largely used in warm weather, and the impression prevails that no danger is incurred, as its impurities, if any existed in the water, are destroyed by freezing. Diseases may be conveyed by impure ice as by impure water. Exposure to air will, to a certain extent, oxidize germs of animal origin; but it will not destroy vegetable or malarial germs. In freezing, water does not free itself from microbes, infectious or otherwise; and during cold weather it should be remembered that organic matter is not used up so rapidly as in warm weather. As much care should be taken to secure pure ice as to guard the water-supply from contamination.

The preparation of food for eating is a matter of importance. We are said to be a nation of dyspeptics, and there is much truth in the assertion. One reason for this may be found in the prevalent styles of cooking. It is a popular notion that dyspepsia is a condition found chiefly in cities, and among those of sedentary habits. We think this is not true, but the reverse. We venture the assertion, that more dyspeptics will be found among the rural population than elsewhere; also that, as a rule, poorer methods of cooking prevail in the country than in cities. The object of cooking food is the disintegration of texture, so as to facilitate mastication, solution, and digestion, and to kill germs or parasites, if any exist in the article cooked. How often and how well this is accomplished in meats fried to a crisp, and coated with a dense, impermeable crust of greasy "coat of mail;" in vegetables with the juices cooked out of them; in the dense, sour bread; in the heavier, sodden, alkaline pastry and biscuit; and other things too numerous to enumerate, but which so often confront us in many

localities, I leave you to imagine. The subject is a fruitful but delicate one, and I have neither time nor disposition to pursue it farther, but will drop it by saying that it is certain that the preparation of foods often renders them deleterious.

3. Again, foods are sometimes relatively pernicious. Man's dietary has much to do with his moral nature, as well as his physical condition. Dogs kept chained and fed meat, grow savage, and there is no good reason for disbelieving that man is not similarly influenced by his diet. The moral effect of good, well-cooked food is not to be ignored; it is a temperance weapon of no mean power. Half-starved, overworked, and underfed people fly to stimulants. Scanty food, badly prepared, with its resulting exhausted systems, is a fruitful source of the craving for strong drink. Condition and circumstances must govern the question whether a given food is wholesome or pernicious. Meat, for instance, holds a high place as a tissue-builder and stimulant-food; but persons who are not using much tissue material, who are leading quiet, sedentary lives, or who have rheumatism, gout, or imperfect excretion of urea, and those whose kidneys are overburdened and enfeebled, should use but little meat. To such people meat becomes a pernicious food.

It is a pertinent query whether the excessive use of nitrogenized food in this country has any relation to the increasing prevalence of Bright's disease. On the other hand, the inadequate supply of this class of foods has its penalties. Imperfect nutrition from underfeeding is a prolific source of mischief among women and children especially. Many cases of nervous disorder, and chronic invalidism, arise from a diet of toast and tea with a few sweets. Graitly Hewitt ascribes to this cause the great prevalence of female weakness and uterine displacements. He says flexions especially are originated oftentimes in a low, imperfect general nutrition. As a rule, however, in this country, we think the tendency is to give animal food an undue prominence in the dietary. Wheat products and other seed foods ought to form the basis of a sound, rational dietetic system; and second to these should be placed meat and the fruits. Perhaps one reason why wheat, the king of grains, is losing its supremacy, is its emasculation by the refinements of the miller. Flour has been manipulated up to such a degree of perfection, or *imperfection*, as you may

choose, that we have but a small proportion of the original qualities of the grain left us.

Salt should be carefully used, both in the preparation and preservation of foods, as an excess impedes rather than favors digestion.

Finally, the quantity and character of the food-supply should always be carefully adapted to the condition and wants of the system, remembering that deficiency in quality or quantity will impoverish and enfeeble; while excess, of the nitrogenized foods particularly, will overtax and clog the vital functions, and become a pernicious food.

PHYSIOLOGICAL OBSTACLES TO THE PREVENTION OF INTEMPERANCE IN THE RISING GENERATION.

BY JAMES MUIR HOWIE, M. B., LIVERPOOL.

(Concluded.)

Now, I wish to inquire how it is that sudden abstinence from alcohol produces such preternatural and tormenting activity of the nervous system, to be followed by intense depression. The answer is as follows: Alcohol in any satisfactory quantity produces an effect upon the nervous system similar to that exercised upon a coal fire by covering it with ashes,—the former interferes with nervous action just as the latter prevents active combustion. The only difference is that in the case of alcohol there is a short primary stage of nerve excitement, before the sedative effect becomes apparent. A man who drinks much alcohol is in the condition of a fire choked with its own ashes from within, and covered by other ashes from without. He is neither as warm nor as active as an abstainer of the same constitution and temperament. His life smoulders slowly, while that of an abstainer burns brightly. But this smouldering life prevents the nervous system's getting sufficient healthy exercise, and it is so choked with its own *debris* that it cannot absorb sufficient nourishment. The consequence is that the nerves become weak, and weak nerves are always irritable. The nerves that do their work in a hurried and jerky manner are easily exhausted. The strong nerve is deliberate and steady in its action. As long as the nerves of the drunkard are kept under the influence of alcohol, he is comparatively comfortable, because of their inability to be disturbed by either

external or internal influences; but as soon as they are left to themselves, they become painfully sensitive to everything that is wrong within him and around him, hence the so-called feeling of hell which is kindled in his bosom. It is this feeling that compels him to swallow whatever drink he can reach, so as again to paralyze his "physical conscience." If, however, you put him beyond the reach of alcohol, the nervous system will continue its irritating activity until it has exhausted all its available energy, when it sinks into the condition of alarming prostration, to which I have already referred. The effect of large doses of alcohol is to injure the nervous system in one way, while the effect of small, frequent doses is to produce injury in quite another way; but, strange to say, both large doses and frequent small doses ultimately produce the same kind of injury, viz., excessive irritability, from imperfect nutrition in the one case, and from over-stimulation in the other. Now, it is this excessive irritability of the drunkard's nervous system which is inherited by his children, and which makes their life so full of trouble and worry that they naturally fly to drink for that comfort which they fail to find elsewhere.

But we must not forget that this same condition of nervous irritability may be brought about by other means than the drinking of alcohol.

Many a young man spends all his nervous energy in his early business struggles or during the laudable efforts of a successful university career. He may reach a foremost position in commerce or literature; but his children are in great danger of becoming either drivellers, or weaklings, or drunkards. How frequently do we observe that the sons of great men have little power to follow in their fathers' footsteps. Let us suppose, now, that we have to deal with a boy who has inherited a weak, irritable, nervous organization. It matters not whether his father were a drunkard, or a man who spent all his energy for the good of his family, and that of society. The same treatment is absolutely necessary as a prophylactic against intemperance. Fresh air is of as much moment to such a boy as water is to a fish. He requires almost as much exercise as a greyhound, and nearly as much food as a man. He ought to sleep like a dormouse; but, when awake, he ought to be as merry as a cricket. I would send to no school where playground training is

not considered of equal importance to book learning. It is an old and sound belief that boys are far superior to books in the education of their fellows. He ought never to be expected to learn more than can be accomplished without worry. From our education codes and school examinations there would appear to be a belief in educational quarters that the best way to prepare a boy for hard work in the prime of life, is to grind him down with equally severe work in his tender years.

If you wish a horse to be capable of endurance in after-life, you do not put him upon the turf between two and three years of age.

Education is not forcing the nervous system to increase growth, it is the training of what has already appeared. It is a great mistake to suppose that you can increase the nerve-power of a schoolboy by forcing his brain. You might, with as much reason, suppose that you double a certain quantity of india-rubber by stretching it over a given area. In both cases you produce an appearance of increase, while in reality you diminish the resisting power. Is it any wonder, then, that the nerves of this generation are becoming as shoddy as its garments, seeing that we expect as much work from a schoolboy as from a full-grown man? And if that schoolboy is insufficiently supplied with food, as in the lower parts of our large cities, his education will have no influence whatever in lessening his tendency to intemperance. If we have power to compel negligent parents to pay for the education of their children, we ought also to compel them to find money for their adequate nourishment. Our school board system will not do much for the elevation of the masses until it has power to exercise an influence over the entire life of its scholars, and is responsible for their health as well as for the extent of their information. It will then see it to be its duty to provide spacious class-rooms and extensive playgrounds, with an immense soup kitchen, attached to every school. I am informed by those who are well acquainted with the lower parts of Liverpool, that the principal food of the children at every meal is tea and bread—sometimes with dripping, but frequently without. Now, however refreshing a cup of tea may be to adults, there can be no doubt of its injurious effect upon growing children. I have made many observations upon this point, and I maintain that there is no bet-

ter way of training children to drink alcohol in adult life than this utterly pernicious system of ruining their nerves with tea or coffee during their childhood. In the case of domestic servants especially, and not infrequently in the case of their mistresses, I have also observed a direct relation between the abuse of tea and the abuse of alcohol, the one leading directly to the other.

Why don't we give our children soup every morning for breakfast, as they do on the Continent,—good milk soup or vegetable broth? They do not require rich animal broths. Children have quite enough of inborn natural stimulus to enable them to develop without stimulating nourishment.

If stimulants (I mean tea, coffee, and much flesh-meat; alcohol is only a stimulant in very small doses) are taken when they are not required, they tend to produce a hyper-sensitive condition of nerve, and thus to create a craving for some narcotic agent, such as alcohol or opium, which will relieve the nervous irritability induced by the stimulant.

Look at the hold which opium-smoking has taken upon the tea-drinking Chinaman. It is the plague of China, although only the growth of two hundred years. I am informed by a medical friend that he rarely feels any desire for wine except when he has taken an extra quantity of tea. Oliver Wendell Holmes represents his Professor as drinking copious draughts of black tea to counteract the effects of any extra glasses of wine which he had been tempted to imbibe at a dinner-party. Now if tea is the antidote to alcohol, as certainly is alcohol the antidote to tea, I contend that you might with as much reason teach your boys to smoke tobacco as permit your girls to drink tea. They cannot have a shadow of need for either one or the other.

By what means have we protected ourselves against Asiatic Cholera in these islands? First, by a careful system of quarantine we have to a great extent excluded the poison from among us. Secondly, by a vigorous attention to cleanliness and general sanitary improvement, we have abolished all facilities for the spread of such poison as may have found its way into our midst. The establishment of a healthy public opinion in favor of total abstinence is our quarantine against wholesale inroads of alcoholic poison; but my contention is that we must not forget in-

dividual and general nerve sanitation, otherwise a small amount of unprevented poison may produce an unlooked-for epidemic of disastrous drunkenness.—*Med. Temp. Jour.*

OUTLINE OF THE PRINCIPLES OF VENTILATION.*

BY J. H. KELLOGG, M. D., MEMBER OF THE STATE BOARD OF HEALTH.

AFTER a brief summary of the physiology of respiration, in which attention was especially called to the uses of oxygen in the vital economy, and the means by which it is conveyed to the tissues, where it is employed in oxidizing the worn-out elements of the tissues, the following points were made respecting ventilation:—

1. Ventilation is necessary for the purpose of diluting the impurities of the air to such a degree as to render it tolerable, and prevent their accumulation to such an extent as to be detrimental to health. The air receives impurities from numerous sources connected with human habitations in civilized communities, some of which are unnecessary and preventable, others natural and unavoidable. The most serious are those which emanate from our own individual bodies, chiefly by action of the lungs and skin.

2. How much air is necessary for each individual? The reply to this question depends, not upon the amount of air inhaled by an individual, but upon the amount of air contaminated by each individual.

3. What is the standard purity of air? Experienced experts who have investigated this subject, agree that pure air contains a certain proportion of carbonic acid gas, and that the proportion does not vary much from two parts of carbonic acid gas in five thousand of air. Other experiments and investigations have shown that if the quantity of carbonic acid gas be increased to three parts in five thousand by the respiration of animals, it is no longer fit to breathe; and if longer breathed will produce serious disease. It thus appears that the difference between pure air and impure air is one part of carbonic acid gas with its accompanying organic poison, in every five thousand parts of air.

4. The amount of air contaminated by each person.

* Outline of a discourse at a sanitary convention held at Hillsdale, Mich., April 17 and 18, 1884; reprinted from a supplement to the Annual Report of the Michigan State Board of Health for the year 1884.

The average individual exhales at each respiration nearly one cubic inch of carbonic acid gas, with which is associated other poisonous matters. The addition of this one cubic inch to the quantity of carbonic acid gas already contained in each five thousand cubic inches of air, increases the quantity to three cubic inches, the maximum degree of impurity which can be tolerated by the system without danger, and thus renders this quantity of air unfit for further respiration. It thus appears that with each breath each individual contaminates five thousand cubic inches, approximately three cubic feet of air, which must be replaced by an equal quantity of pure air. As a person breathes about twenty times per minute, the amount of air required for each individual per minute is three times twenty, or sixty cubic feet. Multiplying this result by sixty, gives thirty-six hundred as the number of cubic feet of pure air required by each person to replace the air which has been contaminated by the process of respiration in one hour. If this quantity is not obtained, the proportion of organic impurities increases, until the air becomes so intensely poisonous as to be productive of serious disease.

