









HOUSEHOLD  
MANUAL



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# HOUSEHOLD MANUAL

— OF —

DOMESTIC HYGIENE, FOOD AND DIET,

TREATMENT OF COMMON DISEASES, ACCIDENTS  
AND EMERGENCIES, AND

## HEALTHFUL COOKERY.

BY

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## PREFACE.

As indicated by the title page, this little work deals with quite a variety of topics. It is thought, however, that all the subjects considered will be found usefully suggestive to every household. The aim has been to make the work eminently practical in character, and to condense into the smallest space the greatest possible amount of information.

The suggestions and hints given under the head of "Hygiene," if thoroughly appreciated and applied, will obviate a very large proportion of the ills and suffering incident to domestic life.

The section on "Food and Diet" contains much which may be new to a majority of those who have never investigated the subject from the standpoint of health. It is not intended to be in any sense complete, the object being only to call attention to a few of the ways in which disease and premature death are occasioned by errors in diet. Those who are interested to pursue the subject

further should send to the Office of publication for other works treating it more at length.

In "Simple Remedies for Common Diseases" are given directions for treating many common maladies with such remedies (with few exceptions) as are to be found in any household.

"Accidents and Emergencies" will be found to afford such information as may enable a person to be the means of saving many lives if it is carefully and promptly applied at the proper time.

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## HOUSEHOLD MANUAL.

## HYGIENE.

"HEALTH is wealth" is a trite maxim, the truth of which every one appreciates best after having suffered from disease. Indeed, health is a most priceless treasure. When deprived of it, we are willing to exchange for it everything else we possess; yet when well, we squander it ruthlessly, disregarding the plainest rules of health, regardless of consequences. It is only when sick, and suffering the result of transgression of Nature's laws, that we begin to appreciate the value of health, and the importance of regarding carefully the conditions upon which health depends.

State and National Health Boards and Committees certainly do excellent work for communities and nations; but the real influence which they exercise over the health of individuals is insignificant when compared with that which may be, and indeed is, exercised by the matrons of the various households which make up villages, cities, and nations. City authorities may exercise a rigid surveillance over all the avenues through which disease is known to enter; they may keep the public streets cleanly, introduce costly means of

supplying water, and cause the removal beyond the suburbs of slaughter-houses, tanneries, soap-boiling establishments, and noisome chemical works; but if the seeds of death and disease are allowed to germinate and flourish in each separate dwelling, and around each fireside, what favorable results can be expected?

All reforms must begin at home, to be effective; and we would urge upon all parents the importance of careful attention to the simple suggestions which are herein offered, by means of which they may be able to save themselves and their families from numerous illnesses, with their attendant inconveniences, expense, and suffering.

**Fresh Air.**—From the first quick gasp of infancy to the last feeble sigh of old age, the prime necessity of life is air. Air is food for the lungs, as bread is food for the stomach. Millions more people die from want of lung food than from a deficiency of other aliment. The Creator has provided the necessary article in generous abundance, fresh, pure, and free to all. If we do not get enough, it is our own fault, for when we close our doors and windows the closest, this vitalizing, invigorating element is whizzing and howling close around outside, seeking to find an entrance.

People who nail up their windows, stop every crack and crevice in the walls, line the door casing with felt, and fix a patent thing under the door as a sort of air-trap to catch the occasional

whiffs of pure air which might otherwise get in, are barricading themselves against their best friend. A man who should so studiously and deliberately deprive himself of the means of procuring ordinary food, would be pronounced a suicide. Is he any less a transgressor—though ignorantly so—who deprives himself and his family of a still greater necessity, pure air?

The demand for pure air is the most imperative of all the wants of the system. When deprived of air, an individual will die sooner than from deprivation of any other of the essentials of life. A person may live several weeks without solid food of any kind, several such cases having been noted by eminent authorities. When deprived entirely of drink, life sooner becomes extinct. But if an individual be deprived of air, death occurs in a few minutes.

**Sources of Impure Air.**—The sources from which the air may become contaminated are so very numerous that we cannot dwell at length upon all of them in so concise a treatise as this. We can only notice some of the more common.

**Poisonous Gases.**—Of the numerous poisonous gases which mingle with the air we breathe, *carbonic acid*, or, more properly, *carbon di-oxide*, is the most common and abundant of all. This gas is heavier than air, and, consequently, it collects in such low places as deep wells, old cellars, caves, and deep valleys. It is produced by com-

bustion and decay in vast quantities, and would soon accumulate to a fatal extent were it not for the fact that while it is a fatal poison to man, it constitutes a necessary food for plants.

One important fact to be remembered respecting the properties of this gas is its want of odor when pure, so that its presence cannot always be detected by the sense of smell as can most poisonous gases.

In Italy there is a curious cave, the bottom of which is covered with carbon di-oxide to a depth of about two feet. Travelers can explore the cavern with perfect impunity; but dogs or other small animals which accompany them, are quickly suffocated.

This gas is produced in great volumes in the burning of lime, being driven off by the excessive heat. Cases of poisoning by this gas have occurred, in which persons have lain down to sleep beside the warm kiln and have been suffocated by the escaping gas.

*Amount of Carbonic-Acid Gas Produced.*—This gas is formed within the body, and finds its way out through the lungs. An adult man produces about seven gallons of the gas per hour. A gas-light produces several times as much. An ordinary candle produces quite a considerable quantity. Large quantities are produced in a stove or fireplace; but that which is generated in this manner is usually carried away with the smoke, and does not escape into the room.

*Carbonous Oxide* is an exceedingly poisonous gas which is formed by imperfect oxidation of the fuel, which is frequently the result of deficient draught. The gas is often found in airtight stoves furnished with close dampers. One remarkable property of the gas is its penetrating power. It will pass directly through cast-iron, especially when it is heated. A few years ago a whole school were poisoned by this gas, several nearly to a fatal extent. It paralyzes the blood corpuscles, and thus renders respiration impossible. It is a much more poisonous gas than carbonic acid, and is fatal in much more minute doses. In the case of the school referred to, the teacher had turned the damper of the stove so as to cut off the draught while the stove was hot, and in a short time discovered that a large share of the students were falling into a state of stupefaction. This is a good illustration of the importance of always leaving sufficient draught to carry off the products of combustion. As this gas, like carbonic-acid gas, has no odor, it will only be detected by its effects.

*Sulphureted Hydrogen* is a still more poisonous gas which frequently finds its way into the air which human beings breathe. Fortunately it has a very bad smell, the characteristic odor of rotten eggs, in which it is always present. This gas is developed wherever animal matter is undergoing decomposition. It is poured forth in volumes from cess-pools, sewers, gutters, drains,



privy vaults, neglected cellars and cisterns, and every other place where animal substances are allowed to putrefy. It is this gas which gives to most decaying substances their offensive character. In the gutters of back streets and alleys in our large cities, this gas is sometimes produced in such enormous quantities that its active chemical properties become very perceptible, as will be shown by the following anecdote related by a professor of chemistry in one of our State Universities:—

“A young lady who was entirely innocent of any knowledge of chemistry or chemical facts, emerged from an elegant mansion in New York City, fully equipped for an afternoon promenade, with face artistically painted *a la mode*. Her course, unfortunately, lay for a little distance through a portion of the city where the drainage was imperfect, and the air was consequently redolent with that wonderfully pungent and active gas which is so characteristic of rotten eggs—sulphureted hydrogen. Of course the lady could not be unconscious of the presence of some noxious element in the atmosphere; but she was nevertheless wholly ignorant of its chemical properties. Her ignorance did not, however, deter the gas from manifesting its most vigorous affinities for the lead paint upon her cheeks, of which she had abundant evidence as she stood before a mirror, upon her return home, and viewed the swarthy appearance of her countenance, which

would have been very becoming to a representative member of the African race.”

*Ammonia, Sulphurous Oxide*, with various other noxious gases, find their way into the air in numerous ways, and exert a deleterious influence upon the health.

**Germ.**—Some of the most active and powerful enemies of human life are those which are the most insignificant in size, and hence the most likely to escape detection. Wherever decay of either animal or vegetable matter is taking place, myriads of microscopic plants flourish in great luxuriance. These numerous species of fungi are generated by spores which float about in the air, and, finding lodgment in favorable places, develop in plants which, in turn, produce countless numbers of other spores which quickly find their way into the air to repeat the same process elsewhere.

It is the presence of these little germs which causes the fermentation of yeast and the “rising” of bread, together with the “working” of wine and cider, the “spoilage” of canned fruits and other preserved products, the souring of milk, and all kinds of decay and decomposition.

The conditions required for the growth and development of these minute organisms are warmth and moisture. In the winter they are paralyzed by the cold; but so soon as the vernal sun appears, they spring quickly into life and activity. As before remarked, these little living

particles fill the air. Sometimes, and in some places, the air is heavily laden with them; again, they are present in much more limited numbers. They are, of course, taken into the lungs with the air which is breathed, and thus they find entrance into the system, and under certain circumstances produce dangerous and fatal diseases. Beware of germs!

**Dust.**—It is next to impossible to obtain air wholly free from dust. Its constant motion lifts and holds suspended little particles of various substances which are more or less injurious to health, unless the quantity is very small indeed. Some trades, as stone-cutting, coal-heaving, rag-picking, cotton and wool spinning and weaving, and other avocations which involve the production of considerable quantities of dust, expose the workmen to an atmosphere loaded with fine particles which are drawn into the lungs with every breath, and, finding lodgment there, may induce irritation and still more serious disease of those organs. By a wonderful provision of nature, the finer particles of dust, if in small quantity, may be wholly removed so that they will not pass down into the more delicate air-cells of the lungs. But if the quantity of dust is great, this provision fails to afford protection.

The inhalation of dust is one of the causes of consumption. Post-mortem examination of the lungs of persons who had died from this cause showed the lungs to have acquired the color of

the particles inhaled; and, in some cases, they contained so large a quantity of sand that they felt gritty to the touch.

Great care should always be taken to avoid dust as much as possible. In sweeping carpets and dirty floors, a person is exposed to injury unless some precaution, such as sprinkling the floor or moistening the broom, is taken to prevent filling the air with dirt. There are very few people who would not turn with disgust from food which was filled with particles of coal or sand, covered with dust, and gritty to the teeth. Yet the same persons will take their gaseous food in precisely the same condition without remonstrance.

**Organic Poison.**—Gases, germs, and dust are most prolific sources of disease and death which attack man from the air; but there is yet another enemy of life more potent still, which lurks, too often unsuspected, in the air we breathe. Very little, indeed, is known of the real nature of this poison, since it has, in considerable degree, eluded the efforts of the chemist to submit it to analysis; but it is of organic origin, and hence is known by the term *organic poison*. This poisonous element is introduced into the air chiefly by means of respiration, together with exhalations from the skin. It is one of the most noxious poisons ever present in air. It will produce death much sooner than most other impurities found in the air. Experiments upon

animals have shown that a mouse will die in a few minutes when confined in air heavily charged with this poison.

The moisture which condenses on the inside of the windows of an occupied room in a cold day contains the poison in solution. If a little is collected in a vial and set away, it will soon become intensely fetid and offensive. It is this poison which gives to an unventilated room the close, fusty odor with which every one is familiar. One who has been long in the room will not observe it; but it is very distinct to a person coming in directly from the pure air outside.

**Malaria.**—The great curse of large areas of the most beautiful portions of our country is malaria. With reference to the exact nature of this cause of disease there has been a great amount of discussion. The most plausible theory is that advanced by Dr. Salisbury, of the Ohio Medical College, who claims to have demonstrated that the exciting cause of malarial disease is the spores of a certain species of fungi. According to this authority, the ague-plant flourishes in low grounds which are frequently submerged, but are covered with water but a portion of the time. It is well known that malarial diseases, as ague or intermittent fever, remittent or bilious fever, and typho-malarial fever, are most prevalent in just such localities as are favorable for the production of the so-called ague-plant. An unusually dry season is almost certain to be followed by

an unusual number of cases of remittent fever and ague in the vicinity of marshes, mill-ponds, and shallow streams, the beds of which are exposed during the drouth.

The malarial miasm is often carried several miles from its source, so that immediate proximity to the latter is not necessary for contraction of malarial disease. Nevertheless, the observance of a few precautions will greatly lessen the liability to the disease. The following hints will be found of service:—

1. Avoid the vicinity of malarious districts during the evening and early morning, as the malaria settles nearer the surface of the ground at those times.
2. Secure, if possible, a dense growth of trees between a malarious district and the residence, as the foliage of trees affords a very efficient barrier to the miasm.
3. In case the above is impracticable, the same purpose may be accomplished, in considerable degree, at least, by planting between the house and the source of malaria a large area of sun-flowers, which are said to possess the power to destroy the malarial poison by the production of ozone.
4. The liability to the disease may also be very greatly lessened by keeping the system in as free a condition as possible by avoiding such habits and such articles of food as will impair the function of the liver, skin, kidneys, and other depu-

rating organs. By this means the system may be enabled to eliminate the poison without occasioning disease.

**How to Ventilate.**—The only way to get fresh air is to obtain it from out-of-doors, by exchanging the foul air within for pure air without.

How much fresh air do we need? Every man needs enough to dilute the poison which he exhales sufficiently to render it harmless. To effect this, a quantity of air 5,000 times as great as the amount of carbon di-oxide produced, is required. In other words, 5,000 gallons of pure air are necessary to render harmless one gallon of carbon di-oxide. A man produces a gallon of this poison every twelve minutes, or five gallons an hour; hence, he requires 5,000 gallons of pure air every twelve minutes, or 25,000 gallons each hour—more than 3,000 cubic feet.

To ventilate well, there must be two openings; one at the bottom, and the other at the top of a room. What! shall we open the windows at top and bottom on a cold, wintry day? Certainly. Cold air is not poison. Plenty of air and a rousing fire are cheaper in the long run than foul air and less fire.

But will not cold air produce colds, and lung fevers, and pleurisies, and consumptions? People don't catch cold in open sleighs nor when walking in the wind. Draughts of cold air upon a small portion of the body only, will occasion

cold; but there need be no draughts. Avoid them in this way:—

Make a strip of board, three or four inches wide, just the length of the window casing. Fit it beneath the lower sash. This makes an opening between the two sashes where they overlap. Here the air can enter, and being thrown upward toward the ceiling, it will be productive of no harm to any one.

Another way: Lower a window at the top on one side of the room, and on the opposite side raise another a little at the bottom. Place a screen of fine netting in front of each, and the room will be pretty well ventilated without draughts.

Unless a strong wind is blowing, the window should be lowered one inch for each occupant of the room. A window should be raised an equal amount upon the opposite side to allow a circulation of the air.

The old-fashioned fire-place was a most efficient ventilator. It is a good omen that fire-places are again coming into use. The most fashionable parlors in the large cities are now heated by them.

If flues are used in ventilating rooms, it is absolutely necessary that the air in them should be heated several degrees higher than that in the rooms, to secure a draught. There should be two openings into the flue; one near the ceiling to be used when necessary to change the air rapidly,

and the other at the floor to be open constantly.

Never sleep in a room which is unventilated.

**To Destroy Foul Odors.**—Abundance of fresh air is the best deodorizer. There is no substitute for ventilation. Pure air washes away foul smells as water washes away dirt. One removes solid filth, the other gaseous filth. If the offensive body is movable, be sure to remove it. If not, apply something to destroy it. Several agents will effect this.

If it can be safely done, set fire to the foul mass; or, if this is undesirable, heat it almost to the burning point.

Apply very dry, finely pulverized earth. Clay is the best material. Finely powdered charcoal which has been freshly burned, is quite as good as earth. Dry coal or wood ashes are excellent.

Make a solution of permanganate of potash, dissolving one ounce in a gallon of water. Add this to the offensive solid or fluid until it is colored like the solution. This is an excellent deodorizer. It is needed in every household. A supply of the solution should be kept constantly on hand, ready for use.

Copperas dissolved in water in proportion of one pound to the gallon of water is cheaper, and may be used when large quantities are needed. Apply it freely.

Bromo-chloralum is a very good deodorizing agent, but is rather expensive.

Chlorine gas, chloride of lime, ozone, and nu-

merous other agents, are effective when rightly used.

**Disinfecting Fluid.**—The following is a recipe for one of the cheapest and most efficient disinfecting fluids known:—

Heat two pounds of copperas in an old kettle for half an hour, stirring frequently. When cold, dissolve the copperas in two gallons of water. Add two ounces of carbolic acid, and mix well together. A pint of this solution poured into the kitchen sink every few days will keep it free from odors. It will also be found very useful for disinfecting the discharges of typhoid-fever patients, for which purpose a little should be kept in the vessel constantly. Even privy vaults can be kept in a comparatively harmless condition by the liberal use of this solution.

**Cess-pools.**—Drains, sewers, and cess-pools, connected with a house, are often sources of serious disease. The kitchen sink is not unfrequently the door through which the germs of disease silently creep into a household and develop into disease and death, the cause of which remains a mystery, and is attributed to the inscrutable dealings of Providence.

In the summer, draughts are produced in the room, which suck up the filthy gases which are formed in the cess-pool or sewer, through the drain-pipe—unless it is furnished with an efficient water-trap, which is not usually the case,

In the winter, the gases of the cess-pool are naturally warmer than the air above, and so they rise and find their way into the house, filling it with invisible poison, which is breathed, and thus taken into the blood, by every occupant of the dwelling. Thousands of valuable lives are annually sacrificed in this way.

How shall this evil be remedied? In cities, the problem is a difficult one, unless sewers can be replaced by the dry-earth system. In the country and in small towns, it is easily cured thus:—

Make the cess-pool some little distance from the house. Place in communication with it a wooden ventilating flue sixteen or eighteen feet in height, and four to six inches square inside. This will carry off the foul gases under ordinary circumstances, but it will sometimes be found inefficient; hence, a water-trap should be formed in the drain-pipe, just beneath the sink, by bending the pipe so that it will retain constantly three or four inches of water.

A still better way is to connect the drain-pipe with the chimney or stove-pipe, by means of a pipe of suitable size. This will secure ventilation of the drain; and if the connecting pipe joins the drain-pipe just beneath the sink, the protection will be perfect. All joints should be airtight, and the outlet from the sink should be plugged tightly when there is no fire in stoves communicating with the chimney.

Another valuable precaution is this: Pour into the sink, two or three times a week, a gallon of water in which a pound of copperas has been dissolved. A few crystals of copperas kept constantly in the sink could do no harm. It is very cheap when bought by the quantity.

A new cess-pool should be made at least once a year, or the old one should be thoroughly cleaned.

**Under the House.**—Many families who wonder why "some of the children are sick all of the time," can find the cause underneath the floor. Nearly all houses have cellars. Here are stored all sorts of things for winter use—dead things and live things, articles to eat and fuel to burn, old boxes and barrels, heaps of coal, bins of vegetables, etc., etc. The coal and wood are continually sending up foul gases and germs. Many of the vegetables undergo decay, and add greatly to the production of disease elements.

Besides the cellar there is usually an open space under the other portions of the house, between the foundation walls. This space is large enough to admit chickens, dogs, cats, rats, even pigs, and other small animals, but not sufficiently large to allow room for clearing it. Here various small animals find a hiding-place, and often die. Being out of sight and reach, they are not discovered even when the stench of their decaying bodies becomes distinctly manifest.

All the foul gases engendered in these various ways pass upward into the house, filling every room, condensing in fetid moisture upon the walls, and poisoning all who breathe in the house. What shall be done?

Cellars under a house are rather prejudicial to health, even at best. As they are commonly used, they are very greatly so. If there must be cellars beneath the house, they should be large, light, and well ventilated. Every week, at least, the cellar windows should be opened wide to allow free change of air. A good way to ventilate a cellar is to extend from it a pipe to the kitchen chimney. The draught in the chimney will carry away the gases which would otherwise find their way into the rooms above.

Cellars should be kept clear of decaying vegetables, wood, wet coal, and mold. The walls should be frequently whitewashed, or washed with a strong solution of copperas. The importance of some of these simple measures cannot well be overestimated.

Houses should be built so high above the ground that the space beneath can be easily cleared every few months.

**Moldy Walls.**—Many people who do not appreciate the importance of sunshine as they should, allow mold and mildew to accumulate upon their walls in damp weather, especially in nooks and corners that will be unobserved, never thinking that any harm will come from so do-

ing. Such are ignorant of the fact that each patch of mold is a forest of myriads of little plants which are constantly throwing off into the air myriads of germs to be inhaled by the occupants of the house. In ancient times, collections of fungi of this sort were looked upon as matters of such serious import as to render a house wholly unfit for habitation until it had been thoroughly cleansed. A house with moldy walls was said to be affected with the plague of leprosy, and if the discolored, moldy spots recurred after having been thoroughly cleansed away, the house was abandoned and torn down. No one was allowed to occupy it unless every trace of the mold could be wholly removed. A tithe of the same care now would save thousands of deaths annually.

**Privies.**—As ordinarily constructed and managed, these necessary institutions are most prolific sources of disease. The animal excretions which are left to accumulate in them undergo still further putrefactive changes, which result in the development of the most pestilential germs and gases. Here is where the terrible typhoid poison originates. Deep vaults should never be allowed under any circumstances.

The best way to manage a privy is this: Early in the spring fill up the old vault, if there is one, even with the surface. Raise the building a little. Have made at the tin-shop a sufficient number of pans of thick sheet-iron. The pans

should be about two feet square, and two inches and a half deep. Each should be furnished with a long bail, and a strong handle at one side about a foot in length. In using these pans, fill each half full of fine, dry dirt—not sand—or ashes, and shove it into position, allowing the bail to fall back upon the handle behind. By the addition of a little dry dirt several times a day, all foul odors will be prevented. The contents of the pans ought to be removed every night in the warmest weather of summer, the pans being replaced with a fresh supply of dry earth. During cooler weather, if little used, the pans will require emptying but once a week, if they are kept well supplied with dry earth. The contents of the pans may be buried or removed to a proper place at a distance from any dwelling.

For convenience, it is found to be an excellent plan to hire a scavenger to attend to the pans at regular, stated times. Fifteen or twenty in a community can unite on the same plan, and thus make the expense very slight for each.

About the first of December, the pans may be removed and a shallow vault dug. The vault should not exceed two feet in depth, and it should not be tightly inclosed. This will allow the contents of the vault to freeze. They may be removed several times during the winter, and should be kept covered with dry dirt, which should be procured in sufficient quantity in the fall.

**Sunshine.**—In caves, mines, and other places which are excluded from the light, plants do not grow, or, at most, they attain only a sickly development. The same is true of animals. In the deep valleys among the Alps of Switzerland, the sun shines only a few hours each day. In consequence, the inhabitants suffer terribly from scrofula and other diseases indicative of poor nutrition. The women, almost without exception, are deformed by huge goiters, which hang pendant from their necks unless suspended by a sling. A considerable portion of the males are idiots. Higher up on the sides of the mountains, the inhabitants are remarkably hardy, and are well developed, physically and mentally. The only difference in their modes of life is the greater amount of sunshine higher up the mountain side. When the poor unfortunates below are carried up the mountain, they rapidly improve.

Throw open the blinds and draw aside the window curtains. Never mind if the carpets do fade a little sooner. The pale cheeks will acquire a deeper hue, and the sallow skins will become of a more healthy color.

A sitting-room ought to be on the east or south side of a house, so that sunlight will be plentiful. House plants will not thrive in a north room. Women and children, who live mostly in the house, thrive no better in such a situation than plants. Sleeping-rooms should be aired and sunned every day.



**House Plants in Sleeping-Rooms.**—The supposition that house plants are injurious in sleeping and sick-rooms is a popular error. It is commonly supposed that plants draw the vitality of the patient, or poison the atmosphere in some way. This is wholly an error, if we except a few of the more strongly scented plants, which emit a somewhat poisonous odor, or which might in some cases be unpleasant to the senses of a nervous patient. Plants cannot draw vitality from animals. Indeed, they are the one great means which make human life possible; for if they did not purify the air, all animals would quickly perish.

Plants inhale carbon di-oxide during the day, and exhale oxygen. During the night, they inhale carbon di-oxide the same as in the daytime, but exhale a part of it again, along with the oxygen. They purify the air, then, during the night, but less than during the day.

A mouse and a growing plant can live together in an air-tight box. Alone, either one would die; together, they both thrive. Plants purify the air for human beings as well as for mice.

Plants also remove impurities from the air by means of the *ozone* which they produce, which is one of the most powerful disinfectants known. The laurel, hyacinth, mint, mignonette, lemon-tree, and fever-few are among the best ozone-producing flowers.

The cheerful aspect which flowers give to a

room, and the pleasant recreation which their care affords, are not the least of the advantages to be derived from them.

**Beds and Bedding.**—A cold, damp, musty bed has cost the world many a valuable life. The "spare bed" is a genuine terror to traveling ministers, and school-teachers who board around. A night spent in one of them is a certain cause of cold, headache, sore lungs, sore muscles, and stiff joints the next day. Never sleep in a room which has been unused for weeks, unaired, unwarmed, and secluded from sunlight, until the bedding, at least, has been thoroughly aired and dried, and the air of the room thoroughly changed by ventilation. Never offer such a room for the accommodation of a guest without treating it in the same way, unless it is desired to make him sick.

Feather-beds are very unhealthful. They not only undergo a slow decomposition themselves, thus evolving foul and poisonous gases, but they absorb the fetid exhalations from the body which are thrown off during sleep. By constant absorption, the accumulation soon becomes very great, and the feather-bed becomes a hot-bed of disease. Hair, cotton, straw, or husk mattresses are greatly superior to feathers from the standpoint of health.

Do not cling to the old feather-bed because it is an heir-loom. The older it is, the worse it is. Only think of the amount of diseased germs

which must be stowed away in a sack of feathers which has done service during a hundred years or more! Subject to all the accidents and emergencies of domestic life it has, perhaps, carried a half-dozen patients through typhoid fever, and pillowed the last months of the gradual dissolution of a consumptive, besides being in constant use the balance of the time.

**Barnyards.**—The close proximity of barnyards, hen-coops, and hog-pens to human dwellings is a frequent cause of serious and fatal disease. The germs which are developed in the filth abounding in those places, together with the noxious gases constantly arising from the decomposing excreta, are productive of disease when received into the system. Often, indeed, the well from which the family supply of water is obtained, will be located only a few feet from a reeking barnyard, or, as we have more than once seen, the well will, for convenience, be located within the yard itself. In consequence of the proximity, the water of the well will be contaminated by the soluble filth which percolates down through the porous earth and finds its way into the underground veins of water by which the well is fed.

Notwithstanding all these dangers, there are people who, incredible as it may seem, still hold to the absurd idea generated in the Dark Ages, when the streets of every city were one immense reeking cess-pool, that foul smells originating in

the filthy ordure of horses and cows possess some healing properties. Not long ago when we appealed to a man to clear his barnyard, which had become a positive nuisance, being not more than half a dozen feet from the threshold of a dwelling-house, he retorted that he had always been informed, and as he thought by good authority, that a barnyard smell was the "healthiest kind of a smell," and was "especially good for consumptives." If there is such an absurd error prevalent, it ought certainly to be corrected. No foul, noxious odor can be of any possible advantage to the health. Barnyards should be located at least forty or fifty rods away from the dwelling, and wells should be located nearly as far removed from such sources of poisoning, to insure against water contamination, which is one of the most common causes of typhoid fever.

**Cleansing Sick-Rooms.**—A room which has been long occupied by a person suffering from chronic disease, or by a fever patient, or a case of small-pox or other contagious disease, ought to be very thoroughly cleansed before being occupied by others. The means by which this may be most efficiently done are these:—

1. Take out the windows, and give the greatest possible freedom to ventilation.
2. Remove the old paper from the walls, and burn it. Wash the bare walls with a solution of copperas, and then apply whitewash to the ceil-

ing. Cleanse the wood-work with a solution of chloride of lime.

3. Remove the carpet from the floor, the bedding from the beds, and every other fabric in the room, and thoroughly disinfect them before replacing.

4. If still more thorough disinfection is desired, remove from the room such furniture as will be injured by corrosive gases, close the windows tightly, and place in the center of the room a shallow stone or earthen vessel containing the following mixture: 4 oz. each of salt and black oxide of manganese, 3 fl. oz. of water, and  $3\frac{1}{2}$  fl. oz. of sulphuric acid, or oil of vitriol. Mix the acid and the water first, let it cool, and then add it to the salt and oxide of manganese, which should be previously intimately mixed in the earthen vessel. Stir well with a stick, and then close the room as tightly as possible, stopping up the crevices. Chlorine gas will be slowly formed by this means, and it will destroy whatever organic matter there may be in the room. It will even penetrate the plaster on the walls.

In two or three days the room should be opened and thoroughly ventilated.

**Disinfecting Clothing.**—Clothing which has been exposed to contamination by contagion, if of little value, should be destroyed. If more valuable, it may be disinfected in any one of several ways.

1. Heat in an oven as hot as possible without

scorching, for an hour or two. A temperature of  $250^{\circ}$  will do no harm.

2. If the clothing is uncolored, or colored with mineral dyes, soak a few minutes in a solution of fresh chloride of lime of the strength of one pound of the chloride to a pailful of water. Afterward boil.

3. Soak for half an hour in boiling water to which carbolic acid has been added in proportion of an ounce to the gallon of water. Boil again in pure soft water, to remove the smell of the acid.

4. Expose for several hours in a close box to the fumes of burning sulphur. Air thoroughly afterward and wash.

**Sick-Room Disinfection.**—In such diseases as typhoid fever, dysentery, cholera, yellow fever, and diarrhea, the bowel discharges should be instantly disinfected and then removed as soon as possible. To do this readily and promptly, a strong solution of permanganate of potash or copperas should be kept constantly in the chamber vessel. Large vessels of water kept in the room and daily changed will absorb much of the gaseous poison. Carbolic acid, chloride of lime, and other odorous disinfectants, are offensive to the patient, and should not be used. Most thorough ventilation should be secured constantly. A little management will protect the patient from cold draughts, and there will be no danger

of exposing him to cold, if he has the care of an attentive nurse, even if the ventilation is the most thorough.

**House-Cleaning.**—The semi-annual house-cleaning, although not a pleasant experience, is just as necessary as the original building of the house. Some important things are often overlooked in the general hurry and confusion.

The closets, garrets, clothes-rooms, stairways, and similar places need thorough renovation as well as more conspicuous rooms. The steam and gases from the kitchen find their way into all parts of the house, and are absorbed by the porous walls, or condense upon the wood-work. If not removed, they become sources of disease. The spare bedroom and parlor must not be neglected on account of having been little used, for the same reason.

Wood-boxes are too often neglected until the rubbish at the bottom becomes exceedingly foul, and occupies so much space that there is little room for anything else. Wet, souring, fermenting bark and chips, decaying apple cores, moldy leather, and similar elements which usually occupy a considerable portion of wood-boxes, contribute largely to the production of many febrile diseases.

New wall-paper should never be put on over old. The fresh paste, by its moisture, causes the fermentation of the old paste and the production of foul gases from the colors of the paper and the

impurities which have been absorbed. If the old paper contained arsenic, the danger is increased tenfold, as arseniureted hydrogen is formed, one of the most fatal gases known. House-cleaning is one of the most important parts of domestic labor, and should not be trusted wholly to ignorant servants. It should be done under the constant supervision of an intelligent and thorough-going person. A little neglect to examine and thoroughly cleanse every nook and corner may result in the sacrifice of a human life. Too much importance cannot be attached to the necessity of care and painstaking in this matter.

Every dwelling should be thoroughly cleansed at least twice a year. Old carpets with their accumulated dust should be taken up and thoroughly beaten and cleansed, bed-ticks should be refilled if straw is used, every bed should be carefully examined for vermin, and a general renovation should take place.

**Poisonous Paper.**—Many cases of poisoning, some of which were fatal, have been traced to the arsenic contained in several of the colors of wall-paper. The most dangerous color is green. It is almost impossible to find a green paper which does not contain arsenic. Green window curtains are especially dangerous. The green dust which can be rubbed off from them is deadly poison. In rolling and unrolling the curtain it is thrown into the air and is breathed. The

same poison is brushed off the surface of arsenical wall-paper into the air by the rubbing of pictures, garments, etc., which come in contact with it.

It is very easy to test papers of this kind before buying, and it would be wise always to take this precaution. Take a piece of the paper and pour upon it strong aqua ammonia over a saucer. If there is any arsenic present, this will dissolve it. Collect the liquid in a vial or tube, and drop in a crystal of nitrate of silver. If there is arsenic present, little yellow crystals will make their appearance about the nitrate of silver. Arsenical green, when washed with aqua ammonia, either changes to blue, or fades.

**Poisonous Aniline Colors.**—Red flannel, stockings, and hat linings, and the striped stockings which have recently become fashionable, have occasioned serious poisoning in numerous cases. The aniline dyes with which they are colored are used in connection with arsenic, which is not wholly removed by the manufacturers.

**Hair Dyes and Cosmetics.**—Any number of "Hair Dyes," "Hair Vigors," "Hair Renewers," "Hair Tonics," and various other compounds for application to the hair with the object of restoring its color or promoting its growth, have been invented during the last ten years. Many of these mixtures claim to be purely vegetable, and

harmless. This is untrue of any of them. They contain, almost without exception, a very large amount of mineral poison. Lead, silver, and sulphur are the most common ingredients. The effects of applying such articles to the head are very serious. A few of the more prominent are the following:—

Headache, vertigo, irritation of the scalp, apoplexy, congestion of the brain, nervousness, sleeplessness, paralysis, and insanity. Numerous instances of all of these maladies have occurred as the result of using "hair dyes."

Gray hair is no disgrace. The healthful growth of the hair can be promoted by daily friction with cool soft water much better than by any quack lotion.

Cosmetics are equally dangerous. We have seen hopeless paralysis of the extensor muscles of the fore-arm, causing wrist-drop, produced by the use of paints for improving the complexion. Young ladies have destroyed their usefulness for life by this foolish practice. Lead colic is another result of the use of paints, many of which contain lead. Beware of them.

**Hygiene of the Eyes.**—These, the most delicate of the organs of sense, are often ruined by abuse. With good usage they will "last a lifetime." It is necessary to observe the following rules, to preserve the health of the eyes:—

1. Never use the eyes when they are tired or

painful, nor with an insufficient or a dazzling light. Lamps should be shaded.

2. The light should fall upon the object viewed from over the left shoulder, if possible; it should never come from in front.

3. The room should be moderately cool, and the feet should be warm. There should be nothing tight about the neck.

4. Hold the object squarely before the eyes, and at just the proper distance. Holding it too near produces near-sightedness. Fifteen inches is the usual distance.

5. Never read on the cars, when riding in a wagon or street-car, or when lying down. Serious disease is produced by these practices.

6. Do not use the eyes for any delicate work, reading, or writing, by candlelight, before breakfast.

7. Avoid using the eyes in reading when just recovering from illness.

8. Never play tricks with the eyes, as squinting or rolling them.

9. If the eyes are near-sighted or far-sighted, procure proper glasses at once. If common print must be held nearer than fifteen inches to the eye for distinct vision, the person is near-sighted. If it is required to be held two or three feet from the eye for clear sight, the person is far-sighted.

10. A near-sighted person should not read with

the glasses which enable him to see distant objects clearly.

11. Colored glasses (blue are the best) may be worn when the eye is pained by snow or sunlight, or by a dazzling fire or lamplight. Avoid their continued use.

12. Never patronize traveling vendors of spectacles.

13. Rest the eyes at short intervals when severely taxing them, exercising the lungs vigorously at the same time.

**Keep Clean.**—The skin, the superficial covering of the whole body, everywhere abounds in little mouths, or openings, called pores. There are more than 2,000,000 of these openings upon the surface of the body. Each one is the external orifice of a capillary tube which acts as a kind of sewer to convey away dead, effete, and decomposing matter from the body. Each of these purifying organs is constantly at work unless its mouth gets obstructed in some way. They are especially active in the summer season when the weather is warm, pouring out large quantities of perspiration in which the offensive matters are held in solution.

Now let us see what takes place if we pay no attention to the natural clothing with which we have been kindly provided. The sweat or insensible perspiration, with a load of impurities, is poured out of 2,000,000 little sewers, upon the surface of the body. The watery portion evapo-

rates, leaving behind all the foul matter which it contained, which adheres to the skin. This is what occurs the first day. The next day an equal quantity is deposited in the same way, making, with the previous deposit, a thin film of dirt covering the skin. The third day the quantity has augmented to the consistency of varnish. The fourth day the person becomes completely encased in a quadruple layer of organic filth. By the fifth day, fermentation begins, and an unsavory and pungent odor is developed. The sixth day adds new material to the accumulating pollution, and still further increases the intensity of the escaping effluvia. Upon the seventh day a climax of dirtiness is reached. The penetrating, pungent fetor becomes intolerable. The person feels as though he had been bathed in mucilage or molasses. When he approaches his more cleanly friends, they look around to see if there is not some fragment of carrion adhering to his boot. But the individual himself is unconscious of any unpleasant odor, his nose having become accustomed to the stench; or if he recognizes it, he flatters himself that as no one can see the condition of his cuticle, he will escape detection. Vain delusion. Every person whose organ of smell is not wholly obliterated by snuff or catarrh, will single him out as quickly as a dog detects the exact locality of a weasel.

In the winter, one or two general baths each week will usually be sufficient to keep a person decently clean. But during the hot weeks of summer, a daily bath is indispensable. Two or three times a week, plenty of soap and water should be employed. On other days, a light sponge or towel bath will answer. A large quantity of water is not always absolutely necessary. A person can take a very refreshing and useful bath with a soft sponge and a pint of water. Such a bath can be taken anywhere without the slightest danger of soiling even the finest carpet. A simple air bath is better than none.

Cold bathing is not recommended. Robust persons may stand it very well, but it is injurious to invalids, and to any one if long continued. The best temperature for most persons is about blood heat.

Are not baths weakening? The weakening effect of a simple application of a little water to the surface of the body is not one-tenth as great as that from carrying about constantly a load of dirt upon the skin which not only prevents the elimination of impurities from the blood, but is actually absorbed into the system again. A bath is refreshing, soothing, and strengthening, if properly taken.

**Tight-Laced Fissure of the Liver.**—We once found in Bellvue Hospital, New York City, a woman who was suffering under a complication

of maladies which evidently had their origin in the foolish practice of tight-lacing to which she had been addicted. On making an examination of the internal organs, we were amazed to find the liver presenting itself just above the hip bone, its normal position being entirely above the lower border of the ribs. Further examination revealed the fact that in about the middle of the organ there was a constriction, or fissure, nearly dividing it in two, which had been produced by habitual lacing. The function of the organ had been so greatly interfered with that it had failed to remove the biliary elements from the blood, and they had been largely deposited in the skin, making the latter anything but beautiful, although the woman was not advanced in years, and was naturally fair. Thousands of young ladies have cut their livers nearly in two in the same way. No wonder that they require rouge and French chalk to hide their tawny skins.

**Thin Shoes.**—Illy-clad feet are not infrequently the cause of very serious disease. A tight shoe prevents the proper circulation of the blood in the foot, causing it to become cold. If the shoe or boot is thin, the foot is still further chilled, and the blood which circulates with difficulty through it is sent back to the internal organs with a temperature much below that required for health. Exposure to cold causes the

blood-vessels to contract so that less blood can circulate through them. Thus, one evil creates another. Thin soles, being insufficient protection against wet, allow the moisture of damp walks to reach the feet, making them wet as well as cold. When the extremities are chilled, the internal organs and the brain become congested, too great a quantity of blood being crowded into them. This is the chief origin of the headaches from which school-girls suffer so much, but which are usually attributed to study.

**Keep Warm.**—Fashionable dress totally disregards every consideration but novelty and display. Fashion loads the shoulders and chests of ladies and girls with warm shawls, cloaks, and furs, surrounds the abdomen with ten to fourteen thicknesses of cloth, and imprisons the hands in an enormous muff, but leaves the limbs and ankles exposed to chilling blasts almost without protection, while they actually need more clothing than any other part of the body.

The whole body should be clad in soft flannel from neck to wrists and ankles nearly the year round. It is better to have the under-clothing for the upper part of the body and that for the limbs combined in one garment. If arranged in two garments, they should only meet, and not overlap, as this gives too much additional heat over the abdominal organs. A woman's limbs require as many thicknesses as a man's; and a



garment which fits the limb closely will afford four times the protection given by a loose skirt. Thick shoes or boots with high tops, and heavy woolen stockings which are drawn up outside the under-garments clothing the limbs, complete the provision for warmth. Leggins should be worn in cold weather.

**Squeezed to Death.**—Not long ago a young lady went to bed without removing her corset, as she wished to grow small. When morning came, her friends found her a lifeless corpse. Thousands of young ladies are killing themselves in the same way. They may not die as suddenly, but they are dying as surely.

If any young lady who wears a corset could see the terrible havoc which it makes among her internal organs, she would be ready to desist from so foolish and harmful a practice. If the opportunity were afforded her, she would see her stomach squeezed out of shape and position so as to resemble much more a dog's than a human stomach. She would find her lungs compressed so that the blood could circulate with freedom through only a small portion, while the heart must struggle to its utmost to secure even a partial circulation. The large and small intestines she would find all jammed down into a heap in the lower part of the abdomen, where they do not belong, crowding upon the most delicate organs of her whole body, displacing and otherwise injuring them.

Any young woman who can deliberately commit all of these assaults against her physical frame while knowing the consequences, is guilty of a crime different from that of the suicide only in degree.

**Night Air.**—A general prejudice exists in the world against night air. In part it is justifiable; but much of it is unfounded. There is only one kind of air in the night, and that is night air. The air in the house is night air as much as that out of doors. All the air we breathe comes from the outside. If the windows and doors are shut, it crowds in through the cracks and chinks. It makes very little odds, then, whether we breathe night air in-doors, or out-of-doors, except that it is rather purer in the latter situation. In many localities night air is purer than day air.

**Hygienic Agencies.**—Nature has not provided agents by the use of which the penalty of transgression of her laws may be evaded; but there are certain natural agents, the proper employment of which will preserve health. If a person becomes diseased by neglecting to thus use these health-promoting agents, the only proper, and most efficient, way in which to recover from disease is to commence at once to do that which has been neglected. Thus it is that those agencies which are promotive of health and life become remedies for disease.

