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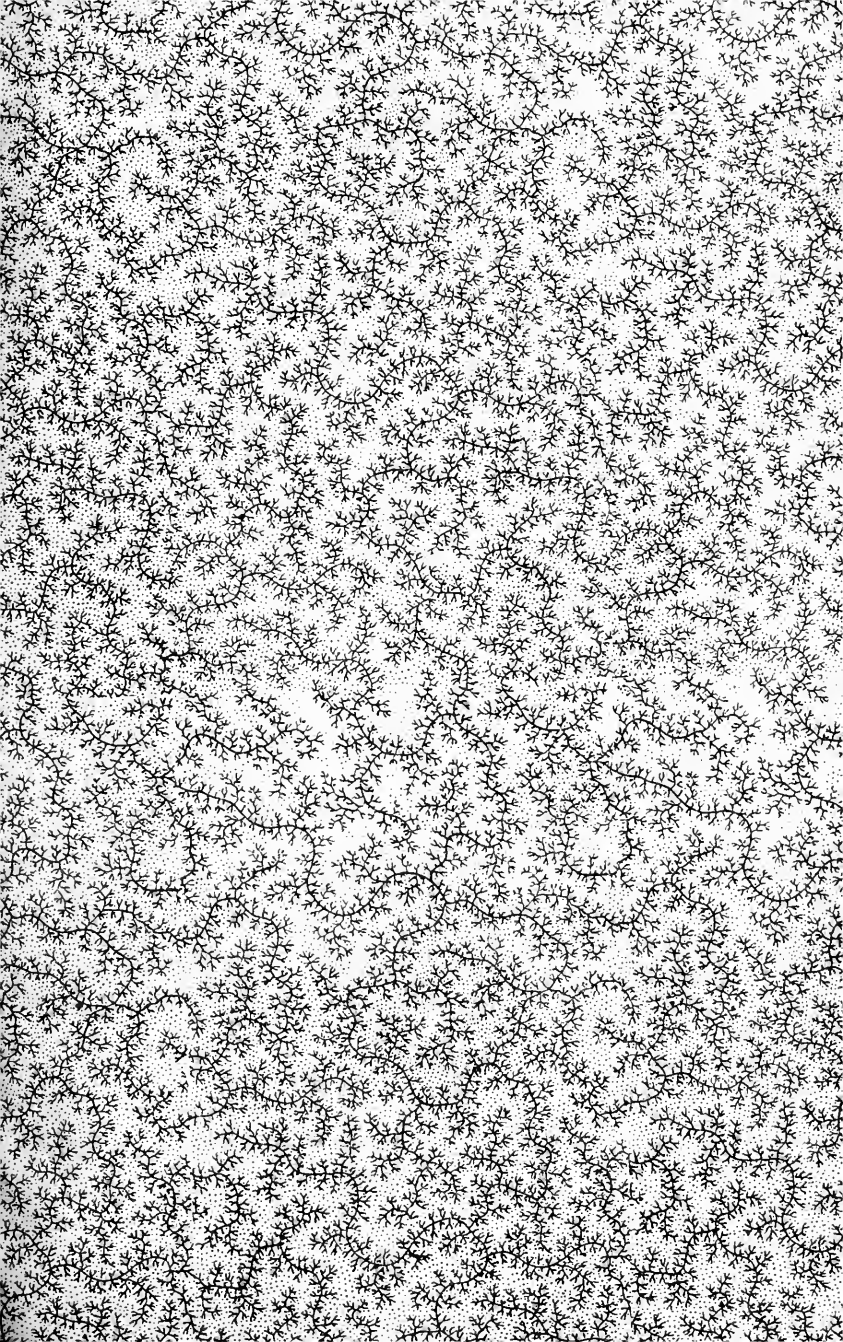
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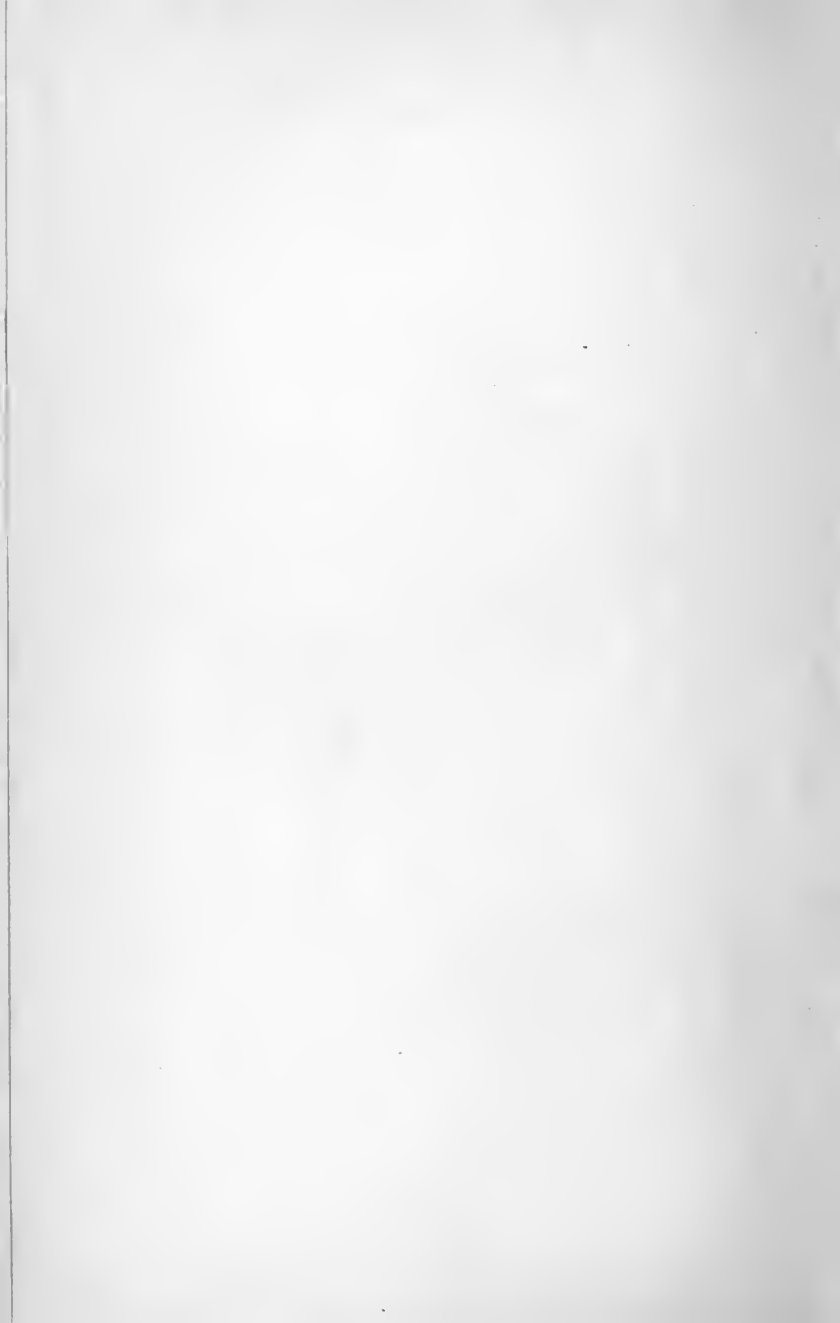
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YES ! BEACON GEMS FOR YOU.