5. How can the necessary quantity of fresh air be obtained? The general principles of ventilation are simple enough, although generally very imperfectly understood. The following are perhaps the cardinal points:—

a. For efficient ventilation of each room in a building, two openings are necessary, one for entrance of fresh air, and one for egress of foul air.

b. The foul air opening should be at the bottom, as the oldest air in the room, and consequently the most impure, will be that which has been in the room the longest, and has been gradually cooled by contact with outside walls and window surfaces.

c. The size of openings depends upon the number of persons to be supplied with air. It may be laid down as a general rule that an opening of twenty-four square inches' space in both inlet and outlet is required for each individual in the room. The openings should be of sufficient size to allow a passage of at least three thousand cubic feet of air, without creating too perceptible drafts. Air cannot travel through a room more rapidly than five feet in a second without a current being perceptible. The sick-room needs two or

three times the ordinary amount of ventilation.

d. The foul air openings of rooms should connect with heated ventilating shafts. Cold-air shafts are uncertain ventilators. They are not to be relied upon. The amount of draft in the shaft depends upon the height of the shaft and the amount of heat. Various methods of heating may be adopted. In a building heated by steam, the steam-pipes may be employed. In ordinary dwellings the waste heat of smoke-pipes or chimneys may be utilized in ventilating-shafts. An oil-stove or a gas-jet may be used for heating small shafts in dwellings; or a small stove may be used to accomplish the same purposes in larger shafts.

e. Rooms on different stories should not open into the same ventilating-shaft, as the upper rooms are certain, under various circumstances, to receive the foul air from the rooms below.

THE HYGIENE OF SHOES.

THE hygiene of the feet is a subject which receives far less attention than it deserves, considering the important relation which the feet sustain to the general circulation and the nervous system. In a paper entitled "Physiology of the Feet," in a recent number of the *London Lancet*, Dr. T. S. Ellis, consulting surgeon to the Infirmary at Gloucester, England, makes the following excellent remarks:—

Those who look on the human foot as fully partaking of the beauty of which artists in every age have regarded the human body to be the highest expression, ought not readily to admit that the foot which best conforms to its outline, reveals its features, and expresses its leading characteristics, will require an apology for want of elegance. I, at any rate, cannot admit anything of the kind. The human foot is, moreover, an object of far more than the ordinary interest belonging to every part of the human structure. Anatomically, there is no more marked distinction between man and the lower animals, than is to be found in the special development of the foot.

However much we may regard it as in itself calling for admiration on account of its fitness for the purposes it has to fulfill, and for others it may on occasion serve,

the human foot is far more remarkable as an adaptation of the mammalian type, modified to suit a purpose kindred to, but differing from, that which the corresponding member supplies in other animals. The heel has its special form and significance in that man only has one adapted for crushing an offensive object beneath it. The large size and important function of the great toe is also a specially human feature. In the mammalian typical limbs, the bones of the hand and foot (or rather, to avoid confusion, in four-handed or four-footed animals, manus and pes) are arranged on a uniform plan: to each, five digits, the first having two phalanges and the others three. The first digit is generally attenuated, often suppressed; but whenever it exists, it has two phalanges only.

This curious difference is nowhere, so far as I know, explained. I cannot discover that any animal (below man), recent or fossil, exists or has existed from the times of the Trias formations till now, in which this arrangement has appeared to be essential. It may be of some advantage in the quadrumana, and doubtless the human hand is thus better fitted for its functions; but it seems to me to be much more difficult to imagine it possible for any other arrangement to exist in the foot unless the whole scheme of it, so to speak, were changed. It is essential that the only joint in the great toe should be drawn to the ground by the strong flexor tendon attached to the final phalanx close to it; if another joint existed, it must rise up, as occurs in the other toes, and the solid bearing would be lost. Apart from this, it must be admitted that it is mainly due to the special development of the great toe in a line with the long axis of the foot that man is enabled to exercise the attribute, in all ages regarded as a noble one, of standing erect. Yet this special feature is the one which the conventional boot does most to conceal, and in direct proportion as it is successfully concealed, the wearer is supposed to be dressed in good taste. It would seem to be regarded as necessary to reduce the foot to even-sided symmetry; but there is no law of beauty which requires this. Mr. Ruskin assuredly would not say that it is in any of "the eternal canons of loveliness" decreed that an object to be beautiful must be symmetrical. An architect required to provide more space on one than on the other side of a building, would not seek to con-

ceal or even to minimize the difference; he would seek rather to accentuate it, and give the two sides of the structure distinctive features. To me it appears that it is on this principle only, that a boot, to be at once useful, graceful, and appropriate, can be designed.

In the boot it is of first importance that the sole should allow the great toe to occupy its natural position; it must, therefore, be straight or nearly so on the inner margin; but it is of little use to provide the room thus given unless it be occupied; the foot must be invited to occupy it by giving it plenty of room in the upper leather on this side. It is obvious that where a flexible material is fixed on both sides and left loose between, it can be drawn furthest from the surface to which it is attached, in a line midway between the fixed parts. For this reason, the highest part of the foot, which is on the inner side, will, in any case, have some tendency to go to the middle line of the boot where most room can be made; this tendency is largely and needlessly aggravated by the high ridge of the last being along the middle line instead of being on the inner margin. But not only ought the room there given to be much more according as the foot projects the more upwards; it ought to be proportionally more. I have insisted that the foot does not lengthen in walking, but rather shortens. This shortening, due to the powerful action of the long flexors, causes the foot to rise across the middle, the rising being almost entirely on the inner side. Here, therefore, over (not by the side of) the ball of the great toe, is special room required. The lateral thrust, too, already spoken of as consequent upon turning out the toes, tends much to displace the foot, and to throw it against the outside of the boot. Toe-caps also are objectionable, as giving the most room in the middle line, and inviting the great toe to occupy that position.

No useful or ornamental purpose is served by leaving space unoccupied round the outer margin of the sole opposite the little toes, as if it were necessary to make the two sides of the boot to match. No angle existing in nature, none should be represented; the outline of the sole of the boot should conform to that of the foot.

If it be true, as already stated, that grace in walking, as well as free propulsion of the body onward, and maintenance of the arch in walking, are all due to the free action of the flexor muscles, letting

the heel down with gentleness and precision, and raising it with firmness and vigor, it follows that none of these can be, if the boot prevent the heel from going down, a necessary antecedent to springing up. A low heel, therefore, if any, is imperative. The perfect boot should have none. Nor can the free action of the flexor muscles have full effect, so as to draw the toes to the ground, if the sole be turned up at the toes, especially if it be a stiff one. Some turning up will come from walking, however good; but there is no reason why it should be aggravated by having the boot-last so. In it the sole should be flat to the end.

Objection is made that boots with a straight, or nearly straight, inside line give the feet a pigeon-toed or inverted appearance, which is unnatural. This is not altogether due to the eye being accustomed to a more conventional pattern. It is, I am sure, mainly due to a removable cause. Any conspicuous line, that of the laces or a seam, is always carried from the front of the leg to a central point on the upper surface of the foot. The eye, falling on this line, in imagination continues or produces it, and so divides the front part diagonally into two very unequal portions, the larger on the inner side. I have found that if the line of the laces or seam be kept parallel throughout to the line of the long extensor tendon,—in other words, along the crest of the ridge, thus marking out a distinctive feature,—the unpleasant effect is removed.

In proper walking, which cannot be done in an improper boot, friction of the foot on the sole, and of the latter on the ground, is reduced to a minimum, the sole being pressed against, not rubbed along, the surface. This is shown by the very little wearing of the leather. When at last it does give way, it should be at an oval spot a little distance from the margin of the sole, under the middle joint of the great toe. This is the last point to leave the ground in walking; here, therefore, is the greatest tendency to slide on the surface, and consequent friction.

The great toe, in any but the most perfect feet now to be found, is so easily diverted outward that socks and stockings with a straight inner line are very desirable; indeed, no others can be said to really fit the feet. When any considerable distortion exists, a separate stall for the great toe is necessary.

For the reasons given, a last should

have the inner margin nearly in a line with the inner side of the heel, and joining in front by a rounded angle a long curve on the outer margin, where no angle should be shown. The sole should be flat, touching the base line in front. The thickest part (highest vertically) should throughout be on the inner margin, especially above the ball of the great toe. The boots should have low heels—to be perfect, none. The line of laces or of any conspicuous seam down the front should be in a line corresponding with the inner margin of the foot along the highest part. The boot should, if possible, be left on the last for a considerable time, to overcome the tendency of the leather to recoil after the forcible stretching to which it has been subjected, and so to fix it in its proper shape.

LIGHT AND HEALTH.

BY GEORGE G. ANDRE.

THE evil of lack of light, inseparable from life in crowded cities, is greatly aggravated by certain customs and fashionable habits, for the retention of which, even for a single day, necessity cannot be pleaded. If an abundance of direct light is indispensable to a healthy organization, any custom or habit which diminishes opportunities for obtaining such light must tend to bodily enfeeblement and consequent disease.

It is an unfortunate circumstance that all women, speaking generally, are addicted to habits and practices of this sort. The fact is the more to be deplored, as they are debarred, by the nature of their occupations, from an exposure to sunlight in an equal degree with men. These practices may possibly have taken their rise in this very circumstance. Unaccustomed to such exposure, women have come to regard it as a disturbance of the normal conditions of their mode of living, and shun it accordingly. Something may be due to mere imitative propensities. Daughters follow the example of their mother; but false sentiment and fashion have probably been the chief factors in originating and maintaining these reprehensible practices. Be their primary causes what they may, the fact remains, that some have become general and confirmed habits, and others have grown into a custom. They are all founded upon a desire to avoid the direct rays of the sun.

Whatever mystery surrounds the origin

of this desire, it is itself very clearly apparent, and it manifests itself in a variety of ways. Chief among these, perhaps,—certainly chief in its effects for evil,—is the practice of excluding sunshine from living-rooms. The abuse of window-blinds is a matter of sufficient importance, from a sanitary point of view, to merit earnest attention. A blind drawn against the noon-day sun of midsummer may be a justifiable protection. But when the windows are stopped therewith in the morning and in the evening, in January as well as in July, we have reached a state of things that must be pernicious in its consequences. Yet this is precisely the state we find to exist. Sunshine within doors is a forbidden thing. If a kindly ray has contrived to steal in, the blinds are hastily drawn to expel and keep out the unwelcome intruder; but usually they are drawn in anticipation of such an intrusion. No burglar ever found himself more effectually barred out than does the sun when he arrives over against the windows of a dwelling-room.

If a reason were demanded for these proceedings, the answer would probably not be ready. Injury to the bright colors of the carpet and the table covers would, perhaps, be first thought of in many instances, and in some this might indicate the true motive; for unhappily, many are more willing to preserve "appearances," that is, their furniture, than their health. But we have only to follow the mistress of a household out of doors to become aware that there are other motives than this one. If she step into her own carriage, she will immediately pull down the blinds on the sunny side. If she take her seat in a railway carriage, in the preservation of which she can certainly have no interest, her first attention will be given to the same object. If she go on foot, she will be careful to distend over her head the ever-present sunshade. It is not that the sun's direct rays are felt to be overpowering, for these practices are confined to no part of the day and to no season of the year. A feeble winter's sun, peeping at eventide through a rift in the leaden clouds behind which he has been for days hidden, brings about the pulling down of window-blinds and the unfurling of parasols as surely as the fierce sun blazing in the meridian of a clear summer sky.

This unnatural dread of sunshine finds, probably, its origin mainly in one of the vagaries of fashion. The crimson colors

which exposure brings have come to be regarded as distinctive physical marks of the lower grades of society—in other words, vulgar. Hence arises a willingness to forego the benefit of a salutary influence, rather than to acquire therewith a complexion not favored by Fashion, which has decreed that the sickly pallor of organic decay shall be held to be more beautiful than the dark tints and ruddy glow of vigorous, robust health. The practice of screening the face from the sun when out of doors is the more objectionable as the hands, again in obedience to the bidding of Fashion, are gloved, so that no part of the body is exposed to the direct rays. In the matter of gloves, men have to a great extent adopted the custom of wearing them in the open air. Apart from its contemptible effeminacy, the practice deserves to be condemned for its unwholesome tendency.

These facts and circumstances reveal the existence of a debilitating influence, a cause of diminished vitality hitherto unsuspected. A source of bodily enfeeblement and disease as prolific in these evils as the want of pure air, is here exposed to view, and the origin of the baneful influence is seen in certain conditions of urban life, and in some common habits and customs. How the evil is to be grappled with is a question which sanitary reformers must decide according to their lights and powers. Something may be effected by legislation and supervision. The admission of sufficient sunlight into dwelling-rooms is a matter no less worthy the intervention of superior authority than the supply of sufficient air or the removal of noxious refuse. And the vigilant supervision of boards of health might do much in remedying defects. In respect of existing structures, the question is, doubtless, beset with difficulties, and perhaps nothing more than a mitigation of the evil is to be accomplished. But determined and persistent action on the part of sanitary boards, with the co-operation of architects, would certainly effect much in the way of improvement.

As for the habits and customs alluded to, they are to be dealt with by individual effort, and here only the will is required to achieve complete success. To every reflecting person, the folly of endeavoring to escape from the sun's direct rays must be apparent as soon as the influence of these upon health are clearly perceived. Rather should they be sought by persons

who inhabit imperfectly lighted town-houses to counteract the influence of the obscurity in which they are compelled to live. All who spend most of their time within doors, women generally, and men of sedentary occupations,—especially those whose life is one of mental activity,—will do well to give this matter serious attention. The need of sunshine in the nursery hardly admits of question. Children must grow up in sunshine, or, like the tender plants in similar conditions, they will speedily languish, and lose the vigor of young life. Scrofulous tendencies are held in check by nothing so much as a bountiful supply of sunlight; rickety children soon perish in a room into which the sun never enters. To choose for a nursery an apartment having a northern or north-western aspect, or to stop the windows with drawn blinds, is to commit an error of judgment likely to be attended with serious consequences to the tender occupants. As well expect flowers to come to perfection in the shade of a dead wall, as children to flourish in the gloom of an ill-lighted room.