As might be supposed, from the foregoing, the

most potent remedies must be those agents which are the most essential to the maintenance of life and health. Among these, the following are the chief:—

*Air, water, food, clothing, exercise, rest, cheerfulness, sunlight, and electricity.*

**Air.**—Pure air is the first and the last desideratum of human life. Individual life begins with the first breath, and ends with the last act of respiration. A human being lives largely in proportion as he breathes. Frogs and lizards are sluggish because they breathe little. Birds are more vigorous in their movements because of the wondrous capacity and activity of their lungs. So with human beings. Need we suggest that those feeble-minded creatures who emulate each other in compression of the waist—thus curtailing their breathing power—are like frogs and lizards in their capacity for appreciating the “joy of living”? or that their organs of cerebration may be as small as their waists? Has a man consumption? Let him live in the open air; he cannot breathe enough. Thousands of patients die in hospitals for want of fresh air. God’s oxygen is the best tonic known. Fill the sick-room with it; the patient’s chances for recovery will be thereby increased fourfold. Its disinfectant and deodorizing properties are unsurpassed. All it requires is unrestrained action.

**Water.**—This limpid fluid constitutes three-fourths of the whole weight of the human body. The brain, the organ of thought, contains a still larger proportion. Its value as a curative agent is in direct ratio to its importance in the structure of the body. Water is valuable, 1. To dilute the blood, being the *only* drink; 2. To cleanse the body from impurities within and without; 3. As the most efficient means of applying heat and cold in the various forms of baths. Nothing relieves thirst like water. Nothing will regulate the temperature of a fever patient so effectually as water applied in the form of a cool pack. In relieving the coma of narcotic poisoning, apoplexy, sun-stroke, and lightning stroke, cold affusion is more potent than all other remedies combined. No salve, liniment, plaster, ointment, or medicated lotion is equal to pure soft water as a dressing for wounds. Water—hot, warm, tepid, cool, cold, or iced—is useful at the proper time.

**Food.**—“As a man eateth, so is he.” A loaf of bread, eaten, digested, assimilated, becomes flesh. A pound of pork, treated in the same way, also becomes flesh. The first becomes pure, healthy flesh; the second becomes gross, diseased flesh. Lord Byron appreciated this fact when he declared that he “felt himself grow savage” whenever he partook largely of animal food. If a man has filled himself with grossness, so that

his liver is clogged, his stomach and bowels torpid, all his vitals congested, and his life-current sluggish, the best and only remedy is to "mend his ways" at once and adopt the diet which nature indicates is best. In this way thousands of wretched dyspeptics and hypochondriacs have sought and found their squandered health. Try it, reader.

**Clothing.**—The absurdities of fashionable dress are too glaring to require exposure. All admit the need of reform, but few have moral courage to break Dame Fashion's shackles. To the pinioned, corseted, panniered, fettered, dragged-down, tied-back, gasping, dying daughter of Fashion, who would scarcely be conscious of living except for the aches, pains, nerves, neuralgias, stifled sighs, palpitations, and hysterics which make up her wretched existence, what an emancipation is offered in a dress which clothes the body equably from head to toe! gives perfect liberty of action to every muscle! allows room for a deep inspiration and a vigorous heart-beat! removes from the hips those cumbersome, dragging weights, and unties the lower extremities!

**Exercise.**—Life is activity. Stagnation is death. This is true everywhere. It is this alone that makes the difference between the sparkling brook, and the slimy pool; the blooming flower, and the withered shrub; the labor-

er's brawny arm, and the student's flaccid muscle. Few men die of excessive brain-work; many die from lack of muscle-work. Proper exercise is a powerful remedial agent.

**Rest.**—During sleep is the time when nature converts her work-shop into a repair-shop, mending broken nerve fibers, replenishing wasted muscles, repairing tissue cells, and renovating worn-out particles. When the body is wasted by disease, how much of this work there must be to be done! and how important that sleep be afforded as a prerequisite for its accomplishment!

**Cheerfulness.**—"Laugh and grow fat" is an old adage. *Laugh and get well* would be just as true. Indeed, the remedial power of a hearty laugh is sometimes greater than that of any drug in the *materia medica*; and its salutary effects have often saved the life of a failing patient. "A merry heart doeth good like a medicine" is good "Bible hygiene."

**Sunlight.**—Sunshine paints the skies, colors the leaves, and tints the flowers. Under its genial influence all nature thrives. It surpasses all other agents in restoring a natural color to the blanched and ghostlike faces of long-housed invalids. Sun-baths are powerful remedies for disease if rightly used.

**Electricity.**—This subtle agent, which flashes

in the thunder cloud, and quivers in a drop of dew, is equally potent for good or evil. When rightly used, its curative value is immense; but it has fallen, unfortunately, almost entirely into the hands of quacks, who not only do much injury by injudicious applications, but bring disrepute upon it by claiming for it that which is palpably absurd, as that it is the "nervous fluid," "vital force," "life force," etc.

### FOOD AND DIET.

A MAN is made of what he eats. Good food and drink make good blood; and good blood is manufactured into healthy brains and strong bones and muscles. Poor food and improper drinks make poor and foul blood, which, in turn, is made into equally poor brains, bones, and muscles.

Those who pay no attention to the character of their food, but hurry into their stomachs, indiscriminately, food which is good, bad, and indifferent, are sooner or later admonished by disease and suffering that the way of the transgressor is hard, and that nature's laws are inexorable. America is known abroad as a nation of dyspeptics. This unfortunate condition is the result of the universal disregard of dietetic rules for which our countrymen are notorious. At-

tention to a few plain principles would save many thousands of lives annually. A large number of the most fatal acute diseases have their chief cause in errors of diet.

**Poor Food.**—Impoverished food is that which does not contain all the elements of which the body is built up in proper proportion. Perhaps the poorest article of food in common use in this country is fine-flour bread. The miller removes the very best and most nutritious portion of the wheat by the process of bolting; for the gluten which nourishes brain and muscle is deposited around the outside of the grain, just beneath the horny covering, or bran. In the center of the grain is found almost nothing but pure starch, which is so incapable of sustaining life that even a dog will starve to death in a short time if fed upon it exclusively.

Of such material nearly all American bread is made. Most other nations are wiser in this respect than we. The sturdy German eats his black bread made of the whole grain with a keen appetite, and it makes his muscles firm and his sinews strong in spite of the pernicious influence of his favorite lager beer.

Wheat-meal or graham bread is incomparably sweeter, richer, cheaper, and healthier than that made of the superfine, bolted, impoverished article.

**Condiments.**—Every day a hundred thousand

dyspeptics sigh and groan in consequence of condiments. Pepper, spice, salt, vinegar, mustard, and all kinds of fats belong to the list of dyspepsia-producing articles known as condiments. All the works on diet define a condiment as an article which adds nothing to the real nutritive value of food. It is simply something which is added to make food taste better. Whether the food does taste better or not does not depend upon the condiment, but upon the taste of the eater. If his taste is unperverted, he likes food best without condiments. If his taste is perverted, he may like almost any kind of unnatural combination. A Frenchman is as fond of assafœtida in his food as an American is of salt, or an East Indian of curry powder.

Condiments are innutritious and irritating. They induce a heated condition of the system which is very unfavorable to health. They clog the liver, imposing upon it a great addition to its rightful task. Worst of all, they irritate the digestive organs, impairing their tone and deranging their function. A little practice soon accustoms a person to the disuse of condiments, and he learns to relish his food better without than with them.

**Facts about Salt.**—It is a general supposition that salt is indispensable as an article of diet. Many people suppose that life cannot be sustained without it: nevertheless there are nu-

merous facts which indicate that this popular supposition is erroneous. The following are a few of the many that might be presented:—

1. *Salt is a mineral.* It is a well-established fact that animal life cannot be sustained by the use of inorganic or mineral substances as food. Vegetables subsist upon inorganic matter, while animals require organized matter for their food.

2. *Salt is an irritant.* And when taken into the system it produces irritating effects. This is indicated by dryness of the throat, and acceleration of the pulse.

3. *When taken into the system it is not used,* being expelled, unchanged, by the liver, kidneys, skin, and other depurating organs.

4. *It is an antiseptic.* And when taken in any considerable quantities it greatly interferes with digestion.

5. *It is not necessary to support animal life,* as shown by the fact that its use is confined to a very small minority of the animal kingdom.

6. *It is not necessary to sustain human life,* as is conclusively shown by several facts: *a.* Scores of people who have been accustomed to its use have wholly discarded it, not only without detriment to their health, but with positive improvement. *b.* Millions of human beings in Central and Southern Africa, in South America, in some portions of North America, in Siberia, and in other parts of the world, subsist entirely without salt. *c.* This is not altogether because

salt cannot be obtained; for in Southern Africa, where salt abounds, neither human beings nor lower animals make any use of it whatever.

We would not recommend that salt should be wholly discarded in all cases; but there can be no doubt that many cases of diseases of the stomach and liver originate in the excessive use of salt. Persons suffering with torpid livers will find great benefit by abstaining almost wholly from its use, together with that of other condiments.

A gentleman who has just returned from a visit to England, states that many of the English stock-raisers who are noted for producing the finest cattle in the world, never think of feeding their cattle salt, as is so commonly practiced in this country.

**Vegetable vs. Animal Food.**—It is a mistaken opinion that flesh food is necessary to maintain human life. This is abundantly proven by numerous facts which are drawn from the anatomy of man and the lower animals, human and comparative physiology, and the experience of the human race from Adam's time to our own.

Flesh food is not necessary to sustain either mental and physical vigor, or animal heat. It contains no nutrient element not found in vegetables. In fact, eating flesh is only taking vegetables at second hand for all animals subsist upon vegetables.

On the other hand, the use of meat is unfavorable to longevity. Flesh food is stimulating. It contains venous blood, which is filled with such poisons as urea, uric acid, and cholesterine, with many others which would have been removed by the kidneys and liver of the animal had it lived. It is also liable to contain the products and germs of disease; for few animals are perfectly healthy when killed, and many are in a condition of gross disease, being only hindered from dying a natural death by the intervention of the butcher's knife.

Animal food will sustain life, it will nourish the body; but it is not the best food. Science shows that it is not the natural food of man, and history testifies that the bravest and noblest nations of antiquity subsisted for ages without it.

Thousands of people have investigated this subject during the last twenty years, have become convinced that animal food is inferior to vegetable food, and have renounced the use of the former with the most excellent results.

Persons quite advanced in years, or in feeble health, unless they have special morbid conditions which demand such a change, should not attempt to discard animal food altogether. In such cases, if any change in dietary is made, it should be very gradual, and should be made to occupy a considerable period of time. Much harm has been done by extremists in advising consumptives and other chronic invalids to ab-

stain totally from the use of meat. When the system is in a debilitated condition it is not prepared to adapt itself to radical changes in diet unless there exists an imperative demand for it.

**A Live Hog Examined.**—Look at that object in a filthy mud-hole by the roadside. At first you distinguish nothing but a pile of black, slimy mud. The dirty mass moves! You think of a reptile, a turtle, some uncouth monster reveling in his Stygian filth. A grunt! The mystery is solved. The sound betrays a hog. You hasten by, avert your face, and sicken with disgust. Stop, friend, admire your savory ham, your souse, your tripe, your toothsome sausage, in its native element. A dainty beast, isn't he?

Gaze over into that sty, our pork-eating friend. Have you done so before? and would you prefer to be excused? Quite likely; but we will show you a dozen things you did not observe before. See that contented brute quietly reposing in the augmented filth of his own ordure! He seems to feel quite at home, doesn't he? Look a little sharper and scrutinize his skin. Is it smooth and healthy? Not exactly so. So obscured is it with tetter, and scurf, and mange, that you almost expect to see the rotten mass drop off, as the grunting creature rubs it against any projecting corner which may furnish him a convenient scratching-place. As you glance around the pen, you observe that all such con-

veniences have been utilized until they are worn so smooth as to be almost inefficient.

Stir up the beast and make him show his gait. See how he rolls along, a mountain of fat. If he were human, he would be advised to chew tobacco for his obesity, and would be expected to drop off any day of heart disease. And so he *will* do, unless the butcher forestalls nature by a day or two. Indeed, only a few days ago a stout neighbor of his was quietly taking his breakfast from his trough, and grunting his infinite satisfaction, when, without a moment's warning, or a single premonitory symptom, his swinish heart ceased to beat, and he instantly expired without finishing his meal, much to the disappointment of the butcher who was anticipating the pleasure of quietly executing him a few hours later and serving him up to his pork-loving patrons. Suppose his death had been delayed a few hours, as is the case with the majority of hogs? or rather, suppose the butcher had got the start of nature a *little*, as he generally contrives to do?

But we have not half examined our hog yet. If you can possibly prevail upon yourself to sacrifice your taste, in the cause of science, pork-loving friend, just clamber over into the reeking sty and take a nearer view of the animal that is destined to delight the palates of some of your friends, perhaps your own. Make him straighten out his fore leg. Now observe closely. Do you see an open sore or issue a few inches above his

foot, on the inner side? and do you say it is a mere accidental abrasion? Find the same on the other leg; it is a wise and wonderful provision of nature. But what are they? Grasp the leg high up, and press downward. Now you see, as a mass of corruption pours out. That opening is the outlet of a sewer. Yes, a scrofulous sewer; and hence the offensive, scrofulous matter which discharges from it. Should you fill a syringe with mercury, or some colored injecting-fluid, and drive the contents into this same opening, you would be able to trace all through the body of the animal little pipes communicating with it.

What must be the condition of the body of an animal so foul as to require a regular system of drainage to convey away its teeming filth? Sometimes the outlets get closed by the accumulation of external filth. Then the scrofulous, ichorous stream ceases to flow, and the animal quickly sickens and dies unless the owner speedily cleanses the parts, and so opens anew the feculent fountain, and allows the festering poison to escape.

What dainty morsels those same feet and legs make! What a delicate flavor they have, as every epicure asserts! Do you suppose the corruption with which they are saturated has any influence upon their taste and healthfulness?

The hog is a scavenger by nature. His organization indicates it, for he has a regular system of sewers running all through his body and dis-

charging on the inside of his fore legs, the express object of which is to convey away the filth with which his body teems.

The process of fattening hogs is one of disease. A fat hog is one which is grossly diseased. That this is the case is shown by the condition of the liver. The livers of all fat hogs are masses of disease. Every butcher will tell you that he finds not more than one liver in twenty among fat hogs which is not crowded with abscesses.

**Tape-Worm.**—This loathsome creature, which sometimes gets into a human stomach and intestines, and grows there to the enormous length of several rods, is communicated to man by eating pork. The occurrence of tape-worm is becoming much more frequent in this country than formerly, owing to the free use of pork.

**Trichinæ.**—Still more to be dreaded by pork-eaters are the terrible trichinæ, which are also communicated by the eating of pork. Each worm is so small that several hundred thousand of them may occupy a single cubic inch of pork. When taken into the body, a single worm produces ten young, which at once commence boring into the body in every direction, lodging at last in the muscles. The pain and general disturbance of the system is so great that few constitutions can survive the terrible ordeal. If life is not destroyed at once, the individual lingers along, a sufferer for life, his body filled with



disgusting worms for which there is no remedy. No cure for the disease has been discovered. About one hog in every ten is affected by the disease. No more than one in ten of the deaths from this cause are attributed to it, as the disease may appear like many others, resembling cholera, dysentery, typhoid fever, cerebro-spinal meningitis, and rheumatism. No pork is safe.

**Poisonous Water.**—Whole communities have been stricken with disease at once by what seemed a very mysterious cause. Investigation traced the origin to the water supply. Further investigation proved that the original source was some sewer or privy which communicated with the water supply. This is known to be one of the greatest causes of typhoid fever.

The water of wells is often rendered poisonous by receiving the drainage of barnyards and vaults. Sometimes matter of this character will be conducted many feet under ground in a pervious soil, by percolation.

Water from a barnyard well or cistern should never be used. No vault or cess-pool should be within fifty feet of a well.

**Milk from Stabled Cows.**—Milk is not the best food, because it contains the impurities of the blood of the animal from which it is taken. If the animal's blood be pure, the milk is proportionately good; if it is impure, the milk must be likewise affected.

When cows are confined in a close stall, they breathe over and over the same foul air, which is always loaded with filthy vapors from their own excreta. These vapors enter the blood and poison every tissue and every secretion. The inhaled impurities make their appearance in the milk also, which thus becomes a means of excretion. If it is eaten, the filthy impurities of the stable are taken with it.

A writer of note truly says that "fully one-

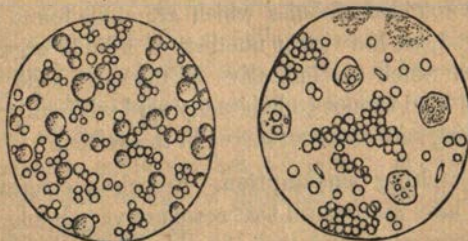


Fig. 1.

Fig. 2.

half of the deaths among the young are directly traceable to poisonous milk;" and yet thousands of people, especially in our large cities, are daily exposing themselves and their children to the possibility of fatal poisoning.

The taste is not always a reliable means for testing the quality of the milk, neither can the poisonous elements be detected by the closest scrutiny of the chemist; but the microscope reveals the presence of disease, although it may escape all other means of detection.

Fig. 1 is an accurate illustration of the appearance of pure milk when examined by means of a good microscope. It will be seen that it contains nothing but rounded globules of various sizes, which are the so-called butter cells of milk.

Fig. 2 is an exact representation of the appearance of diseased milk under the microscope. This specimen was taken from a cow that was fed upon swill and confined in a filthy stable. The difference between these two specimens will be readily observed. In Fig. 2, in addition to the rounded globules which are alone found in Fig. 1, we have great numbers of minute organisms which are indicative of disease. Milk of this kind cannot be habitually used without producing serious disturbances in the system.

**Catching Consumption.**—French experimenters have ascertained that cows are very liable to consumption, and that the tubercle of this disease may be communicated by eating either the flesh or the milk of affected animals. This will account in part for some of the cases of “quick consumption;” for it is observed that when the disease is communicated in this way its progress is much more rapid than under other circumstances. When milk is used, the greatest care should be taken to obtain it from healthy animals.

**Poisonous Sirups.**—For a number of years the people of this country have been abused by

the manufacture and sale of villainous compounds which were labeled with such enticing names as, “golden drip,” “silver drip,” and similar phrases. These so-called sirups, instead of being made from sugar or the sugar-cane, are manufactured by chemical processes, being made from starch, cotton rags, saw-dust, and similar materials.

It has long been known to chemists that a sweet substance, known as grape-sugar, could be produced by boiling starch for a long time with sulphuric acid. Saw-dust, cotton, and woody fiber in any other form, furnish the same product when treated in a similar manner. Unscrupulous knaves have taken advantage of this scientific fact to impose upon the people a spurious kind of sirup. These unrighteous practices have become so extensive that it is next to impossible to find a specimen of sirup that is wholly free from contamination.

The effects of using this chemical preparation are very serious. It contains sulphuric acid, or oil of vitriol, iron, and various other unwholesome constituents. When freely used, it produces irritation of the stomach, and it has, no doubt, been the cause of numberless cases of chronic dyspepsia. In one instance which occurred under our observation, more than a dozen people suffered at once with slight symptoms of poisoning, the consequence of eating candy made of this wretched stuff. It was observed that the teeth and tongues of those who ate of the candy

were made very black; and without doubt the blackened teeth were permanently and seriously damaged.

It is important to know how to distinguish these adulterated and poisonous sirups from those which are pure. A convenient method, which is sufficiently accurate for practical purposes, is to add a teaspoonful of the suspected sirup to a half cup of strong tea. If the solution becomes black, like ink, the sirup is unfit for use and contains poisonous elements. It should certainly be discarded. If every family would adopt the plan of testing sirup before buying, and refuse to purchase that which would not stand the test, the market for the vile compound would soon be destroyed, and its manufacture would necessarily cease.

**Tea and Coffee.**—One of the most common causes of dyspepsia, "liver complaint," and nervousness, is the use of tea and coffee. The injury resulting from the use of the beverages is attributable to several evils.

1. The active principle of both tea and coffee is theine, or caffeine, a narcotic poison, which is fatal in other than small doses. Although not fatal in small doses, it produces, nevertheless, a decidedly injurious effect. The full injury is not seen at once, neither does it appear in a few months; but the integrity of the digestive and nervous systems is steadily, though slowly, un-

dermined. Chocolate and cocoa occasion precisely the same effects, though they are less powerful.

2. The tannin contained in an infusion of tea or coffee disturbs digestion by rendering inert the gastric juice, one of the most essential digestive agents.

3. The use of hot liquid of any kind at meals is very damaging to the stomach. The organ is not only over-stimulated by the abnormal heat, but its function is impaired by excess of fluid. The gastric juice is diluted so much as to be rendered incapable of performing its function, and the stomach is wearied with the task of absorbing the superabundant fluid. Meanwhile, the food undergoes fermentative changes, and becomes unfit for nourishing the body.

Hundreds have found a cure for dyspepsia, sick-headache, nervousness and wakefulness at night, in discarding tea and coffee with all their substitutes.

**Hard Water.**—Water containing lime and other mineral matters is productive of several very painful diseases. Avoid its use. Soft water can always be obtained at certain times, and preserved in cisterns. Such water is only fit for use after filtering. (See directions for making a filter.) Boiling hard water removes a portion of the lime. Filtration does not purify it.

It is a mistaken notion that hard water is nec-

essary for the maintenance of health. Nothing could be more absurd. The softest, purest water is the best for all the purposes for which water is needed in the human body.

**Iced Water.**—Copious draughts of iced water are very injurious. In the summer time especially, iced water is harmful on account of the sudden cooling of the internal organs which it induces. If drunk at all, it should only be in small sips and very slowly.

The injudicious use of iced water in summer is a most common cause of dysentery and other bowel troubles. It also frequently produces a weakened condition of the digestive organs which results in dyspepsia.

Iced cream, iced tea, and iced milk, together with all other varieties of ices, should be avoided by those who have any anxiety to preserve the health of their digestive organs.

**Eating Between Meals.**—The stomach requires rest as well as the brain or the muscles. If food is eaten at other times than at meals, it is kept constantly at work. From three to six hours are required to digest most articles of food; hence, if food is taken again within five or six hours after eating, the stomach is kept incessantly employed, and becomes exhausted. When the next meal is taken, it is unprepared to receive it, and indigestion with its myriad train of ills results. Late suppers are suicidal. Never eat within five hours of retiring.

**Hasty Eating.**—Americans are proverbial for hasty eating. The student swallows his food unmasticated, and hastens back to his books. The merchant bolts his meal to save time for business. The glutton eats as fast as ever he can to keep pace with his neighbors and get his full share.

It is not enough to fill the stomach with food. Digestion begins in the mouth; and unless the mouth does its share of the work, the stomach is required to do a double portion. When the food is sent down into the stomach in lumps, the abused organ does its best to digest it, but fails, because it has no means for grinding food. The mill is in the mouth, and mastication, if done at all, must be done there. The gastric juice cannot act upon solid food, and allows it to go undigested. Fermentation ensues, and dyspepsia, dysentery, cholera morbus, and a dozen other diseases result.

Eight ounces of food, well masticated, will afford as much nourishment to the body as a pound hastily bolted.

**Alcoholic Drinks.**—No well man can habitually use wine, beer, brandy, or any other alcoholic drink, without becoming diseased. It is good for nothing as a food, and is useful as a medicine only when used with great discretion. Old people do not require it any more than young persons. Indeed, it is far more dangerous

for old than young, because it renders them liable to apoplexy.

Moderate drinking is a skillful trick of the old serpent to lead men to drunkards' graves.

Any quantity of alcohol intoxicates. Intoxication is poisoning. A little alcohol intoxicates a little; a larger quantity intoxicates a good deal. The moderate drinker, no matter how small his libations, only differs from the gutter toper in degree.

The following "Facts about Alcohol" are well worth the consideration of those who need to be warned of the consequences of becoming addicted to its use:—

**Facts about Alcohol.**—1. Alcohol is a poison. When pure, it will produce death as certainly and almost as quickly as prussic acid.

2. Alcohol is a product of fermentation, or decay. The Creator never made it. No plant produces it. No bubbling spring affords it.

3. Alcohol is an irritant. It will blister the skin, and produce inflammation of the stomach.

4. Alcohol is a narcotic. It paralyzes the nerves, and benumbs the sensibilities.

5. Alcohol destroys the blood. It dissolves the blood corpuscles, and thus impoverishes the vital fluid.

6. Alcohol causes heart disease, by changing the heart tissue for fat.

7. Alcohol causes apoplexy. It weakens the

blood-vessels, and causes congestion of the brain. Alcohol weakens the muscles. It has been proven by experiment that a man can lift less after taking a glass of whisky than before.

8. Alcohol wastes vital force.

9. Alcohol causes consumption.

10. Alcohol lessens bodily heat. Travelers in the Arctic regions are obliged to be teetotalers.

11. Alcohol causes paralysis of the brain. A man who is dead drunk is temporarily paralyzed.

12. Alcohol hardens the brain.

13. Alcohol produces congestion of every organ of the body.

14. Alcohol hardens the liver, and renders it useless.

15. Alcohol produces its worst effects when taken in small doses.

16. Alcohol produces all kinds of nervous disorders.

17. Alcohol occasions cancer, ulcer, dyspepsia and other diseases of the stomach.

18. Alcohol is the cause of more than two-thirds of the cases of disease found in the hospitals in large cities.

19. Alcohol is one of the greatest causes of pauperism.

20. Alcohol is one of the most active causes of crime. In Scotland it increased the frequency of crime 400 per cent.

21. Alcohol is a great cause of insanity.

22. Alcohol shortens life 500 per cent., accord-

ing to the statistics of life insurance companies.

23. Alcohol annually kills one hundred thousand American citizens.

24. Alcohol costs more than bread.

25. Alcohol serves no useful purpose in the human system, and does inestimable harm.

**Effect of Diet on the Liver.**—Almost every other man we meet is complaining about his liver. One has a "torpid" liver; another has "congestion" of the liver; another has a pain in his side, which he is confident is due to disturbance of his liver. Complaints are loud and general against the liver, but no one thinks of entering a complaint against the diet, which is the real source of difficulty. Careful investigation and examination of the liver, after death, have proven the deleterious effect which certain articles of food have upon the liver.

The drunkard's liver becomes hardened by the alcohol which he imbibes. The liquid poison has the same damaging effect upon his brain.

The livers of people who use a great deal of fat—fat meat, butter, lard, rich cakes, pies, etc.—become infiltrated with fat. They undergo a process called fatty degeneration, in which there is an actual change of the tissue to fat. This change is favored by sedentary habits. The liver of the domestic cat is almost always fatty.

The natives of the East Indies, as well as of Central and Southern Africa, together with Mex-

ico and other warm climates, make great use of pepper, mustard, turmeric, and other irritating spices. The result of this practice is not only derangement of the stomach, but the production of induration of the liver, a disease which was formerly attributed to the climate of those regions, on account of its prevalence, but is now well known to be the result of the use of the deleterious articles named. Lovers of pepper and mustard should look out for their livers.

It has been observed that cattle that have been overfed, or fed on warm slops, have badly diseased livers. The organ is found enlarged, in some cases very greatly, and its surface is covered with red spots and ragged, ulcerated patches, indicating the presence of disease of so extensive a character as to render the organ almost wholly useless.

The same causes which produce these grave effects in savage and semi-civilized human beings, and in lower animals, will produce the same results in civilized beings. Pepper and mustard are no better for a New York City gormand than for a Hottentot or a Mexican Indian. Slop food—highly seasoned soups, gravies, and "rich" sauces—will work for human livers the same mischievous results that follow its use by lower animals.

**Two Meals a Day.**—According to Hippocrates, a very noted Grecian physician who lived a few

centuries before Christ, the Grecians of that age ate but one meal a day. He advised, however, that two meals should be eaten, as by so doing there would be less liability to overeating. Thus it is evident that the "two-meal system," as the custom of eating two meals a day is called, is not by any means a modern innovation, but has the sanction of antiquity. It is also a fact worthy of mention in this connection, that the ancient Grecians were among the most hardy, energetic, and courageous, as well as learned, of all the nations of whom we have any historical record. Their feats of physical prowess astonish the world; and their rank as thinkers was in no way inferior to that of any other people who have ever lived. The advantages of two meals instead of three are very numerous; and there are no substantial objections to the practice in any but a few exceptional cases. This is a favorable season of the year in which to begin the omission of the third meal. The change may be made at once, or gradually. Perhaps the latter plan is the better one for most persons. If breakfast is taken at 7½ or 8 A. M., and dinner at 2 P. M., the supper will not be missed, or very little at most, especially if the individual retires early.

Of course there are cases in which three meals a day, if the supper be light and early, are preferable to a less number, and for such two meals are not recommended.

It would have been infinitely better for human

stomachs if the ancient custom of eating but twice in a day had been maintained. There are a great many other directions as well in which modern practices are no improvement over ancient ones, and which call for reform by a return to the customs of our predecessors.

**Tender Meat.**—Those who use animal food are always desirous of obtaining "tender" meat. In order to satisfy the demand for such food, the butcher and the producer resort to all sorts of devices. The former keeps the flesh of slaughtered animals after they are killed until decay has begun, in order that the natural firmness and elasticity of the tissues may be overcome by processes of decomposition. The latter treats his animals in such a manner previous to their death that their tissues become softened and disintegrated by disease. There are several means employed to effect this; chief among them are confinement and overfeeding. An exchange gives the following translation of a description of how young pigeons are fattened in Germany, as given in the North German *Allgemeine Zeitung*:—

"In order to fatten young pigeons quickly, put them, on the twentieth day, or when they commence to get feathers, into a basket with a soft layer of moss or hay on the bottom, in a place which freely admits the air, but excludes the light. Feed the birds three times daily, at intervals of five hours each, with cooked maize,

opening their beaks and making them swallow successively thirty to forty grains each. The maize should be warm, but not hot. By continuing this treatment ten or twelve days, the birds will become most tender and delicate."

Such meat would doubtless be "tender" enough to suit the most fastidious epicure. In this respect the plan suggested would certainly be perfectly successful; but great care would be necessary lest nature should succumb and actual dissolution of the poor birds occur before their heads were chopped off. Mr. Bergh would arrest the perpetrators of such cruelty.

**Lager Beer as Food.**—After such repeated refutations of the idea, it is strange that people should still cling to the notion that lager beer is nourishing. If a man has lost his appetite, and seems to be failing in strength, or losing weight, his next-door neighbor advises him to drink daily a few glasses of lager beer. If a nursing mother has insufficient food for her infant, wise old ladies prescribe lager beer or ale.

Although it is being constantly reiterated in the ears of the people that alcohol is not food, and that beer and ale are only dirty mixtures of alcohol and water, still they refuse to believe that these pernicious beverages cannot, in some way, impart nourishment and strength. Perhaps the testimony of one of the greatest of European savants will correct the opinions of a few.

Said Prof. Baron Liebig, a German chemist of great renown, "We can prove with mathematical certainty that as much flour or meal as would lie on the point of a table-knife is more nutritious than five measures [ten quarts] of the best Bavarian beer." Powerful nutriment, indeed!

**A Barbarous Practice.**—The practice of smoking, which has now become so universal among a large proportion of our male population, has a curious and interesting history—curious, on account of the novel origin of the habit, and interesting, from the insight which it gives into the depravity of human nature.

For a long time, the origin of smoking was obscure; but history has come to the rescue, and now we learn that "in 1492, as Columbus lay with his ships beside the island of Cuba, he sent two men to search the land and report what they might see. On their return, among other things, they said they saw the naked savages twist large leaves together, and smoke like devils." Since that time, a large share of the men and boys of civilized nations have been following the filthy example of those naked savages.

It was not, however, without meeting with vigorous opposition that tobacco obtained despotic tyranny over human beings. In Russia, the use of tobacco was prohibited under the penalty of the bastinado for the first offense, loss of the nose for the second, and deprivation of life for the third.



In Italy, the pope fulminated a bull against the filthy weed, and excommunicated all who used it in church.

In Switzerland, tobacco-users were treated as criminals.

The Shah of Persia made tobacco-using a capital crime, and many of its devotees were executed.

In Constantinople, a Turk was led through the streets with his nose slit and transfixed by a pipe-stem, as a warning to smokers.

King James I., of England, expressed his opposition to the weed in a powerful "Counter-blaste," which stigmatized the drug in most decided terms.

Even in this country, the native home of tobacco, at a somewhat later period its use was interdicted to all who had not previously acquired the habit, unless prescribed by a physician as a medicine.

But the devotees of this fascinating drug steadily increased in spite of all opposition, until tobacco-using has become an almost universal vice; in which fact we see a striking illustration of the readiness of human nature to seize upon anything which promises gratification of the senses, no matter how filthy, how disgusting, how pernicious, or how fatal in its ultimate consequences.

**Diet and Mental Labor.**—Isaac Newton performed his most severe intellectual labor while

subsisting upon a diet of bread and water. Pythagoras, one of the most acute philosophers of antiquity, was a rigid vegetarian, and educated his followers in the same regimen.

**Cheerfulness at Meals.**—The benefit derived from food taken, depends very much upon the condition of the body while eating. If taken in a moody, cross, or despairing condition of mind, digestion is slower and much less perfect than when taken with a cheerful disposition. The very rapid and silent eating too common among Americans, should be avoided, and some topic of interest introduced at meals, in which all may participate; and if a hearty laugh is occasionally indulged in, it will be all the better.

**Spices.**—The almost universal fondness for spices is a curious illustration of the readiness with which the simplicity of the natural taste may become depraved. Pepper was used before B. C. 400. Pliny speaks of its use in his day, and expresses his astonishment that men should esteem it so highly when it has not a sweet taste, nor attractive appearance, nor any other desirable quality. We can heartily sympathize with Pliny in his astonishment.

Nutmegs and mace are quite extensively used as spices in this country and in Europe; but neither one is ever used as a condiment in the country from which they were first brought, the Isles of Banda.

## SIMPLE REMEDIES

## FOR COMMON DISEASES.

A LARGE share of the cases of illness which are constantly occurring in nearly every family are of such a character that they can be treated by any intelligent mother quite as well as, or even better than, by the doctor. Again, the necessary trouble of going for a physician for every trifling ailment, besides the useless expense in fees which it occasions, is a weighty consideration. Important cases demand medical advice; but every parent ought to be sufficiently well informed to be able to attend promptly and efficiently to the great majority of the ailments to which all families are liable.

If children are properly clothed and fed, allowed plenty of exercise, fresh air, and sleep, they will be seldom ill. The same is equally true of grown people. Accidents, exposures, and indiscretions will occur, however, resulting in various ailments. If the simple directions given for treating some of the more common diseases are carefully followed, much trouble, expense, and suffering may be avoided. Few drugs are recommended for internal use, because the cases in which they are really needed are such as require the personal attention of a physician.

**Colds.**—Tommy, or Mary, or baby, or some other one of the children, or the family, has "caught a hard cold;" what shall we do? Do nothing, and let it wear off!

No; perhaps he will get well, may be his cold will become something worse.

Shall we give him ginger tea, red pepper, brandy sling, onion sirup, honey and lard, fat pork, castor-oil, licorice, hoarhound, molasses candy, boneset, catnip, mullein tea, or pennyroyal? or shall we apply a mustard plaster to his chest, a blister to the bottom of each foot, and fat pork with salt and pepper to his throat?

Do no such thing. Such trash put into his stomach, with such irritating applications outside, would make a well person sick. Now do this:—

In the first place, prevent the cold, if possible, by beginning in season. Perhaps the feet have been wet, and are damp and cold. Pull off the shoes or boots and stockings, and put the feet into a pail of water as hot as can well be borne, after first wetting the head with cool water. After fifteen minutes' soaking, pour a little cold water into the pail. Allow the feet to remain two or three minutes longer, then take out, wipe dry every part, between the toes and around the ankles, and then rub them until they glow with warmth. Put on dry, warm stockings, and send the patient to bed for an hour, or all night if it is evening. Instead of waking up in the morn-

ing with a headache, a sore throat, and a voice like a cracked fiddle, he will be quite well.

If a person has really got a cold, and is sneezing, and wheezing, and coughing, and expectorating, more thorough measures must be taken.

1. Eat little or nothing for a day or two. The popular adage, "Stuff a cold and starve a fever," is without foundation. A cold is a fever—a *heat*, really, rather than a *cold*, if temperature be considered.

2. Rest. Sleep all that is possible. No time is lost in such a course. Timely rest may save serious illness.

3. Take some kind of hot bath, which will start the perspiration freely. Long sweating is debilitating, only start the action of the skin. The foot-bath combined with the sitz-bath, the wet-sheet pack, the vapor-bath, and the hot-air bath are alike suitable. These are severally described in this work. After the bath, go to bed.

Drink freely of water, the purer the better.

A day or two of such treatment will usually "break" the hardest cold, saving the patient several weeks of pain and annoyance, if not from chronic disease. Try it. The trouble is less than you think, and the results are splendid.

Frequent bathing in tepid water makes a person less liable to colds.

**Sore Throat.**—There are many remedies for sore throat, some of which are harmless, being

simply worthless—like goose-oil applied externally—while others are quite injurious. The remedy used by the Germans—and many sensible Americans—is the best. If it is a case of simple sore throat, make, alternately, hot and cold applications, according to directions given elsewhere. If there is fever, cool the skin with sponge-baths. Keep the feet warm. If there are symptoms of diphtheria, apply ice in a bag to the outside of the neck, and give the patient little pieces of ice to swallow. Lemon juice applied to the pharynx with a swab is sometimes a good remedy.

**Hoarseness.**—All the sirups, expectorants, cough mixtures, anodynes, and inhalations ever invented or advertised will not cure hoarseness. They may sometimes destroy the sensibility of the nerves of the diseased part, and so relieve the cough, but they cannot remove the disease. Honey, loaf-sugar, and all such articles are very deceptive remedies. Cough lozenges and candy, troches, etc., are equally useless. They do not come in contact with the diseased surfaces, as many suppose. They pass directly down into the stomach, where they occasion much disturbance, disordering digestion, and so producing a disease really worse than the one they were intended to cure.

If the disease has not become chronic, it may usually be relieved by bathing the throat and

neck in cool water, applying heat and cold alternately, and wearing a wet bandage around the neck nights. If the difficulty is of long standing a physician's care is needed.

**Headache.**—Pain in the head is caused by either too much or too little blood. If the pulse is high and the head hot, while the feet are cold, apply cold to the head and put the feet in a hot bath. A sitz-bath and foot-bath combined will be necessary in severe cases. If the cold application does not give speedy relief, apply hot fomentations for a half hour, unless relief is sooner obtained, renewing the application every four or five minutes. Apply a tepid compress last.

Sometimes headache is caused by undigested food in the stomach. In such cases a warm-water emetic is needed. If accompanied by cramp in the stomach, apply fomentations over that organ also. Sick headache nearly always requires hot applications.

**Burns and Scalds.**—Apply at once light cloths dipped in cool or tepid water, or immerse the part in water. When the pain is somewhat relieved, apply pure lard or sweet-oil. One of the best preparations is sweet-oil to which carbolic acid has been added in proportion of one part to twenty. It may be applied by means of a saturated cotton or linen cloth laid over the part. If the burn has not destroyed much of the skin, prompt relief will usually be obtained by cover-

ing the part with the white of egg applied with a soft brush. Apply a second coat when the first dries. Deep burns should be poulticed after the pain has been somewhat relieved by the application of cool wet cloths, as they will be attended with sloughing and discharge of pus.

Alum-water and carron-oil (a mixture of lime-water and linseed-oil in equal parts) are favorite remedies with some. A saturated solution of bicarbonate of soda, applied by means of a thin compress, is recommended as a most excellent remedy.

**Chilblains.**—This troublesome affection, though seemingly insignificant, often makes existence almost a burden by its constant irritation. It is easily cured, but not by the application of any sort of salve, ointment, liniment, or quack nostrum, no matter how highly recommended.

Just before retiring, prepare two vessels for a foot-bath. Place in one, water as hot as can be borne, and in the other, very cold water. Place the feet first in the hot water for two minutes, then in the cold water for the same time. Alternate thus four or five times, merely dipping the feet in the cold water the last time, and then wiping them dry. Repeat this treatment every night until the cure is effected. Improvement will usually begin at once.

Wear thin cotton stockings inside the woolen ones, and avoid exposing the feet to severe cold

until they are well. A general bath twice a week is necessary. (See article on freezing, for prevention of chilblain.)

**Pain.**—Acute pain is usually due either to inflammation or neuralgia. Hot applications are nearly always the most grateful and the most successful of any local remedy. Plasters, liniment, and leeches are seldom if ever useful. Blisters are wholly unnecessary, and are always harmful. The most judicious physicians have wholly discarded them. Sometimes cold applications are the most grateful and efficient. The patient's feelings will determine which is to be employed. The hot foot-bath, or the foot-bath and sitz-bath combined, is sometimes necessary in addition to local measures.

**Face-ache.**—Pain in the face is generally of a neuralgic character. Frequently it originates in a diseased tooth. Make hot applications in any of the several ways described in the article on "Hot Applications." Cold applications are occasionally best. The foot-bath, sitz-bath, and abstinence from food are useful auxiliaries of treatment. When due to constitutional causes, as the use of tea, coffee, tobacco, or liquor, or to an impoverished condition of the blood and general derangement of the nerves, the disease is very obstinate and requires constitutional treatment.

**Toothache.**—This painful affection is often closely connected with face-ache. It may be due

to a decayed or ulcerated tooth, or to disease of the dental nerve. Apply the same remedies as directed for face-ache. In addition, apply half of a steamed fig (hot) to the diseased tooth. A bit of cotton saturated with laudanum or creosote, and crowded into the cavity of a carious tooth, will often give speedy relief. The only proper and permanent remedy when the tooth is decayed, is to have it filled or extracted. It should be filled, if possible.

**Earache.**—Hot applications, or the prolonged hot douche, applied with the fountain syringe, will often give relief. A hot poultice, continually applied, and frequently changed, is a good remedy. Half a boiled or roasted onion, bound upon the ear, will sometimes give relief. No remedy is infallible. The hot foot-bath and sitz-bath are excellent remedies. If an abscess is forming in the outer ear, the pain will continue until it opens, or is lanced. A few drops of laudanum placed in the ear give relief in some cases, and can do no harm. A still better application is obtained by evaporating the alcohol from a teaspoonful of laudanum and mixing the residue with half a teaspoonful of sweet-oil or glycerine. Incline the head and pour a few drops of this into the ear. Such applications give relief only by deadening the sensibility of the nerves, and not by removing the cause of the difficulty. Hence, they should be employed, if at all, only in connection with other remedies.

**Rheumatism.**—Inflammatory rheumatism requires the attendance of an experienced person. The wandering pains from which many people suffer, which are commonly called rheumatism, can be relieved by proper attention.

1. Avoid the use of irritating condiments, tea, coffee, tobacco, and alcoholic liquors, including wine, beer, etc. Avoid, also, gross food, and the use of food or drink containing saline matters. Be temperate in all things.

2. Dress warmly and uniformly. Silk or buckskin under-suits, worn next the cotton under-clothing, give great relief to many. Wear flannel the whole year.

3. Apply heat to the painful parts as in neuralgia. The hot-air and vapor-baths are good. Keep the skin clean. Exercise freely.

**Colic.**—The usual causes are indigestion and constipation. Administer a copious enema to secure a free passage from the bowels. Apply dry, hot cloths or hot fomentations over the abdomen. Percuss and knead the abdomen gently, to promote action of the bowels. Hot drinks do very little good, and usually as little harm. For an infant, fold a thick woolen blanket, wet one end in as hot water as can be borne, wring it so that it will not drip, and apply the wet end over the abdomen of the child, wrapping the remainder around its body. It is often surprising to mark the almost instantaneous relief which follows. The applications must be *hot*, not sim-

ply warm, and must be renewed every five or ten minutes until relief is obtained.

Nearly all abdominal pains may be relieved in the same way.

**Convulsions.**—The convulsions of children—commonly called spasms, or fits—are usually due either to worms or indigestion, unless they occur in the course of some acute disease. Place the child at once in a hot bath, disturbing it as little as possible. It will usually recover in a few minutes. When sufficiently recovered, administer an enema to free the bowels, and keep it perfectly quiet. Some advise the cold bath, and practice it with good success. The patient should be rubbed vigorously during the cold bath.

Epileptic convulsions require more than simple domestic treatment. The most that can be done for the patient during the fit is to prevent him from injuring himself or others. The lips and tongue are often severely bitten by the spasmodic action of the muscles of the jaws closing the teeth together upon them. This may be prevented by placing a piece of soft wood or other material between the teeth at the beginning of the fit. As the patient usually sleeps some time after the fit, the brief interval of consciousness which immediately follows it should be occupied in getting him into a comfortable position.

**Hysterics.**—This peculiar disease is most common in women, though sometimes observed in men. It is a real disease, and should be treated as such. The symptoms are almost as various as the cases. It may simulate any disease. Place the patient upon a sofa, beside which a large vessel is placed. Hold the head of the patient over the vessel, and pour cold water upon it from a pitcher held a few feet above. Apply at the same time cold to the chest and spine, and hot bricks or bottles to the feet. This treatment may be continued for an hour or two without injury if the patient does not recover sooner. Speedy relief is usually secured. If the patient becomes quite chilly, apply warm cloths to the chest and shoulders.

**Apoplexy.**—If a person falls suddenly and is found with a full pulse, throbbing temples, flushed face, and breathing hard, he has apoplexy. Loosen every constriction about the throat at once, elevate the head, secure fresh air, bare the chest, and pour cold water upon the head. See that the extremities are warm. Call a physician as soon as possible. Do not bleed, nor give brandy, ammonia, nor any other stimulant. Apoplectic convulsions are quite rare. They generally occur in sedentary people of full habit, in advanced life.

**Fainting.**—When a person faints, the heart nearly ceases its action, the action of the lungs is nearly or quite suspended, the face becomes pale,

and partial or complete unconsciousness ensues. If the person has fallen, do not elevate the head, but be careful to keep it as low as, or lower than, the rest of the body. If the patient is sitting in a chair, step behind him, grasp the chair at the sides, and carefully tip it back until the head touches the floor. This alone will suffice in many cases. If the patient does not immediately revive, loosen the clothing about the neck, chest, and abdomen; sprinkle cold water in the face; slap the surface of the body with the hand or a slipper; apply an ammonia bottle, camphor, or any other pungent odor to the nostrils; secure abundant cool, fresh air, and use artificial respiration. If the patient can swallow, give very hot or very cold drinks.

A person who is subject to syncope should lie down at once when he first feels faint.

**Croup.**—If the child can speak aloud, the disease is of the spasmodic variety, and he will probably recover with a little attention; but if he can only whisper, and the disease has come on somewhat gradually, it is a much more serious variety—true croup—and a physician should be called at once.

Apply, alternately, hot and cold cloths to the throat and neck for a half hour, then apply cold continuously for half an hour, then foment again. Give a hot bath, and keep the limbs and extremities warm. Give no emetics, expecto-

rants, stimulants, nor anodynes; all are harmful. Goose-oil on the outside does no more good than ipecac inside. Give the child an abundance of fresh air. If the case is one of true croup, the inhalation of steam is one of the best remedies.

**Measles.**—Ordinary cases require little more than care and good nursing. The comfort of the patient is greatly increased by frequent tepid sponge-baths or packs. If the eruption does not appear promptly, or is repelled, put the patient into a hot pack, with a woolen sheet, for thirty minutes. Keep the head constantly wet with cool water, and bathe the face every few minutes when there is considerable fever. If the throat is sore, give treatment for sore throat as already described. Give the patient abundance of fresh air, but do not expose him to draughts. The diet should be as simple as possible, and very light. Slings, teas, sirups, and other medicinal agents are not required in this disease.

**Scarlet Fever.**—This disease may be treated essentially in the same manner as measles. The sponge-bath should be administered several times a day. Keep the bowels free by enemas.

**Fevers.**—Simple fevers may be treated in accordance with the directions for measles and scarlet fever. If complications occur, as pleurisy, lung fever, or other affections, a physician should be consulted.

**Mumps.**—This common affection needs little more than careful nursing. A spare diet, rest, and a daily warm bath facilitate recovery. If the diseased parts are very painful, treat as for sore throat. Keep the feet warm. If the breasts or testicles become inflamed, apply ice or alternate hot and cold cloths.

**Dysentery.**—This disease consists of an inflammation of the large intestine, or colon. In mild cases, the disease is limited to the rectum. The local inflammation is accompanied by general fever, together with the discharge of mucus, with more or less blood. The cause of the disease is sometimes obscure; improper diet, bad water, foul air, or exposure to wet and cold, during the hot months, may be mentioned as the most common causes of the disease.

In the treatment of this malady, energetic measures should be used to diminish the local inflammation, and to subdue the general fever. This may be done best by the use of fomentations and compresses over the bowels and abdomen, together with the wet-hand rub and wet-sheet pack, as frequently as the severity of the case demands. Great care should be taken to keep the extremities thoroughly warmed. If the head is unnaturally hot, cold applications may be made to it. If spasms occur, great relief may be obtained in an application of ice or very cold water to the head and upper portion of the



spine. Local pain may be greatly relieved by the use of warm or cool enemas. Great care should be exercised to keep the patient quiet. His food should be such as will be easily digested, while it is of such a character that it will not be a source of irritation to the mucous membrane.

It is a mistaken notion that fruit is a cause of this disease. It may be occasioned by eating unripe fruit; but the immaturity of the fruit is the cause of the disturbance, being a source of irritation to the intestinal canal on account of its indigestibility. Ripe fruit not only does not occasion dysentery, but some kinds of fruit, as blackberries, raspberries, and grapes, are conducive to recovery when freely used. Fruit is rarely harmful if eaten properly, being taken at meals only, in moderate quantity, and thoroughly masticated.

**Diphtheria.**—As soon as the first symptoms of the disease appear, begin treatment in a very energetic manner. If the patient is an adult, give him a warm sitz-bath for about twenty minutes. Surround him with blankets during the bath, so as to favor perspiration. The feet should be placed in a hot foot-bath in the meantime, and the head should be frequently wet with cool water. After the bath, quickly sponge the whole body with water a little cooler than that of the bath. Then put the patient to bed and cover him up warm. Keep the feet warm,

cool the head by frequent bathing, and sponge the whole body every hour or two with tepid water if the patient is very feverish.

If the patient is a child, a warm pack will be preferable to a sitz-bath. Wring a woolen sheet out of water a little more than blood-warm. Spread it quickly upon the bed, place the patient upon it, and quickly envelop him. Then wrap him snugly with dry blankets, and let him sleep for half an hour if he feels so inclined, as he usually will. Follow the pack by tepid sponging, as directed after the sitz-bath.

After putting the patient to bed, apply, alternately, hot fomentations and cold compresses. Fold a flannel cloth twice, so as to give four thicknesses, wring it out of water as hot as can be borne dry enough so that it will not drip, and apply at once to the throat. After a lapse of three to five minutes, apply a cold compress for the same length of time. Then re-apply the fomentation, and continue to alternate until each has been applied four or five times. Then apply a cool compress, and change it as often as it becomes warm.

In ordinary cases, it will be sufficient to wet the cool compress in the coldest well water that can be obtained; but in cases in which there is great irritation of the throat, snow or pounded ice should be applied, being placed between the folds of the compress.

By all means avoid the use of all of those caus-

tic applications which are so commonly employed in this disease. When white patches appear in the back part of the mouth, touch them every two or three hours with pure lemon juice, using a swab of soft linen or sponge attached to the end of a lead pencil or a small stick.

If the patient is old enough, some relief will be given by using a gargle of water acidulated with vinegar. Another excellent gargle which destroys the vegetable parasites always present in this disease, is a solution of permanganate of potash. The crystals can be obtained of any druggist. Place two or three in a glass of water, and stir until they are dissolved. The fluid should not be taken into the stomach, though no harm will result if a few drops are swallowed.

A very favorite remedy with many physicians, is the inhalation of the vapor of warm vinegar. The vinegar may be heated in a coffee-pot, and inhaled from the nozzle. A plan highly recommended is the inhalation of the vapor which arises when lime is slaked in a vessel. These measures will often give great relief.

The sick-room should be well ventilated, in order to carry away as rapidly as possible the foul germs which result from the disease, and thus prevent their re-absorption into the blood. The diet should be plain and light, though enough should be given to sustain the nutrition of the patient. Oatmeal gruel and mild fruits are usually well received. Milk may be employed when

the patient has been accustomed to its use. The same regularity in meals should be observed as in health.

**Ague.**—Ague, or intermittent fever, is one of the most common of all diseases in malarious districts. It prevails especially in the spring and autumn months. The exciting cause of the disease is a certain poisonous miasm which rises from low lands which are alternately flooded and dried during the warm season.

Bilious or remittent fever is produced by the same cause. These diseases are so common that we need not describe their symptoms.

*Prevention.*—The following suggestions respecting prevention will be found useful:—

1. Unless compelled by dire necessity to do otherwise, do not live in a malarious district; in other words, seek a residence that is as remote as possible from localities where malaria is known to be produced.

2. If your residence is already fixed in a malarious district, employ every means possible to prevent the reception of the poison into the system and to counteract its effects. Avoid being in the vicinity of the malarious localities during the evening and early morning, since at these times the miasm settles near the ground. Secure, if possible, a dense growth of trees between the source of malaria and the residence; if this is impracticable, plant, every year, in the same place,

a large area of sunflowers, which serve the purpose of destroying the miasm.

3. Keep the system in as free and clear a condition as possible by avoiding such habits and such articles of diet as will impair the integrity of the liver, skin, kidneys, lungs, and other eliminating organs. This will enable the system to eliminate the poison without its occasioning disease.

*Treatment.*—At the beginning of the disease, give the patient a vapor-bath on the well day, and in case the chill occurs every other day, repeat the treatment on each well day for a week. During the chill, surround the patient with warm blankets, hot bricks, bed-warmers, a jug of hot water, or any other means of imparting artificial heat; but be careful to avoid applying water to the surface of the body, unless it be to the head. Care should be exercised to remove the hot applications as soon as the fever begins to appear. When the fever is at its height, sponge the body with tepid water. The sponging may be repeated at intervals while the fever continues. During the sweating stage, frequently wipe the skin with a soft cloth; and when the sweating ceases, change the patient's clothing after a thorough sponging of the body. If there is a tendency to sweat at night, administer the wet rubbing-sheet at bedtime. If the vapor-bath cannot be given, the wet-sheet pack is a very good substitute.

The diet should be very simple. Oatmeal or

graham gruel, with ripe fruit and dry toast or graham crackers, constitutes an admirable dietary for a person suffering with ague.

In case the chill occurs every day, the vapor-bath or pack should be given in the afternoon or every other day after the paroxysm is past. If the severity of the disease is unabated after this treatment has been thoroughly applied for a week or ten days, it would be well to resort to direct means for breaking the periodicity of the disease. A very efficient means of doing this is to get the patient into a profuse sweat by surrounding him with hot bricks, warm blankets, and other hot applications, twenty minutes before the time for the chill to begin. The patient should be kept very warm for an hour or two, or until all danger of chilling is past. Care should be exercised not to press this means to such a degree as to produce violent congestion of the head. If this plan fails after two or three thorough trials, the use of a very small dose of an antiperiodic medicine will break the chills, and then the patient will make a rapid recovery; but the use of drugs will be very rarely required if treatment is applied efficiently and discreetly. The treatment described has proven successful in a large number of cases. When the cause of the disease is removed from the system, it will usually cease. But in case the paroxysms are not interrupted after the lapse of a reasonable amount of time, a small dose of medicine will do the system less

harm than the prolongation of the disease; for the popular theory that it is better to wear out the disease than to check it in any way, is a great error. The long continuance of the disease is exceedingly damaging to the system, while it is in no way beneficial. In many instances, consumption, dropsy, and other grave and fatal diseases, are produced by allowing ague to continue until the vital forces of the patient are exhausted.

**Whooping Cough.**—No method of treatment will cure this disease. The patient gets well of himself in due time in ordinary cases, if he is not dosed with sickening compounds, drugs, teas, sirups, expectorants, cough mixtures, and emetics. Good care, plenty of fresh air, a warm bath three or four times a week, and a plain, nourishing diet, are the best means to secure a speedy recovery.

**Worms.**—Various kinds of worms infest the human body. Children are particularly liable to them. For the small worms which are found in the rectum, perfect cleanliness, regularity of the bowels, daily enemas of salt water, and anointing the anus with sweet-oil, are the best remedies. Indigestion and constipation are the chief causes.

Tape-worm and the large round worm require more energetic measures of treatment. For the first, the best remedy known is the seed of the common pumpkin. Take two ounces of fresh seeds, remove the shells, and beat them to a paste

with an equal quantity of finely pulverized white sugar. Add a little milk or water, and take at one dose after fasting twenty-four hours. After three hours, take a table-spoonful of castor-oil. If this does not dislodge the worm, there probably is none. Many people imagine they have tape-worm when they have not. For a child, the dose should be about one-half that for an adult. The fluid extract of the seeds can be obtained at the stores, the dose of which is half a fluid ounce.

For the round worms, worm seed, *chenopodium*, is one of the best remedies. To a child two or three years old give half a dram of the seed in sirup or honey, night and morning, for three or four days in succession. After the last dose, give a tea-spoonful of castor-oil. Five or ten drops of the oil may be given with sugar in place of the seed.

**Constipation.**—Torpidity of the large intestine is a condition very common among sedentary people, especially women. It is the result, in part, of eating fine-flour bread and irritating condiments. One of the greatest causes—the chief, perhaps—is neglect to attend promptly to the calls of nature. When the feces are retained in the rectum, they become hard and dry through the absorption of their fluid portion. Thus a considerable part of this foul matter is taken into the system, permeating every fluid and tainting every tissue. The dry, hard residue becomes packed in the intestine, and makes defecation

difficult, and is productive of several serious diseases of the bowels and other abdominal organs.

Nothing could be more injurious than the use of purgatives as remedies for this difficulty. No matter under what form or name they are taken, they always aggravate the disease in the end, though they seem to give temporary relief. Besides, these "aperients," "laxatives," "purgative pellets," and "cathartics" are the most potent causes of dyspepsia. To cure the difficulty do this:—

1. Exercise plentifully and regularly in the open air.

2. Eat no bolted flour. Instead, eat wheat meal, or graham flour, oatmeal, rye, barley, crushed wheat, etc. Eat plenty of fruit, sparingly of milk, sugar, and condiments. Discard hot drinks at meals. Knead and percuss the abdomen gently for half an hour each day, or five minutes at a time, and several times a day. By regularity in habits, accustom the bowels to move at a certain hour each day. Secure an action of the bowels at least once each day, if possible, but do not resort to the continued use of the enema to effect it. Drink a glass of cold water half an hour before breakfast, if it does not disagree with the stomach.

**Piles.**—This malady is simply a result of the preceding one. It usually disappears when its cause is removed. Sometimes, however, the tu-

mors which are formed have to be removed. Ointments seldom do any good. The numerous "infallible cures" advertised, are frauds. Cool bathing of the parts, cleanliness, and the injection of cool water, are among the best remedies.

A horde of quacks are just now infesting the country as "pile doctors." They profess to cure by a secret and painless remedy. They should never be employed.

**Cold Feet.**—Cold feet are due to deficient circulation. Administer the alternate hot-and-cold foot-bath as directed for chilblains, several times a day, if possible; at least, twice a day. Wear large, thick boots or shoes, and thick woolen stockings. Keep the feet dry. Exercise. Allow no constriction about the limbs, as garters or elastics. Clothe the upper portions of the limbs warmly. Do not wear rubbers except for a little while at a time when necessary. Electric or galvanic soles are of no use whatever. The feet should be kept perfectly clean, and the stockings should be changed every day, being allowed to air one day, when they may be worn again. Three changes a week are none too many for cleanliness and warmth. Cork soles are useful.

**Heart-Burn.**—This unpleasant affection has nothing to do with the heart. It is the result of fermentation of the food, which produces irritating acids. These are thrown up into the mouth,

producing a burning sensation. A few sips of hot or cold water will commonly give relief.

Sometimes a warm-water emetic is required. Soda and magnesia, which are so often used, are productive of a vast amount of mischief. They never cure, but increase the real disease, and sometimes cause fatal injury to the stomach and intestines.

**Crick in the Back.**—This curious malady is sometimes relieved as quickly as produced, by stretching the back by bending backward across a log or fence. Hot fomentations, with vigorous rubbing, usually give relief quite readily.

**Stitch in the Side.**—This difficulty is of the same character as the preceding. Hot applications usually give prompt relief. A tight flannel bandage should be worn about the trunk after the fomentation has been given.

**Lumbago.**—Alternate hot and cold applications followed by thorough rubbing and percussion are the best local applications. Systematic treatment, and attention to the general health, are also required.

**Biliousness.**—Every spring the regular doctors, and the quack doctors, and all the drug fraternity, reap a rich harvest from the numerous multitudes who seek to be cured of biliousness by purgatives, alteratives, "blood-purifiers," and "anti-bilious pills." This is one of the great pop-

ular delusions upon which charlatans and druggists fatten. The ill feelings which are interpreted to mean too much bile, really mean too much fat pork, too much sugar, too much grease, too much mince-pie, too much cake and preserves, too much fried sausage; in fact, too much of all kinds of food, whether good or bad. April and May bring the penalty of the transgressions of the winter months. Flagrant outrages against Nature in the matter of food and drink are often seemingly borne with impunity during the cold months; but if the same line of conduct is extended into the warmer months, all the symptoms of "biliousness" appear.

The proper cure for "biliousness" is, first, Abstinence for a day or two until Nature can get rid of a little of the grossness which clogs her machinery; second, Avoidance of the cause; third, A few packs, fomentations over the liver, and the daily dry-hand rub, with a wholesome diet. Lemons and other acid fruit seem to have a favorable influence upon this condition of the system.

Bitters are filthy compounds of various nauseous drugs and poisons, and bad whisky. *All* of them contain alcohol. "Temperance Bitters" and "Vinegar Bitters" are no exceptions. Some contain more alcohol and fusel-oil than do brandy, gin, or rum. The various "blood tonics," "purifiers," "invigorators," etc., are of the same character. Their manufacturers are deserving of a

place in the deepest part of the bottomless pit; for they lay snares for the unwary, making drunkards of the best and most promising men and youth. Their pretensions are all falsehoods, and their testimonials are either fraudulent or the result of bribery. Can bitters purify the blood? Never. As well talk of cleansing a delicate fabric with slime from a cess-pool.

**Cramps.**—Relief is given by the hot or cold douche, hot fomentations, rubbing with cold water, and by pressing the affected muscle against some hard body, or grasping it firmly with the hand. Cramp in the stomach may require an emetic of warm water, with a hot sitz-bath and foot-bath in addition to fomentations.

**Palpitation of the Heart.**—Indigestion is the usual cause. It will cease when the cause is removed. It need not be a cause of alarm in ordinary cases. If the patient has had rheumatism he should have his heart examined by a physician. A sudden attack of palpitation may often be relieved by warming the feet and limbs, and applying hot fomentations over the stomach and bowels.

**Indigestion.**—Proper food, eaten in proper quantity, and at the proper times, ought to be properly digested. In rare cases, only, it may not be. When it is discovered that an article of food is really injurious to digestion, discard it at once. Eat few kinds at a meal. Avoid eating

fruits and vegetables together. Do not drink at meals. Eat slowly. Eat mostly dry food. Do not sleep soon after eating. If the stomach is slow in its action, hot fomentations and gentle kneading soon after eating will promote digestion. Salt and other condiments are often the cause of indigestion.

Sometimes oatmeal gruel, eaten with dry crackers, will be retained and digested when nothing else will be. Other cases will not tolerate any kind of farinaceous food.

A young infant which is for any reason deprived of its natural food, and rejects everything else, will thrive upon a mixture of raw white of egg in water—the white of one egg to a half pint of tepid water. The water should not be hot enough to coagulate the egg. Thoroughly mix, and feed with a spoon.

**Softening of the Brain.**—So-called softening of the brain is not softening of the brain at all. It is simply congestion of the brain from bad food, bad air, late hours, dissipation, lack of exercise, and sundry other causes. Healthy food, a daily bath, abundant sleep, and plenty of exercise in the open air, will cure nearly every case in a short time.

**Consumption.**—Is consumption curable? It is, if taken in time. The following hints, if carefully followed, will arrest the disease in its early stages:—

1. Avoid all the causes of the disease, chief among which are breathing air which has been previously breathed, sedentary habits, late hours, and exposure to extremes of temperature.

2. Live in the open air at least seven hours a day. Exercise sufficiently to produce moderate fatigue, but not exhaustion. Walking and horse-back riding are good exercises.

3. Fill the lungs to their utmost capacity several times in succession, every hour of the day at least; and cultivate the habit of deep breathing. Do not strain the lungs by holding the breath long. Keep the shoulders well thrown back.

4. Avoid all kinds of stimulants and stimulating food. Eat the most nourishing kinds of food. The chance for recovery largely depends upon the amount of nutriment which can be well digested and assimilated.

5. Take a thorough tepid sponge-bath, followed by a dry-hand rub, three times a week. The whole body should be thoroughly rubbed with the dry hand each morning.

6. Wear flannel the year round; thick in winter, thin in summer. A silk under-suit is an excellent protective.

7. Avoid every form of cough sirup, balsam, cough mixtures, lozenges, expectorants, etc., etc., no matter how strongly recommended. Cod-liver oil, fat pork, bullock's blood, and similar remedies are as useless as absurd and disgusting.

Be sure to begin in season. A few months' delay has often sacrificed the last chance. "Throw physic to the dogs," obey the laws of Nature, and trust in Nature's God.

**Vomiting.**—If the patient evidently has something in his stomach which ought not to be there, as indigested food; or something obnoxious which has been swallowed, administer a warm-water emetic to assist in the removal of the cause of the difficulty. If there is no evidence of anything in the stomach which needs expulsion, apply either very cold or very hot cloths over the stomach, place the feet in hot water, and give sips of either *hot* or cold water, or little bits of ice to swallow. The attempt should not be made to check the vomiting unless it is clear that the stomach has been freed from its irritating contents, if this was the cause which induced it at first.

**Cough.**—Coughing, like vomiting, should be encouraged rather than restrained when there is anything which needs expulsion in that manner. Many consumptives have been suffocated by the sudden stopping of a cough which was merely an effort of Nature to get rid of foul matter in the lungs. If there is no cause for the cough but irritation in the throat, it may be cured, in most cases, by the application of the wet bandage. Wear night and day, and change frequently. If the cough seems to have no suffi-



cient cause, it may be concluded that it is of a purely nervous character. The force of will power is the best remedy. Resolve not to cough, engage the attention with something else, and forget it. This method will sometimes succeed even when there is a little irritation present. Continuous coughing will produce irritation of itself. Frequent sips of cold water, and gargling cold water or a mixture of water and lemon juice, will often relieve a cough when it is due to irritation of the upper part of the windpipe. Wearing the wet bandage about the throat is an excellent remedy.

Do not eat honey, lozenges, loaf-sugar, licorice, hoarhound, cough candy, or anything of the kind. They are worthless as remedies, and do the stomach a vast deal of damage.

**Hiccough** [hickup].—This troublesome affection is usually caused by a disordered stomach. Get the stomach in good condition, and it will disappear. A few sips of cold water will often relieve it. Perhaps the best remedy is holding the breath and fixing the attention intently upon some object.

**Sneezing.**—When suddenly seized with a desire to sneeze, place the finger upon the upper lip and press hard. Rubbing the nose vigorously will also suppress the paroxysm when it is desirable to do so. When the affection is caused by disease of the nasal cavity, it will not

be so easily controlled. The inhalation of steam, and the warm or cold nasal douche, or gently drawing water into the nose, will frequently give material relief.

**Bad Breath.**—The chief causes are catarrh, decayed teeth, foul teeth, disordered stomach, and constipation. The remedy is to remove the cause. If there are foul and decaying accumulations in the nose, remove them by syringing the nose with a weak solution of permanganate of potash, common salt, or tepid water. Simply snuffing the fluid gently into the nose is quite effective. The fluid should not be thrown violently into the nose, as injury may result therefrom.

Decayed teeth should be either filled or drawn their presence in the mouth is not only a cause of offense, but is productive of disease of the stomach, besides being a source of impurities which find their way into the blood through the lungs.

Uncleanly teeth are quite certain to decay sooner than those which are kept free from impurities. If the food which adheres to the teeth and lodges between them is allowed to remain, it speedily undergoes putrefaction and becomes very offensive. The teeth should be cleansed with a brush and pure water after each meal, and soon after rising in the morning. Once a day, at least, they should be thoroughly brushed

with fine soap and pulverized chalk. Artificial teeth need especial attention. They should be daily washed with fine soap and a solution of carbolic acid and water, in proportion of a teaspoonful of the acid to a pint of soft water. Shake well before using. Do not wear artificial teeth during the night.

A solution of chlorinated soda, which can be procured of any druggist, is a most excellent article for cleansing the mouth and the teeth. It should be used freely.

When disorder of the stomach is the cause, it must be cured, to purify the breath.

If the contents of the bowels are retained, instead of being promptly voided, their fluid portion will be absorbed into the blood with all their noxious and disgusting properties. The characteristic odor can be easily detected in the breath of persons whose bowels are constipated or irregular. Few things are more offensive than the breath of a costive child.

The proper remedies for foul breath from this cause are pointed out under the head, "Constipation." No amount of good looks can atone for a foul breath. Cleanliness and wholesome diet are all that are necessary to remove it. It is a very disgusting thought that the breath may contain what ought to have been voided from the bowels some time before.

**Sleeplessness.**—Eat an early and light supper of easily digested food; or, better, eat no

supper at all. Do not engage in exciting conversation or amusements during the evening. At an early hour prepare to retire, determined to sleep. Just before going to bed, soak the feet for ten minutes in a pail of hot water. Cool the water a little just before taking them out. This will relieve the brain of a little of its surplus blood. Go to bed at peace with all the world, close the eyes, and fix the mind steadily upon some familiar object until sleep comes. Do not allow the mind to wander if possible to prevent it. If unsuccessful, in addition to the above have hot wet cloths applied to the head after going to bed. A dripping-sheet bath just before retiring sometimes affords excellent results. Gently rubbing the temples with the hand, and rubbing the spine from above downward and the feet and limbs in the same direction, have a very soothing effect. The warm full-bath is an excellent soporific.

**Ulcers.**—Old ulcers on various parts of the body are frequently very offensive as well as painful. To remove the odor emitted by the discharges, wash them thoroughly twice a day in a weak solution of carbolic acid or permanganate of potash. The application will also do something toward healing it. The water-dressing and a strict diet are the best remedial agents.

**Chafing.**—Fleshy persons and children are often seriously troubled by chafing in hot weath-

er. Daily cleansing of the affected parts with cool water and fine soap, and local tepid bathing, repeated several times a day, will prove the most efficient remedies. Anointing the parts with sweet cream or a little unsalted butter, and applying dry, powdered starch, are useful measures. Cleanliness is the most important remedy.

**Canker.**—The small white ulcers which sometimes occur in the mouths of both children and adults are commonly known by this name, which really belongs to a much more serious affection. They indicate derangement of the stomach. The proper remedies are, improvement of the digestion, washing the mouth frequently with cold water, and touching the cankers with nitric acid, lunar caustic, or some other caustic application. Various astringent washes are used with some benefit.

**Chapped Hands, Feet, and Lips.**—Wet, cold, and dirt are the chief causes. The use of poor soap, and imperfectly drying the hands before exposure to cold, are the exciting causes of chapped hands in most cases. To cure, keep them scrupulously clean. Wash them with castile soap and soft water. After wiping them nearly dry, rub them with finely powdered starch.

Washing the hands with water to which a handful of bran or corn meal has been added, is a good remedy.

Another remedy: After thorough washing and

drying, at night, apply glycerine, adding a few drops of soft water, and rubbing in well. Wear gloves during the night.

Sweet cream is another common remedy. Honey is warmly recommended by some. The wet bandage is one of the best of all.

The same remedies are to be used for the lips and feet as for the hands. When fissures, or cracks, occur, keep the edges together by means of adhesive plaster.

**Stammering.**—Stammering is a real disease. It is sometimes induced, by imitation of others, in those who have no natural impediment of speech. It is rather difficult to cure, but perseverance and firmness will master it. Speak very slowly and deliberately, uttering no sound until the vocal organs are well under control. Open the mouth widely in speaking, speak loudly, and breathe deeply. One of the causes of stammering is attempting to speak with the lungs only partially filled. Stop speaking instantly when the slightest embarrassment is felt, and keep the lungs well filled.

**Dandruff.**—Cleanse the scalp daily with pure soft water and fine soap, and brush it with a soft brush. Do not use any of the patent nostrums advertised.

**Sore Eyes.**—Ordinary inflammation of the eyes is greatly relieved by laying upon them one

or two thicknesses of linen cloth wet in tepid water. Smarting of the eyes when reading will usually be relieved by moistening them often with water. Never use eye-water or caustic unless under the advice of a skillful oculist.

**Near-sightedness.**—If the eyes are near-sighted, they should be at once provided with suitable glasses, or they will suffer injury. The glasses should be adapted to the eye by an experienced oculist.

**Far-sightedness.**—Like the preceding, this disease needs immediate attention, although less injury will result from some neglect in this case.

**Baldness.**—Cut the hair short, and bathe the head twice a day in cool water, adding considerable friction with a brush of medium stiffness. Keep the feet warm, and maintain good digestion. If the hair follicles are not destroyed, the hair will grow again; otherwise it will not. The various lotions sold for this purpose are poisonous, and produce diseases which are sometimes fatal.

**Itch.**—The disease is caused by a parasite which burrows under the skin. The object of treatment is to kill the insect. It is perhaps possible to do this by means of water alone; but as the only applications necessary are made to the skin only, no harm can result from the careful use of more speedy and effective remedies. Sulphur is the most reliable remedy. Take two

ounces of lard, one ounce of sulphur, and one-eighth ounce of powdered sal-ammoniac. Mix well and apply at night after thoroughly washing the affected parts in strong soap-suds. Allow the ointment to remain on over night. Wash it off thoroughly in the morning, and put on clean clothes. Repeat the same treatment three or four times in succession. An ointment of storax and lard, one part of the former to four of the latter, is quite efficient. Perfect cleanliness is essential to successful treatment. The application of oil and lard alone is said to cure by half a dozen applications. Mercurial preparations should be avoided, as they sometimes poison the system.

**Lice.**—Animal parasites of various kinds which infest the body, abound only when their presence is encouraged by filth. They usually disappear very quickly when absolute cleanliness is preserved. If they do not at once vanish, the application of an ointment made of one part of Scotch snuff to two of lard will speedily destroy them. This ointment is quite poisonous, and should be quickly removed after thorough application.

**Warts.**—If the wart is small, it may be cured by touching it with the end of a stick which has been dipped in strong acetic acid. The application should be made several times a day until it is destroyed. If large and old, apply nitric acid in the same way. Lunar caustic and caustic potash may also be used.

**Corns.**—These are excrescences produced by a morbid growth of the skin. They are caused either by friction or by pressure, and are usually the result of wearing a tight and otherwise ill-fitting boot or shoe. Corns are not always produced by tight shoes or boots, being often occasioned by the friction of loosely fitting foot-gear.

There are two varieties of corns, hard and soft. Hard corns are formed upon the outside of the toes; soft corns are produced between the toes.

To cure a corn, the first thing to be done is to soften it. To accomplish this, soak the foot in hot water for one hour every night, and then apply a cloth saturated with a strong solution of saleratus. Continue this treatment for three or four days; then remove the corn with a thin, sharp-bladed knife, carefully working the instrument between the corn and the healthy skin beneath. If the whole corn has been removed, all that now remains to be done is to protect the part from pressure. This may be very easily accomplished by placing over it a piece of soft buckskin, in which an opening has been made of the exact size of the corn, which should be placed exactly over the seat of the disease. By this simple means, the diseased surface will be wholly protected from pressure. Any tendency to harden will be prevented by keeping the buckskin saturated with sweet-oil. This simple treatment, if thoroughly applied, will rarely fail to cure any corn.

**Bunions.**—These originate in the same way as corns, and require somewhat similar treatment. Soaking the feet in hot water when they are inflamed, and bathing with cool water at other times, gives great relief. If there is much thickening of the skin, apply a caustic, as nitrate of silver, or lunar caustic. When the black surface comes off, apply the caustic again. Wearing a piece of soft buckskin, as directed for corns, to prevent pressure, is a useful remedy.

**Boils.**—The application of heat and cold alternately, will sometimes disperse a boil in the early stage. When it becomes painful, apply hot fomentations frequently, with the wet compress during the intervals, or apply continuously a soft poultice. The wet compress covered with oil-silk has the same effect as the poultice. The kind of poultice is quite immaterial, if it be un-irritating, for its only valuable properties are warmth and moisture.

When the boil is ripe, that is, when a little white vesicle appears near the surface, its cure may be hastened by lancing with a sharp knife. The discharge may be encouraged by gentle pressure; but squeezing boils is a very harmful process, and greatly retards their cure. If they do not discharge freely after opening, poultice or apply fomentations. Applications for the treatment of boils should be made to the surrounding tissues as well as to the boil itself, to be effective.

A carbuncle is simply a large boil. A sty is a small one upon the eyelid. Treatment for each is the same as for ordinary boils.

It is a mistaken notion that the purulent matters discharged from boils are concentrated impurities which previously existed in the blood. The pus itself is made up of the white blood corpuscles, the most precious part of the blood. The discharge contains impurities, but most of them are the result of the death of the tissues which have suffered in the inflammation. It is yet an undeniable fact that many persons experience an improvement in health after having several boils, whatever may be the explanation. The contents of a boil are very poisonous to the system when absorbed into the blood.

**Stone-Bruise.**—This disease, usually the result of accident, is of a nature similar to felon. The intense pain often present is relieved by placing the part in very cold water. It may be treated nearly like a felon.

**Felon.**—The real disease is an abscess formed beneath the periosteum, or skin of the bone. It may sometimes be dispersed by the application of turpentine or other strong irritants, or by holding the finger in strong lye as hot as can be borne for half an hour, several times a day. Keeping the hand constantly in ice-cold water gives great relief, and sometimes prevents the further progress of the disease if employed in

time. Relief is also afforded by the cold douche, arm-bath, and wearing the cold compress upon the arm and hand. When the disease is manifestly settled, the quickest remedy is found in lancing the finger to the bone. Warm fomentations and poultices may afterward be applied, to encourage the discharge.

**Hang-Nail.**—If the toe is greatly inflamed, it should be placed in a warm foot-bath, an hour at a time, three times a day. During the intervals, it should be covered with a poultice made of bread and milk, linseed, or slippery elm. By this means, the inflammation and tenderness will be greatly reduced. The next step in treatment should be to scrape the center of the nail with a sharp knife until it becomes as thin as possible without exposing the flesh. Then slightly elevate the outer edge of the hang-nail for the purpose, and place underneath it delicate pledgets of cotton. If the nail penetrates the flesh so deeply as to make this impossible, it may be necessary to remove a very small portion by splitting it off with a sharp knife. A still better way is to crowd underneath the diseased portion of the nail delicate filaments of floss-silk, drawing in one portion after another until the nail is elevated out of the tender flesh. The nail may be still farther elevated by the employment of the same means, while the poultices are continued, till a complete and permanent cure is effected.

**Diseases of Women.**—The declining health and strength of American women has come to be a very common observation. Very few young ladies of the present day can compare with their grandmothers of the last generation in powers of physical endurance. Physicians generally acknowledge that at least three-fourths of their practice is derived from diseases of women. The causes of this general and notable decline are well worth consideration. We will briefly hint at a few.

*Fashionable Dress.*—No one cause has done more to undermine woman's physical health than her devotion to dress. Whatever fashion dictated, she has felt in duty bound to follow, no matter if in so doing she committed the grossest violations of the laws of health. In thus doing, she has compelled her poor body to undergo the most inhuman tortures. She has heaped upon her sensitive, nervous head, a cruel load of artificial hair; nearly choked herself to death with belts and corsets, and squeezed her vital organs into most unnatural shapes; contorted her tender feet into misshapen masses with tight shoes and high heels; and disturbed her whole vital economy by surrounding her vital organs with a superabundance of clothing while suffering her limbs to go almost unclad, no matter how cold and damp the weather. With such abuse is it strange that she complains of headaches, lung troubles, weak back, and general debility?

*Sedentary Habits* are another prolific cause of woman's decline. Confinement within doors, without a proper amount of physical exercise, results in deficient development of the muscular system, and various weaknesses follow which render her feeble and inefficient. Too much novel reading, piano thrumming, parlor lounging, and day-dreaming are ruining the constitutions of thousands of the young ladies of the present day.

*Late Hours.*—Fashionable dissipation at any time is bad enough; but when continued to a late hour of the night, or even until early morning, when the system is exhausted for want of rest, it becomes doubly enervating. Sleep is Nature's opportunity for repairing the wastes which occur during the hours of wakefulness. The nervous system wears out faster than any other part of the body; hence it suffers more severely than any other part when deprived of proper opportunity for repair. Is it any wonder, then, that so many ladies are nervous and hysterical, and constantly complaining of headaches, neuralgias, and weak nerves?

*Bad Diet.*—Improper dress, with deficient exercise and late hours, with the usual accompaniments of dancing and feasting, so enervate the system as to create a demand for artificial stimulation, in the form of strong tea and coffee, mustard, pepper, spices, animal food, and all sorts of highly seasoned dishes. The certain result of this abuse of the digestive organs is dyspepsia in

some one of its myriad forms. Torpidity of the liver and skin are accompanying evils which may properly be traced to the same cause. The loss of that clearness and brilliancy of complexion which exist only in health, leads to the use of cosmetics of various sorts, which, in many cases, still further undermine the health and injure the skin.

*Sexual Sins.*—One of the most potent though usually obscure causes of woman's physical decline, is that referred to in the heading of this paragraph. Transgressions of Nature's laws in this regard are attended with results the most fearful that humanity can suffer. Sexual excesses, for which she is usually only in small degree responsible, not only occasion their own sad results, but lead to the perpetration of such horrible crimes against Nature as prevention of conception, and fœticide or abortion. Thousands of women have by some form of sexual transgression brought upon themselves diseases and weaknesses which entail life-long suffering. These evils are becoming so prevalent that unless checked they threaten to exterminate the race.

*Too Much Drugging.*—Last, but not least, in the list of enemies to woman's health, we mention drugs. Medicines of this class undoubtedly have their legitimate place; but they are subject to great abuse. The general tendency of most of the other causes mentioned is to produce obstinate constipation of the bowels. For this evil a remedy is sought in laxatives of various sorts,

after-dinner pills, and purgatives. These give temporary relief, only to exaggerate the difficulty which they are expected to remove. Tonics are demanded to support the waning strength, which is not replenished by proper rest and well-digested food. Nervines and opiates are required to quiet the weak and irritable nervous system. Chloral and morphia become indispensable to procure sleep. Headaches and neuralgias necessitate fresh doses of narcotic drugs. Hysterical attacks call for antispasmodics. General debility is an indication for stimulants, while torpor of the liver, skin, and system generally, suggests the need of alteratives. Thus the life becomes a daily round of dosing. One after another various drugs lose their effect, and are replaced by others more powerful. Meanwhile the system grows daily weaker, more torpid, and more diseased.

Such trifling with Nature is in the highest degree reprehensible, and will prove fatal to the strongest constitution. Drugs never cure such maladies. No remedy is of any value which does not reach the causes of the diseased conditions to be removed. If the women of America value health, if they covet physical strength, if they aspire after the endurance of their grandmothers, let them abandon the ruinous habits which are dragging them down, and enervating their mental and physical forces. Let them shake off the shackles of fashion and convention-



ality, and conform to the God-implemented laws which govern their sensitive bodies.

**Care of the Sick.**—Every physician knows that in the majority of cases much more depends upon the care which the patient receives from his nurse, than from himself. A careless nurse has often turned the scale, which hung nearly evenly balanced between life and death, adverse to recovery. The following are some of the more essential matters which demand attention, though nothing can supply the native tact and grace which are necessary to make a good nurse:—

1. Secure a constant supply of pure air from out-of-doors. It is not sufficient to open a door leading into another room. Cold air may be very impure. Be careful to exclude the air from the kitchen and wash-room as perfectly as possible.