Pure air and good food receive due attention, but the sunshine is too often forgotten. The instinct that prompts the lower animals to lead their young to the sunny spots to bask in the genial rays, is silenced in man by the influences of his artificial mode of living. For all persons in winter, when the days are short and the sunshine rare, the need of seeking opportunities for bathing the body in sunlight is greater than in the summer, when the days are long and the sky clearer. At such times it is well to choose the sunny side of the street; to discard the sunshade altogether; to keep the window-blinds up throughout the day; in short, to take a plunge into the light-bath whenever the opportunity occurs.—*Health.*

An Anecdote of Horace Greeley.—Mr. G. was at one time a vegetarian, and a warm friend of Sylvester Graham. He seems to have adhered all his life in some degree to the principles which he early espoused, as indicated by the following anecdote told by Gen. Sheridan, which is going the rounds of the press:—

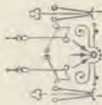
“I was stationed at New Orleans when Mr. Greeley came there on his tour when a candidate for the Presidency. The old creole residents gave him a dinner, and to

make it as fine an affair as possible, each of the many hosts was laid under contribution for some of the rarest wines in his cellar. When dinner was announced, and the half-shell oysters had disappeared, the waiter appeared at Mr. Greeley's seat with a plate of beautiful shrimp. ‘You can take them away,’ he said to the waiter, and then he added apologetically to the horrified old French creole gentleman who presided, ‘I never eat insects of any kind.’ Later on, soup was served, and at the same time a glass of delicious white wine was placed at Mr. Greeley's right hand. He pushed it away quietly, but not unobserved by the chief host. ‘Do you not drink wine?’ he asked. ‘No,’ answered Mr. Greeley, ‘I never drink any liquors.’ ‘Is there anything you would like to drink with your soup?’ the host then asked, a little disappointed. ‘If you've got it,’ answered Mr. Greeley, ‘and it isn't any trouble, I'd like a glass of fresh buttermilk.’ ‘*Mon Dieu!*’ said the host afterward in his broken English, ‘ze idea of electing to ze Presidency a man vot drink buttermilk vis his soup!’”

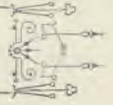
Development in Children.—A Berne professor has been studying infants in relation to their physical development, and makes the following observations:—

(a) Very strongly developed sucklings will balance the head well in the twelfth or in the fourteenth week; (b) children of medium strength in the fourteenth to sixteenth week; and (c) weak children in the eighteenth to twenty-second week. That (a) can stand, when supported, in the thirty-fifth to the thirty-eighth week, and entirely alone in the fortieth to the forty-second; (b) not till the forty-fifth or forty-eighth week; and (c) in the first part of the second year. Children who have older brothers and sisters, learn to walk much better and earlier than those who have none; earliest at the end of the ninth month, often between the twelfth and eighteenth months. Children begin to speak at the end of the first or beginning of the second year,—boys later than girls,—and to relate what they have seen or done only at about the end of the fourth year.”

—Good-breeding is benevolence in trifles, or the preference of others to ourselves in the little daily occurrences of life.



TEMPERANCE AND MISCELLANY.



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

Conducted by MRS. E. E. KELLOGG, Superintendent of Hygiene of the National W. C. T. U.

AFTER DARK, THE STARS.

"The eternal stars shine out as soon as it is dark enough."

A TIRED child, restless, as the night came on,
Wond'ring at twilight where the day had gone,
Watched at the window with a weary sigh,
'Till heaven should hang its star-lamps in the sky.

"Why don't they come, mamma?" She question-
ing said;

Then looking up, "Come, pretty star!" she plead.
Deeper the shades of night around her grew,
While patiently she peered the darkness through.

At last, with shout of joy, a star she spied;

"I see one now! Why not before?" she cried;

The mother kissed her eager lips, and smiled,

"Because it was not dark enough, my child."

So shine the Eternal Stars in sorrow's night;

The deepest gloom but serves to show their light.

Take courage, then, O heart that most hath bled!

God's stars of hope are shining overhead.

—Anna Gordon.

SKETCHES OF TRAVEL, No. 19.

BY MRS. E. E. KELLOGG.

COLOGNE AND THE CATHEDRAL.

COLOGNE was anciently an important Roman town, and derived its name from the fact that Queen Agrippena, whose birth-place it was, induced the Emperor Claudius to send thither a colony of veteran soldiers, after which it was known as *Colonia Agrippena*. One old gateway and a few fragments of crumbling wall still remain as vestiges of Roman times.

The history of Cologne shows it to have been, anciently, both a rich and a powerful city, carrying on an extensive commerce, and sustaining one of the finest universities in all Germany. Like many other European cities, it has been the subject of many vicissitudes of war, having been conquered and reconquered by both the French and the Germans, and to the latter it now belongs.

The glory of the modern city is its grand Cathedral, the finest gothic church in all the world. More than six hundred years was this Cathedral in building. Begun two centuries before the discovery of America, it was partially built, then allowed to remain in its unfinished state from the sixteenth century till the nineteenth, during which time a war between Germany and France occurred, and the soldiers took possession of the building, using it as a magazine for military stores, and as a prison, melting the stat-

uary for purposes of war, and destroying most of the objects of antiquity.

In 1816, under the auspices of the king of Prussia, its restoration was begun, and the building continued to completion, so that it stands to-day a marvel of architectural beauty, its whole exterior a mass of fretted stone, exquisitely carved pillars, pinnacles, statues, and ornamental facades, surmounted by two lofty spires, the tallest in all Europe, so beautifully carved as to appear almost as fragile as frostwork, rising to the height of more than five hundred feet. The length of the Cathedral is said to equal its height. Its width is two hundred and thirty-one feet. Its interior, though not so gorgeous as some of the Italian cathedrals, is by no means commonplace. Its lofty columns, fine arches, and rich carving, harmonize with its immense proportions, giving the whole an appearance of elegance and beauty. Beautifully colored windows full of pictured sacred scenes lend a rich, warm tint to all.

The Cathedral contains seven hundred and twenty-six stone figures, statues of prophets, apostles, martyrs, and Fathers of the church, mostly executed by two eminent sculptors, Fuchs and Werres. The one great shrine of the Cathedral is a curiously-wrought case of silver-gilt, inlaid with jewels and precious stones, containing the bones (?) of the three "Wise Men" who brought offerings to the infant Saviour from the East. The bones of these Magi, or "Kings of Cologne," as they are here most frequently termed, were brought by the Empress Helena from Constantinople to Milan, and afterward presented by Barbarossa to the Archbishop of Cologne.

A slab in the pavement near this shrine covers the heart of Maria de Medicis, and in the various side chapels are monuments of the archbishops, beginning with Conrad of Hochsteden, the founder of the church, relics of the saints, and many other curiosities.

The guide who attended us on our first visit to the Cathedral offered, in a most charitable spirit, to show us, free, the original model of the great church if we would but step across the street where it was kept. We found, however, that the proprietors of this wonderful model were cologne-venders, who, although they required no fee for a view of the model, expected us to return their liberality (?) by purchasing a bottle of cologne water. The "only veritable" *eau de cologne* is sold in more than forty places; and although the only genuine distiller is a certain Johann Maria Farina, there are, as Martha Penny in Hood's *Up the Rhine*, writes, "so

many farinaceous impostors, and Johns, and Marias you do n't know witch is him or her."

One feature of the city, peculiar to Cologne alone, as far as our observation extended, was the large number of shops situated in narrow alleys covered with roofs and lighted by skylights. Perhaps this arrangement was for the convenience of those who desired to make shopping a rainy-day business. The streets are generally narrow, and not remarkable for cleanliness, though we failed to get a sniff of each of the seven odors for which the city is noted.

One afternoon of our stay, we visited the church of St. Ursula, the patron saint of Cologne. St. Ursula was, as the legends say, the daughter of a British king, who lived at some remote period of antiquity, and who, for some unknown reason, accompanied by eleven thousand virgins, made a pilgrimage to Rome. On their way back to their own country they were massacred at Cologne by the Huns, because they persisted in remaining faithful to their vows. In commemoration of this sad event, a church was built as a tomb for the princess and her unfortunate companions. The bones of the saint and virgins are worked into a kind of sepulchral mosaic, and adorn the interior walls of the church; while the skulls of St. Ursula and a few of her chosen followers are stowed in the treasury of the church in the interior of the heads of certain gold and silver images.

AUTUMN MUSINGS.

BY MARY MARTIN.

So short a time has elapsed since spring came with her birds and flowers, we can scarcely realize that autumn is here, and that winter, with icicle beard and hair of rime, will soon be knocking at the door.

How beautiful are the forests, clothed with their brilliant and varied hues! What a pleasure to gather the leaf-treasures to prepare for winter decoration; but how often those which "at a distance looked charming and sweet," upon closer inspection we find to be marred by decay, or a portion of the leaf gone.

The sunshine and rain have fallen alike upon all; but how differently do they look! Some have gathered the tints of heaven's rarest colors as the days wore on; while others, that were equally fair in their freshly-given robe of green, have, with the departure of that robe, lost all that rendered them attractive; and how truly "we all do fade as a leaf"!

As the morning of life waxes to noontide, how important that we cultivate those traits of character, those habits of thought and life, that will render the autumn evening sweet and satisfactory! Too often the lack of mental discipline, the neglect to cherish "whatsoever things

are pure, whatsoever things are lovely," leads the careless child to unthinking manhood and womanhood, hieing home to cheerless, unfurnished apartments, where there should be light and warmth and comfort.

The emerald of June's leafy bowers has been superseded by the russet gloom of November, that offers neither perfume nor beauty to the passer-by. Many a lovely face or form that attracts at first sight, proves, like the beautiful autumn leaves when secured for patterns, either wanting in some essential part, or marred with an unsightly defect.

Who cannot remember the wide difference in the representatives of age which they have met along the highway of life? While no aceticism or moroseness can furnish an excuse for ineivility or neglect, we each recognize the difference between gratitude and gloom, sunlight and shadow, and approach each accordingly. As the same sun and storms, daylight and darkness, dew and frost, come to the forest leaves; so care and trial, sickness and grief, fall to our common lot. As in the case of one, so in the other,—results are widely different.

There are those whom we approach with measured step and accent, mentally fearing that if we speak of earth or of heaven we shall find that we have introduced an unwelcome topic. There are others whose very presence is an inspiration; and all those who come within the charmed circle are unconsciously elevated to a higher plane. It is as if "the windows of heaven were opened," and the fragrance of clover-fields, and forest bloom, that awed our childish souls to silence, yet purified and strengthened, had returned when more needed, if not better appreciated.

Sooner or later, as in nature, so in life, the autumn time comes, and "we all do fade as a leaf." The light goes out of the eye, the bloom from the cheek, and creeping stealthily in come "silver threads among the gold," until we shrink instinctively from the face which the faithful mirror reproduces. It is for each to determine whether, in place of all this, are to come the heaven-bestowed tints, as in the autumn leaf, suggestive of the light emitted by angel wings, or that which is more fittingly represented by the gathering gloom of the somber-hued, ready for death and decay.

"Few, but full of understanding, are

the books of the library of God" (*Hamerton*); and we may learn richer lessons from these than from all the musty tomes of the ages. An inherent, undefinable feeling of sadness will creep into the heart as "the last leaf on the tree" comes silently down from the deserted branches; but faith and hope afford assurance of a resurrection day, a coming spring-time of bloom and beauty. It is thus the Father hath planned our lives, promising "to give unto them beauty for ashes, the oil of joy for mourning, the garment of praise for the spirit of heaviness."

From out life's ashes, eternal bloom!
Most wondrous change! but 'twill surely come.
And the aspirations and hopes most dear,
In the new earth live that have perished here.
A Father's hand will at last bestow
A richer beauty than mortals know,—
A beauty that lives through endless years,
Unmarred by sorrow, undimmed by tears.
"The spirit of heaviness" will pass away
From the heart that carries it day by day,
And "the garment of praise" on forms be seen
Where the robes of toil and of sin have been.
Immortal light will beam from the eye
As the pilgrim layeth his armor by,
And the "oil of joy" be for mourning given,
In the "better land which we call heaven."
Though to mortals' weak vision this now may
 seem strange,
God is true who has promised the beautiful change.

MOLLIE'S REMEDY.

"PLEASE, Fred, don't smoke. I cannot bear the smell of that tobacco!"

So said smart little Mrs. Fred Woodman to her husband, who stood on the hearth-rug, calmly lighting his cigar.

"Pshaw, Mollie, you'll soon get accustomed to it. Thousands of women do. It isn't at all bad after you are used to it," replied Fred, careless of anybody's comfort but his own.

"But, Fred, once you wouldn't have done what I asked you not to do," pleaded Mollie, earnestly. "Just think, we haven't been married quite two months yet, and you are so soon entirely disregarding my comfort. Fred, dear, please don't," continued Mollie, taking her husband's hand beseechingly. "You know what tobacco has done for Uncle Jacob, and I don't want my husband to be like him."