2. Admit the light and sunshine freely. Direct sunlight is sometimes unpleasant to the patient; then shade the windows with white curtains, which will admit the light. In a few diseases it may be necessary to keep the patient in a darkened room for a few days.

3. Maintain equable temperature. More fire is needed in the morning and evening than at noon. Regulate the heat by a thermometer hung near the bed. The mercury should never be above 70°. Old people especially need attention in this particular. A fall of a few degrees in temperature is often fatal to them. Avoid draughts.

4. The linen of the patient and his bedding should be changed every day at least. Daily washing will not be demanded in all cases, but the clothing should hang for several hours near a heated stove to air and dry.

5. Food for sick people should always be simply and neatly prepared. Light food is usually the best. Condiments should be very sparingly added, if at all. Oatmeal gruel is one of the best articles of food for sick persons. Fruit may be freely allowed if of good quality and ripe. Beef tea and broth will not sustain life. A dog starved sooner on a diet of beef tea than he would have done with nothing at all. Give food regularly, as in health. Continual dosing with milk or any other food is harmful.

6. The patient himself should be kept scrupulously clean. The whole body should be washed several times a week at least. The mouth and teeth should be daily cleansed.

7. All discharges should be kept in covered vessels, and should be removed from the room at the earliest moment possible.

8. The sick chamber should be made pleasant by tasteful arrangement of its contents, by flowers, simple pictures, etc. Frequent change in the aspect of the room is desirable.

9. The patient should never be kept in a state of expectancy. When a promise is made him, fulfill it promptly.

10. Whispering or low talking in the sick-room

or adjoining rooms will arouse the patient's fears unnecessarily. Avoid it.

11. Hasty movements in the sick-room are always annoying to a patient. A calm, deliberate air on the part of the nurse inspires confidence.

12. Arrangements for the night should be made before the patient becomes sleepy, so that he may not be disturbed. Otherwise, the movements necessary in making preparations for the night may cause him to become so restless that sleep will be impossible.

13. All avoidable noises should be prevented. Creaking doors, squeaking boots or shoes, a swinging blind or a flapping curtain, are intolerable to the sensitive ears of invalids. Coal should never be poured from the scuttle upon the fire. Bring it into the room in small parcels wrapped in damp paper. These can be laid upon the fire noiselessly.

14. If the patient can sleep, let him sleep. Never think of waking a sick person out of a sound sleep. Refreshing sleep will do him more good than all the medicines and baths in the world.

15. The covering of the patient in bed should be several light, porous blankets, rather than one or two heavy ones.

16. Strangers and visitors should be prohibited from entering the sick-room of a feeble patient. Visiting will often determine a fatal issue of the disease.

17. Water kept in a sick-room should be often

changed. Never drink that which has been in the room more than a few minutes.

18. Always wear a cheerful face. Do not look solemn and anxious, even though the case is grave.

19. Never annoy the patient by questions or too much conversation.

20. Always recollect that Nature must cure. All you can do is to make the conditions as favorable as possible.

**Signs of Real Death.**—It has sometimes happened that people have been buried alive when they were seemingly dead. Such a sad mistake can be prevented by the following tests:—

1. The loss of sensibility and warmth, and cessation of the pulse and the breathing, are the signs which at first indicate death; but these are not always reliable.

2. Rigidity of the muscles is another better evidence, but this is not wholly decisive; yet if the muscles remain soft after death, interment should be delayed.

3. The most reliable sign of death, perhaps the only decisive one, is putrefaction. This usually begins first in the lower part of the abdomen.

4. Another test of some value in doubtful cases is tying a cord tightly around a finger. If death has taken place, the color will remain unchanged. If the heart still beats, the end of the finger will become of a deeper color.

5. The application of a hot iron or other caustic appliance will not produce a blister on a corpse.

## ACCIDENTS AND EMERGENCIES.

THE injuries resulting from accidents usually demand instantaneous action. A little delay or confusion, or misdirected effort, in a case of severe burning, drowning, or hemorrhage, will often sacrifice a human life. The following simple directions should be carefully studied so that they can readily be made available at any moment:—

**Drowning and Suffocation.**—The chief remedy to be used in all cases is *artificial respiration*. There are several methods which are very serviceable. The following, which is the most approved method for restoring drowned persons, we copy from a publication issued by the Michigan State Board of Health, the Secretary of which, Dr. H. B. Baker, has kindly furnished us with cuts for illustration:—

**TREATMENT OF THE DROWNED.**—“Two things to be done: 1. Restore breathing; 2. Restore animal heat.

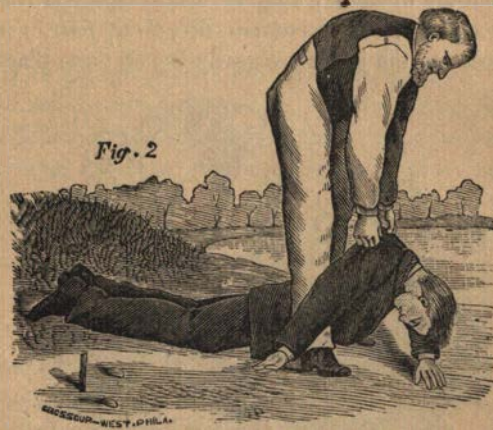
“**RULE 1.**—*Remove all obstructions to breathing.* Instantly loosen or cut apart all neck and waist bands; turn the patient on his face, with the head down hill; stand astride the hips with your face toward his head, and, locking your fingers together under his belly, raise the body as high as you can without lifting the forehead off

the ground (Fig. 1), and give the body a smart jerk to remove mucus from the throat and water from the windpipe; hold the body suspended long enough to slowly count *one, two, three, four, five*, repeating the jerk more gently two or three times.



“**RULE 2.**—Place the patient on the ground, face downward, and, maintaining all the while your position astride the body, grasp the points of the shoulders by the clothing, or, if the body is naked, thrust your fingers into the armpits, clasping your thumbs over the points of the shoulders, and *raise the chest as high as you can* (Fig. 2) without lifting the head quite off the ground, and hold it long enough to *slowly* count one two, three. Replace him on the ground, with his forehead on his flexed arm, the neck straightened out, and the mouth and nose free. Place your elbows against your knees, and your hands upon the sides of his chest (Fig. 3)

over the lower ribs, and press downward and inward with increasing force long enough to slowly



count one, two. Then suddenly let go, grasp the



shoulders as before and raise the chest (Fig. 2); then press upon the ribs, etc. (Fig. 3). These al-

ternate movements should be repeated ten to fifteen times a minute for an hour at least, unless breathing is restored sooner. Use the same regularity as in natural breathing.

"**RULE 3.**—After breathing has commenced, RESTORE THE ANIMAL HEAT. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. Warm the head nearly as fast as the body, lest convulsions come on. Rubbing the body with warm cloths or the hand, and slapping the fleshy parts may assist to restore warmth, and the breathing also. If the patient can SURELY swallow, give hot coffee, tea, milk, or a little hot sling. Give spirits sparingly, lest they produce depression. Place the patient in a warm bed, and give him plenty of fresh air; keep him quiet.

"**Avoid Delay.** A MOMENT may turn the scale for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing—ARTIFICIAL BREATHING IS EVERYTHING—is the ONE REMEDY—all others are secondary.

"Do not stop to remove wet clothing before efforts are made to restore breathing. Precious time is wasted, and the patient may be fatally chilled by exposure of the naked body, even in summer. Give all your attention and effort to restore breathing by forcing air into, and out of, the lungs. If the breathing has just ceased, a smart slap on the face, or a vigorous twist of the hair will sometimes start it again, and may be tried incidentally, as

may, also, pressing the finger on the root of the tongue.

"Before natural breathing is fully restored, do not let the patient lie on his back unless some person holds the tongue forward. The tongue by falling back may close the windpipe, and cause fatal choking.

"If several persons are present, one may hold the head steady, keeping the neck nearly straight; others may remove wet clothing, replacing at once clothing which is dry and warm; they may also chafe the limbs, and thus promote the circulation.

"*Prevent friends from crowding around the patient and excluding fresh air*; also from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

"*Do not give up too soon.* You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it."

**MARSHALL HALL'S READY METHOD.**—This famous method consists, briefly, in laying the patient with his face downward, his arms folded beneath his forehead, and then slowly rolling him upon his side, restoring him again to his former position. By this means, the chest is alternately compressed and expanded, thus imitating the movements of respiration. This method has been variously modified.

**SYLVESTER'S METHOD.**—This method, which has been proposed more recently, is highly recom-

mended by many physicians. Raise the arms from the sides until they meet above the head; then bring them slowly back to the sides again, pressing them against the sides of the chest. Repeat this sixteen or eighteen times a minute. It is a very efficient means when skillfully applied.

Upon submersion in the water, the epiglottis, a little valve at the top of the windpipe, closes, shutting out the water from the lungs. After a time, the muscles relax, and the valve opens. Water then enters the lungs. After this occurs, there is no longer any possible chance for recovery; but as there is no ready means for determining accurately the condition of the lungs, every effort should be made to resuscitate the patient by the means already described. The length of time a person can live under water will depend very much upon the amount of pure air in his lungs at the time of submergence.

**Poisonous Gases.**—Carbonic acid (more properly carbon di-oxide) is the most common cause of suffocation. Chlorine gas, illuminating gas, the vapor of burning sulphur, ether, and nitrous oxide, or laughing gas, with other poisonous gases, produce death in the same way, though some of them are active irritants in addition.

Carbonic acid is heavier than air, and, in consequence, it accumulates in old wells, caves, deep valleys, and other low places. It is formed in mines in large quantities, at times, and is known to miners as "choke damp." It is also formed in

the vats of breweries by fermentation. In the burning of limestone it is also produced in enormous quantities. When the kilns are opened, it sometimes pours out so rapidly as to suffocate the workmen before they can escape. Miners are often destroyed by a sudden gust of "choke damp."

Old wells should never be entered without first testing the air at the bottom. Do this by lowering a burning candle. If it is extinguished, or burns feebly, carbonic acid is present, and descent would be extremely perilous. If it burns brightly, no fears need be entertained. If gas is found to be present, it can be dislodged by throwing into the well burning fagots or paper. Old cellars and cisterns are sometimes dangerous on the same account; they may be tested in the same way.

Upon the inhalation of the first breath of carbonic acid, the person usually falls, and thus remains exposed to the poisonous effects of the gas. Under such circumstances, speedy and well-directed efforts are necessary to prevent death.

In a burning building, the purest air is near the floor, as the smoke containing the carbonic acid is hotter than the air when first formed, and rises. In escaping from a burning building, it is sometimes advantageous to go upon all-fours so as to breathe the best air.

Charcoal burning in a room in an open vessel will produce large quantities of carbonic-acid gas in a short time. In France, suicide is often committed by this means.

**Illuminating Gas** often escapes into sleeping-rooms through leakage of the gas pipes, or by reason of failure to completely shut off the supply to the burner upon extinguishing the flame.

People unaccustomed to the use of gas are sometimes so thoughtless as to blow out the flame as they would that of a lamp or candle, leaving the gas to find unobstructed entrance. Many lives have been lost in this way.

**Hanging** is another means by which the supply of air to the lungs is cut off, causing asphyxia. A red line around the neck is usually indicative of this manner of producing suffocation.

The remedies in all cases of suffocation are essentially the same. Remove the patient from the cause, or, *vice versa*, as quickly as possible. Draw the tongue forward, clear the mouth, dash cold water upon the face and chest, rub the body vigorously, and apply artificial respiration. If chlorine has been accidentally breathed, inhale, as quickly as possible, ammonia gas.

**Choking.**—When a particle of food, or any other body, becomes lodged in the throat, go upon all-fours, and cough. If it is not expelled, the patient should be seized by the heels and suspended head downward, while his back is percussed by another person. If the body can be seen by drawing the tongue well forward, seize it with a pair of forceps, or a hook made by bending the end of a wire or a hair-pin which has been straightened.

Sometimes it may be elevated from its position by means of a spoon handle. If it is out of sight, and all efforts to expel it are unavailing, press it down with the finger or a smooth rod with a rounded end, throwing the head back as far as possible while doing so. A body which has lodged part way down the esophagus, may sometimes be pressed down into the stomach by pressing hard upon each side of the neck close to the windpipe.

**Lightning Stroke.**—Dr. Fothergill remarks as follows on this subject:—

“Persons struck by lightning are not always dead when they appear to be so. There are few recoveries from this state, because no means are tried to restore the sufferer. In the tropics there are many instances of persons, struck down by lightning, recovering after a heavy thunder shower; and it would appear that cold affusion to the body has a decided action in such cases. The injured cannot be harmed by the free use of cold water, and if only an occasional recovery took place, it would be well worth the pains bestowed. The persons so injured should have cold water poured or even dashed freely over them.”

Artificial respiration should also be employed.

**Sun-Stroke.**—Carry the patient at once to a cool, shady place, remove his clothing, and dash cold water upon his body, especially the head and chest. Rubbing the spine with ice is an excellent remedy. Continue the cold application until the

unnatural heat is materially decreased. Artificial respiration should be practiced at the same time. No stimulants should be given to the patient.

**Hemorrhage.**—If an artery is wounded, the blood will flow in jets, sometimes being thrown several feet, and will be of a bright red color. If the wounded vessel is a vein, the blood will be of a dark color, and will flow in a steady stream. Slight hemorrhage will be easily controlled by pressure over a little pad of folded linen applied directly to the wound

When large vessels are injured, greater care is necessary. If the vessel is an artery, apply the pressure between the wound and the heart. If it is a vein, apply the pressure upon the opposite side.

The application of cold, by means of cloths wet in iced water, snow, or pounded ice, is a very effective means of stopping hemorrhage.

In case the hand, forearm, or foot is severely wounded, it should be elevated above the rest of the body and bound in towels in which pounded ice is folded. Hemorrhage from the end of a finger or toe may be stopped by the application of pressure to the sides.

When a very large artery of the arm or leg is wounded, resulting in hemorrhage which cannot be quickly controlled by any of the means mentioned, proceed as follows:—

Take a handkerchief or a strip of cloth of sufficient length to reach around the limb. Tie a

large knot in the center. Apply the knot just over the course of the wounded vessel, above the wound. Now pass a stout ruler or rod beneath the bandage upon the opposite side from the knot. Twist it around so as to tighten the bandage and thus compress the artery beneath the knot. Increase the compression until the hemorrhage is controlled. A tight bandage of this kind should not be retained too long, as it may destroy the life of the parts below. Its object is to control the hemorrhage only until the wounded vessel can be secured and tied by a surgeon or other competent person.

Bleeding from wounds of the scalp is easily controlled by pressure upon the seat of injury.

**Nose-Bleed.**—Remove all constrictions from the throat, so that the return of blood from the head will be unobstructed. Hold the head erect for the same reason. Inclining it forward encourages the hemorrhage. Twist the corner of a handkerchief or piece of old linen and press it tightly into the bleeding nostril. Hold it in place until the bleeding ceases, unless it passes backward into the throat, when other measures will be required. Blowing the nose, and bathing it in water, increase the hemorrhage rather than check it.

Pressure upon the facial artery upon the side on which the hemorrhage occurs, will sometimes check it. Apply firm pressure upon the notch on the lower border of the lower jaw just in front of the angle.

When the bleeding has once stopped, do not disturb the clot that has formed in the nose, as it may be induced again by so doing. In very severe cases the posterior opening from the nasal cavity into the mouth will require plugging; surgical assistance will be required for this.

Hemorrhage from the nose is seldom fatal. When scattered upon the floor or clothing, a few ounces of blood look like a quart. A very few spoonfuls will color a large quantity of water very red.

**Bleeding from Lungs.**—Blood which is expectorated by coughing often comes from the throat or nasal cavity, trickling down into the air passages and being coughed out. This is nearly always of a dark color, and is commonly clotted. Blood which comes from the lungs is of a bright red color, and is frothy from the admixture of air. The amount of blood lost is much less than usually thought, and is seldom the cause of death.

Keep the patient as quiet as possible, with his head elevated a little. Instruct him to restrain his cough as much as he can, and to avoid all violent efforts at coughing. Make cold applications to the chest and spine, and hot to the feet and limbs. For applying cold to the chest, rubber ice-bags are very convenient, as they do not wet the clothing. When they are not at hand, employ compresses of snow or pounded ice large enough to cover the entire chest, or the affected side if the exact origin of the hemorrhage is known. Salt and other drugs are often



employed; but it is exceedingly doubtful whether they are of much value, since they pass at once to the stomach, not entering the lungs at all.

**Cuts.**—Cuts should be dressed in such a way that the severed edges may unite properly. Firm clots of blood lying in the wound should be carefully removed, with any other foreign body. If the bleeding has ceased, the edges may be brought together and secured by stitches or adhesive straps, according to the size and position of the wound. Small wounds sometimes require only that the edges be thus brought together to stop the bleeding. The strips of plaster used should be narrow, and there should be narrow spaces left between them, to allow room for the escape of the discharge, should any occur.

Care should be taken not to close a wound when vessels of any size have been ruptured without either ligating the bleeding vessel or closing it by torsion. Much injury has often resulted from a neglect of this rule.

If the end of a finger or toe has been accidentally cut off, it should be at once replaced, even though it was entirely severed. Being kept in place, it will be quite likely to adhere and prevent an ugly scar. If the severed piece is frozen or badly bruised, the attempt will be useless.

**Dressing for Wounds.**—As a dressing to be applied to all wounds, nothing is equal to water. While swollen and painful, cold applications should

be made by means of thin compresses, which should be changed every few minutes. After the pain and inflammation have subsided, apply thin compresses kept constantly wet with tepid water. In some cases submersion of the part in water is serviceable.

The various "pain-killers," liniments, and washes have no healing virtue whatever. Opium and arnica relieve the pain only by paralyzing the nerves. They simply hide the condition of the wound from the patient. Both are poisons which retard healing.

**Bruises.**—Apply as quickly as possible a hot fomentation. Renew the application every five minutes for an hour or two. Apply afterward the tepid compress. This will prevent soreness, and much of the swelling and discoloration which would otherwise result. This is the way to treat a black eye, a broken nose, or a foot which has been pierced by a rusty nail.

**How to Cure a Sprain.**—A sprain is an injury to a joint, produced by straining or lacerating one or more of the ligaments connected with a joint. The first thing to be done after the receipt of the injury is to apply hot fomentations to the injured joint; and the sooner the better. After applying hot fomentations for one or two hours or longer, if the pain continues, apply cold compresses and keep the joint entirely at rest. When there is much swelling, alternating it with cold pouring, continued for an hour at a time, will often give

great relief. Rest is one of the most essential features of treatment, since the injured ligaments cannot be repaired while disturbed by the motion of the joint. Cases are numerous in which an injury which was at first a slight sprain, has resulted in the total loss of the use of the limb, from neglect to give the joint the required rest while Nature was effecting a repair. The various liniments which have a reputation for the cure of sprains are useful only as a means of inducing the patient to rub and manipulate the joint. Rubbing is a very useful means of treatment, especially if the limb is considerably swollen. Violent manipulation of the joint should be carefully avoided, as it would only serve to increase inflammation.

**Fractures and Dislocations.**—These accidents usually require the attention of a skillful surgeon, who should be called at once.

**Burns and Scalds.**—If a person's clothes catch on fire, wrap about him at once a blanket, cloak, rug, or similar article, bringing it tight about the neck to protect the head and face. Remove the burned clothing as quickly as possible, and apply wet linen cloths to the burned surfaces. Change every five minutes, applying another cloth instantly after one is removed. (For further treatment see page 82.)

To burns produced by lye, caustic potash, or other alkalis, apply vinegar or some other weak acid as quickly as possible. To a burn produced by

an acid, apply an alkali, as soda, ashes, or simple earth.

**Freezing.**—In cases of freezing, the great danger is in thawing out too quickly, the result of which is inflammation and death of the frosted parts; or, in milder cases, chilblain. Keep the patient away from the fire. Place him in a cool room, and rub the frozen parts with snow or cold wet cloths until the circulation is re-established. If the patient is apparently dead, artificial respiration should be practiced as long as there is a particle of hope of recovery; and the effort should not be abandoned for several hours.

Those who are exposed to severe cold should remember that one of the symptoms of freezing is an uncontrollable desire to sleep. Resist it.

**Bite of Mad Dog.**—Remove the clothing from the part at once, and apply suction to the wound with the mouth. As quickly as possible, remove the injured flesh with a sharp knife or destroy it with an iron at white heat, afterward applying the water-dressing or a poultice.

Few persons that are bitten by rabid animals ever have the disease. Hydrophobia is more common among dogs in the winter than in the summer, contrary to the common supposition. The skunk or polecat is liable to the same disease. Its bite is more dangerous than that of the dog.

**Rattlesnake Bite.**—Destroy the poison virus in the same manner as described in the preceding

article. As with the bites of mad dogs, few of those bitten are poisoned, and fewer still fatally so. Artificial respiration and rubbing the spine with ice have been highly recommended. Whisky is entirely worthless as an antidote. It does more harm than good when administered.

**Insect Stings.**—The pain caused by the sting of an insect is the result of an acid poison injected into the tissues. The first thing to be done is to press the tube of a small key firmly on the wound, moving the key from side to side to favor the expulsion of the sting with its accompanying poison. The sting, if left in the wound by the insect, should be carefully extracted, as it will greatly increase the local irritation. The poison of the virus being acid, common sense points to the alkalies as the proper antidote. Among the most easily procured remedies may be mentioned soft soap, liquor of ammonia (spirits of hartshorn), smelling salts, washing soda, quicklime made into a paste with water, lime-water, the juice of an onion, bruised dock leaves, tomato juice, wood-ashes, and carbonate of soda. A solution of borax in proportion of one ounce to a pint of water is also a most excellent remedy.

The same remedies should be applied to the bites of gnats, mosquitoes, spiders, fleas, and other insects.

**Dirt in the Eye.**—Particles of dirt or other foreign bodies in the eye should be removed at once. If the object is upon the visible portion of the eye-

ball, remove it with the corner of a handkerchief. If concealed beneath the lid, roll the lid over upon a pencil or turn it outward with the finger, and remove the speck in the same way. Dirt beneath the upper eyelid can often be removed by drawing it outward and downward over the under lid. Then press it upon the under lid and open the eye. Blowing the nose while the eye is closed will assist in the removal of small particles of dirt. Particles of iron which have become imbedded in the tissue of the eye may be loosened and removed by a needle mounted in the end of a pencil; but such an instrument must be used with extreme care.

**Lime in the Eye.**—Lime is a powerfully caustic alkali, and in numerous instances a small quantity thrown into the eye has resulted in total destruction of sight. A strong solution of sugar or diluted vinegar should be applied as quickly as possible after the accident, in case a particle has been thrown into the eye. While the lotion is in preparation, the eye should be thoroughly washed.

**Foreign Bodies in the Ear.**—Never use a sharp instrument about the ear in any way. Insects can generally be dislodged very speedily by dropping into the ear a little oil or warm water. Solid bodies, like peas, beans, or pieces of stone, can usually be removed by the diligent application of warm water and soap by means of a syringe. The head should be inclined to one side, so that the object may readily drop out. If this is un-

successful after thorough trial, use a loop of fine wire or horsehair, a small scoop, or a pair of delicate forceps. Hardened ear-wax should be softened by warm water and soap, and then removed with great care by means of the scoop.

**Foreign Bodies in the Nose.**—Blow through the nose with as much force as possible, at the same time closing the mouth and the unobstructed nostril. Sneezing will sometimes expel the cause of obstruction. A loop of wire or a blunt hook may be successfully used; but care must be taken to avoid crowding the object farther in. If it is not tightly imbedded, it may be driven out by making the water from a syringe pass up the unobstructed nostril and out at the one containing the foreign body.

Another plan is to blow the patient's nose for him by closing the empty nostril with the finger, and then blowing suddenly and strongly into the mouth. The glottis closes spasmodically, and the whole force of the breath goes to expel the button or bean, which commonly flies out at the first effort. This plan has the great advantages of exciting no terror in children, and of being capable of being at once employed, before delay has given rise to swelling and impaction.

**Chimney on Fire.**—Throw into the stove, or upon the coals in the fire-place, a handful of salt or sulphur. Close the stove-draught, or hold a board or blanket before the fire-place.

**What to do in Poisoning.**—Give an emetic at once, which may consist simply of tepid water in large quantities, or the same with the addition of mustard or common salt. After drinking several cupfuls, tickle the throat with the finger or a feather. Continue taking a cupful every two or three minutes until vomiting occurs. Individual poisons require special remedies. The following lists comprise the most common poisons and their antidotes:—

**Vegetable Poisons.**—Opium, Morphia, Camphor, Aconite, Laudanum, Paregoric, Strychnia, Tobacco, I-belia, Arnica, and other vegetable poisons require the emetic and the application of a stomach-pump if possible. Milk and mucilaginous drinks should be given freely after thorough vomiting. Artificial respiration should be employed in poisoning by strychnia and opium. The cold douche is also excellent in poisoning by the latter drug. Keep the patient awake, if possible, by making him walk about.

**Acids.**—Sulphuric (oil of vitriol), Nitric (aqua fortis), Hydrochloric (muriatic), and Oxalic Acids are the more common. Drink largely of water at once. Acids are neutralized by alkalies. Calcined magnesia is the best antidote. Chalk (powdered), whiting, lime, weak lye, and strong soap-suds are the best substitutes. Something must be done quickly in case of poisoning by acids.

**Mineral Poisons.**—For Corrosive Sublimate, White Precipitate, Red Precipitate, and Vermillion, take the whites of several eggs in a quart of tepid water. Soap-suds thickened a little with wheat flour is the best substitute for eggs. No other emetic is necessary.

Arsenic, Cobalt (fly powder), Ratsbane, Paris Green,

and other compounds containing Arsenic, should be expelled by vomiting as soon as possible. Then administer quite large doses of calcined magnesia.

Acetate of Lead, White Lead, Litharge, and Saltpeter require an emetic followed by oil or mucilage.

For Lunar Caustic (nitrate of silver), administer half a table-spoonful of salt in a pint of water.

The antidote for Matches or Phosphorus is calcined magnesia, followed by soothing fluids.

Antidotes for Verdigris and Blue Vitriol (sulphate of copper), are eggs, milk, and soda.

**Alkalies.**—The most common which are sources of poisoning are Ammonia, Potash, Soda, Pearlash, Lye (from wood-ashes), and Salts of Tartar. Drink copiously of weak vinegar or lemon juice. Afterward take some mucilaginous drink, or oil.

**Alcoholic Poisoning.**—A man found "dead drunk" should be treated like any other case of narcotic poisoning, as from opium.

**Chronic Poisoning** by Lead, Opium, Tobacco, or any other drug which has been received into the system for a long time, requires, first, that the cause be wholly removed at once; second, attention to the general health. In the case of Opium and Tobacco, the disuse of the drugs is attended with a good deal of unpleasant feeling on the part of the patient. He feels as though he will certainly die. His fears are groundless. He is in much less danger of dying than before.

**Poisonous Candies and Food.**—The paints used in the manufacture of candies are poisonous, and often sicken those who eat the candies, sometimes fatally in the case of children.

Fish and meat, either fresh or canned, are frequently sources of poisoning. Decayed fruit or other food, shell-fish, and mushrooms are often productive of injury in

the same way. Such cases should be treated on the general principles relating to poisoning.

**Soda-Water.**—The water nearly always contains lead. The syrups are most wretched imitations of natural flavors, and are made from such things as old cheese, tar, and mineral acids.

**Dangerous Kerosene.**—The kerosene oil sold or used in the majority of our cities is almost as dangerous a commodity as gunpowder or nitro-glycerine. Millions of dollars' worth of property has been destroyed, and hundreds of lives have been sacrificed, by the use of cheap illuminating oil. Crude kerosene contains benzine, naphtha, and other highly volatile and explosive compounds. These dangerous agents should be wholly removed by the refiner in preparing the oil for use; but the manufacturer finds it to his pecuniary advantage to allow them to remain in the oil in greater or lesser proportions. This kind of oil will burn at a much lower temperature than that which is pure, and it is to this fact that its dangerous properties are due, since it is thereby rendered explosive when used in the ordinary kerosene lamp.

It is very important to be able to distinguish dangerous oil from that which may be used without danger. The following is an excellent method for testing oil:—

Place upon the stove a pan or tin pail containing water. Float in this vessel a deep saucer or small, deep cup containing a portion of the oil to be tested. Place in the oil a thermometer, and observe the gradual increase of temperature. When the temperature reaches 70° or 80°, bring a burning match or taper near to the surface of the oil. If a flash is produced, the article is highly dangerous. Continue the observations as the temperature rises, and if a flash is observed at the temperature less than 140°, the oil is utterly unfit for use, and should not be employed for illuminating purposes.

The lower the temperature at which the flash occurs, the greater the danger.

The State Legislature of Michigan has passed an act prohibiting the use or sale of kerosene oil which will flash below 140°.

### *Hydropathic Appliances.*

WATER, applied in the various modes in which it may be, is one of the most potent of remedies. Wrongly applied, it may be productive of great harm. The following are a few general rules which should always govern its use:—

1. Never bathe when exhausted or within three hours after eating, unless the bath be confined to a very small portion of the body.
2. Never bathe when cooling off after profuse sweating, as reaction will then often be deficient.
3. Always wet the head before taking any form of bath, to prevent determination of blood to the head.
4. If the bath be a warm one, always conclude it with an application of water which is a few degrees cooler than the bodily temperature.
5. Be careful to thoroughly dry the patient after his bath, rubbing vigorously to prevent chilling.
6. The most favorable time for taking a bath is between the hours of ten and twelve in the forenoon.
7. The temperature of the room should be at about 80° or 85°.

8. Baths should usually be of a temperature which will be the most agreeable to the patient. Cold baths are seldom required. Too much hot bathing is debilitating.

The following are brief descriptions of the more important baths applicable in the home treatment of disease:—

**Sponge-Bath.**—This bath consists in rubbing the whole body with a sponge or towel wet in water of an agreeable temperature; is most useful for a general ablu-tion.

**Sitz-Bath.**—A tub made especially for the purpose, or a common wash-tub, may be employed. Place in the vessel sufficient water to cover the hips and lower part of the abdomen. The patient or an attendant should rub and knead the abdomen during the bath. The water should be of a temperature ranging from 85° to 98°, according to the condition of the patient. Cover the patient during the bath.

**Wet-Sheet Pack.**—Spread two or three comfortables upon a bed or mattress. Spread over the whole a woolen sheet. Wring out of water of the desired temperature a linen or cotton sheet. Spread it quickly upon the bed, and let the patient immediately lie down in the middle. Then quickly envelop him in the wet sheet, wrapping him snugly from head to foot. Then cover him with the comfortables, and let him remain quiet as long as required. Elevate the head a little, and use care to have the feet warm. Half-packs may be taken in a similar manner, confining the application to the trunk of the body.

**Fomentations.**—Wring out of water as hot as can well be borne, a folded flannel cloth, and apply it quickly to the part to be treated. Cover with a dry cloth, and change once in five minutes.

**Pail-Douche.**—This consists in pouring water over the shoulders of the patient with a pail. It is often employed to tone up the surface after a hot bath.

**Chest-Wrapper.**—The wrapper should be made of coarse cloth, and should be shaped so as to fit the chest. Apply it after wringing just sufficiently to prevent dripping. Cover with a light, dry flannel wrapper. Change three or four times a day.

**Half-Bath.**—For this bath is required a vessel of sufficient size to allow the patient to sit upright with his limbs extended. Enough water to cover the limbs, thighs, and lower part of the abdomen, is necessary. During the bath, the attendant should rub vigorously the limbs, back, chest, and abdomen of the patient.

**Compresses.**—Apply wet cloths in the same manner as in fomentations, wetting them in either cold, cool, or tepid water, according to the effect desired.

**Rubbing-Wet-Sheet.**—This bath consists in enveloping the patient in a wet sheet, and rubbing him briskly with the hand outside the sheet.

**Hot Applications.**—Besides fomentations, heat may be applied in several other ways. Bottles filled with hot water, hot bricks or stones wrapped in papers or cloths, hot cloths, bags filled with hot sand, salt, or corn meal, and rubber bags filled with hot water, are convenient methods of applying dry heat.

Moisture and heat may be applied in a variety of ways also. Instead of wringing cloths out of hot water, put them into a steamer for a few minutes. This saves the trouble of wringing them. When there is no water hot, and a fomentation is wanted quickly, wring a cloth out of cold water, spread it between the folds of a newspaper, and lay the paper upon the top of the stove, or press it against the side. In a minute it will be hot. Wrap stones or bricks in a moist cloth. Poultices of various sorts answer the same purpose.

All hot applications should be renewed every few minutes until the desired effect is obtained.

**Vapor-Bath.**—Place the patient in a chair which has a wooden bottom, beneath which place a pail half filled with water. Surround the patient completely, chair and all, with a woollen blanket, leaving only his head visible; even this may be covered a little while at a time in cases of neuralgia, if desired. Add other blankets sufficient for warmth. Now raise the blankets a little, behind, and place in the pail a stone or brick which has been heated sufficiently hot to hiss when it touches the water. Do not drop it into the water at once, but let it in gradually. As this becomes cool, add another in the same way. The bath should not usually be continued more than twenty minutes. Wash off quickly with tepid water upon coming out of the bath. The head should be wet from the first.

**Hot-Air Bath.**—Prepare the patient in the same manner as directed for the vapor-bath. Instead of the pail of water, place beneath the chair a cup containing a small quantity of alcohol. Wet the head well, and then light the alcohol. Wash with tepid water after the bath, and be careful to avoid taking cold.

**Enemas.**—An enema is a small portion of water thrown into the rectum by means of a syringe. The water may be either cool, tepid, or warm, as occasion may require.

**Inunction.**—Pure olive oil, or fresh butter, may be used, but vaseline, a fine unguent which can be procured of the druggist, is the best. After giving the patient a short bath of some kind, to cleanse the skin, dry him carefully, and then apply with the hand a very small quantity of the oil or unguent. Rub in very thoroughly, with much kneading and friction. Conclude by carefully wiping the skin with a soft flannel to remove all superfluous oil.

## USEFUL HINTS AND RECIPES.

**Soap to Remove Grease Spots.**—Take equal parts of soft soap and fuller's-earth. After beating well together, form into cakes. Moisten the spot, and rub the soap upon it. Allow it to dry, then rub it well with warm water, rinse, and dry.

**To Remove Grease from Silk.**—Grease may be removed from silk and other delicate fabrics, thus: Upon a smooth surface spread a woolen cloth. Lay upon this the silk with the right side down. Over the grease spot lay a piece of coarse brown paper. Place upon this a flat-iron sufficiently hot to just scorch the paper. A very few seconds will suffice. Remove the flat-iron and paper and rub the spot briskly with a piece of paper.

If this is not quite successful, apply a little powdered chalk or magnesia to the spot, under the brown paper, before applying the flat-iron.

**To Restore Color.**—When the color has been destroyed by acids, apply a little ammonia (hartshorn). The restoration will be the more perfect, the more recent the application of the acid.

**To Remove Stains from the Hands.**—For fruit stains, apply a solution of oxalic acid, and wash quickly. Another way: Light a sulphur match and clasp the hand about it while the sulphur is burning.

**To Remove Paint from Cloth.**—Apply spirits of turpentine with a sponge. After an hour or two, rub the spot as in washing, and the paint will crumble off.

**Calcimining Fluid.**—The following is well recommended for walls: White glue, 1 lb.; white zinc, 10 lbs.; Paris white, 5 lbs. Soak the glue over night in

3 qts. of water. Add an equal quantity of water, and heat on a water bath until the glue is dissolved. Put the two powders into another vessel. Pour on hot water while stirring, until of the consistency of thick milk. Mix the two liquids thoroughly, and apply to the walls with a whitewash brush.

**To Remove Mildew.**—Wet the linen, apply soap to the spot, and then apply fuller's-earth or salt and lemon juice to both sides. Air for a few hours. Or, soap the spot, and then apply finely powdered chalk, rubbing it in very thoroughly.

Chloride of lime will remove mildew. Dissolve one ounce in two quarts of water. Steep the linen in the solution all day.

**To Remove Paint from Wood.**—Apply to it a strong solution of oxalic acid, when it will easily crumble off. It may be removed from glass or metal in the same way.

**Cements for Glass and China.**—1. Mix thoroughly an ounce of pure white lead in oil with ten grains of finely powdered acetate of lead. Apply at once, and allow the mended article to dry two weeks before it is used.

2. Rub old cheese to a fine thick paste with a little water. Add one-fourth pulverized lime. One of the best cements for glass, porcelain, stone, and wood.

3. Burn oyster shells, pulverize fine, and mix to a thick paste with white of egg. Apply at once to the edges of the glass. Secure them tightly together until dry. Freshly burned lime will do, but is not so good. The cement must be made when used.

4. Soak Russian isinglass in water over night, to soften. Then heat until it is dissolved.

**Liquid Glue.**—Fill a bottle two-thirds full of common glue. Fill the bottle with whisky. It will dissolve in a few days, when it will be ready for use. Must be kept tightly corked.



**Cements for Iron.**—Take equal parts of sulphur and white lead, with about a sixth of borax, mixing them so as to form a homogeneous mass. When about to apply it, wet it with sulphuric acid and place a thin layer of it between the two pieces of iron, which should then be pressed together. In a week it will be perfectly solid, and no traces of the cement will be apparent. This cement is said to be so strong that it will resist the blows of a sledge hammer.

2. Mix to a paste with vinegar 5 parts clay, 1 part salt, and 15 parts of iron filings. It will stand heat.

**Cement for Stone-ware.**—To a cold solution of alum add plaster of Paris sufficient to make a rather thick paste. Use at once. It sets rather slowly, but is an excellent cement for mending broken crockery, eventually becoming as hard as stone.

**How to Remove Rust from Clothing.**—Oxalic acid will take rust or any other stain out of white goods. Dissolve a small quantity in boiling water and dip the spots in. The acid can be got at any drug store. Another way is to saturate the spots with lemon juice and spread the cloth in the sun; if it do n't take out all the rust the first time, repeat the application.

**To Clean Looking-Glasses.**—Wash with a sponge wet in lukewarm soap-suds. Wipe dry, and rub with buckskin or a newspaper and finely powdered chalk. Polish windows in the same way.

**To Cleanse the Hair.**—Rub thoroughly into the hair the white of an egg. Wash with soft water until the egg is entirely removed. This leaves the hair soft and pliable. Never use alkalies or coarse soap on the hair.

**Fire-Proof Paint for Roofs.** Slack stone-lime in a covered vessel. Take 6 qts. of the slacked lime, after it has been passed through a sieve, add 1 qt. of salt, and 1 gal. of water. Boil and skim. Add  $\frac{1}{2}$  lb. powdered alum,  $\frac{1}{4}$  lb. pulverized copperas. Then slowly add 6 ozs.

of powdered potash. Finish by the addition of 2 lbs. of fine sand. Apply to the roof with a brush. It may be colored as desired; is very durable, and stops leaks in the roof.

**Lotion for Fetid Perspiration.**—Permanganate of potash, 1 dr., dissolved in half a pint of water. Wash the part twice a day. A wash of weak vinegar is quite as efficient in some cases.

**Cement for Wood.**—Dissolve a pound of glue in three pints of water. Add 2 ozs. of powdered chalk and  $\frac{1}{4}$  oz. of borax.

**To Preserve Steel from Rust.**—Cover the surface with finely powdered unslacked lime. The surface may first be smeared with melted tallow before the lime is sprinkled on, to cause it to adhere.

**To Clean Leather.**—Leather which is uncolored may be easily cleaned by wiping it with a sponge moistened in a solution of oxalic acid.

**To Make Cloth Uninflammable.**—1. To a quart of boiling water add 1 lb. chloride of calcium, and 1 lb. acetate of lime. Moisten the fabric in the solution, and dry.

2. Moisten the goods in a solution of phosphate of ammonia. Dry with a warm flat-iron.

**Ink Stains.**—Apply a solution of oxalic acid to the spot, and wash quickly. If a reddish stain is left, apply a solution of chloride of lime.

**Removing Fruit Stains.**—Pour boiling water upon the stained spot, and it will usually disappear. This should be done before the spot has been wet with anything else.

**Coal-Tar for Fence-Posts.**—Coal-tar is an excellent preservative for fence-posts, if properly used. It should not be used alone, since it contains acids which are destructive to the wood; but when combined with quick-

lime it becomes a most effective preservative. Mix half a bushel of quicklime with a few gallons of water, and thoroughly mingle it with a barrel of coal-tar. Apply freely to the portion of the post which is to be in contact with the earth.

**Carron-Oil.**—Mix equal parts of linseed-oil and lime-water. Shake well. Good for burns.

**To Determine the Capacity of a Round Cistern.**—Square the average diameter. Multiply three-fourths of this amount by the height. This will give the number of cubic feet. Divide by four, and the result will be the number of barrels which the cistern will hold. The following table will be found useful for reference:—

*Contents of a round cistern for every foot in depth of*

4 feet in diameter,	93 gallons.
6 " " "	212 "
8 " " "	375 "
10 " " "	588 "
12 " " "	848 "
16 " " "	1500 "

**To Ascertain the Weight of Hay.**—It is often necessary for the farmer to estimate a quantity of hay without the aid of scales. Here is a convenient method: Find the cubic contents of the stack in feet. Divide by 27, to find the number of cubic yards. A cubic yard of old hay in the stack weighs about 200 lbs. New hay weighs about two-thirds as much. The weight is readily ascertained by multiplying the number of cubic yards by the weight of a single yard.

**Remedy for Mosquitoes.**—Pour kerosene into the stagnant pools where mosquitoes are generated. This will prevent their hatching, and will be found to be the most efficient means of getting rid of them.

**Adhesive Cloth.**—Dissolve five ounces of gum arabic in a half pint of hot water. Add glycerine in sufficient quantity to make the mixture about the thickness of

sirup. Stretch on a frame, fine muslin or linen cloth. Apply a coat of thin mucilage. When this is nearly dry, apply the mixture as rapidly as possible. Several coats will usually be required.

**To Take off Paint.**—Slack three pounds of good lime in water. Mix with one pound of pearlash to the thickness of paint. Lay it on the paint to be removed with an old brush and allow it to remain twelve or fifteen hours, after which the paint can be scraped off very easily.

**Plant Wash.**—An excellent wash for shrubs and large plants is made by dissolving two ounces of pulverized borax in one quart of hot water. Apply with a brush to the stems. It will destroy the green fungi which sometimes infest plants.

**Starch Polish.**—1. Melt together at a gentle heat 1 oz. white wax and 2 ozs. spermaceti. Add a piece the size of a pea to starch sufficient for a dozen pieces.

2. Dissolve 2 ozs. of gum arabic in a pint of hot water; bottle and cork. Add a table-spoonful to each pint of starch.

**Paste.**—Mix 8 parts of flour and 1 part of powdered alum with a little water. Beat out the lumps, and pour on boiling water until of the proper consistency, stirring briskly all the time. This is more adhesive than ordinary paste, and will last much longer.

**To Color Black.**—For 10 lbs. of goods, dissolve and boil  $\frac{3}{4}$  lb. blue vitriol in sufficient water to cover the goods. Dip them three quarters of an hour, airing often. Then remove to another dye made by boiling 6 lbs. of logwood in a sufficient quantity of water for half an hour. Dip three quarters of an hour, air, and then dip three quarters of an hour more. Wash in strong suds.

**To Color Scarlet.**—For two lbs. of goods, mix together and dissolve in sufficient water 1 oz. cream of tartar; 1

oz. cochineal, well pulverized; 5 ozs. muriate of tin. Boil the dye and place the goods in it. Work them briskly for a quarter of an hour, after which boil an hour and a half, stirring slowly while boiling. Wash in clear soft water, and dry in the shade.

**To Color Blue.**—For five lbs. of goods, dissolve  $\frac{1}{4}$  lb. alum,  $\frac{1}{2}$  lb. cream tartar. Boil the goods in the solution for half an hour. Throw them into warm water.

**To Color Green.**—1. First, color yellow by soaking the goods in a solution made by steeping together 1 lb. fustic and  $\frac{1}{2}$  lb. alum for 1 lb. of the goods. Remove the chips and add indigo, a table-spoonful at a time, until the desired color is obtained.

2. Make a yellow dye with yellow-oak and hickory bark in equal quantities. Add indigo until the desired shade is obtained.

**Tooth Powder.**—To make a most excellent and perfectly harmless tooth powder, mix eight parts of precipitated chalk with one part of calcined magnesia. Flavor with a few drops of wintergreen or cinnamon oil if desired. Apply this to the teeth twice a day with a soft brush and pure soft water, or water and fine soap, and they will always glisten like ivory.

**Washing Fluid.**—Boil together 1 lb. of sal-soda,  $\frac{1}{2}$  lb. of stone-lime, and 5 qts. of water, stirring while boiling. Let it settle, pour off the clear fluid, and preserve for use in a stone jug.

Soak the clothes an hour or two in warm suds. Wring out, and soap the most dirty places. Add a tea-cupful of the fluid to a boiler half full of boiling water, and then add the clothes. It will save half the labor of washing, and will not injure the texture of the goods.

**To Get Rid of Rats**—Scatter potash freely in their holes and runways. It will make their feet and mouths sore, and they will leave in disgust. Several varieties of traps are quite successful in catching them. Poisoning

is not a very good plan, as the dead bodies of those which happen to eat the poison are usually left in some unobserved or inaccessible place, where they undergo decay.

**Liquid Bluing.**—Pulverized Prussian-blue, 1 oz.; oxalic acid, pulverized,  $\frac{1}{2}$  oz.; dissolve in 1 qt. of soft water. Use one or two table-spoonfuls to a tub, according to its size. Will not speck.

**To Kill Ants.**—Pour into their nests hot water, lime-water, or a strong solution of alum. A little turpentine applied about the sugar barrel will drive every ant away from it.

**Wash for the Teeth.**—1. Dissolve 1 dr. of carbolic acid with 2 ozs. of alcohol. Add this to half a pint of water. Use freely with a tooth-brush. Is excellent as an application to cleanse artificial teeth.

2. Dissolve 1 dr. of permanganate of potash or soda in  $\frac{1}{2}$  pt. of water. Place in a bottle and cork tightly.

**Black Ink.**—2 ozs. extract of logwood; 2 drs. bichromate of potash; 1 dr. prussiate of potash. Dissolve the logwood in 2 qts. of soft water, soaking it over night and then boiling. Then add the bichromate and prussiate of potash after pulverizing. When the solution is complete, filter, and it will be ready for use. This is a very excellent ink.

**Red Ink.**—Mix 1 dr. of aqua ammonia, a bit of gum arabic as large as a hazel nut, equal parts of No. 40 and No. 6 carmine, as much as will dissolve, and 7 drs. of soft water. It will be ready for use in a day or two.

**Indelible Ink.**—Dissolve  $\frac{1}{2}$  sc. of nitrate of silver in a teaspoonful of aqua ammonia. In  $2\frac{1}{2}$  teaspoonfuls of soft water dissolve 1 sc. of gum arabic. When the gum arabic is dissolved, add an equal weight of carbonate of soda. Mix the two solutions and boil in a bottle placed in a basin of boiling water. When it becomes black, it is ready for use.

**Soft Soap.**—Cut fine 4 lbs. white soap in bars, and dissolve in 4 gals. of soft water by heating. Add 1 lb. of sal-soda, dissolve and mix.

**Bug Poison.**—Mix 2 ozs. alcohol,  $\frac{1}{4}$  oz. camphor,  $\frac{1}{2}$  oz. turpentine, and 1 dr. corrosive sublimate. Apply to infested places with a feather.

**To Etch on Metal.**—Mix two parts of muriatic acid with one of nitric acid. Cover the surface of the metal with melted wax. When the wax is cold, write or draw upon it the desired name or design, with a sharp-pointed instrument. Be careful to remove the wax quite down to the surface of the metal. Apply the acid with a brush or feather, carefully filling the outlines of the design. In a few minutes wash the acids away with water, and wipe the surface with oil after removing the wax.

**Borax Wash.**—Dissolve 1 oz. of borax in 5 qts. of water. This is a good cleansing wash for the hands, and is also an excellent washing fluid. Many use it for the hair. It is rather severe for the latter purpose.

**Plant-Lice.**—Shower the plant with a solution of carbolic acid in water, a dram to a pint; or fumigate with tobacco smoke.

**Mending Tin-Ware.**—Every house-keeper can save many dollars by mending her own pans, dippers, and basins. If a hole in a basin is to be stopped, scrape the inside of the basin just around the hole until it is bright. Dip the end of a little wooden rod in the fluid, and rub it upon the scraped surface. Now place a small bit of solder over the hole, and heat the under surface over a candle flame until the solder melts. In a minute it cools, and the hole is stopped.

**To Dry Boots.**—Fill them with oats at night after removing them from the feet. Set them in a warm room. In the morning, shake out the oats and the boots will be found to be dry, and will not be shrunken and stiff as they would otherwise have been.

**Blue Ink.**—Dissolve sufficient indigo in soft water to give the desired color; is very good for ordinary use but will fade.

**Soldering Fluid.**—Dissolve in 1 oz. of muriatic acid as much zinc as possible. Add  $\frac{1}{4}$  dr. of sal-ammoniac.

**Solder for Tin.**—Melt together 5 ozs. of lead and  $3\frac{1}{2}$  ozs. of tin.

**Solder for Lead.**—Melt together 1 oz. tin and 2 ozs. lead.

**Freezing Mixture.**—The following are a few of the best known means for producing artificial cold:—

1. Mix 4 ozs. of saltpeter and 4 ozs. of sal-ammoniac, each finely pulverized, with half a pint of water.

2. Mix equal parts of powdered nitrate of ammonium, carbonate of sodium, and water.

3. Mix quickly together two parts of finely powdered ice or snow with one part of salt. This mixture will produce a temperature of  $4^{\circ}$  below zero.

The article to be frozen should be surrounded by the freezing mixture as quickly as possible after the preparation of the latter. When it is a liquid, it may be contained in a bottle, which can be broken after the freezing is effected, if necessary.

**To Extract Grease Stains from Wall-Paper.**—Oil marks can be taken from the paper on drawing-room walls, and marks where people have rested their heads, by mixing pipeclay with water to the consistency of cream, laying it on the spot and letting it remain till the following day, when it may be easily removed with a pen-knife or brush.

**Disinfecting Fluid.**—The following is a recipe for one of the cheapest and most efficient disinfecting fluids known:—

Heat two pounds of copperas in an old kettle for half an hour, stirring frequently. When cold, dissolve the copperas in two gallons of water. Add two ounces of

carbolic acid, and mix well together. A pint of this solution poured into the kitchen sink every few days will keep it free from odors. It will also be found very useful for disinfecting the discharges of typhoid-fever patients, for which purpose a little should be kept in the vessel constantly. Even privy vaults can be kept in a comparatively harmless condition by the liberal use of this solution.

**To Remove Potato Sprouts.**—Place the potatoes in barrels, about one bushel in each barrel. Tilt the barrel upon its edge, and roll it about with sufficient vigor to give the potatoes a thorough shaking. By this means the sprouts will be broken off; and by the repetition of the process once in a week or two, the potatoes may be kept free from young shoots.

**To Make Cloth Water-Proof.**—Into a bucket of soft water put  $\frac{1}{2}$  lb. sugar of lead and  $\frac{1}{2}$  lb. powdered alum. Stir occasionally until the solution becomes clear, then pour it off into another bucket, and immerse the garment in it. Allow the garment to remain in the solution twenty-four hours. Scotch tweed is the best material for a water-proof cloak.

There are several other methods: 1. Moisten the cloth on the wrong side with a weak solution of isinglass. When this is dry, apply a solution of nut-galls. 2. Moisten with a strong solution of soap, and then with a solution of alum. 3. Spread the cloth on a smooth surface with the wrong side up. Rub it with pure bees-wax until it is gray. Pass a hot iron over it, and brush it while still warm.

**How to Make a Filter.**—Take a large flower pot or earthen vessel, make a hole one-half inch in diameter in the bottom, and insert in it a sponge. Place in the bottom of the vessel a number of clean stones of sizes varying from that of an egg to an apple. Place upon this a layer of much smaller stones and coarse gravel. Then fill the jar within two inches of the top, with equal

parts of pulverized charcoal and sharp sand, well mixed. Place loosely over the top of the jar, white flannel cloth, allowing it to form a hollow in the middle of the jar, into which the water can be poured. Secure the edges by tying a stout cord around the outside of the jar. By keeping a suitable vessel under the filter thus made, and supplying rain-water when needed, very pure water can be obtained. It can be kept in a cool place in the summer. It will require to be renewed occasionally by exchanging the old sand and charcoal for fresh. The flannel and sponge must be frequently cleansed.

**Durable Whitewash.**—Slack, with abundance of hot water, half a bushel of lime, stirring briskly meanwhile. When completely slacked, add sufficient water to dissolve. To this add two pounds of sulphate of zinc (white vitriol) and one pound of common salt. The last-named ingredients cause the wash to harden, and prevent cracking. If a cream color is desired, add yellow ochre. For stone color, add raw umber and lampblack.

**Cleaning Bottles.**—Small shot, pebbles, or broken charcoal, placed in a dirty bottle and shaken about with warm water and soap, will remove almost any kind of dirt. Charcoal is especially serviceable in removing unpleasant odors from bottles.

**To Keep Water Cool.**—Ice is almost universally depended upon as a means of cooling drinking water in summer. The free use of iced water is harmful. By making use of the following means, the water may be kept sufficiently cool to answer all the real demands of nature; in fact it may be kept nearly at freezing temperature:—

Place between two sheets of thick brown paper, a layer of cotton half an inch thick. Fasten the ends of the sheets together so as to form a roll. Sew in a bottom made of similar material, making it nearly air-tight, if possible. Fill a pitcher with cold water, and cover it with the cylindrical box by inverting it over the pitcher,

If the box is kept constantly wet with water, evaporation will go on so rapidly that the water in the pitcher will be kept very cool for a long time.

Water may also be kept cool by placing it in jugs and wrapping them with wet cloths.

**Preserving Grapes.**—Pick carefully the later kinds of grapes. Select such bunches as are perfect, rejecting all upon which there are any bruised grapes, or from which a grape has fallen. Spread them upon shelves in a cool place for a week or two. Then pack them in boxes in sawdust which has recently been thoroughly dried in an oven. Bran which has been well dried may also be used. Dry cotton is employed by some. Keep in a cool place. In this way, grapes may be kept until long after New Year's with ease.

Another method still more efficient is to select perfect bunches, as already directed, and dip the broken end of the stem of each bunch in melted sealing-wax. The bunches may then be wrapped in tissue paper and placed in layers, or hung in a cool place, or they may be packed in sawdust.

**Japanese Method of Cooking Rice.**—Put the rice into a kettle with just enough water to prevent its burning to the bottom. Put on a close-fitting cover, and set over a moderate fire. The rice is thus steamed, rather than boiled. When it is nearly done, remove the cover and allow the surplus steam and moisture to escape.

Rice cooked in this manner turns out a mass of snow-white kernels, each separate from the other, and as much superior to the soggy mass usually produced, as a fine mealy potato is to one which is water-soaked.

**Beef Tea.**—Although not to be recommended as an article of diet, beef tea is frequently a valuable article of food for the sick, especially if properly made. Pound and cut the beef until it is reduced to a pulp, then place it in a dish and cover it with a very little cold water. Allow it to steep gently for two hours, then strain off the

juice, and it is ready for use. Some tastes will require the addition of a minute quantity of salt. One-half pound of beef is required for a pint of tea. A very excellent plan is to place the beef in a bottle with the water, and then place the bottle in a kettle of cold water, which should be gradually brought to the boiling point.

**The Bushel.**—Weight is the only proper standard for the bushel, being the only accurate one. The following are the weights per bushel for the most common articles of commercial exchange:—

Pounds.		Pounds.	
Wheat, .....	60	Dried apples, .....	57
Shelled corn, .....	56	Dried peaches, .....	28
Ear corn, .....	70	Coarse salt, .....	50
Oats, .....	32	Fine salt, .....	56
Rye, .....	56	Lime (unslacked), .....	80
Buckwheat, .....	50	Irish potatoes, .....	60
Barley, .....	48	Sweet potatoes, .....	55
Corn-meal, .....	48	White beans, .....	60
Bran, .....	20	Castor beans, .....	46
Clover seed, .....	60	Beets, .....	50
Timothy seed, .....	45	Parsnips, .....	44
Flax seed, .....	56	Carrots, .....	50
Hemp seed, .....	44	Onions, .....	50
Blue-grass seed, .....	14	Turnips, .....	42
Green apples, .....	57	Rutabagas, .....	56

**Uses for Ashes.**—There is no more valuable fertilizer than common wood-ashes; but in order that they should retain their virtue, they should be kept under cover. Ashes which have been leached have very little value.

Ashes are also valuable for disinfecting purposes. They are even better than dry earth for deodorizing animal excreta. A privy may be kept entirely free from foul odors by their liberal use. When employed in this way, their disinfecting and fertilizing properties are both utilized.

Another use for ashes which the farmers would do well to take advantage of, is due to their power of destroying various kinds of insects. Turnips and cabbages may be protected from the ravages of various insects which feed upon them, by sprinkling upon and

around them a few ashes daily, for a short time. A practical farmer also asserts that unleached wood-ashes will permanently destroy potato bugs, if sprinkled upon the vines while they are moist with dew, or immediately after a rain.

**Cheap Paint for Barns and Sheds.**—A very cheap paint may be made by mixing unslaked water-lime with milk to the proper consistency. It adheres well to wood, brick, mortar, or stone when no oil or paint has been previously applied. It makes a very durable coating, and its cheapness leaves nothing to be desired. Skim-milk is even better than new milk. Many farmers could greatly improve the appearance of their premises by covering with this simple paint their barns, sheds, fences, and out-buildings.

**To Preserve Shoes and Boots.**—Do not expose them to extreme heat by warming them too near the stove. The smell of leather indicates that they are already injured. The wearing of rubbers is very injurious to leather. Rubbers should be worn as little as possible, and should be removed from the feet as soon as their use is not absolutely necessary. Every two or three weeks, wash the leather with a cloth moistened in warm water, and when nearly dry, apply a warm mixture of equal parts of neat's foot oil and tallow. Ordinary blacking contains oil of vitriol, and this removes the oil from the leather and causes it to become dry and brittle.

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“EAT YE THAT WHICH IS GOOD.”

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PUBLISHED AT  
THE OFFICE OF THE HEALTH REFORMER,  
BATTLE CREEK, MICH.  
1875.

## PREFACE.

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UPON few subjects are people so reckless of ultimate consequences as upon that of eating. Whatever pleases the palate is turned into the stomach, no matter what may be its dietetic value. It may be a valuable aliment; but it is quite as likely to be some villainous compound which is not only wholly devoid of nutrient properties, but is eminently qualified to work in the system an incalculable amount of injury. Doubtless the prime cause of this carelessness is the gross ignorance which everywhere prevails relative to the intimate relation between diet and physical and mental health, and also respecting the qualifications essential to constitute any substance a fit article to supply the alimentary wants of the body. This same prodigal expenditure of health and life will doubtless continue until people become intelligent upon these subjects, and until a clear intellect, an untainted breath, and a healthy stomach come to be considered more desirable than the sensuous pleasures which may be experienced by gratification of the demands of a depraved taste and pampered appetite.

The object of this work is to serve as an auxiliary to others which are devoted more especially to the education of the people upon these all-important subjects. To be sure, there are several other works of a similar character extant, and each of them possesses excellent qualities, as well as some notable deficiencies. This work has been prepared with the hope of avoiding the errors,

while embodying as many as possible of the excellencies, of its predecessors.

In the following pages there will be found many more recipes than any one person will be likely to utilize; very probably some of them will be disliked by some persons, while they please others. Possibly each may find something suited to his taste, provided, of course, that his taste is a natural one.

It is to be hoped that all who make use of the book will first carefully peruse the introductory portion, as they may otherwise form incorrect notions of the positions taken. Many of the recipes may at first seem somewhat ultra in character; but when once the appetite has become accustomed to food simply and healthfully prepared, the judgment formed will be quite different, and the former dislike will be found to be due to a perverted taste.

As the name of the book indicates, it is devoted to *hygienic* cookery, and, consequently, no one should be disappointed at not finding directions for the use of those things which are plainly shown to be entirely unhygienic in the introductory portion of the work. The world abounds with books which teach how to use salt, soda, saleratus, butter, etc.; our object is to teach people how to cook without the use of these disease-producing agents.

Many valuable hints have been drawn from various works on cookery, and due credit should be granted to the writings of Mrs. Cox and Miss Colman. Many of the recipes recommended are employed at the Health Reform Institute, located in this place.

PUBLISHERS.

## INTRODUCTORY.

### FOOD AND DIET.

SINCE the most excellent culinary preparation cannot convert substances which are absolutely unwholesome and innutritious into good, wholesome food, it is obvious that the selection of *proper material* is a matter of the first importance in all matters pertaining to cookery. A few inquiries, then, respecting the nature of healthful food and some of the articles erroneously considered as such, may not be out of place as an introduction to that portion of this little work which treats more especially of the preparation of food for the table. We will first inquire,

#### What Is Food?

As relating to the diet of man, food may be defined as being any substance which is susceptible of being taken into the system and there assimilated, or made to take part in the formation of some of the tissues or structures. It is by this process of assimilation that the growth and maintenance of the body is effected. The best food, then, is that by means of which the desired end may be most readily and perfectly attained. Experience shows conclusively, actual experiment having again and again demonstrated the fact, that man can obtain nourishment from such substances only as are the product of the

vegetable kingdom. The plant, through the agency of a mysterious force called vitality, so transforms the various elements of the mineral world as to prepare them for the sustenance of man and the animal kingdom in general. This change is an indispensable one, as all intelligent physiologists agree, and as the facts of every-day life abundantly attest.

#### Man's Natural Diet.\*

While admitting that it is essential that the inorganic elements of the earth and air should undergo a process of organization through the medium of the vegetable kingdom before they can serve as food for man, it is claimed by many that food is still better prepared to meet the wants of the human system after it has undergone the further process of assimilation by the animal kingdom. On this ground it is claimed that flesh is the proper food for man, and that he cannot be deprived of it without suffering material injury thereby. As indicated, however, by his organs of mastication and digestion, the kind of food most suitable to his nature, and the best calculated to supply all the wants of his system, would seem to consist exclusively of fruits and grains.

So great, however, are the capabilities of the human system, in being able to accommodate itself to a wonderful variety of circumstances, it may derive nourishment from a large number of substances, many of which appear to be quite dif-

\*For more complete and conclusive scientific evidences on this subject, see pamphlet entitled *Proper Diet for Man*, published at this Office. For advertisement, see catalogue on the cover of this work.

ferent in character from those designed by the Creator to be used for this purpose; consequently, we find that man may subsist upon several classes of roots and many other vegetable productions. So, also, life may be sustained by a diet almost exclusively composed of flesh. These facts do not conflict in the least, however, with the statements already made. As previously intimated, they only indicate the wonderful capability of adaptation to circumstances which man possesses. The character of his proper food must be determined from evidences of a more substantial nature than acquired habits and perverted appetences.

---

#### PERVERTED APPETITES.

Possessing the power of cultivating the taste to an almost unlimited extent, men have unfortunately acquired many unwholesome and pernicious habits. Their appetites have thus become so depraved that they are enabled to relish articles which are the most obnoxious to a natural, unperverted taste. Among the various substances for which an unnatural taste has thus been acquired, we may mention as the most common, flesh food, butter and all kinds of animal fat, fine flour, spices, pungent roots, as radish, celery, etc., sugar, vinegar, pickles, preserves, tea, coffee, wine and all other stimulants, salt, soda, saleratus, and the various other mineral substances employed in cooking.

#### Animal Food.

As already remarked, there is the most conclusive evidence that meat is not the most natural

food of man. It is equally well shown that the use of flesh as food is detrimental to longevity, and prejudicial to the attainment of the highest degree of physical, mental, and moral development. More than this, it has many times been made evident to the most strenuous advocates of flesh diet that eating of the flesh of animals is an act attended with no inconsiderable amount of immediate danger to life. Cattle and sheep are well known to be subject to various diseases, just as is man. Hogs are notably liable to disease. How many people suffer all the agonies of death a hundred times from loathsome tape worms which originated in measly pork! And, if possible, how much keener suffering is endured by the poor victims of those horrid creatures, trichinae, which are to be found in unnumbered multitudes, according to reliable authorities, in one out of every ten of those scrofulous scavengers which supply our cities with ham and sausage.

Fish are also subject to disease, epidemics resembling epizootic diseases often destroying them in vast multitudes. When *not* affected by disease, they are less nutritious than beef; and, upon the whole, they are quite as injurious when used as food as any other kind of flesh.

Notwithstanding the above facts, it cannot be denied that animal food contains the elements of nutrition, although in much smaller proportion than many vegetable productions. This is fully shown in the following table of comparative nutritive values of different articles of food, which is compiled from the most recent scientific works, and chiefly from Dr. Smith's excellent work on "Foods":—

ARTICLES OF FOOD.	Amount of NUTRIMENT in 100 parts.	ARTICLES OF FOOD.	Amount of NUTRIMENT in 100 parts.
Beef,.....	27.0	Lentils, .....	77.0
Sheep, .....	26.4	Potatoes,.....	26.0
Fowl,.....	26.3	Turnips, .....	9.0
Calf, .....	25.6	Carrots, .....	17.0
Fish,.....	22.0	Parsneps,.....	18.0
Wheat, .....	86.0	Beets,.....	16.5
Oats, .....	88.0	Cabbage, .....	5.6
Maize, .....	93.0	Apples, .....	16.0
Barley,.....	86.0	Pears, .....	14.0
Rye, .....	85.0	Peaches, .....	15.0
Rice,.....	87.0	Strawberries, ...	12.7
Millet, .....	87.0	Figs,.....	81.3
Beans, .....	86.0	Cherries, .....	23.7
Peas, .....	85.0	Dates, .....	76.0

Thus it will be observed that a pound of beef contains less than one-third as much nourishment as a pound of wheat or corn, while other kinds of flesh are still less nutritious. The popular notion that animal food is more nourishing than vegetable is thus shown to be wholly without foundation.

When animal food must be used, as its use is sometimes required as a temporary expedient, it should be carefully selected, so that it may be as free from disease as possible. Wild game is often the most wholesome. It must also be cooked in such a manner as to make it the least objectionable possible. To this end, the flesh should be thoroughly washed, so that the blood retained in it may be removed; fatty portions should be removed, and the flesh should be broiled, rather than fried.

**Eggs.**

Many vegetarians, so-called, make large use of eggs, apparently overlooking their animal character. They are exciting and stimulating in their nature at the best, and are usually made still worse by improper cooking. When boiled hard, or fried in grease and eaten with pepper and salt, they are very indigestible. For this reason the use of eggs in cakes and custards is very objectionable. The less they are used the better.

**Milk.**

Although somewhat less objectionable than flesh, milk is animal food, and is open to most of the objections urged against the use of meat. It is doubtless the best food for young animals, as each class of warm-blooded animals is provided with this kind of food, which is just adapted to the alimentary wants of the animal for which it is designed. In accordance with this principle, an error is made when we attempt to sustain one class or species of animals on food especially adapted to another. Cows' milk is excellent for calves, but cannot be so well adapted to the use of man, because the requirements of his system are of a different character from those of a calf. Even cows' milk is much better for the use of children than for adults, as certain changes take place in the digestive organs during the process of growth which render milk and all kinds of fluid nutriment objectionable, as they cease to be suited to the condition of the individual to be nourished.

Milk is quite liable to be freighted with the products of disease. Many cases have been reported in which there was the best of evidence

that typhoid fever was communicated through the medium of milk. In some instances the germs of disease were introduced into the milk through water which was fraudulently added to it, or which was used in cleansing the vessels containing it. In other cases, there were good grounds for believing that the typhoid poison was introduced into the circulation of the animals with their food, and thence transmitted to the milk. It is thought by some medical authorities of eminence that tubercular consumption, which is a very common disease in cows, is communicable to human beings through the medium of the milk. It is also a well established fact that when the period of lactation in animals is unnaturally prolonged, the lacteal secretion becomes largely of the character of an excretory product. If used at all, it should be with great moderation. The less the better for adults.

**Cheese.**

Old cheese is one of the most injurious of dietetic abominations. The notion that it aids digestion is a monstrous fallacy. It is itself very indigestible, and it impairs and retards the digestion of other food. In the process of ripening, or maturing, the cheese undergoes putrefactive changes which give rise to noxious acids and gases, to which the pungent taste of old cheese is due. Only when new is it at all fit to be eaten; and then much risk is often incurred, as various poisons are frequently introduced as coloring material. Pot-cheese is less objectionable, when properly made, than old cheese made at the factories; yet this is by no means an entirely wholesome article of food.



**Butter.**

Butter is not materially different from other animal fats and oils, in its effects upon the system, at least; neither is its composition much different from tallow, lard, etc. Indeed, a very large proportion of the butter now used in large cities is manufactured directly from suet. Many who have partially adopted the hygienic mode of living have made a very grave mistake in their manner of using butter. Learning of its injurious character, they have ceased to place it upon the table in its solid form, to be used, as formerly, with bread, etc.; but they continue to put butter in their food as seasoning, and, possibly, increase the quantity a little to supply the deficiency felt from banishing it from the table as a separate dish. They doubtless go upon the principle that if the butter is only out of sight it can do no harm. The truth is that this is the very worst possible way of using butter or any other kind of fat. When cooked with the food, it thoroughly permeates the whole mass, and renders it next to impossible of digestion. When simply spread upon bread, it is much more easily disposed of. But there is no necessity whatever for the use of any kind of animal fat, any more than there is for the use of flesh. The various kinds of nuts, and the rich grains and seeds, as corn, beans, and peas, are wholly adequate to supply all that the system demands in the line of oil. When we remember, also, that in animals a large amount of fat is invariably the result of disease, this becomes a very undesirable article of food.

**Fine Flour.**

The invention of the process of "bolting" flour was a most unfortunate occurrence for humanity. It has been the direct cause of an incalculable amount of injury to health, fine flour being a most fruitful source of disease. It has also been productive of enormous waste, independent of the worse than useless labor bestowed upon the process itself; for by removing from the kernel of wheat the outer layers, called bran, coarse and fine middlings, etc., the grain is deprived of its most nutrient portions, which are fed to hogs or other domestic animals who thrive upon the best portion of the wheat while man contents himself with the impoverished residue.

Fine flour should never be used only in exceptional cases. It is barely possible that some invalids who have morbidly sensitive stomachs may find the coarsest portion of graham flour somewhat irritating. In such cases the coarse bran can be removed with a sieve, or a quantity of fine flour may sometimes be mixed with the graham for a time, until the system becomes accustomed to its use.

**Spices.**

All pungent, acrid substances should be wholly discarded by hygienists. They vitiate and destroy the delicacy of the sense of taste, and are active and potent agents in producing dyspepsia and all the attendant evils of that hydra-headed malady. Pepper, nutmeg, cinnamon, and the remainder of the list of savory, though pernicious, condiments, do not add anything of value to the food, but obscure its natural flavors, and destroy the relish for simple, unstimulating foods.

### Salt, Soda, and Other Minerals.

Salt is said to be an indispensable article of *food* by many eminent physiologists. Nothing can be more untrue than this statement, notwithstanding the eminent character of its champions as men of learning and integrity. They doubtless have what appears to them to be evidence of the truth of their position. However this may be, the evidence that salt is an injurious article of diet in *any* quantities, either large or small, is of the most conclusive character. It contains no element essential to nutrition; in fact, it cannot be used by the system in any useful manner whatever. When taken into the body, it is hurried out by the most accessible channel; hence its stimulating character; for stimulation is simply the result of the defensive action of the system. It is inorganic in its nature, and, consequently, cannot be assimilated by the organs of nutrition, but is rejected like any other poison. The experience of hundreds—we may even say thousands—of individuals demonstrates, in spite of all the theories about hydrochloric acid, etc., that salt is not only useless, but harmful as an article of diet. It is an irritant, a caustic, an antiseptic; and it produces a feverish condition of the system, irritates the digestive organs, and, in any considerable quantity, greatly retards the digestion of the food.

All that has been said with reference to salt will apply with still greater force to soda, saleratus, cream tartar, and the other minerals with which modern cookery contrives to spoil our food and ruin our health. All are worse than useless. Discard them at once, if possible; if not, be sure

to cultivate a dislike for them as rapidly as may be, by gradually diminishing the quantity used.

### Sugar.

Under this head, we shall include all the various forms of saccharine matter—sugar, sirup, molasses, maple sugar, honey, etc. It has been claimed by some that sugar was an inorganic substance like sand, salt, powdered glass, etc. This statement will not bear the scrutiny of science, however, and could not be honestly made by a person who understood all the scientific and chemical facts bearing on the subject. Sugar is, properly speaking, neither an inorganic nor an organized substance. It is an intermediate substance. It is one of those curious products which is formed in the laboratory of nature in the process of converting dead, inert, inorganic matter into living, active, organized structure. In other words, it is a partially organized substance. Its principal use in the economy of nature seems to be to render palatable, food which would otherwise be tasteless or unpleasant. For this purpose, it is, with rare exceptions, provided in just the right form and proportions in the substances designed for the dietetic use of man. In some articles, as very sour fruits, it seems to be deficient; but the want is supplied by a superabundance in such sweet fruits as dates, figs, and raisins.

The sweet element of these fruits is doubtless essentially the same as what is commonly termed sugar; at least, it becomes so by the processes of drying and cooking to which it is usually subjected. The question at once arises, Why may we not use sugar, then, as freely as we may use sweet fruit? The objections to the use of sugar are two:—

1. It is exceedingly liable to adulteration with very poisonous substances in the process of manufacture; sulphuric acid, nitric acid or aqua fortis, and bi-acetate of lead—a potent cause of lead paralysis—are frequently employed for various purposes.

2. On account of its condensed form, it is almost certain to be used in excess, when it becomes a very effective cause of dyspepsia, liver complaint, and a host of evils. With sweet fruits, this is much less liable to occur, although it is not at all impossible. On this account, sweet fruits are preferable to pure sugar, and hence we have usually recommended their use in place of the sugar of commerce.

When sweet fruits cannot be obtained, or when their use may be very objectionable for other reasons, a *very moderate* quantity of sugar may be used. Always buy the best white sugar. Brown sugar is seldom fit to use. Its dark color is due to the dirt it contains; and, worse than that, it is often filled with minute animals which are the cause of a disease known as grocer's itch. Maple sugar is no better than good coffee sugar. The sirups are hardly safe to use at all, as they are so largely adulterated. About one-half of that in market is spurious, being manufactured from cotton, old rags, sawdust, refuse starch, and sulphuric acid. About the only justifiable use of sugar is for rendering more palatable sour fruits.

Be careful to avoid excess in the use of sweetening; and, best of all, acquire, as soon as possible, a simple taste which will relish food best when nearest its natural condition, and without the addition of any condiment.

### Vinegar, Pickles, and Preserves.

It would seem that nothing need be said to convince any candid, observing person that these articles are wholly unfit for food, as his own sensations must often have hinted to him their indigestible character. Vinegar is really more injurious than alcohol. This is not strange, since it is one more step advanced in the process of decomposition which ultimately converts sugar into carbonic acid and water. Vinegar is always formed by the fermentation of alcohol by means of yeast or something equivalent. Pickles are wholly intolerable, and are almost devoid of nourishment. Preserves are about equal with them in this respect. Converting good, wholesome vegetables and fruits into pickles and preserves is a very wasteful practice, to say nothing of its detrimental influence upon the health, which is simply enormous. They should never be eaten under any ordinary circumstances.

### Tea and Coffee.

Although these cannot be called food in any sense, they are so often taken with the food that we will consider them here. The objections to the use of tea, coffee, cocoa, and chocolate, are the three following:—

1. They are stimulating. This implies that they contain elements which are recognized by the system as poisons, and are treated as such, being turned out of the body as quickly as possible after being introduced. Chemical analysis reveals the fact that each of the articles mentioned contains a poison which is very fatal to animal life when taken in any but the most mi-

nute quantities. Tea, coffee, chocolate, and cocoa differ somewhat in their poisonous qualities, but the difference is principally in degree, not in kind, since the element which gives to them their peculiar properties is essentially the same in each.

2. All drinks are objectionable when taken with the food, as they render digestion difficult, and impose a severe task upon the digestive organs before the work of digestion proper can begin, since all superabundant liquid must be absorbed from the food before the gastric juice can perform its proper function. Drinking with meals in a very pernicious habit, and makes thousands of dyspeptics. It encourages rapid eating, and, consequently, insufficient mastication and defective insalivation.

3. Tea and coffee are taken hot; and many people become so accustomed to the unnatural temperature that they are able to take into their mouths without pain that which would nearly scald their hands. Although no pain is felt, the injury is nevertheless accomplished. The fine sensibility of the nerves of taste is destroyed, and the whole mucous membrane of the mouth, throat, and stomach, becomes congested, debilitated, and subject to almost any disturbing influence.

Many people who call themselves hygienists use burned bran and molasses, burned bread, rye, barley, acorns, etc., in place of ordinary coffee; some use hot water only. Although the practice is not as objectionable as that of using worse articles, it is open to the full force of the last two objections, and when the roasting is carried beyond the point of simply browning the article

employed, be it bread, bran, or rye, it becomes somewhat poisonous and injurious. If it is thought that something warm must be taken to "warm up the stomach," a cup of warm water may be taken ten or fifteen minutes before the meal with no injury, as the fluid will then be absorbed before the food is taken.

#### Wine.

Without here entering into a discussion of the question which involves the medicinal use of wine, we can unhesitatingly state that its habitual use as a beverage is a habit worthy of the most unqualified condemnation. It is productive of an untold amount of suffering, sin, and crime. Nor is moderate drinking less deserving of censure than absolute drunkenness. Moderate drinkers are more dangerous enemies to temperance than drunkards. Stimulation means poisoning! and it is the gratification of the desire for artificial stimulus that constitutes the crime of using alcoholic liquors rather than the simple act of drinking wine, brandy, rum, whisky, or beer. All the virtue which wine is supposed to possess is due to the *alcohol which it contains*. Hence the only real difference between wine and rum, brandy, whisky, or other liquor is in the strength, and consequently the use of wine is open to the same objection as the use of those other liquors.

#### Time for Meals.

But two meals per day are far preferable to more than that number. The stomach needs rest as well as the other organs of the body. Meals should never be eaten with less than five hours' intermission, by adults. With small children, this rule may be varied somewhat ac-

ording to the age of the child. Probably the best hours for meals, considered from a physiological standpoint, are 8 A. M. and 2½ P. M. Those who find these hours inconvenient may take breakfast at 7 A. M. and dinner at 1½ P. M. Some cannot make these hours convenient, and such may breakfast at 6½ A. M. and dine at 12 M. without suffering particular inconvenience from not taking the third meal, after having become accustomed to the change. For almost all persons, two meals are vastly better than three; but if the third meal is taken, it should be very light, and should not be eaten later than 5 P. M.

#### Change of Diet.

Perhaps the greatest obstacle in the way of a reform in diet is the difficulty which people find in breaking up old habits and establishing new ones. When this crisis is once safely passed, no further difficulty is experienced; and what was at first a hardship, is transformed into a pleasure such as was never before experienced. This is the uniform testimony of all who have persevered until new tastes and appetites were fully formed. But how to get over the unpleasant period during which changes are being made, is the problem. By observing the following suggestions, little difficulty will be experienced:—

1. *Make the change gradually.* Unless you can devote your time to the matter, suspending, in a measure, at least, your usual avocations, do not attempt to abandon everything not purely hygienic at once. When the change is made thus suddenly, the individual making it suffers more or less derangement of his system. He feels languid, weak, perhaps somewhat ill-tempered, and

may suffer somewhat from indigestion. These unpleasant sensations discourage him and weaken his will power, so that he is quite likely to abandon the attempt at reform; and it may be that he will lose confidence in the whole system. A gradual change will obviate all of these difficulties.

2. *Be sure to make constant progress.* The strongest argument which extreme and ultra hygienists are able to urge against this method of effecting a change from bad dietetic habits to good ones is the fact that many persons who make the attempt in this manner forget the importance of constant, prolonged, and persevering efforts, and allow themselves to rest contented after taking only the initiatory steps toward a reformation.

3. *Use common sense.* It is very frequently the case that people who attempt a reform in diet only exchange one bad habit for another; and sometimes, indeed, the second habit is far more injurious than the first. Exchanging light, sweet, fine-flour bread for heavy, perhaps sour, graham bread, is not reformation. Substituting large quantities of sugar, sirup, or molasses for meat is a terrible retrograde, rather than advancement. Banishing butter from the table, and then saturating the potatoes, gems, pie crust, and gridle cakes with suet, is no improvement! How many would-be health reformers have made themselves dyspeptics by attempting to reform in so unphilosophical, not to say absurd and ridiculous, a way!

4. *Do not attempt to live on an impoverished diet.* In other words, do not exclude from your dietary meat, butter, eggs, milk, sugar, and salt,

and then attempt to live on the residue of your former bill of fare. As each of the injurious articles mentioned is abandoned, supply its place with some new, palatable, and tasty hygienic dish. An impoverished diet is not one which excludes meat, butter, sugar, salt, spices, and other unhygienic articles; it is one which is lacking in the elements of nutrition, or which is not adapted to the particular conditions of the system. That which would be an impoverished diet for one might amply supply all the alimentary wants of another. Individual temperaments vary, and circumstances vary equally as much, so that set rules cannot be laid down which will be equally well adapted to all cases. Each individual must apply general principles to his own special case.

In commencing the change, discard the worst articles of diet first. Spices, vinegar, pickles, preserves, mustard, peppersauce, old cheese, and similar articles, may be discontinued at once and forever. Pork and all its products may be abandoned equally as promptly. Exchange fine flour for graham bread. Next attack the tea and coffee habit, reducing the quantity for a few weeks at first, if necessary, but being sure to rout the enemy. Curtail the butter and salt, and use only a moderate quantity of meat. By degrees these may be relinquished. Nuts may be freely used instead of butter. Sweet fruits may also be largely substituted for sugar. In the course of a few months, a person may thus easily become a thorough hygienist if he will constantly keep in view the ideal standard of a true reformer, which demands ultimate freedom from every habit which is the result of perverted taste, or departure of any kind from the strict observance of the

laws of nature. One important element which is usually necessary to success is a thorough appreciation of the fact that so intimate is the relation between moral and physical laws that the latter cannot be knowingly disregarded without doing violence to the former. "It is a sin to be sick," and every law relating to health should be scrupulously and conscientiously observed.

It is quite possible that there may be found aged persons who have so long been accustomed to the use of flesh that an entire abstinence from that kind of food might be attended with more injury to them than the continuance of its moderate use. But this argues nothing in favor of animal food as the best diet for man. Young people and persons of middle age may make the change with impunity; and it is very doubtful if a return to the use of animal food can in such cases ever become necessary after the appetite for it has been once fully overcome.

## COOKERY.

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### The Art of Cooking.

Good cookery may justly be classed among the fine arts; but in regard to that which is usually called good cookery, which consists in so compounding lard, butter, sugar, saleratus, cream, and spices, with the various fruits, grains, and vegetables as to not only completely conceal or destroy the natural and proper flavors of those articles, but to make them next to impossible of digestion and fit for nothing but the compost heap—such cookery might much more properly be called the black art. Indeed, if we except drug medication, we shall be perfectly safe in saying that modern cookery is the greatest bane of civilization at the present time. Men and women are subject to few diseases whose origin may not be traced to the kitchen. Closely following diseased physical natures come mental and moral inefficiency originating in the same prolific cause. This being the case, the importance of a thorough understanding of the principles of nutrition, and of the nature of alimentary substances by those who attend to this branch of the domestic economy, becomes very apparent. The position of cook, instead of being considered of a menial nature, should be looked upon as one of great importance and responsibility, and one which should be intrusted to none but intelligent and trustworthy persons. Especially is this true of hygienic cookery. Many have been discouraged and disheartened in attempting to make a reformation

in their dietetic habits by bad cooking alone. In the old methods of cooking it made little difference if the bread did sour in making; alum and saleratus would make it all right. If the meat became tainted by long standing, pungent and savory spices and condiments would effectually conceal the putrescent taste and odor. But in hygienic cookery, since nature's seasonings are the only ones allowed, the greatest care is necessary to preserve the delicate natural flavors of the articles used for food. In this direction there is a broad field open for skilful experiment.