Mr. Woodman laughed loudly, and exclaimed, "Now, Mollie, really you are getting too particular. Your delicate sense of smell will have to be toned down a little. And the idea of comparing me to old, crabbed Uncle Jake, with his wife in the insane asylum, and his boy almost a des-

perado! They did tell me when I was beginning to go up to Deacon Clark's to see you, they did use to say, "Mollie Clark is as lively and smart a girl as you would wish for a wife, but nobody would marry her, she has shown such a strong mind on that 'woman's rights question.' Really, my dear, you mustn't let me be called a hen-pecked husband quite so soon." And Fred took the cigar from his mouth, blew a cloud of smoke from his lips, and kissed his wife, notwithstanding her wry face, as though he had been partaking of some balm of a thousand flowers. Then, thinking, "I've settled that little difference," he departed to his office.

The description Mr. Woodman had given of his wife was one most of her acquaintances would have given before her marriage. But our mere acquaintances judge usually by surface appearances, being unable to see our inner lives, motives, or qualities.

It is true, Mollie was called "a strong-minded woman." And when some of her friends remonstrated with her, and assured her it was the "talk of the town," she only replied, "Why, I think it is far from disgraceful not to be called weak-minded. To be called strong-minded is a compliment!"

She had aided in several ways, the woman's cause in its infancy. "Such a pity!" the neighbors said. "She was a good girl, so witty and smart, and a splendid housekeeper. It was too bad for her to do so; for no one would marry a girl with such a mind of her own."

So when Fred Woodman, who was considered such a "catch" by all the mammas in town, came and wanted this terrible Mollie to be his wife, he was warned on every side. People told him with horror that she "entertained the suffrage speaker who lectured in town!" And she was "taking a suffrage paper!"

But Fred was not dismayed. In spite of Mollie's unpopular ideas, she was pretty, kind, loving, lovable. So the day was fixed, and the event came off.

For a week afterward, the neighborhood were predicting awful consequences. But when Mollie's apparently terrible qualities were disrobed, and shown to the world minus Dame Rumor's dressing, her strong-mindedness appeared only righteousness, and her so-called love of power was simply a love of fairness.

Mollie had resolved that her husband should not be a slave to the habit of

smoking, and the first step, as we have seen, was one of remonstrance.

That method failing in such an unpromising way, Mollie set her strong mind to work in a way peculiar to herself, in order to find a remedy which should be quick and effectual.

As she swept and dusted the cozy little sitting-room, her face bore a pre-occupied look; as she put the chamber in order, on her face was a look of quiet determination; and later, as she nicely washed the potatoes, and put them in the oven, there was a beam of kindly satisfaction on her countenance. When she had arranged the table, and everything was ready for dinner, she took a lamp in her hand, and went down cellar. After a few minutes, she appeared again in the kitchen, with two moderate-sized, very respectable-looking onions in her hand.

She smiled to herself as she prepared these two vegetables, which were raised in Farmer Somebody's garden, with a destiny to be used as instruments of defense. After she had chopped one of them, she covered it with vinegar, and proceeded to eat the not over-tempting mixture.

It is only necessary to add that if there was anything Mr. Woodman detested, it was onions.

Dinner was smoking hot on the board when the master of the house returned. Mollie stood at the table, with her back to the door, as he came into the kitchen in great spirits. "O Mollie, you have n't been cooking onions! Bah, they are the meanest of all smelling things! And what is the matter, Mollie? You might welcome a tired, hungry fellow in a different style from this. Last week my wife used to kiss me when I came home. I've been trained that way," and the inconsistent fellow turned Mollie round, and kissed her.

"Bah!" he snorted vociferously, "have you been eating onions?"

"Why, yes," replied Mollie, with a mischievous twinkle in her eye. "You'll get accustomed to them. They aren't at all bad when you are used to them."

Fred paused abruptly, and looked half displeased; but it was only his own words turned against him, so he could not be offended.

"Thousands of women eat onions, Fred. You are altogether too particular. Your delicate sense of smell will have to be toned down a little."

There was the same roguish twinkle in Mollie's eye, and Fred could only laugh

foolishly, with a half-ashamed look on his face.

"I see, Mollie, what you're trying to do," said he; "but really this is only foolishness. You never heard of anybody in your station making a practice of eating such things."

"Oh, yes," answered Mollie, "it's going to be very womanly. After we women have been busy with our household duties, we need something to quiet our nerves."

Fred was thoroughly discomfited, but laughingly turned the subject as they sat down to dine.

After the meal was over, Mollie said, "Fred, if you are going to have a cigar before you go to the office, I'll keep you company, and let my dinner dishes wait."

"What!" cried Fred, "you can't smoke?"

"Oh, no, Fred; I don't like the smell of tobacco," and she came into the sitting-room with the other onion in her hand.

"Goodness!" exclaimed the victim, "You are n't going to eat that! Please don't! Really the room will hold the scent, and I asked Lawyer Pitman to step in and have a —"

"Oh! you asked him to come in and have a cigar? Well, glad you told me, Fred," said the tormentor, briskly; "I'll wait till he comes!"

"Now really, Mollie, this is too bad," cried poor Fred. "You would n't eat that before him! Why, he has a dreadful sensitive nose; he can't bear anything! Mollie, please don't come into the room; your breath is so scented he can't help smelling it."

"Well," said cruel Mollie, "he is another of your men with a delicate sense of smell. What is this world coming to? I'll tone you both down. It isn't right for you to have such sensitive noses!"

At that moment the door-bell rang, and Fred went to the door, with a last imploring look at Mollie, who, with a victorious little laugh, called after him, "I shall come in if I smell smoke."

Mollie felt confident that she had won the day, and went to her work with a happy heart.

She did not smell smoke. When the front door had closed after Mr. Pitman, she heard her husband's footsteps. He came into the room and said, "Mollie, before I go to my work, let's 'forgive and forget.' We'll have fair play after this. I've learned the lesson, 'What is sauce for the goose is sauce for the gander.'"

"That's it, Fred. You're a reasonable old fellow, after all," said Mollie. "I'll forgive you, if you will me."

"All right, little wife. No more cigars, no more onions," and he playfully placed his hand over his nose, as he kissed her good-by.

Mollie, woman-like, would have the last word, and called after him, "We'll soon get accustomed to it."—*L. E. B., in Woman's Journal.*

HISTORY OF THE ALPHABET.

How many of the millions that daily use the alphabet ever stop to think of its origin and long history? In the true spirit of a student, Isaac Taylor, a well-known English writer on philosophical and philological subjects, has recently written and published in London, two stout volumes under the title: "The Alphabet, an Account of the Origin and Development of Letters." It is only by help of recent discoveries of early inscriptions, and the progress in the art of reading lost languages and deciphering hitherto unknown symbols, that such a well-posted history has become possible. By careful study of the learned essays, and scientific investigations of the latest philologists, Taylor has set forth in language within easy comprehension the origin of the alphabet, showing that our own "Roman" letters may be followed back to their very beginning, some twenty or more centuries ago, as he asserts. We have no better letters, according to this account, than those of the Italian printers of the fifteenth century. These were imitated from the beautiful manuscripts of the tenth and eleventh centuries, the lettering of these being derived from the Roman of the Augustan age. The Roman letters, in turn, are traced to those employed at Rome in the third century B. C., and these do not differ greatly from forms used in the earliest existing specimens of Latin writing, dating from the fifth century B. C. This primitive alphabet of Rome was derived from a local form of the Greek alphabet, in use about the sixth century B. C., and that was a variety of the earliest Greek alphabet belonging to the eighth, or even to the ninth century B. C. The Greeks got their letters from the Phœnicians, and theirs are clearly traceable in the most ancient form of the Semitic.

The most ancient of books, a papyrus found at Thebes, and now preserved in the

French National Library, supplies the earliest forms of the letters used in the Semitic alphabet. The Stone Tables of the Law could have been possible to the Jews only because of their possession of an alphabet, and thus the Bible and modern philological science unite in ascribing a common origin to the alphabet, which is in daily use throughout the world. The nineteenth century B. C. is held by Taylor to be the approximate date of the origin of alphabetic writing, and from that time it grew by slow degrees; while from Egypt, the home of the Jews during their long captivity, the knowledge of the alphabet was carried in all directions where alphabets are now found.

The Arians are thought to have been the first to bring the primitive alphabet to perfection, and each letter and each sound may be traced, by Taylor's careful analysis, through all the changes that have marked the growth, progress, and, in some instances, the decay of different letters of various alphabets. It is an interesting fact that the oldest known "A B C" in existence is a child's alphabet, scratched on a little ink bottle of black ware, found in one of the oldest Greek settlements in Italy, attributed to the fifth century B. C. The earliest letters and many later ones are known only by inscriptions; and it is the rapid increase, by recent discoveries, of these precious fragments that has inspired more diligent research, and quickened the zeal of learned students in mastering the elements of knowledge of their origin and history throughout the world. As late as 1876, there were found in Cyprus some bronze plates inscribed with Phœnician characters, dating back to the tenth, even to the eleventh, century B. C. Each epoch has its fragments, and the industry of English explorers, the perseverance of German students, and the genius of French scholars have all contributed to group them in their chronological order. Coins, engraved gems, inscribed statues, and, last of all, the Siloam inscription, found in 1880 at Jerusalem on the wall of an old tunnel, have supplied new material for the history. From the common mother of many alphabets, the Phœnician, are descended the Greek and other European systems on the one side, including that which we use and have the greatest interest in; and on the other, the alphabets of Asia, from which have sprung those of the East, Syriac, Arabic, and Hebrew.—*Phil. Ledger.*

Popular Science.

—An "American Electrical Exhibition" is to be opened in Boston Nov. 24, and will continue till Jan. 3, 1885.

—Hoe, the inventor of the printing-press which bears his name, anticipates in the near future the invention of a photographic press, which will turn off 960,000 papers an hour.

—Leut. Schwatka, the Arctic explorer, proposes forming a company for stocking Alaska with cattle, as the Aleutian Islands and portions of the mainland contain very rich pasture land.

—Two scientists, C. Schmidt and A. Coblentz, have recently succeeded in isolating an unfermentable substance from the starch sugars of commerce, to which has been given the name *gallisin*.

—According to a paper recently read before the Academy of Science in Paris, a man during a lifetime of 50 years sleeps away 6,000 days, works away the same period, eats away 2,000, walks away 800, is ill 500 days, and amuses himself during the remainder of the half century.

—A turtle was found in a solid cake of ice last week at Cornwall, N. Y., carefully cut out, and laid in the sun for a few hours, when it showed signs of life, and was soon apparently none the worse for its ten months' congealed imprisonment.

—Mr. Edison predicts that within 50 years electricity will propel our street and elevated railroad cars, light our streets and buildings, be the general source of power for mechanical purposes, convey parcels, detect and signal fires and operate fire-engines, and possibly displace animal locomotion for vehicles.

—The camphor tree has recently been introduced into California, and promises well. It somewhat resembles the laurel. It grows well all along the coast, and one tree at Sacramento has already attained the height of thirty feet. It is easily propagated from seed or cuttings. Besides producing the well-known drug, the tree is valuable as timber.

—A new invention in telegraphy is just announced, which, in its way, is as wonderful as was the telephone less than ten years ago. In the well-known quadruplex system of telegraphy, four messages may be sent at once over one wire, two in each direction. By the new system, seventy-two messages may be sent at once over the same wire, all in one direction, or part one way and the rest the other.

—An electric railway is soon to unite the Hotel des Alpes at Chillon, Switzerland, with the Hotel de Mont Fleury, which is situated on the steep mountain-side directly above. A turbine will be used to drive the dynamo-electric machines, as the supply of available water is abundant.

—At the recent British Association for the Advancement of Science, Prof. W. H. Pierce stated that he had been fairly successful in telephoning by means of the cable between Dublin and Holyhead, a distance of over sixty miles. On over-ground wires he had had no difficulty in telephoning several hundred miles.

—According to *Engineering*, Dr. Hand Smith has for several years been engaged in studying the movement of colored particles within marble, ivory, and other dense substances; and the result is a process of developing paintings and designs below the surface of marble, thereby combining the two arts of painting and sculpture. Through the use of metallic oxides, worked in a special treatment, designs in every shade and tint are produced within the stone. It is a peculiarity of the method that every hue penetrates at right angles to the surface without spreading laterally. This process will be applicable to statuary, pottery, and mural tables of all kinds, as well as architectural decoration.

—The following is the relative normal weight of man in comparison with his height:—

5 feet and 1 inch should be 126 pounds.
5 feet and 2 inches should be 126 pounds.
5 feet and 3 inches should be 133 pounds.
5 feet and 4 inches should be 136 pounds.
5 feet and 5 inches should be 142 pounds.
5 feet and 6 inches should be 145 pounds.
5 feet and 7 inches should be 148 pounds.
5 feet and 8 inches should be 155 pounds.
5 feet and 9 inches should be 162 pounds.
5 feet and 10 inches should be 169 pounds.
5 feet and 11 inches should be 174 pounds.
6 feet should be 178 pounds.

A Water Clock.—An interpreter of the African Army has invented a clock which runs by water, and keeps excellent time, giving the days of the week and months as well as the time of day. It is set up in the Garden of the Tuilleries at Paris for exhibition.

Testing Milk.—It is said that good plaster-of-Paris made into a stiff paste with milk of specific gravity 1.030 at 15° C., "sets" in about ten hours. When the milk contains 25 per cent of water, the plaster sets in two hours; with 50 per cent, in about an hour and a half; with 75 per cent, in about forty minutes. Milk skimmed after standing twenty-four hours sets, under the above conditions, in about four hours; when adulterated with 50 per cent of water, in about an hour; and with 75 per cent, in about thirty minutes. This process is indorsed by high German authority, but it remains to fix by experiment the limits of its accuracy.



BATTLE CREEK, MICH., NOVEMBER, 1884.

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

TERMS, \$1.00 A YEAR.

VACCINATING FOR YELLOW FEVER.

ACCORDING to reports in the medical journals, a South American doctor claims to have discovered the contagious principle of yellow fever, and proposes to check the ravages of the disease by the same method first employed against small-pox. It is claimed that there have been more than two hundred successful inoculations.

Pasteur is busily engaged vaccinating for hydrophobia. When this vaccination business gets fully developed, it will become an immense industry. Every town will have its public vaccinators and vaccinatory, and it may become fashionable for people to spend a considerable portion of their early years in taking special courses in vaccination. When the thing gets well under way, it is barely possible that some old fogey will raise the query whether the remedies may not be as bad or worse than the diseases they are supposed to cure; but every scientific sanitarian will cry, "Put him out!" and if public sentiment is sufficiently advanced, he will probably be arrested as a nuisance and an enemy to public health, unless he mildly submits to allow his body to be infected with the virus of kine-pox, the attenuated germs of diphtheria, the *contagium vivum* of typhoid fever, and the modified poison of hydrophobia. Will such a day really come?

ACORN BREAD.

THE acorn has been utilized as food from time immemorial. The early Romans and hardy Grecians made use of it, and even

at the present day many barbarous tribes, and some civilized people, use it in very considerable quantities as a means of sustenance. The following description of the mode of preparing acorns for food, practiced by the Indians living in the foot-hills of the Sierras, recently appeared in the *San Francisco Chronicle* :—

Although they often indulge in the food of civilized nations, the acorn is still a favorite article of diet in every well-regulated wigwam. The process of converting this bitter nut into anything like palatable bread, is curious. Under the branches of a grand old pine I found them at work. They had shucked and ground in the usual manner a large mass of the acorn meats; a number of circular vats had been hollowed out of the black soil, much the shape of a punch-bowl. Into these was put the acorn pulp. At hand stood several large clothes-baskets filled with water, and into these they dropped hot stones, thus heating the water to the required temperature. Upon the mass of crushed bitterness they carefully ladled the hot water, making it about the color and consistency of thin cream. Not a speck appeared to mix. A buxom muhala stood by each vat, and with a small fir bough stirred the mass, skillfully removing any speck that floated upon the surface. The soil gradually absorbed the bitter waters, leaving a firm, white substance, of which they make bread.

I asked to taste of it, at which they said something in their language, and all laughed. I asked again, and after more

laughter I was handed a small particle upon a fig-leaf, and found it sweet and palatable. They began at once to remove it, and so adroitly was this done that but a small portion adhered to the soil. They spread it upon the rocks, and in a short time it was fit for use. This, I am told, they mix with water, pat into thin cakes, and bake before the fire.

THANKSGIVING FEASTING.

A WESTERN paper thus soliloquizes over a bye-gone thanksgiving-day as an admonition respecting those to come :—

“Thanksgiving! That long-looked-for and much-talked-of day has come and gone, and with it has come its multitude of evils, which, unlike the day itself, have not and will not so quickly pass away and be forgotten. Thanksgiving! What a mockery! Even the proclamation itself is deceptions. While the language used indicates a day for real thanks, yet it is distinctly understood that it shall be a day when the great masses of the people will fill, yea, overload, their systems with not only an enormous quantity, but a decidedly bad quality of stuff called food, whose ravages on the system cannot be duplicated by any wild beast. Thanksgiving! Harness it with its evils, and work them together. They are close companions, and should, and always do, go together. They are wheel-horses, with the numerous other festivals and social suppers as leaders; and, with alcoholic and other exciting and dangerous drinks placed up in the front seat as whippers and drivers, make a fast team. The road—how dreadful! The destination—how certain!

“I turn to the newspapers, and there find column after column of advertisements of vile and poisonous compounds, all ‘warranted to cure’ liver complaint, rheumatism, dyspepsia, heart fluttering, and the host of other ear-marks of riotous living. The rocks and fences by the roadside are painted over with these wonder-

ful ‘cures.’ I turn and look at the miserable wretches themselves—the army of people suffering with those evils, and swallowing great quantities of those compounds, in hopes of even a breath of relief. Turning again to the papers, I there read that Mr. John Jones died with ulcerated liver; that Mrs. Brown had fluttering of the heart; that Mr. Hobbs’s little child died with bowel complaint, congestion, or some other high-sounding malady. I read further, and come to the stereotyped resolutions which are drafted on such occasions: ‘Whereas: It has PLEASED an all-wise God to REMOVE from earth our brother John Jones, and our sister, Mrs. Brown, and’—well, I stop. It makes my head dizzy to think of the absurd and slanderous resolutions. Halt! Wake up and change cars, and see that your ticket is over the great Air Line Road to that much-neglected and entirely-depopulated city (Health) where festivals, social suppers, Thanksgivings, and gluttony generally are not allowed.”

Cholera in America.—That this country will have a visitation of the cholera plague next season, is considered by sanitarians of most experience as inevitable. A meeting for the consideration of special means of preparation and prevention has been called to convene in Washington at an early date. Whatever theory of the disease is adopted, all practical sanitarians agree that filth is one of the most potent predisposing causes of an epidemic of this disease. This being true, it is obviously the duty of every householder to look carefully after the condition of his premises at once, not waiting for the winter snows to cover up heaps of garbage, and many other accumulations of filth; but putting his house and his premises in good order from a sanitary standpoint, so that when the cholera germ alights upon our shores next spring, he may find no congenial habitat, and with chagrin and disappointment be compelled to seek another and a dirtier home.

English Vegetarianism.—There is no disguising the fact that vegetarianism is very largely on the increase in England, chiefly, without doubt, through the influence of the English Vegetarian Society. The establishment of vegetarian restaurants, several of which have been remarkably successful, has undoubtedly contributed largely to this result.

"A vegetarian doctor reports to the *British Medical Journal* the result of his year's experience without meat. At first he found the vegetables insipid, and had to use sauces and pickles to get them down. As soon as he became accustomed to the diet, all condiments were set aside except a little salt. The desire for tobacco and alcohol left him spontaneously. Then all his digestive functions became regular, and he found himself wholly free from headaches and bilious attacks. After three months a troublesome rheumatism left him, and at the end of a year he had gained eight pounds in weight. He believes he can do more mental labor than before, and that all his senses are more acute."

A Shrewd Method of Adulteration.—According to the *Cleveland Leader*, the manufacturers of glucose are adopting most ingenious devices for crowding their unwholesome goods upon the market. It has long been known that the "Vermont Maple Sugar" shown in all the grocery windows in early spring is sold in quantities which far exceed the entire production of the State. Here is how the wily compounders of corn sugar and flavoring materials manage to palm off their abominable mixture upon the unwary and uninformed consumer:—

"There are factories where bogus maple syrup is put up in a way that is calculated to deceive any one. The great demand for syrup early in the season has led to the manufacture—from glucose, licorice, and old maple sugar—of an article that is fair in appearance, but bad in taste, and deleterious in its effects upon the system. These

factories put their products up in gallon jugs generally, as that appears more country-like. They obtain from the nearest elevator a supply of corn-cobs, and put one in each jug. The work of deception is completed by scattering grass seed upon the jug, and obtaining a farm rig and a fellow in the garb of a farmer to peddle the product throughout the city. When people buy in this way, they are certain that what they are getting is good and country-made."

Danger in Flower-Pots.—Prof. Crudelli, the eminent Italian physician who has made such extensive investigations into the nature of malaria, claims that the keeping of flower-pots containing plants, in a close room is a very dangerous practice. The earth in such pots is filled with decomposing or decomposable matter; and when wet, as it usually is, the case affords a favorable soil for the development of malarial germs. The danger is, of course, greatest in a close, warm room. If the room is kept at a moderate temperature, and is well ventilated, it is not likely that any danger will ensue.

It ought to be suggested in this connection, however, that the practice of allowing flowers to remain in a room in vases until withered, or until decomposition begins, is highly imprudent. The water in such a vase is found to be swarming with microscopic organisms.

Yellow-Fever Germs.—A Brazilian physician has been investigating the condition of the soil in the vicinity of graves containing the bodies of yellow-fever victims, and finds it swarming with germs identical in character with those found in the blood and the discharges of patients suffering with this malady. This is undoubtedly one of the means by which the disease is perpetuated. It is conceivable that typhoid and other specific fevers may be propagated in the same way. Cremation of persons dying of such diseases is the plan suggested by the medical gentle-

man referred to ; but thorough disinfection, and filling the coffin with some absorbent material saturated with powerful disinfectants, would answer the same purpose. This plan we adopted some time since in a case of malignant specific disease, packing the body in sawdust saturated with a strong solution of sulphate of zinc, and then inclosing the coffin in a large box, and surrounding it with sawdust treated in the same way.

Poison of Moldy Bread.—Everybody appreciates the disagreeable character of bread or other food which has become moldy, but all do not know that such food is poisonous. The London *Sanitary Record* recently gave an account of a case in which a restaurant keeper, his family, the cook, and two other persons were made violently ill by eating a bread pudding made of scraps of bread which had been accumulating for two or three weeks, and some of which had become moldy. Two of the persons died. Analysis showed no trace of any other poison than that produced by the growth of the fungi.

A Generous Family.—On the authority of the Madrid *Estafette*, the *Scientific American* states that a Spanish gentleman, Senor Lucas Nequeiras Saez, who emigrated from his native land to America seventy years ago, recently returned to Spain in a steamer of his own, and brought with him the whole of his family, which consists of no fewer than 197 souls, sons-in-law and daughters-in-law not included. Senor Saez has been three times married. His first wife had 11 children at 7 births, his second had 19 children at 13 births, and his third had 7 children at 6 births. The youngest of this family of 37 is aged nineteen ; the eldest, who is seventy, has 17 children, of whom the first born is forty-seven. Of Senor Saez's 23 sons, all of whom are living, 13 are married, 6 are unmarried, and four are widowers ; and of his surviving daughters, 9 are married. The granddaughters number 34, and of

these 22 are married, 9 are unmarried, and 3 are widows ; and of the 45 grandsons, 23 are married, 17 are unmarried, and 4 are widowers. There are also 45 great-granddaughters, and 39 great-grandsons, of whom three are married.

Senor Saez has never tasted wine or any alcoholic liquor, and lives chiefly upon a vegetable diet, with but little salt. In spite of his ninety-three years, he is still hale and hearty, and makes a point of walking briskly for at least three hours every day.

The above item seems to be sufficient to satisfactorily meet the statement made by opponents of vegetarianism that meat is necessary for fecundity.

Brain and Teeth.—French physicians are agitating a theory respecting the teeth, which certainly possesses the advantage of novelty. It is claimed by a Dr. Chantpionniere that overwork of the brain causes decay of the teeth by excessive consumption of the phosphates. There is some plausibility in the idea ; but a little consideration of the subject suggests that this tendency may be readily checked by an increase in the proportion of food rich in phosphates, such as oatmeal, cracked wheat, peas, beans, etc. It is suggested that the teeth of school children should be carefully watched, and any evidence of decay should be considered evidence of too much brain work, and need of a vacation. We would add to the suggestion the recommendation that the dietary be looked after also.

Oleomargarine.—Notwithstanding the stringent laws against the sale of bogus butter, the traffic still continues, and appears to be on the increase. According to the *N. Y. Times*, there were 40,000,000 lbs. of the stuff sold in New York last year. The methods of manufacture are now so perfected that even an expert is not always able to distinguish between the pure and the spurious or adulterated article. About the only safe course to pursue is to

eschew butter altogether as an article of food, substituting cream. Butter is much more easily digested if taken before it has been churned than afterward.

Cholera in Naples.—After an apparent subsidence of the plague, causing the most earnest rejoicing, in which both the king and the pope claimed chief honors, one for his disinfections and quarantines, the other for his special masses, the cholera has broken out afresh in the dirtiest city in all Christendom. According to the authorities, the cause is the relaxation of the order for closing saloons and public houses on Thursday, the weekly feast-day. That the use of alcohol is a cordial invitation to this devastating plague, is no longer a question of dispute.

Honey Adulteration.—An eminent English authority on food adulteration has just discovered that glucose is used as an adulterant for honey. American bees could have testified to this fact long ago; and if placed upon the stand, some of them would have asserted that the honey made by them was all adulterant, and no genuine, the comb itself being furnished to them ready made of paraffine, and the glucose syrup placed handy by, ready for transfer to the artificial comb.

An English Dean on Tea-Drinking.—According to the *London Telegram*, the Dean of Bangor has been saying some hard things about tea-drinking. He laments the substitution of tea for milk and oatmeal porridge, and other wholesome foods, and remarks:—

“This bad housewifery is not only productive of possible revolution, but of lamentable immorality. Excessive tea-drinking, renewed thrice a day, and other forms of bad feeding, make both men and women feel weak. What is the result? You will remember that when Mrs. Brown, on her way to Brighton, felt again and again what she called ‘a sinking,’ she had

perpetual recourse to a certain bottle, which in the long run did her no good, but made her sink more. A badly-fed population, suffering from the effects of poor housewifery, must be subject to the sense of ‘sinking.’ Thus the tea-kettle goes before the gin bottle, and the physical weakness and nervous irritability that had their origin in the bad cookery of an ignorant, thriftless house, end in the ruin of intemperance and deadly disease.”