One of the chief requisites for a good cook is perseverance. If the first attempt is not fully successful, do not denounce the recipe a failure, and the system a humbug, but try again and again until success, which is certain, is secured. Make the art of cookery a study, and utilize all your scientific knowledge, as well as your natural ingenuity, in your efforts to provide healthful and palatable food for those depending on you for those essentials of life.

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### BREAD.

This article of food, in various forms, constitutes a very large proportion of the diet of nearly all civilized nations. Yet it is a fact that a really good specimen of bread is seldom found, at least in this country. Very few cooks know how to make good bread, notwithstanding their acknowledged dexterity in compounding various mixtures to which they attach the name of that article. What, then, are the qualifications essential to

## Perfect Bread?

1. It must contain as many as possible of the elements necessary to sustain life.

2. It must be light and porous, so that it may be thoroughly and easily insalivated and digested.

3. It must be palatable.

4. It must be of such consistency as to require sufficient mastication to enable it to become thoroughly permeated by the saliva.

5. It must not contain any ingredient which will be in any way injurious to the system if taken into it.

6. The material of which it is made must be preserved uninjured by the process of making.

## Unwholesome Bread.

Let us briefly consider, in the light of the above principles, the real character of the bread which constitutes a staple article in the diet of the great majority of Americans, if we except the red-skinned natives of the West.

1. In ordinary bread, made from bolted flour, we have just the opposite of what is required for perfect bread, viz., "*as many as possible* of the elements necessary to sustain life." Instead, we have almost nothing but starch, which, alone, is no more competent to sustain the life of animals than pure water. It has been proved by actual experiment that dogs, when fed exclusively upon starch, or super-fine flour, will die almost as soon as when left wholly without food.

2. Although it is claimed by those who are prejudiced in favor of "raised" bread that in respect to the second requirement it has a decided preference over "unleavened" bread, which is

usually believed to be synonymous with heavy bread, yet if we may believe the testimony of most authors of popular cook books, as well as that of our own experience, it is not a thing at all uncommon for the good housewife, in the midst of her cares and burdens, to neglect her "sponge," which is undergoing the process of "raising," until putrefaction has so far advanced that heavy, sour, "soggy" bread is the result.

3. To be well assimilated, bread, as well as all other food, must be relished. To perfectly healthy tastes, the bread which is usually presented on our tables is far from palatable. It will bear no comparison with the sweetness and natural flavor of well-made unleavened bread. All are ready to grant the unrivalled superiority of the famous "hoe-cake," formerly so common in the South, and yet its sole ingredients were corn-meal and water.

4. The eating of too large a proportion of soft food, which requires no mastication to allow it to be swallowed, is very injurious to the teeth. Like all other organs, they require exercise to preserve their integrity; hence, a large portion of the bread eaten should be in the form of crisps, crackers, or cracknels. Any one whose teeth are not in total ruins will find himself amply repaid for the trouble which he may experience in accustoming himself to the use of hard food. There is no better remedy for sore teeth and tender gums than eating food which requires vigorous and thorough mastication.

5. Not only is ordinary leavened bread, whether domestic or made at the baker's, almost totally deficient in some of the most important nutrient elements found in the grain and in unbolted flour,



but it contains many foreign elements which are decidedly injurious in their nature. These may be considered under the following heads:—

*a.* Elements which are used for the purpose of "raising." In ordinary home-made bread, no "raising" material is added to the dough. In this case, the putrefactive process, for such it is, is commenced by the introduction into the batter, from the air, of certain microscopic germs which are always the chief agents in originating the process of decay, and which are always present in putrefying matter. Hop yeast, besides containing the noxious elements just mentioned, contains an alkaloid which is peculiar to the hop plant, and which is a powerful narcotic poison when used in a concentrated form. It is due to the action of this poison that a hop poultice is often used to relieve local pain. Brewer's or baker's yeast is also a vile product of the process of putrefaction. It is simply the foul matter which rises to the surface of the vat as scum, or sinks to the bottom as sediment, in the fermentation of beer. Bad as are the articles already mentioned, there is a class still more injurious; viz., the soda, saleratus, cream of tartar, and the various compounds known as baking powders. They are all extremely pernicious, and have wrought much mischief upon human stomachs. It is useless to argue that a harmless salt is produced by the combination of these elements, for the salt itself is a caustic, irritating chemical, and a poison.

*b.* Changes which are the results of fermentation. The first, and that upon which the value of the process depends, is the production of carbonic acid. This well-known poison permeates the

whole loaf. The same is also the case when chemicals are used. Again, it has been proven by chemical analysis that a considerable portion of alcohol is formed in the "raising" of fermented bread, and that so much of this is retained in the bread that a person would take as much alcohol into his system by eating a few loaves of fermented bread, as by drinking a glass of beer. Lastly, if the process of fermentation is allowed to progress a little too long, true putrefaction begins, and acetic, butyric, and other unwholesome acids are formed, which often give to bread a very unpleasant taste and odor.

*c.* In addition to all these unwholesome elements, to which ordinary domestic bread is liable, baker's bread contains numerous other harmful ingredients, which are added either for the purpose of hiding the poor quality of his materials, increasing the weight of his loaves, or otherwise increasing his gains. Conspicuous in this list are blue vitriol, ammonia or sal ammoniac, alum, chalk, and magnesia. Sundry other chemicals, besides various filthy compounds sold as fruit essences, are also used in cakes and pies.

6. The production of carbonic acid and alcohol is at the expense of both starch and sugar, two of the chief nutrient elements of the grain, and also of the peculiarly grateful aroma which gives to each species of grain its characteristic flavor. This is one of the reasons why fermented bread can bear no comparison in sweetness with unleavened. The various chemicals which are employed in "raising" bread, through chemical action upon the ingredient of the grain, not only destroy some of them entirely, converting them

into harmful agents, but they render the whole less palatable and less nourishing.

#### Directions for Making Wholesome Bread.

Incredible as it may seem to one who has never seen the matter demonstrated, it is nevertheless a fact that bread possessing all the qualities of lightness and porosity may be produced without the introduction of any such deleterious substances as yeast, soda, saleratus, or cream of tartar. Neither will it be found necessary to allow the batter to stand until the process of decay is spontaneously induced. *Atmospheric air* and *soft water* are the only materials necessary to render bread as light as can be desired. These harmless agents are incorporated into the meal by proper mixing, and when heat is applied, the air expands, and the water is converted into steam, so that the bread is effectually raised without undergoing the process of decay, or being contaminated by any villainous chemical compounds.

**SELECTION OF MATERIALS.**—One of the most important requisites is the selection of the proper kind of material. Good bread cannot be produced from poor flour by the most expert manipulations of a professional cook. Especially is good material important in making hygienic bread, since its excellence depends so largely upon the natural properties of the grain, and deficiencies and unpleasant properties cannot be obscured by the addition of foreign materials so frequently employed in the old methods of bread-making. First-class flour must possess each of the following qualities:—

1. It must be prepared from grain which has been fully matured, and which has not suffered

deterioration from rust or mold, or from being exposed to moisture and heat.

2. The grain should be thoroughly purified from all foreign substances before grinding.

3. The flour must not be deprived of any of the nutritious elements of the grain by the process of "bolting" which is so generally resorted to, and which results in ruining the teeth and constitutions of thousands of persons every year, and involves the reckless waste of by far the most nutritious portions of our nutrient grains. In other words, fine flour should never be used. Wheat meal or graham flour, corn meal, oatmeal, barley meal, and rye meal can now be readily obtained in nearly all localities; and they should always be used instead of bolted flour.

4. The meal should be properly ground—neither too coarse nor too fine. If too coarse, the hulls of the grain will be irritating to the delicate digestive organs, especially to those whose stomachs are rendered morbidly sensitive by disease. If too fine, the bread made from it will be less likely to be as light as desirable.

5. Lastly, when water is used for making the batter, pure soft water only should be selected. Hard water toughens the dough and greatly diminishes the tenderness of the bread. No salt should ever be added to the water. Neither should any chemical be added for the purpose of "softening" the water, as the evil will only be increased.

**DIRECTIONS FOR MAKING.**—After having selected the proper materials, much care and even dexterity is needed to produce good bread. The following general directions must be carefully attended to:—

1. Care must be exercised to select just the right proportion of the ingredients for the particular article to be produced. Whenever convenient, accurate measurement should be resorted to. But it must be borne in mind that different kinds of grain possess different absorbing qualities, and different qualities or grades of the same kind of grain will also vary in this respect. Hence the amount of water or other fluid to be incorporated with a certain quantity of flour must be subject to certain variations. But a little careful experimenting will readily fix the proper amount in all cases.

2. Since the lightness of unleavened bread depends so largely upon the expansion of atmospheric air, it is, evidently, quite important that care should be taken to incorporate into the batter as much of this harmless "raising" agent as possible.

3. Much also depends upon the condition of the oven, which must receive a due share of attention. The terms *quick* oven and *slow* oven are of frequent occurrence in the technology of cookery, but are often quite loosely employed. A *quick* oven is one which is so hot that the hand can be held in it but a very few seconds. An oven in which the hand can be held for a full half minute is termed a *slow* oven. These definitions are obviously not quite satisfactory, but perhaps they are as precise as can well be given without resorting to the thermometer which is not always at hand.

4. All utensils employed must of course be kept scrupulously clean in order to preserve unimpaired the natural sweetness of the grain.

5. Do not be discouraged even after repeated

failures. Still persevere, and final success is certain. The making of good, wholesome, hygienic bread is the very highest triumph of the culinary art; and when accomplished, one of the most efficient means of restoring and preserving health has been acquired. Bad bread is probably responsible for more despondent feelings, more ill-temper, more crimes, perhaps more suicides, than any other article of food. And good bread is equally efficient in promoting health, cheerfulness, amiability, and even piety; for we fully credit the statement that there is "religion in a loaf of bread." Is not such a triumph, then, worth working for?

6. If it is desired that the bread should be tender and moist, it should be made with hot water. If dryness and brittleness are the qualities desired, cold water should be used, and the colder the better.

It is important that the meal should always be perfectly fresh, as all kinds of flour deteriorate very rapidly after grinding, especially when exposed to warmth and moisture. The best and cleanest grain should be selected.

#### Soft Biscuit, or Gems.

We give this first as being the simplest and most quickly made of any form of bread. It is, consequently, a very convenient article for breakfast. Although but a short time has elapsed since this kind of bread was introduced into cookery, it has become a very general favorite among all classes, even those who are not hygienists. It is to be lamented, however, that too often the delicate natural flavor and sweetness of

the grain is destroyed by the caustic action of such questionable articles as soda, saleratus, baking powders, etc. Nothing but pure water and meal are needed in its composition.

Into one part of cold soft water stir two parts of rather coarsely ground graham flour made from the best white wheat. Sift slowly in with one hand while stirring with the other, thus endeavoring to get in as much air as possible. If the flour is made from red wheat, a little more than two parts of meal will be required. The batter should always be thick enough so that it will not settle flat. If it is too thin, the biscuit will be likely to be flat and blistered; if too thick, they will be tough and heavy. In the first case, the batter is not of sufficient firmness to retain the air, and in the second, it is too stiff and unyielding. Beating the batter after mixing does not materially increase its lightness. No salt should be used.

**BAKING.**—The loaves must be small, like biscuit. Cast-iron gem pans or patty pans are most convenient for baking in. The pans should be heated very hot before dropping the batter in. A very hot oven is required, and the gems should be baked on the top first, to prevent the escape of the air and steam. The heat should not be sufficient to brown them in less than fifteen minutes, and they are better to bake twenty-five or thirty minutes; a longer time toughens the crust.

In order to prevent sticking, many people are in the habit of placing in the pans so large an amount of grease that the biscuits are rather fried than baked. This is a most pernicious practice, and is wholly useless. To prevent sticking,

smear the baking iron with sweet oil or fresh butter. Heat it thoroughly, and then carefully wipe away as much as possible of the oil. This will leave the iron smooth; and if it is carefully wiped after each baking, and then laid away in a dry place without washing, no difficulty will be experienced from sticking, and it will require oiling only at long intervals. The pan must always be very hot when the batter is placed in it.

By combining other grains in various proportions, a great many different kinds of gems may be made. A mixture of equal parts of graham flour and corn meal makes a very nice article. Boiled rice may also be used. Take one part boiled rice to three parts of water, and stir in graham flour sufficient to make a batter a little thicker than when the meal is used alone. Hominy and pearl-barley may be used in the same manner. This will be found a very convenient method of utilizing portions of food which might otherwise be wasted.

#### Corn-Meal Gems.

Upon one part of fine corn-meal, pour two parts of boiling water, and mix well. Bake in gem pans, in a quick oven. This makes the simplest and sweetest corn cake that can be made.

A favorite method with some is to allow the batter to stand over night after mixing; but it is liable to injury from souring.

**ANOTHER METHOD.**—Pour boiling water upon a pint of sweet, evenly-ground corn meal, stirring briskly until all is scalded. Then thin the batter with cold water, and add half a pint of fine or graham flour. Bake until slightly brown. Hot stewed pumpkin may be used instead of hot water.

**Oatmeal Gems.**

Make a thin batter of nice oatmeal and cold water. Let it stand over night, and in the morning add a little graham flour if too thin. Bake as wheat-meal gems.

**Rye-Meal Gems.**

Use rye meal instead of wheat meal, and mix and bake as directed for soft biscuit. The batter should be a little thicker.

**Rye-and-Indian Gems.**

Take one pint corn meal and twice as much rye meal. Scald the corn meal with boiling water, stirring it well. Then add the rye meal with sufficient warm (not hot) water to make a thick batter. Beat, or stir with a spoon, a few minutes, and bake in a moderate oven.

**Graham-and-Indian Gems.**

Scald one-half pint of corn meal. Add one-half pint cold water. Beat out all the lumps. Add another half pint of cold water, and sift and stir in about a quart of graham flour. Bake on the top for forty or fifty minutes. If the crust is too hard, cover in a dish for a few minutes after baking.

**Green-Corn Gems.**

Take one part grated green corn and two parts of water. Thicken with graham flour, a little thicker than for soft biscuit. This makes very tender and palatable gems.

**Drop Cake.**

Mix wheat or rye meal with cold water to a stiff dough, stirring until well mixed, and drop

with a spoon upon a hot baking tin in a hot oven. Bake until well cooked and brown. Eat while warm.

**Johnny Cake.**

Prepare the batter as for corn-meal gems, and bake in a common baking tin. This is known in the South and West as "hoc-cake," "corn-dodger," etc. In the days of open ranges and fireplaces, the batter was commonly baked upon a board before the fire.

**Mixed Johnny Cake.**

Take equal parts of wheat meal and coarse corn meal. Scald the latter, and add the wheat meal with only sufficient water to leave the batter stiff enough to need smoothing with a spoon. Make one or two inches thick, and bake an hour. Let it stand covered a few minutes after baking.

**Snow Cake.**

Take one part of corn meal and two parts dry snow. If the snow is moist, use less. Mix well in a cold room. Bake in gem pans, filling the pans rounding full. Place quickly in a very hot oven. If the cakes are raw, or too dry, more snow was required. If they are heavy, too much snow was used.

**Oatmeal Breakfast Cake.**

Saturate oatmeal of medium fineness with water. Pour the batter into a shallow baking dish, and shake down level. It should be wet enough so that when this is done a little water will stand on the top. Bake twenty minutes in a quick oven. It may also be baked in fifteen minutes on the top of the stove in a covered dish.

**Rice Cake.**

Thin well-boiled rice, while hot, with water. After cooling, work in wheat meal until a pretty stiff dough is formed. Bake in any desired form.

**Pudding Biscuit.**

Any kind of cold mush may be made into excellent biscuit by working into it graham flour, and kneading well. Bake with moderate heat.

**Griddle Cakes.**

No. 1. Make a thin batter by slowly stirring buckwheat flour into cold water. Bake upon a smooth iron or soapstone griddle. Rub the griddle well as soon as each cake is removed, and it will require no greasing. Eat as soon as baked.

No. 2. A mixture of corn meal and graham flour makes very excellent griddle cakes. The griddle may be placed in the oven, and the cakes baked crisp, if desired.

No. 3. Very nice cakes can also be made by mixing graham flour with grated sweet corn to a proper consistency.

**Hard Biscuit.**

Pour upon the flour to be used, boiling water enough to wet it. About one part water to two of flour is the quantity usually required. Stir with a spoon just enough to mix it well without much working. Then roll or press it with the hand upon a bread board, with plenty of flour, to the thickness of one-half or three-fourths of an inch. Cut into convenient shape, and bake in a moderate oven for twenty minutes. They are very tender if not baked too long.

**Rolls.**

Make a stiff batter with cold water, work in as much flour as will knead well, and then knead for twenty minutes or half an hour. Make into rolls one-half inch to two inches in thickness, and bake in a hot oven on a grate or baking pan dusted with flour, laying them a little distance apart. Excellent rolls may be made by kneading flour into cold graham, corn-meal, or oatmeal pudding.

**Scalded Rolls.**

These are made like the preceding with the exception that the batter is first made with hot, instead of cold, water. They do not require so much heat as the soft biscuit.

**Corn Rolls.**

Take corn meal, rather fine, scald with boiling water, stirring well. Add a little cold water and beat out all lumps; then add more water and stir in graham flour sufficient to make a batter somewhat thicker than for soft biscuit. Bake in rolls.

**LOAF BREAD.****Graham Bread.**

Make a stiff dough with rather coarse wheat meal. Knead a long time, and bake in quart dishes.

**Potato Bread.**

Boil and thoroughly mash mealy potatoes. Add the desired quantity of graham flour, and mix with water, making a batter sufficiently

thick to knead on the board. Bake in any form preferred. May use equal quantities of potatoes and meal, or two parts of the meal to one of potatoes.

#### Sweet Potato Bread.

Steam or boil without peeling, a sufficient number of sweet potatoes. Peel and mash fine. Add a sufficient quantity of graham flour to give the desired consistency. Mix and knead quickly, and bake in small loaves or rolls.

#### Cocoanut Bread.

To each quart of graham flour add three table-spoonfuls of grated cocoanut. Mix either with water or the milk of the nut, knead until the dough is spongy, and bake as directed for other bread.

#### Snow Bread.

Mix one part of corn meal with two parts of dry snow, stirring well. Pour into a pan, rounding in the middle to a thickness of about two inches. Bake in a hot oven twenty or thirty minutes. When properly made, this bread is very light and sweet.

#### Oatmeal Bread.

1. Stir oatmeal slowly into boiling water, making quite a thick batter. Pour into a deep dish and bake in a hot oven till brown.
2. Knead dry oatmeal into oatmeal mush. Form the dough into a small loaf and bake with a moderate heat. The dough may be rolled thin—one-fourth inch—and cut with a cake cutter. Makes very nice cakes.

#### Mixed Bread.

Take three parts of corn meal, and one part each of wheat meal, oatmeal, and rye meal. Scald with boiling water after mixing thoroughly. Steam six hours, and bake half an hour.

#### Rye-and-Indian Loaf.

No. 1. Take equal parts of rye and corn meal. Scald the latter with enough boiling water to wet it thoroughly. Add the rye meal and sufficient water to admit of stirring with a large iron spoon. The loaf should be about three or four inches thick. Smooth it over with the wet hand, and place on the top of the stove where the heat is not quite sufficient to burn it, and let it simmer an hour or two until cracks appear on the surface. Then bake with a moderate heat for three or four hours. To prevent too thick a crust, it may be steamed three hours and then baked one. If the bread proves sticky and heavy, the batter was too thin, or the meal was too fine; if it is hard, it was not wet enough.

No. 2. Take one part rye meal, or coarse wheat meal, and two parts corn meal; pour boiling water over the corn meal, and stir it till the whole is sufficiently wet to work in the meal without adding any more water, and then, when about milk warm, work in the meal. Should the dough be too stiff, add as much warm, *but not hot*, water as may be necessary; bake in a round iron dish from three to five hours. This bread, when new, or a day or two old, may be sliced and toasted; it is very sweet and wholesome. The crust is apt to fall off; this may be wet in water and put in a stone jar with some

moderately tart apples, peeled and sliced, nicely covering the apples with the crust; then add a little water, and cover the dish with a tightly-fitting cover; set it on the stove till the apples are cooked, and then take the crust off into plates; sweeten the apples to suit the taste, and spread over the crust. Or, the crust may be broken and stirred into the apples, thus making a very excellent dish.

#### Brown Bread.

Several good recipes for making this excellent New England bread are recommended by successful cooks. We give a number to suit various tastes.

No. 1. Take four cups corn meal, four cups rye meal, and one cup wheat bran or middlings. Mix with warm water, making a pretty stiff batter. Bake in covered dishes in a moderate oven three hours.

No. 2. Take equal quantities of rye and corn meal, and mix with water, making a dough that can be kneaded. Work with the hands until it loses its stickiness, and will readily cleave from the fingers. Let it stand several hours, or over night, and bake in loaves, in covered dishes, in a moderate oven, from three to five hours. Or, it may be steamed three hours, and baked one. Coarsely-ground meal is better than fine for this kind of bread.

No. 3. Take such proportions of corn and rye meal as desirable, and one-eighth to one-fourth of wheat bran or shorts. Mix with either warm or cold water, and not too thick to be easily stirred with a spoon. Bake slowly at first. Wheat meal may be used in place of the rye

meal; in which case the batter should be somewhat thinner.

#### Pumpkin Brown Bread.

Equal parts of sifted pumpkin and rye and corn meal may be made into very excellent bread by treating according to almost any of the above recipes.

#### Apple Brown Bread.

Pare and core a few juicy apples, either sweet or mildly sour, stew and thoroughly mash. Then work in equal parts of corn and rye meal until the batter is of proper consistency, and the whole is thoroughly mixed. Bake as directed for other kinds of brown bread.

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#### Rusk.

Bread or crackers of any kind may be made into rusk by first drying till brown and then grinding in a coffee or hand mill. This is a very serviceable article for thickening puddings, soups, etc.

#### Graham Crackers.

Mix graham flour and cold water into a very stiff dough. Knead, and roll a quarter of an inch or less thick. Cut into any desired form, prick with a fork to prevent blistering, and bake in a hot oven fifteen or twenty minutes.

#### Graham Crisps.

No. 1. Mix same as above. Roll very thin, and bake quickly in a hot oven. Excellent food for dyspeptics.

No. 2. Make a thin batter of any kind of meal,



pour into any convenient baking dish, one-eighth of an inch deep. Bake until crisp. Very tender when warm, but become tough by standing.

#### Oatmeal Crackers.

Mix finely-ground oatmeal with water sufficient to wet it thoroughly, usually one part of water to two of meal. Roll about one-fourth of an inch thick. Bake carefully, as they will be liable to burn. These are excellent crackers to eat with mushes of all kinds. They have a peculiar nutty flavor which makes them very palatable.

#### Oatmeal Crisps.

Into oatmeal mush, or scalded oatmeal, knead a small quantity of graham flour. Roll very thin, prick with a fork, and bake upon a grate. Be careful that they do not burn. They are very tender and crisp when warm. If they are kept several days, place in the oven a few minutes just before they are to be eaten.

#### Corn-Meal Crackers.

Scald corn meal with boiling water, and with the hand wet in cold water form the dough into small cakes one-fourth of an inch in thickness. Bake until somewhat brown.

#### Graham and Oatmeal Crackers.

No. 1. Equal parts of graham flour and oatmeal made as directed for graham crackers are very tender.

No. 2. Work graham flour into oatmeal pudding, forming a pretty stiff dough, and kneading well. Bake until nicely brown in a moderate oven.

#### Graham and Corn-Meal Crackers.

No. 1. Excellent crackers may be made by using one-third corn meal and two-thirds graham flour. The corn meal should be scalded before adding the graham flour.

No. 2. Work graham flour into cold corn-meal pudding. Knead thoroughly, roll thin, and cut into square cakes. Are very tender when warm.

A large variety of crackers may be made by combining graham flour, oatmeal, corn meal, and rye meal, in various proportions.

Those who have not become fully weaned from fermented bread and soda biscuit will find the following recipes an improvement upon many of the old methods; we do not recommend them, however, and advise all, especially invalids, to use only the more strictly hygienic kinds of bread already described:—

#### Leavened Graham Bread.

No. 1. Into three pints of warm water, stir graham flour sufficient to make a batter about as thick as can be well stirred with a spoon. To this, add two large spoonfuls of hop yeast. Cover, and set in a warm place to rise. When light, stir again, and let it rise the second time. This will make two ordinary loaves of bread. Put into tins, and set in a warm place about ten minutes, or till it begins to rise the third time. Bake about one hour.

NOTE.—If mixed too thick, the bread will be dry and hard; or if it gets too light before baking, it is not so good; but made just right, it will be nearly as fine grained and spongy as the best fine-flour bread.

No. 2. Make a thin batter of flour and warm water (some prefer fine flour to graham). The water should be about 100° temperature. The batter should be just thick enough so that it will not separate by standing. Place the batter in a warm place for about six hours, at the end of which time it will be found to be light. It should not be allowed to stand long enough to acquire any unpleasant smell. Thin with warm water and stir in enough graham flour to make a dough thick enough to mold. Mold thoroughly, and place in baking tins, allowing it to stand an hour or two until it becomes light. Some use milk.

#### Sweet Brown Bread.

Take one quart of rye flour, two quarts of coarse corn meal, one pint wheat meal, half a teacupful of molasses or good sugar, and one gill of potato yeast. Mingle the ingredients into as stiff a dough as can be stirred with a spoon, using warm water for wetting. Let it rise several hours, or over night; then put it in a large, deep pan, and bake five or six hours.

#### Gems.

The addition of milk and eggs to gems made from the various grains as previously directed, is thought by some to make them more palatable. They are less healthful, for reasons already explained; still they are much better than soda or saleratus biscuit, and if either *must* be used, by all means employ eggs and milk instead of soda, saleratus, cream tartar, or sour milk.

#### Buckwheat Griddle Cakes.

Make one quart of flour into a thin batter with lukewarm water. Add a handful of Indian meal

and half a teacupful of yeast. Keep in a warm place over night, and bake in the morning.

#### Rice Griddle Cakes.

Soak over night one quart of cold, boiled head rice, in a pint of milk or water; the next morning add one quart of milk and stir in nearly as much flour and two well-beaten eggs. Bake on a soapstone griddle. Fine bread crumbs or rusked bread, mixed with rice, improve this cake.

#### Pumpkin Griddle Cakes.

Take equal quantities of strained pumpkin and sweet milk. Thicken with corn meal. Allow it to stand over night, and bake slowly on a soapstone griddle.

### TOAST.

#### Fruit Toast.

Slice thin and toast cold soft biscuit. Place in a proper dish and pour over the slices hot canned whortleberries, raspberries, or similar fruit, with much juice. Eat with oatmeal cracknels. Some cooks soften the toast with hot water before adding the fruit.

#### Peach Toast.

Cut into halves soft biscuit, and brown nicely. Pour some of the juice of canned peaches into an earthen baking dish. Lay in the slices, and place upon each a piece of peach. Place in an oven, and bake twenty minutes.

#### Tomato Toast.

Nicely brown tender bread, and place in the dish in which the toast is to be served. Pour

over it a proper quantity of tomatoes stewed as directed elsewhere.

#### Dry Toast.

Any kind of graham bread when toasted is an excellent article for dyspeptics. It has several advantages; the most important are, 1. It requires sufficient mastication to thoroughly insalivate it; 2. It undergoes a change during the process of toasting which renders it more easy of digestion. Simply drying is not sufficient. The bread must be browned; but care should be exercised not to burn it.

#### Milk Toast.

Scald sweet milk, and thicken it with a very little flour or wheat meal. Carefully toast both sides of either brown or white bread (stale bread is best), cracker, or biscuit, till its color becomes yellowish brown; then put it in the dish for the table, just covered with the thickened milk gravy. Add no butter.

This recipe is not strictly hygienic; but we can heartily recommend it in preference to butter toast, which is one of the very worst articles of food, notwithstanding the fact that it is so frequently provided for sick people.

#### FRUIT-BREAD AND CAKE.

The contrivances usually designated by these names are the most prolific sources of dyspepsia and "biliousness" of which so many people complain. Even those who are the most careless

with reference to everything that pertains to hygiene seem to learn this fact after having ruined their health by indulgence in every savory compound of fine flour, sugar or molasses, lard, sour milk and saleratus, which ingenious but ignorant cooks could invent. For this reason, most chronic dyspeptics stand in mortal fear of anything that looks like a cake; but we would assure them that the cakes we recommend are such that even the dyspeptic may partake without fear of harm; at least, unless he is so badly diseased that "nothing agrees with him."

#### Fruit Gems.

Make a batter as for gems. Add a few whortleberries, chopped apples, dates, raisins, or any other fruit desired. Bake in gem pans as directed for gems.

#### Fruit Cake.

Stew and mash any kind of fruit desired, either fresh or dried; as apples, pears, or berries. Have plenty of juice. While boiling hot, pour it upon wheat meal with which a few cut raisins have been previously mixed. Form into loaves with slight kneading on a board with plenty of flour. Bake in rather small cake dishes, one to two hours. The oven should not be excessively hot, and should be quite moderate toward the last.

#### Sweet Potato Fruit Cake.

Make a dough as directed for sweet potato bread. Add a sufficient quantity of grated coconut and chopped fruit, as dates, raisins, and figs. Roll thin, cut with a cake cutter, and bake in a quick oven.

**Apple Biscuit.**

Form a thick batter by mixing graham flour with cold sweet apple sauce. Form into biscuits without kneading, and bake.

**Fruit Crackers.**

Make a dough as for fruit cake, mixing in chopped dates. Roll thin, form into crackers, and bake.

**Strawberry Short Cake.**

Make a thin batter of fine oatmeal. Let it stand over night. In the morning, add an equal quantity of graham flour, and grated cocoanut in proportion of a teacupful to each quart of flour. Bake in gem-pans in a quick oven. When cold, cut in halves, and cover each half with ripe strawberries. Raspberries, whortleberries, blackberries, or stewed cranberries, may be served in the same way. If the fruit is quite sour, date sauce may be added.

**Rice Cake.**

To two parts of well boiled rice, add one part each of corn meal and stoned dates or seedless raisins chopped fine. Make into a soft dough with water, roll one-third of an inch thick, cut into small cakes, and bake in a moderate oven. Dust the pan with meal to prevent sticking.

**Cocoanut Cake.**

No. 1. With a pint of boiled cracked wheat mix a grated cocoanut, a half pint of cocoanut milk, half a pint of dried currants or other dried berries, a quart of stewed sweet apples or boiled figs, and sufficient wheat meal to make a moder-

ately stiff dough. Bake, in loaves, an hour and a half to two hours.

No. 2. Make a batter of about the thickness required for gems, by mixing graham flour with equal parts of water and cocoanut milk. Add grated cocoanut in any desired quantity.

**Corn-Meal Fruit Gems.**

Make batter as usual for corn gems. Add one-third berries or chopped apples. Bake in gem pans.

**Whortleberry Johnny Cake.**

Make a stiff dough of corn meal and boiling water. Add one-half ripe whortleberries. Form an inch thick upon a flat baking tin with the hand wet in cold water. Bake until brown.

**Popped-Corn Fruit Cake.**

Grind and brown in the oven a quantity of popped corn. Reduce to a pulp some kind of fruit, and mix with the popped corn to a moderately stiff dough. Form into molds and allow to stand for a half hour.

By combining the various fruits in different proportions with the several grains, a great variety of fruit cakes can be made.

The following recipes for cakes we cannot recommend, and would advise invalids to avoid using; but they are comparatively harmless beside the cakes too often used:—

**Currant Bread.**

Take three pounds of flour; one pound of raisins; two pounds of currants; one pint and a

half of new milk; and one gill of yeast. Warm the milk and mix it with the flour and yeast; cover with a cloth, and set it by the fire. When risen sufficiently, add the fruit, and mold it; then put it into a baking tin, or deep dish, rubbed with sweet oil, or dusted with flour; after it has risen for half an hour longer, bake in a moderately hot oven.

#### Fruit Loaf.

One and a half cups of bread crumbs—or soaked batter bread—one cup of wheat meal, one cup of sugar, two cups of chopped apple, and two-thirds of a cup of currants. Mix intimately, and bake till the apples are tender. This may be eaten with or without a dressing.

#### Whortleberry Journey Cake.

Take one pint of whortleberries, one small teacupful sugar, one pint corn meal, one tablespoonful of flour. Wet the whole with *boiling* water, and bake in small, round cakes in a *hot* oven twenty minutes.

#### Cocoanut Cookies.

One cup good wheat meal, one-half cup grated cocoanut, and one-half cup sugar. Rub these thoroughly together, then wet with a scant half cup of water—just enough to make a dough as soft as can be readily worked. Roll out to one-third of an inch, cut into shapes, and bake in a pretty quick oven about fifteen minutes. Some care is required not to bake them too hard.

#### Currant Cookies.

Substitute Zante currants for the cocoanut in the above, and proceed in the same manner. Or

if preferred, chopped raisins or dried whortleberries may be used.

#### Cream Cake.

One pint sweet cream, one cup white sugar, one cup raisins or currants, one egg if desired; graham flour for rather a thin batter. Bake in bread pans. Or the same may be made into a dough, molded and cut into cakes or formed into rolls. Bake in a quick oven.

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### PUDDINGS.

Puddings are among the staple articles of diet with hygienists; but they become the cause of much mischief to the digestive apparatus. This is due to the improper manner in which they are eaten. Many people eat pudding very much as they would soup, without the slightest attempt at mastication. Of course mastication is not necessary to soften this kind of food, as is the case with many other articles; but simply breaking up or comminuting the food is not the sole object of mastication. One most important object is to secure the thorough admixture of the saliva with every particle of food taken into the stomach. This is especially necessary with farinaceous foods, of which puddings are usually made. When this does not occur, digestion is rendered much more difficult, and is likely to become impaired. To obviate this difficulty, some kind of dry food should always be eaten with puddings and soups of all kinds. Crackers made according to the recipes already given are the best for this purpose.

This will insure thorough chewing. Puddings will be relished better if eaten with bread or crackers made from some other kind of grain. They are almost always made too thin.

#### General Directions.

1. Too violent heat is a thing to be carefully avoided at all times. Gentle heat will cook all kinds of grains and vegetables much more efficiently than violent heat.

2. Soft water should always be employed. No salt is needed after a person has learned to appreciate the delicate flavors of the natural grains.

3. Much stirring is also damaging to puddings, as it makes them less light than they would otherwise be, and many times makes them more likely to burn. This is particularly true of samp.

4. When fruit of any kind is added to puddings while they are cooking, it should be previously cooked, and then added just before the pudding is done. Otherwise it will be likely to settle to the bottom and burn. Oatmeal, corn meal, graham, and farina puddings, are rendered much more palatable by the addition of some kind of fruit, or grated cocoanut.

#### Graham Pudding.

Sift the meal slowly into boiling water, stirring constantly until it is a little too thick to settle flat. If made from coarse meal, it will be as thick when done as when first mixed; but if the meal is fine, it will become somewhat thinner. Allowance can easily be made for this when fine meal is used, by making a little thicker at first. After stirring in the proper amount of meal, set the kettle upon a part of the stove where it will

simmer without burning. Let it remain thirty or forty minutes without stirring. By this method the pudding is made light, and is thoroughly cooked. It may be molded in cups dipped in cold water, and allowed to cool, if desired.

#### Oatmeal Pudding.

Sift one part of coarsely ground oatmeal into three or four parts of boiling water, stirring five minutes or until it sets. Cover closely and put it where it will only simmer for a half hour. Do not stir after it sets, and take up carefully. It is somewhat improved by cooking three quarters of an hour.

#### Corn-Meal or Hasty Pudding.

The meal should be sifted, when wanted for use, with an oat seive, thus removing the coarsest of the bran. Stir into boiling water rapidly enough to be able to beat out the lumps which may form before they are cooked hard. If the meal is fine, make it as thick as desired to be when done. If it is rather coarse, use one part meal to about two and one-half parts of water. Stir frequently until it sets; then cook gently without stirring for one or two hours. To prevent burning, remove the kettle to a part of the stove where the heat is barely sufficient to keep it simmering.

#### Cracked Wheat.

Take one part of the wheat to four or five parts of water. In making, follow the directions given for oatmeal pudding, allowing it to simmer four or five hours. It will cook quite as fast when only simmering as when boiling hard, and

will be much less likely to burn. It is a very healthful dish.

#### Crushed Wheat.

This is an article recently introduced into the market. It is commonly sold in small packages by grocers. Use two parts of water to one of the wheat. Make as directed for graham pudding, and allow it to simmer an hour or an hour and a quarter.

#### Farina.

The proportions required are the same as for oatmeal pudding. Boil the water in a kettle. Into one-eighth as much cold water stir two-thirds of the farina to be used. Pour the mixture into the boiling water, stirring well, and then stir in the remaining third of dry farina. Cook as directed for oatmeal pudding.

#### Boiled Rice.

No. 1. Select good, plump, unbroken grains; after washing, pour into about eight parts of water. Let it boil rapidly until the kernels are thoroughly softened. Then strain off the water through a colander. This is the method commonly employed in India, where this article of food is called *bat*. The water may be saved, and used for all purposes for which rice water is serviceable.

No. 2. Some recommend soaking the rice an hour or two in cold water before boiling. Then boil twenty minutes, stirring very little; and afterward place it where it will simmer for a half hour longer. When this method is followed, as little water as possible should be employed, so that the rice may merely steam at the last.

Raisins previously soaked in cold water for several hours, are a great addition to boiled rice.

#### Graham and Rice Pudding.

No. 1. Boil a gill of rice in three or four pints of water for twenty or thirty minutes. Stir in sufficient wheat meal to make as thick as desired, and allow it to cook slowly for half or three quarters of an hour longer.

No. 2. Cold boiled rice may also be used in the same way. Take one part rice to three of water. Carefully beat out the lumps, add the meal, and cook as directed for No. 1.

#### Boiled Samp.

Sift with an oat seive to remove the hulls; or if this useful utensil is not at hand, wash two or three times in water. Pour one part into three or four parts of boiling water and stir until it sets, but no longer. Cook slowly, as directed for other kinds of pudding, for two or three hours. Is sweetest when made from new corn meal.

#### Small Hominy.

Pour one part hominy into three parts of water and stir for about five minutes, or until it sets. Then allow it to simmer for three-fourths of an hour. When cold, it may be sliced and browned upon a soapstone griddle.

#### Hulled Corn.

Hulled corn or "great hominy" makes a very palatable article of food when cooked until tender. It requires cooking for several hours, and care should be exercised that it does not burn. The addition of a little green corn cream after it is cooked is beneficial.

**Hominy and Beans.**

A good dish is made by adding one part beans to three parts of hominy when the latter is about half cooked. Cook until both are tender. Serve warm.

**Millet Pudding.**

Look carefully over and wash the desired quantity of millet kernels. Scald in two successive waters and then boil in three times its measure of water. Cover close and cook slowly for an hour or more.

**Boiled Wheat.**

Select clean, plump, white wheat. Pick over and wash carefully. Soak over night and boil five or six hours.

**Pearl Barley.**

Prepare in the same manner as wheat, and boil six hours.

**Tapioca.**

Soak in a small quantity of warm water an hour or so. Add a little water and bake slowly, stirring frequently. Add fruit after removing from the oven. Manioca may be cooked in the same way.

**Rice and Apple Pudding.**

No. 1. Pare nice apples and remove the core without dividing them. Cover the bottom of a dish with moist boiled rice, and place upon it the apples with their centers filled with chopped dates and raisins. Cover with the rice and bake in a closed dish until well done.

No. 2. Prepare the apples in the same way.

Spread the rice upon a thick piece of cloth previously wet in cold water. In the center of the cloth place an apple which has been filled with dates, and carefully bring the edges of the cloth together, enveloping the apple. Tie with a string. The apple should be wholly covered with rice. Boil or steam an hour. Immerse in cold water as soon as taken from the kettle, and remove the cloth.

No. 3. Select the best ripe cooking apples. Pare, core, and cut into small pieces. Put into a saucepan and mix in a sufficient quantity of sweet fruit to sweeten. Scatter in about one part of uncooked rice to four parts apple. Fill with water, cover close, and bake two hours in a moderate oven.

**Christmas Pudding.**

No. 1. Place a layer of partially boiled rice in a deep basin or nappy. Place upon it a layer of sliced apples, raisins, and chopped dates. Add another layer of rice, and so alternate until the dish is full. Cover and bake half an hour.

Berries or fruit of any other kind may be served in the same way.

No. 2. Boil one pint of pearl barley in five times as much water, for five or six hours, until the kernels are soft. To three cups of the barley add two cups of chopped apple, one cup of raisins previously boiled until tender, a few currants, and a cup of chopped dates. The juice of a lemon may be added if desired. Mix, and bake one hour and a half. Serve warm or cold.

**Corn-Meal Fruit Pudding.**

Mix corn meal to a stiff dough with boiling water. Add one half as much fruit as dough,



stir well together, and bake one to two hours in a pudding dish.

#### Bread Pudding.

No. 1. Stew either green or dried apples until very soft. Thoroughly mash and strain if necessary. Sweeten by adding a sufficient quantity of dates prepared in the same way. Slice good graham bread or gems and soak until soft in a hot mixture of three parts water with one of lemon, orange, grape, pie-plant, or other fruit, juice. Place in the bottom of the baking dish a layer of the apple, and then of the bread, alternating until the dish is full, placing fruit on the top. Bake half or three quarters of an hour.

No. 2. Soak rusk, bread crumbs, or broken bread of any kind, until soft. Stew dried apples in as little water as possible, leaving the pieces unbroken. Mix with the bread and bake moderately two hours. Dates may be added if desired.

#### Steamed Bread and Fruit Pudding.

Cut into small pieces bread or crackers. Add one third each of sour apples and raisins or dates chopped fine. Mix well, and add a little water. Steam for four hours.

#### Tapioca Apple Pudding.

Soak a sufficient quantity of tapioca in a proper amount of water until soft. Prepare nice ripe apples, either sweet or sub-acid, and pare and core without dividing. Place a portion of the tapioca in a proper dish. Place upon it the apples with the centers filled with chopped raisins and dates, if sour; cover with the remainder

of the tapioca and bake until the apples are well done. The dish should be covered closely, and the heat should be moderate.