New Test for Lead.—Obtain at the druggist's a one-per-cent solution of cochineal in proof spirit. Put two tablespoonfuls of the water to be tested in a white dish. Add ten drops of the solution. If the water is pure, it will have a faint pink color; but if lead be present, the water will assume a purplish pink hue. This will occur if there is even so little as one seven hundred thousandth part of lead present. If the lead amounts to one seventy thousandth part, the water will become a purplish blue color on the addition of the cochineal solution.

Oatmeal and Brains.—It has been observed that the evils resulting from excessive brain work are conspicuous by their absence in the public schools of Scotland, although the standard is quite as high as in English schools. The *Glasgow Herald* attributes the fact to the superior qualities of oatmeal as a brain and nerve food.

Perilous Eggs.—The so-called “serpent's eggs,” which are sold in the toy shops, are exceedingly poisonous, and hence dangerous. If one were swallowed by a child, death would certainly occur in a few minutes. Their sale should be prohibited by law.

Medical Erudition.—At a London examination a student explained a common morbid condition thus: “Bleeding from the nose is neither *artillery* nor *venus*, but *caterpillary*.”

The Grit Cure.—According to an exchange, a *restaurateur* who had contracted dyspepsia by his gluttony conceived the idea that chickens and other fowls escaped dyspepsia, notwithstanding their miscellaneous diet, by means of the large quantities of sand, gravel, plaster, etc., which they consume. He accordingly resolved to imitate them, and, as the reporter goes on to say, “used marble-dust instead of salt on his beefsteak, and filled his pepper-box with sea sand. Receiving so much benefit from these kinds of grit, he proceeded to swallow gravel and pieces of plastering. In a few months he was entirely cured. He can now eat as much as an ostrich, and never suffers on account of the kind or amount of the food he consumes. He is thankful that he went to the chicken and considered her ways, and recommends the gravel remedy to all who are suffering from indigestion.”

The remedy certainly possesses the merit of cheapness, as sand is abundant everywhere; and compared with the average dyspepsia-curing nostrum advertised in the newspapers and on every fence and large rock by the wayside, it may be regarded as harmless, although we should be loth to recommend the average dyspeptic's stomach to undertake a diet of small rocks and brickbats.

Angle-Worm Diet.—The cook of the Buffalo Ichthyophagous Club cooks and eats angle-worms, and pretends to think them delicious. Why not? A fried worm could not be more repulsive to an unperverted taste than a *live* oyster, which people who would retch at sight of an angle-worm stew, will swallow without qualms of either stomach or conscience. We admire consistency. Let us eat worms and snails along with their congeners, shrimps, oysters, turtles, and frogs, or eschew reptiles and vermin altogether. A man who was compelled to live upon a diet of worms would consider himself badly treated. The man who will voluntarily turn away from luscious fruits and wholesome grains

to feed on mollusks, must have a sadly perverted taste.

A New Source of Scarlet Fever Contagion.—A Camden newspaper reports that scarlet fever has become an epidemic in a neighboring town, through a very remarkable means. It seems that a quantity of ice which had been used in packing the body of a person who had died of the disease, was left where it could be gotten at by children; and being eaten by them, communicated the disease.

A Family of Tape-Worms.—A woman, a native of Russia, was recently under treatment at St. Petersburg for tape-worm. After the use of the proper remedies, three tape-worms were expelled, measuring eight, twenty-one, and twenty-eight feet respectively. Two were from beef, the other from pork.

According to Prof. E. K. Brandt, of St. Petersburg, twenty-five per cent of the hogs killed in that city are infested by measles, the embryo of the tape-worm. The wonder is that the woman had so few of the parasites in her alimentary canal, as she is said to have lived chiefly on ham.

Foot and Mouth Disease in Human Beings.—The *Live Stock Journal* gives a case of a man who has contracted foot and mouth disease from a cow by inoculation while giving the animal a drink. The *British Medical Journal* calls attention to the fact that extensive epidemics of sore mouth and throat have been traced to the use of milk from cows suffering with this disease.

A Baker in Trouble.—A Boston baker has been arrested and imprisoned for adulterating his bread with alum, so as to enable him to make good-looking loaves out of poor flour. Thirty-five grains of alum were found in a single loaf. He has been retired from business for a month. It is to be hoped that all other bakers will take warning, and hereafter make their bread with the alum left out.

A New Poison in Clothing.—A German journal, devoted to textile industries, calls attention to the fact that cotton yarns dyed with aniline colors are very likely to contain poisonous quantities of antimony, some of which is dissolved out by water or the perspiration, so that it may become a source of serious mischief. It would seem that antimony has been substituted for arsenic, which was used in the same way a few years ago.

Death from Drinking Carbonic Acid Water.—A man died some time since from taking a dose of carbonate of soda and tartaric acid. The carbonic acid evolved in his stomach, caused it to rupture. The same result was produced by another case more recently, by drinking rapidly the contents of a bottle of carbonated water.

The Dance of Death.—A young Polish girl danced herself to death in a hotel in Baltimore a short time ago. After dancing several hours, she was seized with convulsions, and died. Thousands sow the seeds of death in the same way, although the harvest is usually postponed a few months or years.

Epidemic among Fish.—Even the finny tribes are not exempt from causes of disease, sometimes very widespread and wholesale in their effects. Many tons of dead fish have been washed upon the shores of a lake near Madison, Wis., at intervals during the past summer. The number was so great that the health authorities found it necessary to bury them to prevent injury to the inhabitants.

Balloon Traveling.—A Frenchman has devised a plan by which a balloon may be steered against the wind with ease. In a recent ascension the apparatus operated satisfactorily.

—St. Petersburg, a city with a million inhabitants, is without sewers. The death rate is 35 per 1000.

Common Sense.—How is it that an article so rarely found has acquired the title of "common sense"? When I see boys of all ages from eight to eighty puffing their cigarettes, cigars, or tobacco-pipes, I am ready to decide that they are destitute of common sense; but the fact that it is so common is what staggers me.

R. F. C.



—Gum-drops are likely to be high this winter. El Mahdi, the Egyptian false prophet, infests Khartoum, the world's market for gum arabic, and the price has gone up from 8 cts. per lb. to 20 cts., and is likely to go to 50 cts., which price it is hoped may be maintained, if thereby the digestive ability of the country may be economized.

—Notwithstanding the great confidence which the profession has long reposed in phosphorus as a remedy for various brain and nerve disorders, a recent writer in the *British Medical Journal* asserts that it is "an overrated remedy, uncertain, dangerous," and basing its reputation on ambiguous evidence. He wishes to see it deprived of official sanction.

—A Kansas lady was recently fatally poisoned by wearing a green veil, which came in contact with a sore on her face. The veil was colored with arsenic. Green colors should be carefully avoided in clothing and wall papers, unless known to be free from arsenic.

—Two smokers were arrested the other day in New York for smoking in a street car. It is well for the public to know that they have rights which will be enforced by the law if they insist upon it.

—Artesian water, usually supposed to be exceptionally pure, is often so impregnated with impurities from deep mineral strata as to be absolutely poisonous. It should always be examined before it is used.


 DOMESTIC MEDICINE.
 
KEEP WARM.

A LARGE share of the cases of illness which usually occur at this season of the year, result from exposure to cold through improper clothing. Keeping warm is one of the most efficient means of preventing a hundred maladies which are in themselves trifling, but which may, by depressing the vital activities of the body, lead to something much more serious. Colds, sore throats, attacks of neuralgia, ear-ache, facial neuralgia, and other similar diseases not absolutely dangerous to life, but exceedingly inconvenient, and, when often repeated, causes of serious impairment of health, may, by properly caring for the body and avoiding exposure and sudden chilling, be almost always prevented. At this season of the year every person should wear thick woolen underclothing. Persons whose circulation is habitually poor may need to wear two suits of woolen underclothing; and most persons will find a decided advantage in putting on an extra suit whenever they are to undergo any unusual exposure to cold, as in riding in an open carriage or sleigh during cold weather. A suit of tightly-fitting woolen underclothing protects the body nearly as much as an overcoat, and is much less expensive.

Another suggestion of value to persons who have difficulty in keeping warm in cold weather, or take cold easily, is the frequent employment of the saline sponge-bath, which consists in sponging the whole body with water containing a tablespoonful of salt to the quart. The salt-bath has the effect to stimulate the blood in the surface of the body, and may be followed with advantage by thorough oiling of the whole surface. Either olive or cocoanut oil may be employed. When fresh and sweet, the latter is to be preferred. A traveler who had undergone much exposure to cold in severe latitudes, once asserted that a layer of oil over the surface of the body was as good protection from cold as an extra overcoat. Dyspeptics and other invalids who usually have dry skins through deficient circulation, will find great advantage in the employment of the oil-bath during the cold months of the year.

Persons who take cold easily, especially those suffering from nasal catarrh and rheumatism,

may also use the oil-bath with especial advantage.

The importance of keeping the feet warm and dry cannot be overestimated. Whenever the walks are moist, as they almost always are in the fall and spring, and much of the time in winter, the feet should be protected by rubbers or overshoes when out of doors. This extra foot-covering should of course be worn only when out of doors. If worn all the time, the feet are made to perspire, and are more liable to be cold than if not protected at all. Keeping the feet warm at night is also essential to health. Persons who have great difficulty in keeping the feet warm during the daytime, usually suffer in the same way at night. Such persons should protect the feet by warm woolen stockings, two or three pairs, if necessary. If the feet cannot be kept warm without, a bottle filled with hot water may be resorted to; but artificial heat is to be avoided when the feet can be kept warm by other means.

NOSEBLEED—EPISTAXIS.

SYMPTOMS.—Stoppage of the nose; sensation of pressure in the lower part of the forehead just above the nose; blood flowing from one or both nostrils; sometimes the blood is conveyed into the throat and expectorated, instead of proceeding from the nostrils.

Cause.—Hemorrhage from the mucous membrane of the nose is a very frequent result of chronic catarrh, in which there is sometimes more or less congestion of the mucous membrane. It also frequently accompanies polypus, especially when ulcers are present. These hemorrhages are of trivial importance, however, and usually stop in a short time of themselves. The most serious cases are those in which there is a morbid tendency to hemorrhage, particularly in persons suffering with hemorrhagic diathesis. The hemorrhage may be excited by some violence, as a blow upon the nose, picking the nose, or thrusting something into it. In persons who have a predisposition to hemorrhage, it may result from eating a hearty meal, drinking tea and coffee or other hot drinks, making violent efforts of any kind, as in running, laughing, or holding the breath. In some persons, hemorrhage from

the nose is so easily excited that it is of very frequent occurrence, and is a source of great detriment to the health, and may even shorten life. As a general rule, hemorrhage from the nose becomes more obstinate as it is more prolonged; and although the bleeding is not profuse, the patient may suffer great injury on account of the long-continued drain upon the system.

Treatment.—Set the patient upright. Do not allow him to bend forward over a basin of water or anything of the sort. Place to the nose a dry linen handkerchief, pressing the corner of it as far as possible into the nostril from which the blood flows, holding it in place so as to allow a clot to form and close up the bleeding vessels. In the meantime, the patient's arms may be raised above his head, a procedure which will of itself often produce an immediate cessation of bleeding. If the bleeding still continues, throw into the nose with a syringe a strong solution of alum. Tannin and vinegar may be used in the same way. Application of ice to



the neck is a very good measure, but bathing the face, and snuffing cold water into the nose, are measures which rarely accomplish any good. A great amount of good may be done by sponging the face with very hot water, and snuffing into the nostrils a solution of chlorate of potash, ten grains to the ounce, as hot as can be borne. Hot water itself has a powerful effect to stop hemorrhage, especially when it comes in contact with the fine blood-vessels in the mucous membrane. In extreme cases, the extremities may be ligated so as to withdraw a considerable quantity of blood from the circulation. Care should be taken to warm the extremities, so as to relieve the pressure of blood in the head as much as possible. Some good may be derived from plugging the nostrils with cotton-wool or soft, dry muslin. In the worst cases, however, it becomes necessary to plug the posterior passages from the nose, known as the posterior

nares. The best way to do this is quite well shown in the cut on this page. A strong cord is passed through the nose by means of a gum elastic catheter or something of the kind, and the end is drawn out of the mouth. A plug of muslin or cotton-wool is attached to the cord, and the other end protruding from the nose is pulled upon with sufficient force to bring the plug snugly into place behind the soft palate. This measure rarely fails to accomplish the object for which it is employed. The plug should not be left in place more than forty-eight hours, and a string should be attached to it before it is drawn into position, in order to withdraw it, as it must be removed by drawing back through the mouth.

THE COMPRESS.

The compress is a wet cloth, or bandage, applied to a part. The object may be to cool the part under treatment, or to retain heat. The compress may be used with equal success for either purpose. When the part is to be cooled, a compress composed of several folds should be wet in cool, cold, or iced water, as required, and placed upon the part after being wrung so it will not drip. It should be changed as often as *every five minutes*. This is often neglected, to the injury of the patient. A very cold compress may be prepared by placing snow or pounded ice between the folds of the compress. This will not need renewal

so frequently; but its effects must be carefully watched, as injury may be done by neglect. In applying cold to such delicate parts as the eye, a very thin compress is better. It should be renewed once in five minutes, at least.