#### Sweet Potato Pudding.

Grate six medium-sized, raw sweet potatoes. Add two quarts of cold sweet cider, one cup of grated cocoanut, and an equal quantity of raisins. Thicken with graham flour, beat the batter well, and bake in a moderate oven.

#### Bird's Nest Pudding.

Prepare apples as directed in the preceding recipe. If the apples are sweet, place in the center of each a few dried currants; if sour, chopped dates or raisins should be used. Take a few spoonfuls of graham or white flour, wet with cold water until smooth, and add boiling water sufficient to reduce it to the thickness of cream. Fill the dish and bake until done.

#### Apple Pudding.

Mix one part of ripe currants with eight or ten parts of graham flour. Mix with boiling water sufficient to make as moist a dough as can be easily handled. Roll out three-fourths of an inch thick and place on a baking tin. Pare, core, and quarter ripe, sub-acid apples. Divide the quarters lengthwise and press the pieces into the dough. Bake three quarters of an hour, and serve warm with some sweet sauce.

#### Gooseberry Pudding.

Boil one cup of rice in six of water for half an hour. Prepare two cups of gooseberries and mix with an equal quantity of graham flour. Add the boiling rice, mix quickly, and steam three

quarters of an hour. Serve with some sweet sauce.

#### Chestnut Pudding.

Boil, peel, and pound chestnuts, and rub them through a sieve. Pare and grate ripe, sub-acid apples. To one part of the chestnut add two parts of apples, a little lemon juice, and sufficient date sauce to sweeten. Bake slightly.

#### Fig Pudding.

Soak a half pound of figs until soft. Scald a quart of graham flour, and make it into a stiff dough. Fill full of the soft figs, and bake or steam an hour and a half. Serve with lemon, plum, or pie-plant sauce, as preferred. A few tart apples, chopped fine, may be added to the pudding in place of the sauce.

#### Tomato Pudding.

No. 1. Slice thin good graham bread or gems. Place in a baking dish with an abundance of sliced tomatoes, arranging in alternate layers. Cover close and bake an hour. Serve with sweet sauce.

No. 2. Peel and slice thin fine, ripe tomatoes. Place in a baking dish in layers, strewing between the layers equal parts of rice and chopped dates. Cover closely and bake in a moderate oven for two or three hours. Serve as preferred.

#### Green Corn Custard.

No. 1. Peel and shred sweet, mellow peaches. Add an equal quantity of grated sweet corn, and the same quantity of water. Mix well, and bake in an earthen or porcelain baking dish for twenty minutes or half an hour. A little corn starch

may be added for thickening, if necessary. Excellent without dressing of any kind.

No. 2. Another custard can be made by using one part corn to two parts juicy tomatoes, peeled and sliced.

Grated apples, sliced plums, or almost any kind of fruit may be thus used with green corn.

#### Apple Custard.

Grate sweet, or pleasant sour, apples, or both together. Mix a small quantity of dry flour, allowing a spoonful for each pie. Cover a deep pie dish with crust. Spread in a half cup of chopped raisins or dates, fill with the apple, and bake. Must not be allowed to stand before baking.

#### Oatmeal Jelly.

Soak two parts of oatmeal in three parts water over night. In the morning, drain off the water and add to it an equal quantity of hot water. Boil over a quick fire. Stir until it boils, then moderate the heat and let it simmer ten minutes and turn into molds. It will set in a short time and may be served warm, in saucers, with fruit juice of some kind.

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No sugar or milk has been recommended in any of the foregoing recipes for puddings, for reasons fully explained in the introductory portion of the book. The use of a small quantity of sugar, however, is not wholly condemned, if the best is selected, and if it is mainly confined to such purposes as sweetening sour fruits. If the milk is obtained from healthy animals, it may be

even less objectionable than sugar; yet it can be almost wholly dispensed with by using sweet corn milk and cream, which is much more healthful. Sugar or milk can be added to such of the above recipes as seem to require them by those whose tastes refuse to be satisfied without. Such persons may also make use of the following recipes, though doubtless with some detriment to health:—

#### Bread Pudding.

Pour a quart of boiling milk on as much bread, biscuit, or crackers, broken or cut into small pieces, as will absorb it; cover it, and let it remain till quite cool; then sweeten, and bake an hour and a half.

#### Rusk Pudding.

One and one-third cups rusk, half a cup sugar, two cups sweet apples, sliced, two quarts milk. Stir together and bake two hours and a half.

#### Baked Apple Pudding.

Pare, core, and slice about two quarts nice tart apples. Add to them one teacupful of Indian meal, one cup graham flour, and stir together. Pour over them three-fourths of a cup of sugar dissolved in one cup cold water, or sweet milk, stirring till all the flour is wet. Butter or flour a deep basin or pan to prevent sticking, and turn the mixture into it, smoothing it evenly over the top. Then spread smoothly over it a batter made by stirring together half a cup of cold water, or sweet milk, three tablespoonfuls of Indian meal, three ditto of graham flour, and one tablespoonful sugar. Bake about two hours and a half.

NOTE.—This is to be eaten with sweetened cream or a sauce made by stirring into one quart boiling milk, two heaping tablespoonfuls of corn starch, moistened with cold milk, letting it boil for five or ten minutes afterward. Sweeten according to taste.

#### Green Corn Pudding.

To one quart of grated ears of sweet corn, add a teacupful of cream; one gill of milk, a tablespoonful of flour, and two ounces of sugar; mix all together, and bake an hour and a half.

#### Cracked Wheat Pudding.

Boil wheaten grits till quite soft, then dilute with milk to the proper consistency. It should be rather thin; sweeten, and bake one hour.

#### Baked Rice Pudding.

A small teacup of rice carefully washed, half a teacup of sugar, two quarts of new milk. Stir well together, and let it bake two hours or more in a moderate oven. It is well to stir it once or twice at first, that it may mix well with the milk when swelled.

#### Tapioca Pudding.

Soak the tapioca in warm water or milk an hour or two. Then add milk, or milk and water, and a little sugar. Bake slowly, stirring frequently. When done, add fruit. About one cupful of tapioca is required to make four quarts of pudding.

#### Corn-Starch Pudding.

Beat together one egg, two spoonfuls of corn starch, and two spoonfuls of sugar, with a little milk. Set on to boil, one pint each of milk and water. When boiling, add the beaten mixture,

and cook one minute. Dish up, and ornament with drops of jelly.

#### American Plum Pudding.

Take one pint each of graham flour and corn meal. Scald the corn meal, then add the wheat meal, with two thirds of a pint of Malaga raisins—more or less to suit the taste—with water sufficient to make a batter just firm enough to hold a stout spoon upright. Mix thoroughly, and put it into a pudding boiler, or any suitable covered dish, and boil or steam three and a half or four hours. If the corn meal is coarse, and the mixture of the right consistency, the pudding will be perfectly light. The long cooking makes the raisins rarely delicious. Other fruits may be used in their place, as prunes, prunellas, dried cherries, dried pears, etc.; but the fresh and the more tender fruits will not endure the long cooking. Serve warm with fruit sauce.

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### PASTRY.

Pie is a word which to the dyspeptic is a synonym for every pang and torment of indigestion. This fearful significance, however, is not due to any inherent evil in the article itself, but rather to its various usual concomitants which are added by the cook under the name of shortening, flavoring, etc. But pies made according to the methods we shall recommend are wholly harmless, even to the poor victims of weak stomachs and impaired digestion. The chief mischief-making element of the ordinary pie is the crust,

which is usually a conglomerate mixture of a very small quantity of superfine flour with lard in abundance, and sometimes with the addition of sour milk, soda, saleratus, etc. Such a compound might very justly inspire dread in the stoutest stomach, to say nothing of a diseased one.

But the contents of pies are usually by no means free from objection. The spices and various condiments, together with the large quantities of sugar employed, are entirely inimical to health. All of these may be wisely discarded, and that without any loss of palatable qualities, and a great increase of nutritive value. The natural flavor of our native fruits is quite sufficient when presented in shape to be appreciated; and for sweetening, we have the various kinds of sweet fruits, as sweet apples, dates, raisins, figs, etc. By combination of various foreign and domestic fruits, as great a variety of healthful and palatable pies may be made as could be desired.

No one need entertain the slightest apprehensions regarding the healthfulness of pies made according to the following recipes.

#### Oatmeal Pie Crust.

Scald two parts of oatmeal with one part of hot water. Roll thin. It bakes very quickly, so that fruit which requires much cooking must be cooked before making into the pie. This remark, however, applies only to pies which are baked with an upper crust. This crust is very tender, and possesses all the desirable qualities of shortened pie crusts, with none of their deleterious properties.

### Potato Pie Crust.

Boil one quart dry, mealy potatoes. The moment they are done, mash them, and sift through a colander. Rub them evenly through two cups of graham flour in the same manner as the shortening in common pie crust. Have ready one cup corn meal; pour over it one and one-third cups boiling water, stirring it till all the meal is wet, then add it to the potatoes and flour, mixing only until thoroughly incorporated together. No more flour should be added. The molding board should be well covered with dry flour, however, as it is slightly difficult to roll out. It should be rolled very thin, and bake in a moderate oven.

**NOTE.**—It is very essential that the above conditions should all be complied with. Bear in mind that the potatoes must be *hot*, and mixed immediately with the flour; the water be poured, while *boiling*, upon the corn meal, and the whole mixed together very quickly, and baked immediately. Inattention to any of these requisites will be quite apt to insure a failure.

### Graham Pie Crust.

Make a stiff dough by pouring boiling water upon graham flour. Roll thin with plenty of flour upon the roller and board, and without kneading.

### Bean Pie Crust.

Boil white beans until soft with plenty of water. Rub through a colander or sieve, and add sufficient graham flour or corn meal to make a pretty stiff dough. Roll out thin.

### Mixed Pie Crust.

No. 1. Equal parts of graham flour and corn meal or oatmeal, or two-thirds graham flour to

one-third of either of the others, mixed with cold water to a stiff dough, make very excellent and perfectly hygienic pie crusts. The dough should be rolled thin, and the pie should be covered closely with a thick napkin immediately upon taking from the oven.

No. 2. To oatmeal, corn meal, or graham pudding, add a little graham flour. Knead well, and roll thin. Oatmeal with graham flour is perhaps the best combination. It is very tender when warm.

### Cocoanut Pie Crust.

Two cups graham flour, one cup grated cocoanut. Make into a stiff dough with cold water and knead well. Add one cupful of well boiled rice. Mix well and roll thin. This crust is very excellent.

### Corn-Meal Pie Crust.

A very tender crust for squash, pumpkin, and custard pies may be made by simply placing in the bottom of the baking tin dry corn meal to the depth of about one-third of an inch, and then placing carefully upon it the hot squash or custard, as the case may be. The greatest objection to this crust is that it is so tender that it is somewhat difficult to remove it from the baking tin without considerable breaking.

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If pie crust made according to any of the above methods cannot be tolerated, and if pies must be used, notwithstanding, a little cream or milk may be added to the crust, but butter should never be used under any consideration.

Neither should soda or sour milk be employed. The following recipes may be used:—

#### Cream Pie Crust.

No. 1. Take equal quantities of graham flour, white flour, and Indian meal; rub evenly together, and wet with very thin sweet cream. It should be rolled thin and baked in an oven as hot as for common pie crust.

No. 2. Mix graham flour with sweet cream, and proceed as above. Fine middlings may be used in the place of graham flour if preferred.

#### Apple Pie.

Pare, core, and slice nice ripe apples of pleasant flavor. Prepare the crust by any of the methods described. Fill the under crust with the prepared apples, adding a little flour, and sprinkling on the whole a little water. Cut a few holes in the upper crust for the escape of steam, and place it upon the pie, wetting the edge to make it adhere closely to the lower crust and so prevent the escape of the juice. Bake until thoroughly done. It is well to moderate the heat a little for a few minutes before taking out, so that the exuded juices may be re-absorbed.

If the apples are very hard, they should be stewed before making into the pie. Sour apples may be rendered more palatable by mixing with an equal quantity of sweet apples or by the addition of raisins or dates. When raisins are used, they should first be stewed a short time.

#### Apple Custard Pie.

Grate sweet apples, or a mixture of sweet and sour, if preferred. Add and mix one spoonful of

dry flour for each pie. Cover a deep pie plate with crust, and add the apples. Cover the top with chopped raisins, dates, or figs.

#### Berry Pies.

Whortleberries, blackberries, raspberries, strawberries, cranberries, and, in fact, all the edible wild and cultivated berries, make excellent pies, either when fresh or after having been canned or dried. The sour berries may be improved by adding sweet fruits of various kinds, as dates, figs, raisins, etc.

#### Cranberry Pie.

With stewed cranberries, mix an equal quantity of chopped dates. Bake between two crusts. The upper crust may be made by laying strips of thin pie crust across in two directions, leaving open spaces between.

Currant, rhubarb, gooseberry, and cherry pies may be made in the same manner; or, if preferred, sweet apples may be substituted for dates.

#### Raspberry and Strawberry Pies.

These berries are of such delicate structure and flavor that baking greatly injures them, almost destroying their finest qualities. On this account, it is better to prepare the crust of just the right size, and bake it separately. Bake the bottom crust in the pie plate or tin, and the upper crust upon a flat surface, pricking it to prevent blistering. After baking, place the ripe berries in the dish containing the bottom crust while still hot. Cover with the upper crust, and return to the oven for a very few minutes. A very short time is sufficient to steam the fruit.

**Dried Fruit Pies.**

Prepare the dried fruit by first washing very quickly, and then allowing it to soak over night in cold water, cooking in the morning until tender in the same water in which it has been soaked. Each kind may be used alone, or several kinds may be mixed, as preferred. Dried apples and whortleberries are very good mixed. Berries require little more than scalding after thoroughly soaking, and should be placed in crusts while hot.

**Raisin Pie.**

No 1. Soak good raisins over night in cold water. Stew slowly until tender. Dredge well with flour, adding a few slices of tart apples or lemon if desired. Bake with two crusts.

No. 2. Chop a sufficient quantity of nice, large raisins. Mix a spoonful of flour or corn starch with a cup of water, and add to each pie. Bake with two crusts.

**Lemon Pie.**

Two cups sweet apple sauce; two sliced lemons; one teacup of chopped raisins; one raw potato, grated; a very little corn starch and flour. Bake with two crusts after properly mixing.

**Tomato Pie.**

Scald smooth, ripe tomatoes, peel and slice, and make as directed for apple pie.

**Peach Pie.**

Pare, and cut into thin pieces, nice, ripe peaches; sprinkle with water if not sufficiently juicy, and dredge with flour.

Sweet apples and pears may be made into excellent pies in the same manner.

**Batter Pie.**

Stir wheat meal, or a mixture of wheat and corn meal, into water, making a batter a little too thick to settle flat. With this, cover a pie tin or nappy, and place upon it a layer of small fruit, unbroken. Then place batter on the sides of the dish, and add another layer of fruit, covering the whole with a thin layer of batter. If the fruits are very juicy, a little flour should be sprinkled upon each layer to absorb the superfluous juice. Bake from forty to sixty minutes. Care must be taken that the juices do not boil over and escape into the oven.

**Pumpkin Pie.**

Pare, cut, and stew a ripe, sweet pumpkin, using as little water as possible, and preserving all of the juice. Rub through a colander or sieve, and mix with it a little flour, about one gill to a quart of the stewed pumpkin. If too stiff, add a little water. Bake in one crust. A few chopped dates may be added for sweetening.

**Custard Pie.**

No. 1. A very good substitute for custard pie may be made even without the use of either milk or eggs. Boil Iceland moss in water until it will make a nice jelly. Flavor it with any kind of berry juice, lemon, or grated cocoanut. Do not use the flavoring extracts to be obtained at the stores, however, as most of them are spurious articles, and are sometimes absolutely poisonous.

No. 2. Prepare crust as usual for custard pie. Prepare filling as elsewhere directed for green corn custard.

#### Apple Dumplings.

No. 1. Make a crust of graham flour and corn meal, two parts of the former to one of the latter. Roll one-fourth of an inch thick. Select, and pare and core without dividing, a number of nice, ripe, sub-acid apples. Fill the center with chopped dates or raisins, and envelop in the crust. Bake until both fruit and crust are well cooked. They require a quick oven at first, but the heat should be moderated after the crust is browned.

No. 2. Make a batter as for gems, and with it cover the bottom of a patty pan to a depth of a quarter of an inch or a little more. Lay in half of a ripe, sub-acid apple which has been previously pared and cored. Cover with batter, and bake as directed in the preceding recipe.

#### Cranberry Dumpling.

Thoroughly mix two parts of cranberries and one of chopped dates. Spread in an even layer upon a crust previously prepared. Commence at one side and carefully form the whole into a roll. Cut the roll into pieces about two inches long; cover the cut ends of each piece with crust, after wetting it to make it stick, and bake. If the dumplings require any further sweetening, they may be eaten with sweet apple sauce. May be either baked or steamed.

#### Cherry Dumpling.

Cover the bottom and sides of a basin or deep baking dish with batter made as for gems. Cover

the bottom with a layer of cherries and chopped dates or raisins in abundance. Sprinkle on a little flour, and form another layer in the same way. Two or three layers should be thus made, with no batter between them. Cover the whole with a crust and bake in a moderate oven, first on the top until brown, and then on the bottom. May be eaten either warm or cold. In order to save the juice, do not fill the dish quite full.

Raspberries, blackberries, grapes, and nearly all kinds of berries, may be served in a similar manner.

#### Snitz and Dumplings.

Boil a quantity of dried sweet apples in four or five times as much water, until tender. Then make a small quantity of batter as for gems, and drop into the boiling fruit with a small spoon. Boil a few minutes longer to cook the batter.

#### Tarts.

No. 1. Cover gem pans with cocoanut pie crust. Place in a quick oven. When nearly done, add a few ripe sweet berries of any kind. Let them remain in the oven a few minutes longer to soften the berries.

No. 2. Make a stiff dough of equal quantities of graham flour and grated cocoanut, with cold water. Roll very thin and cut into cakes two and one-half inches in diameter. Make rings of most of the cakes by removing the centers. Then place three or four of these rings upon each one of the remaining pieces, wetting them to cause them to stick together. Prick the center piece with a fork, and bake in a hot oven. Be careful



not to brown them. Add any kind of sauce when they are desired for use.

#### Grape Tarts.

Strain canned grapes to remove seeds and skins. Add bread crumbs and thoroughly mix. Make a dough of oatmeal as directed for cracknels; roll thin, and bake in gem pans. After removing from the oven, add to each a spoonful of the prepared grape sauce.

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No sugar has been employed in the above recipes; but if it is considered indispensable, or if sweet fruits cannot be readily obtained, it may be used when considered desirable, always in moderation, however. None but the best coffee or maple sugar should ever be employed. The following recipes are not so injurious as less hygienic ones, but they are far inferior to the preceding, and cannot be employed without a certain amount of detriment to the system. Their principal use should be to assist in making the change from bad habits to better ones.

#### Custard Pie.

One pint and a half of milk, three eggs well beaten, and a large tablespoonful of sugar. Bake only slightly, as hard baked eggs are hard of digestion.

#### Rice Pie.

To one pint boiled Carolina rice, add one pint and a half of milk, and half a cup of sugar. Flavor with extract of lemon, and bake in an under crust. Raisins may be added if preferred.

An egg adds to its attractiveness with some, but detracts from its healthfulness.

#### Pumpkin Pie without Eggs.

Those who have never tried it will be astonished to see how palatable a pumpkin pie may be made without eggs or spices. Select for the purpose a pumpkin of firm texture, deep color, and perfectly ripe. Stew and sift in the ordinary manner, and add boiling milk to make it somewhat thicker than when eggs are used. Sweeten to suit, with equal parts of sugar and molasses. Some add pounded cracker or a spoonful of flour. Bake in a hot oven, on a single crust.

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## FRUITS.

To an unperverted taste, nothing is more palatable and delicious than the natural flavors of the various domestic and foreign fruits which constitute so important a portion of a genuine hygienist's bill of fare. They are certainly toothsome enough, and much more wholesome, without the irritating condiments too often mingled with them by fashionable cooks. Even sugar, which in moderate quantities is the most harmless of all the condiments, may be wholly dispensed with by the exercise of a little ingenuity of mingling sweet with sour and sub-acid fruits. By this method, the many evils which arise from the use of large quantities of sugar, to which so many people are strongly inclined, will be wholly avoided, and yet all the requirements of taste and nutrition be fully met.

Unripe fruit should never be eaten when ripe can be obtained, and then only when well cooked. Most ripe fruits require no cooking. In cooking fruits, none but stone or porcelain-lined vessels should ever be used. Brass and copper are dangerous. The same is often true of tin on account of its adulteration with lead.

#### Baked Apples.

Moderately tart apples, or very juicy sweet apples, are best for baking. Select good ripe apples, free from imperfections, and of nearly equal size. Wipe carefully to remove all dirt, and bake an hour in a dish containing a little water. Sweet apples require a little longer baking.

#### Baked Apples and Dates.

No. 1. Select fine, large, sour apples. Pare and core them without dividing. Fill the center with dates. Place them in the baking dish, adding a little water, and bake until well done.

No. 2. Pare, core, and cut into small pieces a sufficient number of sour apples. Chop fine one-third the quantity of stoned dates or raisins. Place a layer of the apples in a deep baking dish. Add a layer of the dates. Alternate thus until the dish is full. Add a little water if much juice is desired. Bake slowly.

#### Steamed Apples.

Apples may be steamed either whole or when pared and divided. More time is required than for baking, and the latter method is usually preferable.

#### Green Apple Sauce.

By green apples is not meant unripe ones, but

undried ones. Select ripe, juicy, well-flavored apples, either sweet or sour, or both. Pare, quarter, and core quickly, not allowing them to stand after preparing them, to prevent their becoming dark. Boil with a little water until tender. They may be flavored, if desired, with lemon or with other fruit or juices. Sour apple sauce is very well sweetened with dates and raisins. The sauce is richer if the apples are cooked with the skins on.

#### Dried Apple Sauce.

Wash good dried apples and boil slowly in sufficient water to cover them. If preferred, the sauce may be flavored with lemon, dried quince, peach, dates, or any other fruit.

#### Baked Pears.

Pears should be baked as directed for baked apples. They are very excellent.

#### Pear Sauce.

Pears may be pared and cored as apples, or they may be boiled whole. They are delicious either way. Being quite sweet, pear sauce is an excellent article to serve with dishes which would seem to require sugar. Figs may be added if desired.

#### Peach Sauce.

Peaches hardly ripe enough to eat uncooked, make very good sauce when pared and boiled. The stones should not be removed. When ripe, or nearly so, the skins can be conveniently removed by immersing the peaches in boiling water for about two minutes, and then rubbing them with a coarse towel. Moderate heat only

should be employed in cooking peaches as they do not stand but very little heat. Figs make the best seasoning.

#### Dried Peach Sauce.

Dried peaches should be stewed in the same manner as dried apples.

#### Apricots.

This is not a very abundant fruit. It should be cooked according to the directions given for cooking peaches.

#### Pineapple.

This is a tropical fruit, and is seldom seen here in its perfection. Its chief value is as a flavor for other fruit. It may be preserved for use in this way by canning.

#### Quinces.

These are of little value of themselves, but give an excellent flavor to many other kinds of fruit. They may be preserved for this purpose by canning.

#### Grape Sauce.

Stew ripe grapes in as little water as possible. Some sweet fruit will be required with them by most people.

#### Cranberry Sauce.

Cranberries make very excellent sauce when mixed with a considerable quantity of sweet apples or dates.

#### Stewed Raspberries.

Nice, ripe raspberries are quite as good fresh as when stewed; but if they are cooked, care must

be used to avoid cooking too long, as they are very delicate, and lose some of their best qualities when subjected to long cooking. Simply scalding is all that is required. A few dates may be added if sweetening is desired.

#### Strawberries.

These berries are so delicate that, for the taste of many people, they are greatly injured by cooking. When ripe, they need no addition to their own natural, delicious flavors.

Currants, blackberries, gooseberries, whortleberries, and cherries make excellent sauce, and may be prepared much the same as other small fruits.

#### English Currants.

This is a very useful fruit as an addition to other fruits and to puddings of various kinds. It also makes an excellent dish when stewed alone like other dried fruit.

#### Plums.

Of the many varieties of plums, some are edible raw, being sweet and wholesome, while others require cooking and the addition of sweet fruit of some kind to render them palatable.

#### Dates.

Dates are mostly employed to sweeten sour fruits. They may be eaten alone, however, either raw or cooked; but only small quantities should be eaten, as they are too sweet to be very wholesome.

#### Bananas.

This is a very nourishing tropical fruit. It is best eaten raw. It should be peeled and sliced,

and may be eaten with bread or puddings. Some prefer to add orange or lemon juice. It may be baked with the skin on, or may be made into pies or puddings. It may be canned like other fruit, and makes an excellent addition to puddings.

#### Rhubarb.

Peel the stalks and cut them into thin slices. Stew in a small quantity of water with a sufficient quantity of dates to sweeten to the taste.

#### Oranges and Lemons.

These are mostly used to flavor other food. Oranges may be eaten alone. They are seldom obtained here in perfection.

#### Steamed Figs.

These make a very delicate and showy dish for dessert. They should be placed in a steamer and steamed until tender.

Raisins and prunes may be cooked in the same way.

#### Stewed Prunes.

Prunes make excellent sauce. They should be first hastily washed and then cooked gently until tender.

Sugar has purposely been wholly omitted from the above recipes for the benefit of those who may wish to exclude that article from their bill of fare, which is really a very desirable thing when it can be done without any disadvantage. Those who find the use of a certain amount of sugar desirable, have only to omit the sweet fruits and substitute sugar in moderate quantities. Excess is very injurious. A little cannot be considered harmful.

#### Steamed Squash.

Steamed squash is much nicer and sweeter than boiled. The squash should be cut into several pieces, freed from seeds, and placed in a steamer. The heat should be moderate. Mash if desired.

If boiling is more convenient, use only sufficient water to prevent burning, and reduce the juice to a sirup by the time the squash is sufficiently cooked.

#### Baked Squash.

Baking is a still better method of cooking squash. It retains all the original sweetness of the vegetable. Select a good, ripe squash, wipe thoroughly, and free from seeds. Cut into pieces of convenient size, and bake without removing the shell.

#### Pumpkin.

Pumpkin may be cooked in the same way as squash, but requires a little longer time. Long cooking improves it.

#### Stewed Tomatoes.

Scald until the skins wrinkle, and then peel. Slice thin, and stew with a moderate heat for half an hour. Thicken with rusk, graham bread crumbs, pounded crackers, or oatmeal. Grated green corn is another excellent material for thickening. Cook a few minutes longer after adding thickening. Tomatoes are richer if cooked two hours.

#### Apple and Tomato Sauce.

Cook tomatoes as directed above, and add sliced apples when half done. Cook until the apples are tender.

Stewed tomatoes may be mixed with various other fruits and vegetables, forming a great variety of palatable dishes.

#### Nuts.

Many kinds of nuts are both wholesome and palatable. When eaten in moderation, they are objectionable for very few. Among the better varieties are almonds, chestnuts, filberts, hickory nuts, walnuts, Brazil nuts, pecans, peanuts, and coconuts. Chestnuts and peanuts are improved by roasting. Chestnuts are excellent when boiled or steamed.

Nuts are often a very pleasant addition to cake and some puddings. They should always be eaten at the regular meal, constituting a part of it.

#### Melons.

These are wholesome when ripe. They should never be gathered until they are fully matured; are best when fresh. Cooking cannot improve them.

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#### SAUCES.

##### Date Sauce.

Chop nice, clean dates and boil with a small quantity of water until very soft. Rub through a sieve to remove the stones. Thin slightly with hot water, add a little lemon juice, and boil a moment longer. This is an excellent dressing for dishes which require sweetening.

##### Grape and Apple Sauce.

Stew together equal parts of grapes and sweet apples. Strain through a thin cloth, and thicken

with a little flour. Use for puddings. Sour apples and dates may be used, if preferred, instead of sweet apples.

##### Pear Sauce.

Flavor the juice of stewed pears with lemon or lime juice, or place in it, while hot, a few slices of lemon.

##### Orange Sauce.

Add grated orange peel and orange juice to date sauce prepared without the addition of lemon, unless the orange is very sweet.

##### Sweet Apple Sirup.

A very nice dressing for puddings may be made by boiling new sweet-apple cider to the consistency of thin sirup. If sufficiently concentrated, it will keep without canning. It may be simply scalded and then canned for use in pies and sauces. The cider should be made of selected apples, and should be boiled the same day that it is made, so that fermentation may not begin.

Other sauces can be prepared from the juices of almost any kind of fruit. Some will be improved by thickening a little with flour or corn starch.

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#### VEGETABLES.

The usual methods of cooking vegetables render some of the most nutritious of them almost wholly worthless as food, and, in fact, next to impossible of digestion. But if the following directions are carefully observed, many excellent and whole-

some dishes may be prepared from the large class of roots, seeds, etc., known as vegetables.

#### General Directions.

1. The remark with reference to the cooking of grains by gentle heat is equally true with vegetables, as a general rule. The cook should bear in mind that when water is boiling, it cannot be rendered any hotter, no matter how much the fire may be increased, without closely confining the steam.

2. With only one or two exceptions, all vegetables are much richer and more nutritious when served in their own juices. A great amount of nutriment is wasted by cooks who throw away the water in which vegetables have been boiled. To avoid such waste, and render the food as nutritious as possible, always cook vegetables with just sufficient water to keep them from burning until done, so that there will be little left unevaporated by the time the food is sufficiently cooked.

3. Do not add any condiment of any kind. Grease of all kinds is especially objectionable, as the process of cooking produces certain changes which render tenfold worse an article which is very objectionable at the best. The reason why many dyspeptics cannot eat vegetables without intense suffering, is that these otherwise harmless articles of food have been poisoned by the admixture of such irritating and indigestible things as butter, pepper, salt, mustard, etc.

4. Vegetables should be well cooked, but overcooking is very damaging.

5. All vessels used in cooking vegetables should be kept scrupulously clean. When brightly pol-

ished, they will not only corrode less rapidly, but will impart less of their substance to the articles cooked in them. Brass and copper vessels should receive especial attention, as they become sources of poisoning, when mingled with the food.

#### Boiled Potatoes.

Select potatoes of nearly equal size, wash thoroughly, cutting them as little as possible. Put them into boiling water nearly sufficient in quantity to cover them. Boil with a gentle heat until soft, being careful to keep them boiling; then turn off the water and let them stand partially covered for five minutes in a moderate heat. They should not be covered close after being cooked either by boiling or in any other way. If it is desirable to retain the heat, they may be covered by a napkin folded once or twice, or the dish containing them may be set, uncovered, in the oven.

If the potatoes are old and withered, they may be soaked in cold water for a few hours before cooking.

Some excellent cooks place the potatoes upon the stove to cook in cold water instead of placing them immediately in boiling water.

Potatoes may also be steamed, or cut in slices and cooked in just sufficient water to keep them from burning. The latter method is a very expeditious one.

#### Steamed Potatoes.

Prepare the potatoes as for boiling. Place them in the steamer after the water is boiling well. When done, allow them to stand in the steamer uncovered for a few minutes, or remove them to the oven, to render them dry and mealy.

**Mashed Potatoes.**

Potatoes may be cooked as directed in either of the preceding recipes and then quickly peeled and mashed. By this method very little of the most valuable portion of the potato, which lies close to the skin, is removed. If more convenient, the potatoes may be pared before cooking, care being taken to pare as thinly as possible. The same precautions to prevent their becoming watery should be observed as already directed. Season with green corn cream.

**Baked Potatoes.**

Baking or roasting potatoes are by far the best methods of cooking them. They should be carefully washed and buried in hot ashes or placed in a hot oven. Remove as soon as done, and break open the skin to allow the steam to escape, so that they may not be watery. Potatoes of nearly equal size should always be selected.

**Browned Potatoes.**

Slice cold potatoes. Place the slices upon a soapstone griddle, or upon a baking tin in a hot oven. Remove when nicely browned. Eat while warm. Mashed potatoes may be browned by making into small cakes and placing in the oven on tins.

**Sweet Potatoes.**

These may be cooked in the same manner as the common potato. Baking after partial boiling is an excellent method of preparing them. They are excellent sliced and browned.

**Baked Beets.**

Like potatoes, and, in fact, almost all roots and tubers, beets are much sweeter baked than when prepared in any other way, as by this method of cooking all of the rich juices are retained. The baking should be performed slowly and carefully. Several hours are usually required.

**Boiled Beets.**

Wash carefully without cutting or breaking the roots so that the juice may not escape. Boil until sufficiently soft to yield to pressure, but do not puncture them. Place in cold water for a few minutes after removal from the kettle, and the skin can be easily rubbed off with the hand. If any seasoning is required, lemon juice may be used.

**Beets and Tomatoes.**

Mix equal quantities of cooked tomatoes and well boiled beets chopped fine. Boil a few minutes, and serve warm.

**Boiled Parsnips.**

Parsnips should be boiled as directed for beets, except that there is no objection to puncturing them with a fork to ascertain when they are done. Small ones may be cooked whole, but large ones should usually be divided. They may be cut in slices and stewed when haste is necessary. The water should all be evaporated when they are done, and they are much improved by being allowed to brown slightly in the kettle. Parsnips may be steamed as well as potatoes.

**Mashed Parsnips.**

Wash and scrape, carefully removing the skin. Boil until tender and mash as directed for potatoes.

**Browned Parsnips.**

Slice cold parsnips into rather thick pieces and brown as directed for browned potatoes.

**Carrots.**

Cook as directed for parsnips and beets.

**Stewed Turnips.**

After washing and paring the requisite number of turnips, slice them thin, and place them in sufficient water to cook them. Cover close and boil until the water is all evaporated.

**Boiled Turnips.**

Wash clean, wipe, and peel. Considerable of their sweetness is lost if they are allowed to remain in water after peeling. Boil whole in a closely covered kettle and serve in the water which remains when they are done. Only sufficient water should be used to keep them from burning, and this should be reduced to the consistency of sirup by the time the turnips are done. Be careful to remove as soon as done.

**Mashed Turnips.**

Cook turnips as directed in the last recipe. Mash until entirely free from lumps, and stir a few minutes before removing from the fire.

**Boiled Cabbage.**

Select a well-developed head of cabbage, remove the coarser outside leaves, and if there are signs of insects, lay in water to which a little salt

has been added for an hour or two to drive them out. Rinse away the salt water and place the cabbage in just enough water so that when it is done there will be only sufficient to keep it from burning. Do not drain off the water once or twice as many recommend, but preserve the juice. Cover close and boil vigorously until tender, and then let it simmer for awhile. If it is likely to burn before sufficiently cooked, add water. If there is too much water, remove the cover so that evaporation may go on more rapidly. The condensed juice will be very sweet, and should be served with the cabbage. An excellent sauce to be eaten with cabbage may be made from stewed tomatoes by adding rusk, bread crumbs, or thickening with a little graham flour. Some consider it a good plan to inclose the cabbage in a napkin while boiling. This prevents falling in pieces.

**Cabbage and Tomatoes.**

Boil in a very little water a finely chopped cabbage. When nearly done, add half the quantity of cooked tomatoes. Cook well, but be careful to avoid burning.

**Steamed Cauliflower.**

Select a large cauliflower and place it in salt water to drive away the bugs which may be hidden in it, and which it is undesirable to cook. Carefully wash to free from the salt, and wrap carefully in a napkin. Place in a steamer and cook until the stalk is soft and yielding to gentle pressure. Twenty or thirty minutes are usually required. Serve with green corn white sauce.



If steaming is not convenient, the cauliflower may be boiled the same as cabbage.

An excellent dish may be prepared by removing the cauliflower from the steamer when it is about half done, picking to pieces, and placing it in a sauce pan with the juice of cranberry or plum sauce. Cover close and stew until tender. Serve cold.

#### Boiled Green Corn.

No. 1. Remove the husks and silk from green corn, in its prime. Place in a kettle containing a small quantity of boiling water, taking care to lay the large ears at the bottom so as to keep as much out of the water as possible. Cook from ten to twenty minutes according to the age of the corn. Too much cooking hardens it. All it requires is thorough scalding. Cover with a napkin upon removing from the kettle. Corn cooked in this way and eaten without butter and salt is more palatable if eaten from the cob. Steaming requires a little more time than boiling.

No. 2. Shave half of the corn to be cooked, and grate and scrape the remainder. Boil the shaved corn for five minutes in just enough water to cover it. Then add the grated corn and cook ten minutes longer.

#### Roasted Green Corn.

No. 1. Remove the husk and silk and place before an open grate until the kernels burst open.

No. 2. Bury in hot ashes without removing the husks. Sweet corn prepared in this way is very palatable.

#### Succotash.

Cook green beans until nearly done; add an

equal quantity of shaved corn and cook fifteen or twenty minutes longer. The juice will be richer if some of the corn is grated. Corn cooked in this way sours very readily.

#### Green Corn Cream.

Equal parts of grated green corn and water, strained through a sieve or cloth, make a fluid which very much resembles cream, and which may be used for many of the purposes for which cream is usually employed. It makes a very excellent dressing for puddings, vegetables of various sorts, and even for peaches, and similar fruits. Two parts of water to one of corn make a thinner fluid which might be called green corn milk.

#### Green Corn White Sauce.

Place the milk, prepared as directed in the preceding recipe, in a saucepan, and stir until it boils. Add sufficient graham flour to make it of the desired thickness and boil five minutes longer. This is an excellent dressing for cabbage, cauliflower, potatoes, and other vegetables.

#### Boiled Beans.

Pick the beans over carefully, wash them perfectly clean, cover them about three inches deep with cold water, and let them soak all night. Early in the morning place them over the fire, leaving upon them all the water that may remain unabsorbed, and adding enough more to cook them in. Let them *simmer* slowly all the forenoon, but do not allow them to *boil*. Some cooks consider the addition of raisins to boiled beans an excellent plan. Try it. Sliced cabbage may be added when the beans are half done.

**Baked Beans.**

No. 1. Prepare and cook as directed in the preceding recipe; but remove them from the fire as soon as they are soft, and bake for an hour in a very hot oven. They may be mashed fine before baking.

No. 2. After carefully preparing the proper quantity of beans, soak them over night and in the morning parboil until they crack, and then place in the oven and bake in the same water. The addition of a little water may be necessary. Bake all day, adding water when required, but allowing it to become nearly evaporated just before removing the beans from the oven unless much juice is desired.

**String Beans.**

Select tender bean pods and string, wash, and cut or break them into short pieces. Boil with gentle heat in a small quantity of water until tender. Add a sufficient quantity of green corn cream to make a good soup, and immediately remove from the fire. Cooked tomatoes are considered an addition by some.

**Dry Peas.**

Cook according to the methods already described for dry beans; less time is required.

**Peas Cake.**

Boil one part of dry peas in four parts of water until reduced to the condition of a paste. Then rub through a sieve and mold. When cold, cut in slices and eat with some kind of sour sauce. The slices may be browned if preferred.

**Green Peas.**

Pick and shell green peas, being careful to avoid dirt as the peas are injured by washing. Put into water enough to cover them. Cover close and cook gently fifteen to twenty minutes. Some boil the pods about twenty minutes and then skim them out and boil the peas in the same water. A few young potatoes or beets may be cooked with the peas if desired.

**Green Beans.**

These may be cooked as directed for green peas. A good seasoning is found in green corn milk or cream if it has been prepared.

**Asparagus.**

No. 1. Place the young and tender shoots in a napkin, or tie them in bundles, and cook as directed for cauliflower, and serve as greens.

No. 2. Cut the tender portion of the stems into small pieces and cook as peas. Season with green corn milk or cream.

**Greens.**

This kind of food contains little nourishment, but is well relished by some people. Spinach, cabbage sprouts, and beet tops, make very good greens. They should be thoroughly washed. Cowslips, dandelions, mustard leaves, turnip leaves, and radish leaves, are also used; but they should be first scalded. Boil in just enough water to cover. The addition of young beets or potatoes improves the flavor.

**Boiled Onions.**

For healthy stomachs, boiled onions are not very objectionable unless the odor is offensive.

To prevent smarting of the eyes in preparation, they may be peeled under water. Boil in a small quantity of water. They may also be roasted.

#### Cucumbers.

Cucumbers, if eaten when fresh, and without any condiments, are not particularly objectionable as food, although they contain little nutriment. Soaking in water hardens them, and renders them less easily digestible.

Those who are making the change of diet, and have not yet become accustomed to food seasoned with nothing but its own natural flavors, as in the above recipes, may add moderate quantities of salt, milk, or sugar, but never more than just sufficient to make the food palatable.

### SOUPS, STEWS, AND GRUELS.

These articles of food, although much used, and usually considered the most easily digested of all kinds of food, are really quite objectionable when viewed from a physiological standpoint. As a general thing, they are not very nourishing on account of the large proportion of water which they contain. The large amount of water also makes them more difficult of digestion than more solid kinds of food, since it must be absorbed before the process of digestion can be carried on, as previously explained. Crackers should always be eaten with soups and gruels so as to insure thorough insalivation. Gruels are often proper

food for sick people, because they have considerable bulk, with little aliment, it being usually the case that very little nutriment can be appropriated by the system when a person is suffering from acute disease.

No butter, milk, cream, salt, or other condiments, have been recommended in the following recipes. Those who do not find them palatable can add a little milk and salt at first, gradually learning to do without them entirely.

#### Potato Soup.

Pare and slice potatoes, put them in cold water, and boil until soft. Add a small quantity of soft-boiled rice, barley, or millet. Thicken with a little graham flour first mixed with water and beaten smooth. Crackers or soft biscuit may be added to the soup if desired.

#### Vegetable Soup.

Five quarts of water; one teacup of rice or pearl barley (soaked over night); one teacup of dried beans or two of fresh; six potatoes sliced; one teacup each of turnip, parsnip, and onions, chopped fine. The barley and dried beans require two hours for cooking; the other vegetables, half an hour.

#### Bean Soup.

Take half a pint of cooked beans for a quart of soup. Mash them, and boil until they are very soft and well mixed with the water, and then, if preferred, strain to remove the skins. Thicken with a little graham flour, and boil a few minutes longer.