When moist warmth is required, a thick compress is applied, being wrung out of tepid water, and covered with a dry cloth to exclude the air. Soft, dry flannel is an excellent covering. Rubber or oiled silk may be employed when the compress is not to be retained more than a few hours; but if it is to be worn continuously, they will be injurious, as they are impervious to air, and thus interfere with the function of the skin. The effects of a compress thus applied are identical with those of the poultice, and the application is a much more cleanly one.

Compresses are applicable in all cases in which poultices are commonly used. They may replace the old-fashioned plasters with profit and

comfort to the wearer. The wet-sheet pack, half pack, chest pack and wrapper, leg pack, and wet girdle are all large compresses.

When applied continuously in the same place for a long time, the compress occasions a considerable eruption of the skin, and sometimes boils and carbuncles. There is no particular advantage in these eruptions, and they sometimes do much harm by producing a great degree of general irritation. The notion that they purify the system, though a very popular one, has really very slight foundation. The discharge is largely made up of elements which would be of great utility if retained in the system, and the amount of foul matter eliminated in this way is certainly infinitesimal compared with the amount thrown off by a few inches of healthy skin. The skin can always do more and better work when healthy than when diseased. The eruptions are no doubt due to debility of the skin, produced by a too long continuance of the very abnormal conditions supplied by the compress. Yet, strange as it may appear, there are those claiming to be physicians who directly aim to produce inflamed and irritated surfaces by the continuation of the compress for months and even years.

The *wet head cap* is a compress made to fit the head. It should consist of several thicknesses of cotton or linen cloth, so as to retain moisture for some time. It is a good temporary appliance in diseases of the scalp, and for headache; but it should never be worn continuously for the purpose of relieving congestion, as it will have an effect just the opposite of that desired. In eczema of the scalp it may be worn until the disease is cured, being frequently re-wet. It is an excellent means of preventing sun-stroke and other effects of heat when worn beneath the hat in summer; but even for this purpose its use should be temporary, the cap being worn only during the hotter portion of the day.

Poultices.—The following excellent remarks on a practical subject are from an article by an "Old Practitioner" in *Chambers's Journal*:—

"There are few remedies in the pharmacopoeia of wider beneficial application in surgery and medicine than this; yet terrible mischief often follows its injudicious use. A man has a cough, or his child wheezes with a 'tightness of the chest,' and on goes a poultice straightway. So far, so good; in all probability they wake up next morning greatly relieved. But the father is off to his daily business, and the child runs about and plays as usual, while—since they feel so much better—neither takes any precaution,

by extra clothing or otherwise, to guard against the consequences of the poultice itself. The skin and subjacent tissues have been rendered lax by the heat and moisture, the blood-vessels are dilated, and the circulation of the part increased; to use a common expression, the 'pores' are open, and there is thus a tenfold liability to catch cold, especially in winter-time, when these things most frequently happen. Ordinary colds which are said to have 'run' into congestion of the lungs, bronchitis, or pneumonia, may often be traced to their serious or fatal termination through the *undefended* use of a poultice.

"It should be borne in mind that a common poultice, such as is made of linseed meal or bread, is merely a vehicle for the application of damp heat,—a continuous fomentation, in fact,—and has no specific curative action. A muslin bag filled with bran, or flannels dipped in hot water, have precisely the same effect, but are not so conveniently employed, as they have to be more frequently renewed. A poultice should always be thoroughly mixed, and homogeneous in consistence throughout; just so wet as to permit of its retaining the mold of the cup when turned out, but not wet enough to exude water by its own weight when lightly applied. A *hot* poultice should never be allowed to remain on after its outer part is less than the temperature of the blood, nor must it get dry and caked. As a general rule, it may be said that bread makes a better cataplasm than linseed meal, but requires to be changed oftener. There are, of course, special medical reasons in occasional cases for the preference of one or the other, but such instances scarcely come within the scope of this article. Well-mashed carrots make a capital soothing application, and a poultice composed of tea-leaves is, owing to its slight astringent action, generally suitable when one is required about the region of the eye. An abominable mixture of soap and sugar is very popular, and is credited with great 'drawing' properties."

Pitting in Small-Pox.—It is asserted on good authority that the use of iodoform will prevent pitting in small-pox. The powder should be sprinkled on the pustules during the stage of suppuration. The following ointment is also highly recommended for the same purpose:—

Carbolic acid,	5 parts
Olive oil,	40 "
Prepared Chalk,	60 "

Starch may be substituted for the chalk, using 40 instead of 60 parts; or thymol, linseed oil, and chalk may be used in the same proportions

Question Box.

The following questions, among numerous others, have been received:—

Decayed Teeth.—Are crumbling or decaying teeth the effect of defective nutrition?

Ans. Yes. A person suffering in this way should visit a dentist, and have the teeth carefully examined. If no fault in them is discoverable, it is probable that the difficulty arises from imperfect digestion, as the result of which the elements of food which go to nourish the bony structures of the teeth are not prepared so as to be usable.

Broken-Down Constitution.—Can a man whose constitution is broken down at the age of thirty-five by nervous dyspepsia, become well and sound again by adhering closely to the laws of hygiene?

Ans. No. A person whose constitution has once been thoroughly broken by any chronic disease, cannot expect to become perfectly sound and well again. He may enjoy excellent health with proper care, but will not be able to endure hardships or irregularities as before.

Scrofula.—What is scrofula? What is its cause? Can it be cured, and how?

Ans. Scrofula is not, as formerly supposed, a blood disease, or impure humor in the body; but rather a condition of deficient vitality, or feeble resisting force against the causes of disease. By beginning a proper regimen sufficiently early in life, this morbid condition can usually be substantially removed. A person who has inherited a scrofulous constitution, should, from earliest infancy, be afforded the conditions most favorable for health in every respect.

Hot Water in Catarrh.—Is the use of hot water to be recommended in nasal catarrh? If so, what is the best manner of using it?

Ans. The questioner is referred to our articles on the subject of catarrh in the early numbers of the present volume.

Sore Mouth.—A person who has been troubled with what he terms "a canker-sore mouth" from childhood, wishes to know if it can be cured, and if so, by what means.

Ans. This affection is usually the result of disorders of digestion. The first thing to be done is to correct the digestion by attention to diet. Most cases will be benefited by taking a couple of glasses of hot water one hour before each meal. The mouth should be rinsed with cold water several times a day, and afterward with a saturated solution of chlorate of potash.

If this does not effect a cure in a short time, the spots should be touched with a strong solution of nitrate of silver, applied by means of a little cotton wound around the end of a toothpick, or a camel's-hair brush.

Ripening Process in Fruit—Cooking Fruit.

—A correspondent asks the following questions: Does the ripening process in fruit render the starch in it soluble, similar to the result obtained by cooking the starch in grains and vegetables? What benefit is derived by cooking ripe fruit, in the way of making it more digestible?

Ans. 1. The process of ripening in fruit converts the starch into dextrine, sugar, acids, etc., and this prepares it for the digestive process in a manner similar to the action of heat in cooking.

2. The heat to which fruit is subjected in cooking renders soluble the substances which hold the tissues of the fruit together, thus disintegrating it completely, and bringing it into a condition in which it is readily accessible to the digestive juices.

Quinine.—To what does quinine owe its popularity, and what are its effects upon the system?

Ans. This drug owes its very great popularity to the fact of its power to interrupt the paroxysms of most forms of malarial disease. When used in moderate quantities, its effects upon the system are by no means so serious as has been generally supposed; but if excessively large doses are used continuously for a great length of time, it may produce very serious effects. It does not, however, as many people suppose, accumulate in the bones, being a vegetable substance and quickly eliminated.

Acid Dyspepsia.—What fruits and vegetables, if any, are best adapted to a person who has acidity of the stomach?

Ans. As a rule, vegetables should be discarded by persons who are much troubled with acidity of the stomach. The same is true of most fruits, when eaten either raw or as they are generally cooked. Fruits cooked without sugar, especially sweet, or sub-acid fruits, may usually be taken, however, without difficulty, if no vegetables are eaten at the same time.

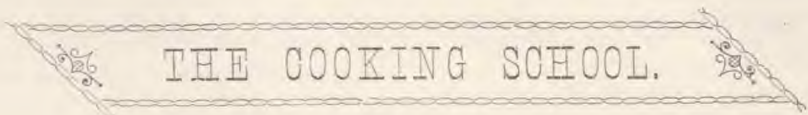
Food Value of Oats.—1. Are the salts and albumen in oats, like the salts and gluten in wheat, found principally near the outer part of the grain?

2. Are any of them lost in the grain as it is prepared for food?

Ans. 1. Yes. 2. No.

Poison in Food.—Do all vegetables and grains contain poison in their natural state?

Ans. No.


 THE COOKING SCHOOL.

Conducted by MRS. E. E. KELLOGG.

NOURISHING DISHES FOR THE SICK.

THERE is no branch of the culinary art that requires more skill than that of preparing food for the sick and feeble. The purpose of food at all times is to supply material for repairing the waste that is constantly going on in the vital economy; and hence it ought always to be chosen with reference to its physiological value. But during illness and convalescence, when the waste is often much greater and the vital powers less active, there is far greater need that food should be of such a character as will supply the proper nutrition. Nor is this all; an article of food may contain all the elements of nutrition in such proportion as to render it the most wholesome food for those in health, and yet not be a proper food for the sick; for the reason that its conversion into blood and tissue lays too great a tax on the digestive organs. Food for the sick should be *palatable, nutritious, and easily assimilated*. To discriminate as to what food will supply these requisites, one must possess some knowledge of dietetics and physiology, as well as of the nature of the illness with which the patient is suffering; and such a knowledge ought to be part of the education of every woman, no matter to what class in society she belongs. There are no special dishes suitable alike for all cases. Buttered toast and tea, rich jellies, and other dainties so commonly served to the sick, are usually by far the very worst articles of diet of which they could partake. As a general rule, no elaborate dishes are required, a daintily-broiled steak or fowl, a well-cooked gruel, a glass of milk, or some harmless, refreshing drink are far more serviceable than foods that combine a greater variety of ingredients, and require more extensive preparation. The simplest foods are always the best, because the most readily assimilated.

Scrupulous neatness and care in all the minute particulars of the cooking and serving of foods for invalids, will add much to its palatableness. The clean napkin on the tray, the bright silver and tiny china plate, with perhaps a sprig of leaves and flowers beside it, on which is laid the thinly-sliced, nicely-browned toast; and the light cup, partly filled with hot gruel, is far more appetizing to the invalid than coarse ware, thickly-cut bread, and an overflowing cup of gruel, though it may be just as well cooked. Anything that suggests excess or weight fatigues the sick. Milk served in a bowl, water in a mug, beef-tea in a saucer, though but seemingly trivial things, are often sufficient to remove all desire for partaking of them.

Although there are no articles of diet especially adapted to all invalids, there are foods

suitable in general to certain classes of cases, recipes for some of which we give below, together with suggestions as to cases in which they may be found useful, though, of course, like all rules, there will be exceptions, against which proper discrimination must be used.

Beef Tea.—Take a pound of fresh beef from which all fat, bones, and sinews have been carefully removed, and cut into pieces a quarter of an inch square, or grind in a sausage-cutter. Add a quart of cold water, and put into a clean sauce-pan. Place the sauce-pan over the fire, and bring just to the boiling point, carefully skimming it before it boils, to remove all scum. Allow it to simmer *very slowly* for two or three hours, or until the water has been reduced one-half. Strain and put away to cool. Before using, remove all fat from the surface. In reheating, a good way is to place a quantity in a cup, and set the cup into hot water until the tea is sufficiently hot. This prevents any waste of the tea; and if the patient is not at once ready for it, it can be kept hot and ready at a moment's notice. In making the tea, the beef and cold water may be placed in a glass can, and the can set in a vessel of water to boil. This method requires less watching and care to prepare, but a much longer time for cooking.

Beef teas are by no means so useful as foods as is generally supposed. They are chiefly serviceable in cases in which little nourishment is required, and should not be relied upon for any length of time.

Chicken Broth.—Take a well-dressed, plump, spring chicken, cut into small pieces, add cold water, and prepare the same as beef tea. Allow the broth to cool before using, and carefully skim off all particles of fat before reheating.

It is useful chiefly as an appetizer.

Beef Extract.—Take a pound of lean beef, cut it up into small dice, and put it into a glass fruit-can. Screw on the cover tightly, and put the can into a sauce-pan of cold water, and set over a slow fire. As soon as the water boils, set the sauce-pan in some place on the range where the water will keep just boiling, but no more; and as the water evaporates, fill the sauce-pan with *boiling* water. Allow the meat to cook thus four or five hours, by which time it will have discharged all its juice. Turn the liquor off, strain through a piece of muslin, and let it cool; then if any fat has been left upon the meat, it will harden on the top, and can be removed. When needed for use, reheat and serve.

This preparation is much more nourishing than the beef extracts sold at the drug-stores, and far superior to beef tea. It is useful in

cases of extreme exhaustion from loss of blood, or long-continued and severe illness. Sometimes it may be used to excellent advantage in the summer diarrhea of infants.

Scraped Steak.—Take a small piece of nice, juicy steak, and with a blunt case-knife scrape off all the pulp, being careful to get none of the fibers. Press the pulp lightly together in the form of patties or slices of sausage, and broil quickly over glowing coals. Salt lightly when done, and serve hot. It is better to be served as rare as the patient can take it. Instead of butter, turn a spoonful or two of thick, hot beef extract over the steak, if any dressing other than salt is required.