**Green Bean Soup.**

Take one quart of garden or kidney beans, one ounce of spinach, and one ounce of parsley. Boil the beans; skin, and bruise them in a bowl till quite smooth; put them in a pan with two quarts of vegetable broth; dredge in a little flour; stir it on the fire till it boils, and put in the spinach and parsley (previously boiled and rubbed through a sieve).

**Split-Pea Soup.**

Take one-eighth as many peas as the quantity of soup required. Boil gently in a small quantity of water until soft enough to be rubbed through a coarse sieve or colander, or until they fall to pieces. Strain, add sufficient water to make the requisite amount of soup, and boil again. Thicken with graham flour and boil again a few minutes. Either split or whole peas may be used if they are strained. The white marrowfat is the best, but the blue pea is also excellent. Some scald the latter and turn off the water before cooking.

Dry beans may be made into a soup in the same manner, but double the quantity is required for the same amount of soup.

**Tomato Soup.**

Scald and peel good, ripe tomatoes, add a little water, stew them one hour, and strain through a coarse sieve; stir in a little flour, or crumb in toasted biscuit, and then boil five minutes.

**Vegetable Oyster Soup.**

Slice and boil until tender; thicken with graham flour and pour over toasted bread or crackers.

**Parsnip Stew.**

Wash, pare, and slice parsnips and an equal quantity of pared potatoes, and cook gently with a small quantity of water, and closely covered. Add a few bits of dough made from graham flour and boiling water. Thicken with boiled pearl barley.

**Vegetable Stew.**

In a large saucepan with a tightly fitting cover, place a pint of water. Add a half pint of sliced onions, one pint of shred cabbage, and a pint of sliced turnip. Cover closely and stew with moderate heat for forty-five minutes. Then add a quart of potatoes of medium size, and cook until the potatoes are done. Mash and thoroughly mix. If there is too much juice when done, drain it off and boil down to a sufficient quantity to make the whole of proper consistency. This dish with the addition of pork, is a very favorite one with the Irish, but needs no such addition for hygienists.

**Onion Stew.**

Cook one pint of onions three-fourths of an hour (or more, if large), then put in one quart of potatoes, and, when boiling, cover the surface with scalded wheat-meal dough. Lift when the potatoes are done, and add to the liquid one-half pint of cooked rice, and cook ten minutes. Then pour it over the other ingredients, mix slightly together, and serve hot.

**Vegetable Broth.**

To equal quantities of turnips and carrots, add an onion. Chop fine, and add a little lentil flour.

Boil until well cooked in water sufficient to make a thin soup.

#### Graham Gruel.

Mix two tablespoonfuls of wheat meal smoothly with a gill of cold water; stir the mixture into a quart of boiling water; boil about fifteen minutes, taking off whatever scum forms on the top.

#### Oatmeal Gruel.

Mix a tablespoonful of oatmeal with a little cold water; pour on the mixture a quart of boiling water, stirring it well; let it settle two or three minutes; then pour it into the pan carefully, leaving the coarser part of the meal at the bottom of the vessel; set it on the fire and stir it till it boils; then let it boil about five minutes, and skim.

#### Corn-Meal Gruel.

Slowly stir into a quart of boiling water two tablespoonfuls of corn meal. Boil gently twenty minutes or half an hour.

#### Farina Gruel.

Mix two tablespoonfuls of farina in a cup of water, and pour slowly upon the mixture about a quart of boiling water, stirring briskly. Boil ten minutes.

#### Milk Porridge.

Place over the fire equal parts of milk and water. Just before it boils, add a small quantity of graham flour, oatmeal, or corn meal, previously rubbed with water, and boil a minute longer. This recipe is not recommended as hygienic.

### Bill of Fare for Each Month.

The appetite craves variety of food. Especially is this the case with those whose tastes have once been perverted and depraved; and frequent change in the kind of food, or in the manner of its preparation, is a very important auxiliary in effecting a reform in diet. Long-continued sameness begets disgust for articles of food which may have been well relished at first. Perfectly healthy tastes do not manifest this desire for change in nearly so marked a degree, and yet there can be no doubt that there is in nature a demand for variety of food which should be gratified. We desire, however, to impress with distinctness the fact that, contrary to the supposition of many, it is not at all necessary to depart in any degree from the strictest rules of dietetics in order to obtain all the needful variety in articles of diet.

By variety is not meant a great number of dishes at one meal, but a change in the dishes prepared from day to day. Three or four kinds are usually enough for a single meal. Dyspeptic stomachs tolerate better but one or two kinds. Persons whose digestive organs are impaired should avoid the use of fruits and vegetables at the same meal. Fruit should be eaten very freely with meals, but not between meals.

The following bill of fare may be found useful to those housekeepers who are anxious to provide their families with a variety of healthful food, but are often sorely troubled to know "what to get next."

#### JANUARY.

SUNDAY.—*Breakfast*: Baked potatoes, browned parsnips, snow bread, oatmeal gruel, dried apple sauce, with ripe apples.

*Dinner*: Rice and apple pudding, canned tomatoes, mashed potatoes, graham rolls, and oatmeal crisps, fresh grapes, steamed figs, apples.

**MONDAY.**—*Breakfast*: Browned potato cakes, tomato toast, graham pudding with dates, graham and Indian gems, ripe sour apples.

*Dinner*: Boiled potatoes, baked beans, cranberry sauce, pudding biscuit, parched corn, apple pie.

**TUESDAY.**—*Breakfast*: Baked potatoes, baked squash, bean soup (made with cold beans), oatmeal breakfast cake, canned fruit.

*Dinner*: Vegetable stew, baked apples and dates, rice cake, graham crackers, berry sauce.

**WEDNESDAY.**—*Breakfast*: Baked sweet potatoes, dried sweet corn (stewed), crushed wheat or farina, stewed prunes, Johnny cake, apples.

*Dinner*: Boiled dry peas, steamed potatoes, sweet-potato bread, canned peaches, boiled samp, custard pie.

**THURSDAY.**—*Breakfast*: Pea soup, browned potatoes, graham and oatmeal crackers, corn-meal gems, canned peaches.

*Dinner*: Boiled rice, apple dumpling, hard biscuit, apple brown bread, canned whortleberries, apples.

**FRIDAY.**—*Breakfast*: Baked potatoes, graham pudding, rice cake, corn-meal crackers, dried apple sauce, dates.

*Dinner*: Boiled sweet potatoes, stewed turnips, baked squash, small hominy, English currants, apples.

**SATURDAY.**—*Breakfast*: Browned sweet potatoes and turnips, fruit toast, graham or corn-meal gruel, oatmeal crackers, brown bread, raisins, apples.

*Dinner*: Rice and apple pudding, small hominy—cold, sliced and browned, graham rolls, fruit gems, cranberry sauce or canned fruit, dates, apples.

#### FEBRUARY.

For this and the succeeding months we have not made out the complete bill of fare for a week, as for January, but leave the reader to use his discretion in selecting for each day such as he may choose of the articles suggested.

**BREAKFAST.**—Baked Irish potatoes, baked sweet potatoes, browned potatoes, peas cake, browned turnip; graham pudding, oatmeal pudding, crushed wheat, farina, graham, corn-meal, or oatmeal gruel; tomato toast, fruit toast, dry toast; breakfast cake, rolls, gems, crackers,

crisps; canned fruit, cranberry, dried apples, peach, whortleberry, or cherry sauce, dates, prunes, raisins, apples.

**DINNER.**—Boiled or steamed Irish and sweet potatoes, mashed potatoes, boiled turnips, baked squash, boiled or baked beans or peas, hominy and beans, hominy, tapioca, rice, corn-meal pudding, bread pudding, rice and apple pudding, sweet potato pudding, steamed bread and fruit pudding; potato soup, split-pea soup, bean soup, dried sweet corn; brown bread, gems, rolls, snow cake, crackers, apple bread, fruit cake, fruit crackers, sweet potato fruit cake, popped corn fruit cake; dried fruit sauce, canned fruit, baked apples, dates, figs, raisins, apples, grapes, nuts.

#### MARCH.

**BREAKFAST.**—Baked or browned potatoes, browned parsnips or turnip, baked squash, baked beets, cold boiled beets—sliced, cabbage and tomatoes, beets and tomatoes; gruels; puddings; griddle cakes, rolls, gems, crackers, toast; canned and dried fruit, apples, dates.

**DINNER.**—Boiled potatoes, turnips, beets, parsnips, cabbage; mashed potatoes, turnips, parsnips; boiled and baked peas and beans, parsnip stew, vegetable stew, small hominy, farina, rice, fig pudding, tapioca apple pudding, bird's nest pudding, apple custard; bean, pea, and potato soup; oatmeal bread, scalded rolls, mixed loaf, graham and corn-meal crackers, coconut bread, coconut cake, corn-meal fruit gems, dried fruit pies, tarts, raisin pie; dried and canned fruit, dates, figs, apples.

#### APRIL.

**BREAKFAST.**—Peach toast, canned cherries, rhubarb and plums.

**DINNER.**—Vegetable oyster stew, greens, pearl barley, boiled wheat, tapioca pudding, baked rice pudding, corn-starch pudding, American plum pudding; lemon pie, rhubarb and other sour fruits.

Add to the above the bill of fare for March.

#### MAY.

**BREAKFAST.**—Same as for April; in some sections, rhubarb and green currants may be added.

**DINNER.**—About the same as for March and April.

## JUNE.

NEW DISHES.—Rhubarb, green currants, young beets, asparagus. Beans and the various preparations from Indian corn should be exchanged for such grains as rice and oatmeal during the warm months.

## JULY.

NEW DISHES.—Summer squashes, beets, onions, green pea soup, string bean soup, early potatoes, cucumbers, strawberries, strawberry shortcake, cherries, cherry dumpling, currants, raspberries, bananas, pineapples, whortleberries, whortleberry Johnny cake, oranges, lemons, lemon pie, orange sauce. Use chiefly fruits and grains during the summer months.

## AUGUST.

NEW DISHES.—New potatoes, green corn, green corn cream, green corn custard, green beans, succotash, tomatoes, tomato soup, early apples, apples and tomatoes, tomato pudding, water melons, musk melons, blackberries.

## SEPTEMBER.

NEW DISHES.—Peaches, green corn custard, pears, plums, baked apples and pears, green apple sauce and stewed pears, stewed peaches, apple and peach pies, green corn gems, roasted green corn.

## OCTOBER.

NEW DISHES.—Boiled beets, beets and tomatoes, early cabbage, vegetable stew, grapes, grape sauce, grape and apple sauce, steamed cauliflower, grape tarts, gooseberries, gooseberry pudding.

## NOVEMBER.

NEW DISHES.—Steamed pumpkin and squash, pumpkin pie, pumpkin bread, baked squash, chestnuts, chestnut pudding, carrots, boiled turnips, sweet potatoes.

## DECEMBER.

NEW DISHES.—Hulled corn, boiled samp, popped corn, custard pie, boiled, steamed, and browned parsnips, cranberry sauce, cranberry dumpling, cranberry pie, custard pie, Christmas pudding, hickory nuts, walnuts, peanuts, and the various foreign nuts.

## BEVERAGES.

## Summer Drinks.

Many people indulge in the very pernicious habit of drinking iced water during the hot summer months, no matter what may be the condition of the system. This practice often leads to serious results, and should be regarded as decidedly unhealthful. Soda water is another summer beverage of very suspicious character. It is not injurious on account of containing soda, for there is no soda in it, notwithstanding its name. Its effervescence is caused by the escape of carbonic acid which has been mechanically pressed into it. Its injurious properties are due to the sirup employed, which is very rarely pure. Pine-apple sirup seldom contains the slightest trace of pine-apple juice. It is made from coal tar and various other similar commodities. The same is true of the other sirups employed, and the more thoroughly they are let alone, the less damage will be done the health.

Excellent and wholesome drinks may be prepared from lemons, oranges, currants, and almost all the different kinds of berries, by diluting their juices with water and adding a very little sugar when required.

A very pleasant drink can be made from rhubarb. Prepare the stems as for stewing. As soon as the water boils, drain off the juice and dilute it with an equal quantity of cold water. Add a little sugar, and pineapple if desired.

A beverage can be made from apples in a manner similar to the above.

The juices of fruits are harmless and wholesome if used in moderation. They are by some considered superior to water only, it being thought that they quench thirst more readily. At all events, they are infinitely superior to tea, coffee, wine, beer, and the various other mixtures which are generally so largely employed during the hot months.

#### To Keep Water Cool.

Ice is almost universally depended upon as a means of cooling drinking water in summer. The free use of iced water is harmful for several reasons. 1. It is so intensely cold that it often works serious mischief by too suddenly reducing the temperature of the internal organs; 2. The ice often contains organic impurities—the scum and slime from stagnant water, which render the water to which it is added very unwholesome. If taken at all, it should only be in very small sips.

The better way is to drink none at all; and by making use of the following means, the water may be kept sufficiently cool to answer all the real demands of nature; in fact, it may be kept nearly at freezing temperature:—

Place between two sheets of thick brown paper, a layer of cotton half an inch thick. Fasten the ends of the sheets together so as to form a roll. Sew in a bottom made of similar material, making it nearly air-tight, if possible. Fill a pitcher with cool water, and cover it with the cylindrical box by inverting it over the pitcher. If the box is kept constantly wet with water,

evaporation will go on so rapidly that the water in the pitcher will be kept very cool for a long time.

Water may also be kept cool by placing it in jugs and wrapping them with wet cloths.

#### Filtered Water.

The best of all drinks is pure soft water. But absolutely pure water is very difficult to obtain. In fact, it never occurs in nature. Filtered rain water is the nearest approximation to it which people generally can obtain, and a good filter is necessary to procure this. People living in districts where hard water only can be obtained from wells and springs cannot afford to live without a filter. In using hard water, they are constantly imposing upon their systems a task which must sooner or later result in serious damage to their health. Unfiltered rain water is not fit to drink, at least after it has been standing a day or two.

#### How to Make a Filter.

An excellent filter can be obtained at reasonable rates at this Office. See advertisement on last page. Those who think they cannot afford to purchase this valuable article, can construct a very good one at a very small expense, in the following manner:—

Take a large flower pot or earthen vessel, make a hole one-half inch in diameter in the bottom, and insert in it a sponge. Place in the bottom of the vessel a number of clean stones of sizes varying from that of an egg to an apple. Place upon this a layer of much smaller stones and coarse gravel. Then fill the jar within two inches



of the top, with equal parts of pulverized charcoal and sharp sand, well mixed. Place loosely over the top of the jar white flannel cloth, allowing it to form a hollow in the middle of the jar, into which the water can be poured. Secure the edges by tying a stout cord around the outside of the jar. By keeping a suitable vessel under the filter thus made, and supplying rain water when needed, very pure water can be obtained. It can be kept in a cool place in the summer time. It will require to be renewed occasionally by exchanging the old sand and charcoal for fresh. The flannel and sponge must be frequently cleansed.

#### How to Make a Cistern.

In many localities, soft water can only be obtained by preserving, in some way, that which nature distills from the clouds. Cisterns built in the ground are commonly employed for this purpose; and every family should be provided with this convenience when necessary. But it often happens that, through some defect in construction, a cistern becomes a source of disease rather than a means of health; hence the necessity for proper care in construction. The main thing is to make it perfectly impervious to the entrance of worms or vermin of any kind. It should be covered above, as well as upon the sides, with water-lime cement.

But for drinking and cooking purposes, rain water is wholly unfit, even when it is kept in as good condition as when it falls from the clouds. In its passage through the air, it gathers dust, and becomes colored with smoke and tainted with foul gases. Before it enters the cistern,

also, it washes from the roof a great quantity of impurity—decayed wood, accumulated dust, and the offal of birds. A cistern should be so constructed that, if possible, these impurities may be entirely excluded from it.

This may be readily accomplished by constructing a filter in such connection with the cistern that all the water from the roof must pass through it before entering the cistern. A large, water-tight cask should be selected for the purpose. Sink this into the ground close to the cistern, establishing connection between the latter and the bottom of the cask. Place in the bottom of the cask a few clean, smooth, hard stones of the size of a man's fist, to serve as a support. Place upon these a perforated sheet of zinc made so as to nearly fit the cask. Upon this, place a layer of two or three inches of coarse gravel, thoroughly cleansed; then a thin layer of fine gravel. Upon this, place about a foot of fine, sharp, clean sand, thoroughly mixed with an equal quantity of freshly-burned and pulverized charcoal. Cover this with clean gravel to a depth of two or three inches, and the whole with another sheet of perforated zinc, and the filter is complete. There will be sufficient room left in the upper part of the cask to allow the accumulation of water when it is running in rapidly, as during a rain storm. The cask should be large enough to allow this.

Another method of purifying the water of cisterns, which is in some respects superior to the above, is the following: Build the cistern as already directed, and then divide it into two portions by means of a partition made of porous brick, laid in water-lime. Allow the water to

enter the cistern upon one side of this partition, and withdraw it by means of a pump from the opposite side. It will be found that very complete purification will be effected by its filtration through the brick. Of course, the partition should be so tight that water can pass through only by soaking through the porous brick. Hard-burned or glazed brick must not be employed.

Still another means is to inclose the end of the pipe through which the water is withdrawn from the cistern, in a tight chamber of porous brick. The water will become nearly pure in passing into this chamber through the brick.

Those who have tried the two latter methods described, pronounce them to be very efficient means of purifying water, if properly employed. The first method has one advantage, however, in that the gravel and charcoal can be removed and renewed as frequently as desirable with but little trouble or expense.

#### Lead Pipes.

WATER intended for drinking purposes should never be allowed to pass through lead pipes, as in so doing it becomes impregnated with the metal, and thus often becomes a source of dangerous, even fatal, poisoning. Paralysis and colic are among the most prominent effects of poisoning by lead. Water pipes should be of galvanized iron, zinc, or block tin.

## PRESERVING FRUITS AND VEGETABLES.

Canning and drying are the only ready methods of preserving fruits and vegetables which are at all hygienic. Pickling in salt, alcohol, or vinegar, and saturating with sugar, are eminently unhygienic methods, as they render the article preserved wholly unfit for food. Refrigeration is an excellent method, but it cannot well be practiced on a small scale.

#### Canning Fruit.

Canning fruit is a very efficient means of preserving it in a wholesome condition, but it is a process which demands careful management to make it a success. Tin cans are sometimes used, but glass cans are now so cheap and are so much better that they should always be preferred. In the end they are cheaper, as they last much longer than tin cans. Tin cans are liable to injure the flavor also. There are several excellent kinds of fruit cans in the market.

In canning fruit two things must be most carefully attended to or failure is certain:—

1. The fruit must be sufficiently cooked.
2. The air must be excluded and the can hermetically sealed.

The best fruit should be selected, and that which is not overripe. It should be kept as clean as possible so that little or no washing will be required, as this is injurious to many fruits. Pick over carefully, and wash quickly if washing is necessary. Either steam or stew, adding as little water as possible, and as little sugar as will suffice to make the sauce palatable. Sweet fruits

require none at all, and none is necessary to the preservation of the fruit. Steaming is rather preferable to stewing or boiling as the fruit is less broken and its natural flavors are better preserved. A porcelain-lined kettle should be used, as all kinds of metal kettles are likely to be corroded by the acids of the fruit.

The fruit need not be cooked so much that it will fall to pieces, but it should be so thoroughly scalded that every part of it will be subjected to a high degree of heat, in order that all of the germs from which fermentation originates may be destroyed. Simply heating is not sufficient.

Some kinds of fruit require longer cooking than others. The length of time varies about as follows: Boil whortleberries and cherries, five minutes; raspberries, blackberries, and ripe currants, six to eight minutes; halved peaches, gooseberries, and grapes, eight to ten minutes; sliced pineapple and quince, and halved pears, fifteen to twenty minutes. Tomatoes, thirty minutes to two hours.

While the fruit is cooking, prepare the cans in which it is to be placed. Thoroughly scald them so that there may be in them nothing which will induce decay. To prevent breaking when the hot fruit is placed in the can, it may be heated by pouring into it hot water and quickly shaking it so that all parts may be heated equally, or the can may be placed in cool water and gradually heated to the requisite degree. Dry heat is equally efficient, and may be applied by keeping the cans in a moderately hot oven while the fruit is cooking. Some place the cold can upon a folded towel wet in cold water, which cools the

bottom and so prevents cracking. This method is very convenient.

When the fruit is properly cooked and the cans are in readiness, first place in the can a quantity of juice, so that as the fruit is put in, no vacant places will be left for air, which is sometimes quite troublesome when this precaution is not taken. Then add the fruit itself. If any bubbles of air chance to be left still, work them out with a fork, spoon handle, or straw. Fill the can full, and immediately put on the cover and screw tightly on. If the can is unpleasantly hot, it may be securely held by passing a towel around it and twisting the ends together. As the fruit cools, the cover can be tightened, and this should be promptly done, so that no air may be allowed to enter. Sometimes the fruit will settle so that a little space will appear at the top. If you are sure the can is tight, do not open to refill, as you will be unable to make the can quite as tight again unless you reheat the fruit, in which case you would be liable to have the same thing occur again.

Some allow the fruit to cool about ten minutes before adjusting the cover. This gives time for the fruit to cool and settle some. The can is then filled with hot sirup and the can tightly sealed.

After filling and tightly sealing, place the cans in a cool place and watch them closely for two or three weeks, when they may be set away if there are no signs of fermentation. Should any such signs appear, open the can immediately, scald the fruit thoroughly, and seal as before, being very careful to examine the cover and see if

there is not some imperfection which prevents the perfect exclusion of air.

Small fruits and tomatoes may be preserved in bottles or jugs by sealing with wax. Thoroughly heat the bottle or jug, and put in the fruit, first putting in juice as when using cans. Shake down well, and refill. Then place two thicknesses of cloth over the mouth, insert a tightly-fitting cork, and thoroughly cover the whole with melted wax made according to the following or some equally good recipe: One pound resin, two ounces bees-wax, and one and one-half ounces of tallow; melt and mix.

When canning in glass vessels, care must be used to protect the vessels from draughts of cold air, or they will be liable to break.

Apples, pears, quinces, and peaches, should be pared and cut into pieces small enough to can conveniently. In canning, they may be arranged in the can with a fork, if desired, the juice being afterward added, but care must be exercised to get out all air bubbles which are very liable to occur when this method is adopted. The skins may be very expeditiously removed from peaches by immersing them in boiling water for a minute or two, and then rubbing with a coarse towel. This is best done when they have just reached maturity, but have not become very mellow. Strawberries require boiling thirty minutes.

#### Canning Vegetables.

In canning pumpkin or squash, the same general rules should be followed as in canning fruits. They may often be placed in the same cans in which fruit has been kept, after the canned fruit

has been used, as they will keep without canning until January, or even later, with care.

Many people fail in their attempts to can green corn. The principal cause of failure is too slight cooking. Merely scalding is not sufficient for green corn. It must be thoroughly cooked, and then there is no greater difficulty in keeping it than in keeping any kind of fruit. With thorough cooking, glass cans are just as good as tin, although the latter may be used for vegetables, and are preferred by some. Tomatoes are also improved by long cooking. Drying is usually considered a better method of preserving green corn, peas, and similar articles, than canning.

#### Drying Fruits and Vegetables.

The great secret in drying fruits and vegetables is to dry as quickly as possible without subjecting them to so violent a heat as to burn them or injure their flavor. A little ingenuity will enable a person to devise many convenient and inexpensive methods by which artificial heat can be applied at once to a large quantity of fruit or prepared vegetables, such as peas, beans, or sweet corn. Drying under glass in the sun is a very good method. Juicy fruit, like cherries and small fruit, can be more quickly dried after being scalded. Green corn should be scalded so as to "set the milk," after which it should be cut from the cob. A very excellent way of removing it from the cob is to shave off the tops of the kernels with a sharp knife, and then scrape the ear with the back of the knife; the kernels will thus be pressed out, leaving the hull behind, adhering to the cob.

"The most expeditious mode of drying is by

means of the oven; but the drawbacks are interference with cooking operations, and danger of scorching; a little forgetfulness, or lack of close attention, and the whole is spoiled. Perhaps the best arrangement for drying on a small scale, is by means of a rack, made for the purpose, and placed by or over the kitchen stove. Any one of a little ingenuity can make it, and the shape and size will be governed by the place where it is to be used. A light frame constructed so as to hold a series of trays, from six to twenty in number, is a very convenient arrangement. The trays may be made of strips of wood, a sufficient distance apart to allow the circulation of air between them.

"For the quick drying of small fruits, green corn, etc., a frame may be made to stand directly over the stove, and constructed in the following manner: Nail together a square or oblong frame, and attach to it four legs or supports, long enough when standing on the floor to raise it about a foot from the top of the stove. Across this, stretch mosquito netting, supporting it in the center by cross-bars, running each way. If the frame is large, several supports will be required, or the netting will 'bag,' and the drying will be uneven.

"Fruit dries very quickly upon this, and will need watching to prevent scorching. It may be partially dried upon this, and finished in the sun, if desired, to make room for more.

"Another method of drying, and one which is often practicable among fruit growers and gardeners, is by the employment of the hot-bed, which is generally unused for other purposes in the season of fruit drying. All the change necessary in its structure, is the laying of a floor on

which to spread the fruit. The sash should be raised two or three inches to prevent the fruit from becoming scorched under the rays of the sun."

To preserve dried fruits and vegetables, heat them thoroughly just before putting away, and then hang up in paper bags in a dry place.

#### Preserving Fresh Grapes.

Pick carefully the later kinds of grapes. Select such bunches as are perfect, rejecting all upon which there are any bruised grapes, or from which a grape has fallen. Spread them upon shelves in a cool place for a week or two. Then pack them in boxes in saw dust which has recently been thoroughly dried in an oven. Bran which has been well dried may also be used. Dry cotton is employed by some. Keep in a cool place. In this way, grapes may be kept until long after New Year's with ease.

Another method still more efficient is to select perfect bunches, as already directed, and dip the broken end of the stem of each bunch in melted sealing wax. The bunches may then be wrapped in tissue paper and placed in layers, or hung in a cool place, or they may be packed in saw dust.

#### How to Keep Apples and Pears.

Of the numerous varieties of fruits which are grown in this country, apples and pears are about the only ones that can be kept for more than a few days after they are ripe without the employment of artificial means. And, fortunately, these fruits are the very ones which, upon the whole, are in all other respects the best adapted to meet the wants of man. But even these fruits may

be preserved in better condition, and for a much longer time by the employment of certain means, and by attention to a few practical points. The best methods of preserving fruit are always those which change its natural condition as little as possible.

Preserving fruit in ice-houses has been practiced quite extensively, and with very satisfactory results. But many people have not the means to invest in an expensive fruit house. They can derive great advantage from observing the following rules:—

1. If the fruit is of a late variety, allow it to remain upon the trees as long as possible without freezing.

2. Always pick the fruit by hand and handle with the greatest care.

3. Gather the fruit on a dry, cool day, and place it in heaps or bins for two or three weeks.

4. Then carefully pack in barrels, after assorting, head them up, and place them in a cool place.

Upon the approach of freezing weather, the fruit should be removed to the cellar or winter fruit house. The best temperature for keeping fruit well is about 34° F., or 2° above freezing. The cellar in which ordinary vegetables are kept is too warm and damp for apples. Thorough ventilation is also essential, especially in the autumn and early spring.

Before packing away for the winter, fruit should be carefully assorted. That which has nearly reached maturity should be placed where it will be easy of access. The different kinds ripen at different times. They should, on this account, be carefully watched, that they may be used

when in their prime, as they rapidly deteriorate in quality after reaching that period.

Apples of good quality may be canned in the latter part of the season if they ripen faster than they can be used.

Many find it advantageous to keep their apples in thin layers upon broad shelves in a cool place. This plan allows frequent and thorough inspection without disturbance of the fruit. It also permits the removal of affected fruit as soon as it shows symptoms of decay.

Warmth and moisture are the two things which favor decay, and should be especially guarded against.

#### Keeping Lemons and Oranges.

It is often desirable to preserve these fruits which are of excellent service as flavors for other fruits. During the summer there are always times when they can be bought very cheaply in small lots. Then is the time to buy. Place them at once in a vessel of cool water, which should be kept in the cellar, or ice-house. Change the water every day, and they may be kept perfectly fresh for weeks.

These fruits will dry without decaying if they are kept in a perfectly dry place.

Cranberries can also be preserved in water for a long time if the water is often changed.

#### To Keep Sweet Potatoes.

Little difficulty is usually experienced in keeping the common Irish potato as long as desirable; but the sweet potato requires much more careful treatment for its preservation. The best plan is the following: Select fine, clean sand. Dry it

thoroughly in the oven, and bury the potatoes in it, packing them so that the sand will surround each one. Keep them in a place which will be very dry and moderately warm, and they will keep a long time. Irish potatoes require a cool place.

The same plan is an excellent one for keeping parsnips, except that the earth used need not be dried, and a cool place is better than a warm one.

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### HOUSEHOLD HINTS.

By the exercise of a little ingenuity and care, in many of the affairs of domestic life, much may be saved which would otherwise be wasted. Broken lamps and dishes may be mended by the employment of a little cement; a little glue will repair a broken piece of furniture when the breakage first occurs; here a nail or tack, and there a little putty, paint, or varnish, will save many dollars in the course of a year which may be used in the circulation of reform literature. Some of the following hints and recipes may be found useful:—

**HOW TO REMOVE RUST FROM CLOTHING.**—Oxalic acid will take rust or any other stain out of white goods. Dissolve a small quantity in boiling water and dip the spots in. The acid can be got at any drug store. Another way is to saturate the spots with lemon juice and spread the cloth in the sun; if it do not take out all the rust the first time, repeat the application. Another method is to wet the cloth with yellow sulphide

of ammonia, by which it will be immediately blackened. After allowing it a minute or two to penetrate, the excess of sulphide is to be washed out and the black spot treated with diluted chlorohydric acid, by which it is at once removed. Finally, wash well with water.

**SCOURING SILVER.**—Never put a particle of soap about your silver if you would have it retain its original luster. When it wants polish take a piece of soft leather and whiting and rub hard. The proprietor of one of the oldest silver establishments in the city of Philadelphia says that housekeepers ruin their silver by washing it in soap-suds, as it makes it look like pewter.

**CEMENT FOR STONWARE.**—To a cold solution of alum add plaster of Paris sufficient to make a rather thick paste. Use at once. It sets rather slowly, but is an excellent cement for mending broken crockery, eventually becoming as hard as stone.

**CEMENT FOR IRON.**—Take equal parts of sulphur and white lead, with about a sixth of borax, mixing them so as to form a homogeneous mass. When about to apply it, wet it with sulphuric acid and place a thin layer of it between the two pieces of iron, which should then be pressed together. In a week it will be perfectly solid, and no traces of the cement will be apparent. This cement is said to be so strong that it will resist the blows of a sledge hammer.

**PASTE.**—The adhesiveness of paste may be greatly increased by adding to it a small proportion of powdered alum. The alum also greatly delays its souring.

**CEMENT FOR GLASS.**—Take an ounce of pure white lead in oil, and ten grains of finely powdered acetate of lead, mixing thoroughly. Apply immediately, and allow the mended article to dry for two weeks before using.

**CEMENT FOR WOOD AND METALS.**—To common glue add powdered chalk. A little borax, added, will preserve the glue for some time.

**CEMENT FOR LABELS.**—Take equal parts of gum tragacanth mucilage, and one part flour. This cement is especially good for attaching labels to metals, and resists damp very well.

**DURABLE WHITEWASH.**—Slack, with abundance of hot water, half a bushel of lime, stirring briskly meanwhile. When completely slacked, add sufficient water to dissolve. To this add two pounds of sulphate of zinc (white vitriol) and one pound of common salt. The last-named ingredients cause the wash to harden, and prevent cracking. If a cream color is desired, add yellow ochre. For stone color, add raw umber and lampblack.

**KALSOMINING FLUID.**—The following is well recommended for walls: White glue, 1 lb.; white zinc, 10 lbs.; Paris white, 5 lbs. Soak the glue over night in 3 qts. of water. Add an equal quantity of water, and heat on a water bath until the glue is dissolved. Put the two powders into another vessel. Pour on hot water while stirring, until of the consistency of thick milk. Mix the two liquids thoroughly, and apply to the wall with a whitewash brush.

**HINTS FOR HOUSE CLEANING.**—Remember the closets and garret as well as the sitting room and parlor.

Mix with the whitewash a considerable proportion of pulverized copperas. It will disinfect the moldy walls, and destroy the eggs of various kinds of vermin.

Never put new paper upon the walls without removing the old. Much harm has often resulted from a neglect of this precaution.

Be careful to avoid arsenical colors in selecting wall paper. Green is the most likely to be dangerous.

A little whiting and a few old newspapers are almost indispensable for polishing the windows and mirrors.

A hot iron applied to old putty will soften it almost instantly.

Matting can be cleaned easily by thorough sweeping after sprinkling salt or moist corn meal or sawdust upon it.

To cleanse the drain pipe, pour down a strong solution of copperas.

Disinfect the cellar by ventilation, whitewashing, and scattering chloride of lime or copperas about.

The cistern should also be noticed. Draw out the water and cleanse it thoroughly, if possible, twice a year. If there is only a slight taint to the water, it may be removed by letting down into the cistern a coarse sack containing one or two bushels of powdered charcoal.

Rats and mice may be driven away by placing in their holes or runways caustic potash or unslacked lime (powdered).

A solution of corrosive sublimate will kill bed bugs and cockroaches instantaneously.

Paint can be removed by applying a strong solution of oxalic acid.



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Raisin pie, . . . . .	72	Sugar, maple, . . . . .	15
Raspberry pie, . . . . .	71	Summer drinks, . . . . .	105
Rhubarb, . . . . .	82	Sweet brown bread, . . . . .	46
Rice, nutrient value of, . . . . .	9	Sweet potatoes, . . . . .	88
Rice cake, . . . . .	38, 50	Sweet potato fruit cake, . . . . .	49
Rice pie, . . . . .	76	Sweet potato bread, . . . . .	40
Rice griddle cakes, . . . . .	47	Sweet potato pudding, . . . . .	61
Rice and apple pudding, . . . . .	58	Sweet apple sirup, . . . . .	85
Rolls, . . . . .	39	Tallow, . . . . .	12
Roasted green corn, . . . . .	92	Tapioca, . . . . .	53
Rusk, . . . . .	43	Tapioca apple pudding, . . . . .	60
Rusk pudding, . . . . .	64	Tapioca pudding, . . . . .	65
Rye, nutrient value of, . . . . .	9	Tarts, . . . . .	75
Rye and Indian loaf, . . . . .	41	Tea and coffee, . . . . .	17
		Time for meals, . . . . .	19, 20
Saleratus, . . . . .	14	Toast, . . . . .	47
Salt, . . . . .	14	Tomato pie, . . . . .	72
Salt, soda, &c., . . . . .	14	Tomato pudding, . . . . .	62
Sauces, . . . . .	84	Tomato soup, . . . . .	98
Scalded rolls, . . . . .	39	Tomato toast, . . . . .	47
Scouring silver, . . . . .	121	To keep sweet potatoes, . . . . .	119
Sheep, nutrient value of, . . . . .	9	To keep water cool, . . . . .	106
Sirup, . . . . .	15	Trichinae, . . . . .	8
Small hominy, . . . . .	57	Tunipis, nutrient value of, . . . . .	9
Snow bread, . . . . .	40	Two meals, . . . . .	19
Snow cake, . . . . .	37		
Snitz and dumplings, . . . . .	75	Vegetables, . . . . .	85
Soft biscuit, or gems, . . . . .	33	Vegetable soup, . . . . .	97
Soups, stews and gruels, . . . . .	96	Vegetable oyster soup, . . . . .	98
Spli-pea soup, . . . . .	98	Vegetable stew, . . . . .	99
Spices, . . . . .	13	Vegetable broth, . . . . .	99
Steamed cauliflower, . . . . .	91	Vinegar, pickles, &c., . . . . .	17
Steamed figs, . . . . .	82		
Steamed squash, . . . . .	83	Wheat, nutrient value of, . . . . .	9
Steamed apples, . . . . .	78	Whortleberry Johnny cake, . . . . .	51
Steamed bread and fruit pudding, . . . . .	60	Whortleberry journey cake, . . . . .	53
Stewed prunes, . . . . .	82	Wine, . . . . .	19

## IMPROVED WATER FILTER.



THE accompanying cut is a representation of one of the greatest and most useful inventions of the age—Kedzie's Improved Water Filter.

Its mechanism is so perfect that it accomplishes all that could be expected or desired of a filter to accomplish, and without the bestowal of more than the slightest amount of attention. It removes from water all those products of decay and disease which are the most prolific causes of sickness and death.

### THOUSANDS USE THEM

And admire them, and all are ready to testify to their efficiency and utility. No family should be without one; for it is impossible to obtain from springs or wells water which is, in all respects, so free from injurious properties as is soft filtered water.

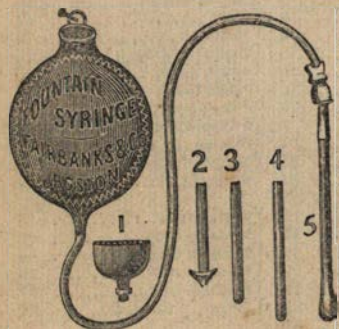
Five sizes are manufactured to suit the wants of all. The following table gives their dimensions:—

No. 1.....	25 inches high, reservoir holds 2 gallons.
" 2.....	27 " " " " 2½ "
" 3.....	29 " " " " 3 "
" 4.....	31 " " " " 3½ "
" 5.....	32 " " " " 4 "

Prices. No. 1, \$9.00; No. 2, \$10.50; No. 3, \$12.00; No. 4, \$13.50; No. 5, \$15.00. Orders promptly filled.

Address, *Health Reformer, Battle Creek, Mich.*

## FOUNTAIN SYRINGE.



THESE syringes have become so popular through the general recognition of their excellencies, that they have almost entirely superseded all other styles for most purposes. The principal advantages which they offer over others are the following: 1. They are self-acting, no pumping being required; 2. They are valveless, and so simple in construction that they cannot get out of order; 3. They do not inject air, and thus do not endanger the patient; 4. By means of the sprinkler attachment, light shower baths can be

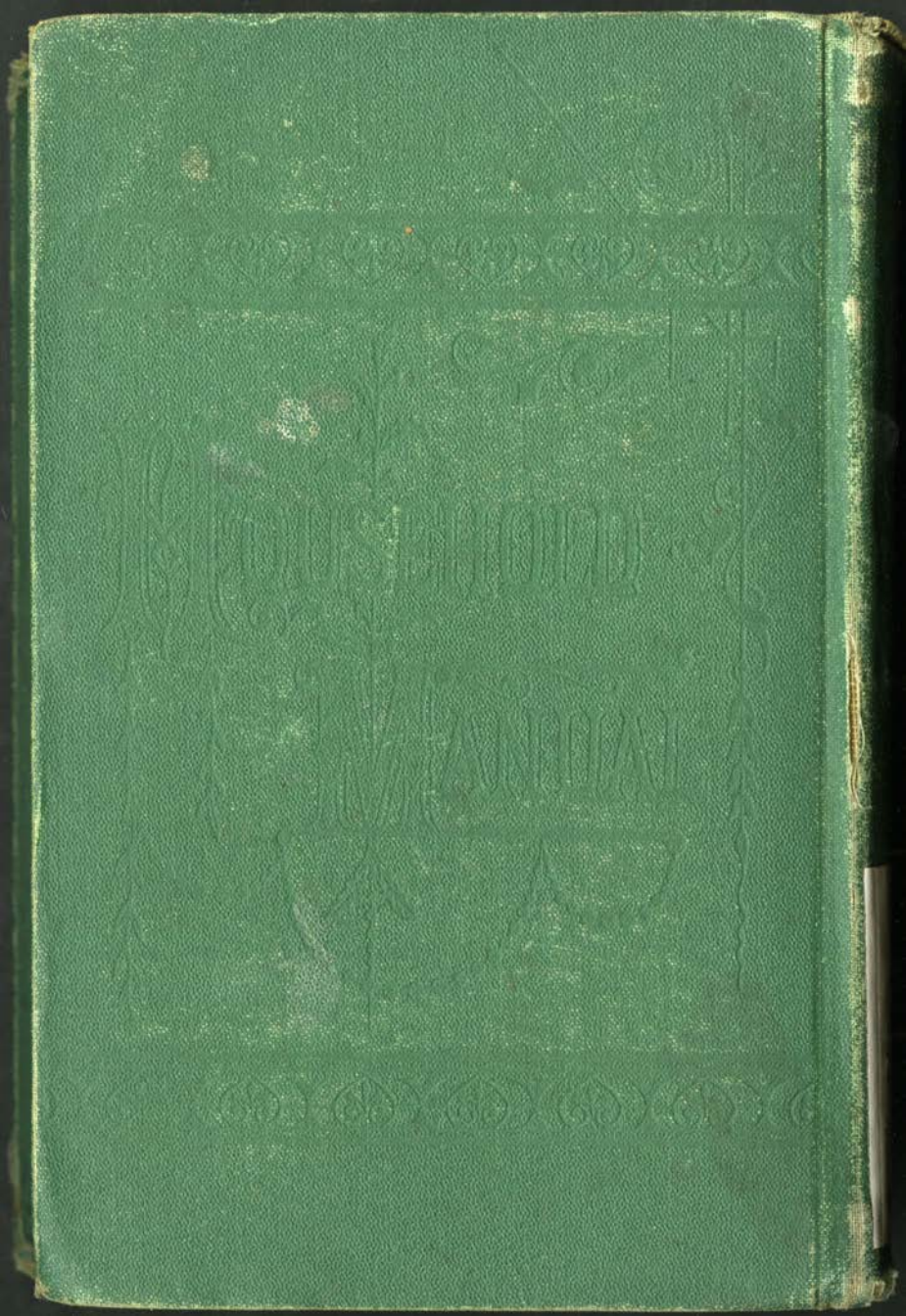
administered. 5. Various other attachments adapt them to use for every part of the body. 6. The evenness of action with which they operate makes them superior to every other syringe.

No family should be without one of these syringes. They are used exclusively at the Health Institute.

Prices. No. 1, \$2.50; No. 2, \$3.00; No. 3, \$3.50.

Address, *Health Reformer, Battle Creek, Mich.*

Ms. No. 6 Ferguson



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