This is useful in some cases in which the digestive organs refuse to digest starchy foods.

Steamed Eggs.—A very nice and convenient way to cook an egg for an invalid is to break it into a small vegetable-dish, or sauce-dish, or patty-pan, salt very lightly, and place in a steamer over a kettle of boiling water until the white has just set. In this way it will retain its shape perfectly, and not be mixed with the few drops of water so annoying to invalids, and so hard to get rid of in dishing a poached egg from water.

This preparation is useful in cases of acid dyspepsia, and when concentrated nourishment is required.

Diabetic Bread.—Make a dough of equal parts of Graham or whole-wheat flour and water. Let it stand three hours, then place on a sieve under a stream of water until all the starch has been washed out of the dough, which will be indicated by the water running off clear. Add coarse middlings so that the dough can be rolled into thin cakes, and bake. Salt and a little cream may be added if desired.

This is equally good for acid dyspeptics who cannot digest ordinary bread.

Rice for the Sick.—Place a half-cup of well-washed, well-picked rice in a china dish, add a cup and a half of milk, and a cup and a half of water. Let the rice soak for an hour. Then place all in a steamer over boiling water, and steam till the grains are perfectly tender. Stir the rice once or twice for the first fifteen minutes after placing the dish in the steamer, after which, do not touch it until it is done. Cooked in this way, each grain will be whole and perfect.

Wheat Crisps.—Mix Graham flour and cold water into a *very* stiff dough. Knead very thoroughly, or beat with a mallet, for at least three-fourths of an hour. Roll thin, about the thickness of a knife-blade, and bake quickly in a hot oven. Instead of Graham flour, Graham grits may be used. The crisps will be more tender made with the grits.

The above is a good food for persons with slow digestion and sluggish bowels.

Oatmeal Gruel.—Stir two tablespoonfuls of coarse oatmeal into a quart of boiling water, and let it simmer for three hours. Strain if pre-

ferred. A little cream may also be added, unless contra-indicated by the patient's condition. It is a useful food for most invalids.

Graham Grits Gruel.—Moisten two tablespoonfuls of Graham grits with a very little cold water, and stir the whole slowly, so as not to form lumps, into a quart of boiling water. Simmer gently an hour or two, and serve.

To be used the same as the preceding.

Milk Oatmeal Gruel.—Take a pint of milk and one of water, and heat to boiling. Stir in two tablespoonfuls of coarse oatmeal, and simmer gently two or three hours.

This is a very nourishing food for growing children and convalescents.

Milk Porridge.—Take one pint of milk and the same quantity of water, and heat to boiling. When boiling, stir in two tablespoonfuls of cornmeal or Graham grits, previously braided with a little cold water, and boil till the meal is thoroughly cooked.

Excellent in cases of intestinal irritation.

Barley Gruel.—Put two tablespoonfuls of pearl barley into a sauce-pan with a quart of cold water and a bit of lemon-rind. Let the whole simmer very gently for two or more hours, then strain and serve. Cream may be added if allowed.

Of special service in the management of the digestive disorders of children.

THANKSGIVING DINNERS.

NOTHING seems to us more discordant with the original purpose of our National Thanksgiving than the feasting and drinking so universally indulged in on that occasion. The excess of rich and highly-seasoned foods which make up the bill of fare, is a great temptation to over-indulgence of appetite, and an over-burdened stomach necessitates a dull brain, just the reverse of that clear mind that ought to see the Father's blessings with quickened thought and thankful heart. We cannot but believe that the usual holiday dinners are a prime cause of much of the intemperance in drink so noticeable at such times. Tempted first to overeat, the resulting stomachic irritation creates a thirst which is continually calling for something to satisfy it. Any person who has noticed how frequently one is called to assuage thirst after having partaken of too large an amount of food on any occasion, will hardly doubt but that *too much* thanksgiving dinner will be detrimental to the cause of temperance; and if the viands are *rich* and *highly seasoned*, as is usually the case, the quality as well as the quantity will prove a stumbling-block to total abstinence.

We do not wish to be understood as objecting to special dinners on holiday occasions; our only concern is about the character of the meal. Let not the bill of fare be so lavish as to be an incentive for gormandizing, and let the viands be of the most simple and wholesome character practicable. As an aid in this direction, we suggest either of the following bills of fare as compatible with health and thanksgiving:—

(1.)

SOUPS.

Cream Pea Soup or Brown Soup. (See Jan. No.)

GRAINS.

Cracked wheat, with raisins steamed and added just before serving, with cream and sugar dressing, or Farina with dressing of fruit juice.

VEGETABLES.

Baked Sweet Potatoes; Mashed White Potatoes; Macaroni with stewed tomato dressing (see recipe below), Canned Sweet Corn or Green Peas.

BREADS.

Whole-wheat Bread; Beaten Biscuit (see March No.), or Currant Muffins (see May No.).

RELISHES.

Celery, Cream, Citron Apples, or Baked Sweet Apples, Cranberry Sauce.

DESSERT.

Lemon Pie (see Aug. No.), Apple Meringue (see Sept. No.), Lily Oranges (see Sept. No.), Grapes, Figs, Almonds, and if desired, some one of the simple cakes, recipes for which were given in the August number.

(2.)

SOUPS.

Vegetable Oysters (see April No.), or Tomato and Macaroni (see Jan. No.).

GRAINS.

Rice with Raisins, Graham Grits.

VEGETABLES.

Baked Potatoes with Cream Dressing, Stewed Lima Beans, Mashed Squash.

BREADS.

Whole-wheat Bread, Buns (see Aug. No.), Fruit Crackers.

RELISHES.

Beet or Cabbage Salad (see June No.), Celery, Canned Fruit.

DESSERT.

Cranberry or Prune Pie, Fruit Corn Starch or Picnic Pudding (see July No.), Gold and Silver Cake (see Aug. No.), Raisins, Bananas, Apples, Pears, Pecans, and Filberts.

Macaroni with Tomato.—Break the macaroni into two-inch lengths, after having carefully examined it to see that it is good. Drop into boiling milk and water, equal parts, and boil until perfectly tender. One hour or longer will usually be required. Have ready a sauce made as follows: Take a pint of strained, stewed tomatoes, and heat to boiling, thicken with a tablespoonful of flour rubbed smooth in a little water, add salt if desired, and at the last a half-cup of hot, sweet cream. Boil up together for a minute. Dish the macaroni, and turn the dressing over it.

Literary Notices.

OGILVIE'S HANDY BOOK of Useful Information is the title of a modest little book of 128 pages we have just received, which contains much valuable information. It contains statistical tables of practical value for every department of human effort, and we can assure our readers that they will find many things of use in this book.

It simplifies the art of Reckoning, shows at a glance the correct answer to nearly 100,000 business examples in all kinds of Grain, Stock, Hay, Coal, Cotton, Merchandise, Interest, Wages, Measurements of Lumber, Logs, Cisterns, Tanks, Granaries, Wagon beds, Corn cribs, Cordwood, Lands, Carpenters', Plasterers', Bricklayers' work, etc. It also teaches entirely New, Easy, and Practical Rules for rapid business calculations, which even a child can comprehend.

The Political, Historical, and Biographical information alone is worth double the price of the book. It is bound in handsome leatherette, flexible covers, and will be sent by mail for 25 cents; or bound in silk cloth for 50 cents. J. S. OGILVIE & Co., Publishers, 31 Rose Street, New York.

SHOPPELL'S BUILDING PLANS FOR MODERN LOW-COST HOUSES. Published by the Co-operative Building Plan Association, 24 Beekman St., N. Y. Price, 50 cents.

This is a new work of forty-eight large quarto pages, full of helpful advice to those intending to build homes for themselves, and profusely illustrated with plans and models of scores of modern style but low-cost houses. The hints given are eminently practical, and all persons intending to build will do well to examine this book before making their plans.

THE ATONEMENT, by J. H. Waggoner. Octavo, 368 pp. Pacific Press, Oakland, Cal.; Review & Herald, Battle Creek, Mich.

This able and important work on a very important subject is well worthy of careful perusal by every Bible student. It sweeps away the foundations of Unitarianism and Universalism most effectually. Its arguments are profound, but to the careful reader, lucid and conclusive. The scope of the work is comprehensive, every question relating to the subject being very fully and candidly treated. Of the few books which have been written upon this subject, this is the only one with which we are acquainted, which presents the subject in a light to allow a perfect harmony between reason and inspiration.

The work is neatly bound in cloth, and will be sent postpaid by either of the offices of publication on receipt of price, \$1.00.

THE POPULAR SCIENCE MONTHLY for November does not in any way fall below its usual high standard of excellence.

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Publisher's Page.

One more number brings us to the close of the year, at which time the subscriptions of many thousands of our patrons expire. Now is the time to be thinking about renewing. How many, who have been subscribers to the journal during the last year, can afford to be without it for the year to come? Before deciding that you can dispense with it, as with a worn-out garment, think over the experience of the last few months. Note on how many occasions the perusal of its pages has been of service to yourselves and your family or your friends. We can hardly conceive it possible that any person could peruse the journal with care during the whole year without obtaining from it information of practical value equal to many times its cost; and we have received hundreds of letters from persons who believe that their lives and the lives of their families or friends have been saved by means of the instructions which they received through the medium of this journal. The cost is small—only one dollar. Many times this amount is spent by most persons in the course of a year for trifles, or things which at least do not contribute in any great degree to the real comforts or enjoyments of life. Before deciding to ask your name to be erased from the subscription list, please carefully consider whether you can afford to dispense with the monthly visits of a journal which deals with so eminently practical and useful a subject as Good Health.

The new building of the Sanitarium is now so nearly completed that the rooms are being furnished, and will be ready for occupancy in a few days. The present prospect is that the main building, with the new addition, will not be too large for the accommodation of the patrons of the institution during the coming winter. The new and novel system of ventilation which has been introduced, is also so near completion that its perfect working has been demonstrated in the most satisfactory manner. As it stands completed, the Sanitarium is undoubtedly the best adapted to the purposes of a sanitarium of any structure ever erected, besides being the largest building of the kind ever constructed. On account of some little delay in the completion of the large dining-room, we are unable to announce the time of dedication, as we had hoped to do in this number; but during the month, printed invitations will be sent out to all old patients, friends, and stockholders, and we expect to be able to give in the next number an account of the grand reunion and dedicatory exercises.

The session of the American Public Health Association, which we had the pleasure of attending at St. Louis recently, was one of the most successful conventions of this body ever held. The attendance was not unusually large, but the number and value of the scientific papers presented certainly entitles it to out-rank all previous sessions. We had the pleasure of meeting many friends, some of whom have been prominent workers in the cause of sanitary reform for many years. We were detained at home by urgent business, so that we did not have the pleasure of attending the first meetings of the session, but thoroughly enjoyed the portion of the proceedings which we were able to attend. These occasions are of immense value, not only to the members of the Association, who are enabled thereby to enlarge

their knowledge by comparing the results of their observations and experience with those of others, but also to the people of the locality in which the meetings are held, who invariably receive immediate benefit through the quickened interest in sanitary matters, evinced by local sanitary authorities, and by other persons occupying positions of influence.

The National Woman's Christian Temperance Union, the largest associated body of women in the world, held its eleventh annual session at St. Louis, Mo., Oct. 22 to 25. The program was one of unprecedented interest, and the attendance of delegates from all the States and Territories in the Union unusually large. In discussing the great issues of the day, the ladies, after a long, candid, earnest debate declared unequivocally for Prohibition.

Hygiene, especially as related to the cause and cure of intemperance, is given much earnest consideration by this body of noble workers; and the report of work done during the past year showed a great degree of interest in the subject, and many good results from the efforts already put forth in this direction. In her annual address, the president, Miss Frances Willard, urged the importance of continued and vigorous work in this line, and spoke in terms highly commendatory of GOOD HEALTH as a helpful means in obtaining a knowledge of practical hygiene.

We are informed by the managers, that the "Rural Health Retreat" at St. Helena, Cal., has been closed for the winter. They wish it distinctly understood that the Retreat is not closed permanently, but only for the winter. The last season has been a very successful one, and the friends of the institution believe it has a prosperous future before it. We make this announcement respecting its closure for the purpose of notifying the numerous persons whom we have recommended to visit this excellent health resort for the winter, so that none may take the trouble to visit it at large expense, only to be disappointed at finding it closed on their arrival. We would add, that those who are obliged to visit California for the winter on account of ill-health will undoubtedly be able to find numerous places where they can remain comfortably, and enjoy the advantages of that mild and salubrious climate. We understand that a party is to be made up to start for California from Chicago about the first of December. Those desiring further information on this subject should address W. C. White, Battle Creek, Mich.

We are constantly receiving inquiries from persons coming to the Sanitarium from different parts of the country, asking which routes are the best. We always take pleasure in replying to such inquiries that the OLD MICHIGAN CENTRAL and its Branches offers one of the pleasantest and most comfortable means of railroad transit in the United States. The conductors of the road are uniformly courteous, polite, and obliging. We have never seen any official or employee of the road who had any smell of liquor about him. The road is one of the smoothest, and the passenger cars among the most elegantly furnished and best ventilated of any in the country. One of the remarkable features of the road is the singular rarity of accidents. During the twenty years or more that we have been acquainted with the road, barely one serious accident has occurred, which we believe cannot be said of any other road in the country which has been doing so extensive a business during such a length of time.