BEACON GEMS FOR YOU;

OR,

THE PHILOSOPHY OF HOUSEKEEPING:

A

Scientific and Practical Manual

FOR

ASCERTAINING THE ANALYSIS AND COMPARATIVE VALUE OF ALL
KINDS OF FOOD, ITS PREPARATION FOR THE TABLE, THE BEST
ARTICLES OF DIET FOR THE SICK AND WELL, THE PROPER
CARE OF HEALTH, REMEDIES IN SICKNESS, AND THE
INTELLIGENT AND SKILLFUL PERFORMANCE
OF EVERY HOUSEHOLD OFFICE, WITH
A FULL APPENDIX OF RECIPES.

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By Joseph
B. Symma
and
Laura
Symma

REVISED AND EDITED BY

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PREFACE.

The single aim in writing the present volume has been to produce a book which should instruct the young housekeeper, the young wife, the young mother, in the performance of the all important duties required of her.

The volume contains, it is believed, such matter as every housekeeper will find of daily practical value. The recipes at the end of the volume are the choicest gleanings of years of observation and practical experience.

There was a time when the prevailing philosophy taught that wisdom and virtue consisted in despising the body and keeping it under, in robbing it of sleep, in ignoring the healthful demands of the stomach, in inturing the physical frame to hardship and exposure, and in compelling stern and rigid obedience to a set of arbitrary rules which claimed to secure the highest interests of the soul, without regard to its connection with the body. But the world has grown wiser. And now we cultivate the body, giving it abundant rest, and convenient food, and sufficient clothing, and proper exercise, in order that its tenant, the soul, may in nothing be shorn of its power, but having a perfect instrument with which to perform its varied work, may realize the highest condition of humanity, the perfect soul in the perfect body.

It is hoped that the present volume, if studied and followed will render the wife and mother sagacious, able, well-informed, ready, skillful, tasteful, and accomplished in whatever makes HOME the center of our dearest comforts, and the fountain of our purest delights.

CHAS. W. GREENE.

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THE
PHILOSOPHY OF HOUSE-KEEPING.

CHAPTER I.

THE ALIMENTARY PROCESS.

WHEN woman is elevated, by assuming at once the position of her highest happiness and her greatest responsibility as the wife and the mother, what is the nature of the duty which she assumes? It is, in general, to make a direct application of the means necessary to comfortable subsistence to the persons composing her family. The staff of life is, as it were, committed to her hands. She becomes the dispenser of bread. She makes the last and most direct use of every agency by which the lease of our lives is prolonged, by which the demands of the perishing body are met, by which fulness and comfort and joy are made to burnish the figures of the household gods at the family hearthstone.

The fate of man is sterner. He, with superior strength and superior courage, breasts nature in

her ruggedness, and wrings from her silent bosom, with the sweat of his brow, the raw material, the magazines, by which the long contest with decay and with death is made possible.

Since to woman, then, is assigned the sacred function of trimming the lamp of life and replenishing its ever-wasting oil, how can she keep the flame perpetually bright and clear without a knowledge of the subtle and wonderful machinery within?

To aid her in gaining a clear conception of the nutritive demands of these frames of ours, thus ever wasting and ever renewed, we propose to discuss, in a simple and wholly practical manner, the organs and the processes by which man is nourished and kept alive.

An adult person, in a fair degree of health, and of the average weight, takes into his system every twenty-four hours, through the lungs and mouth, about eight and a quarter pounds of dry food, water, and air necessary for respiration. The same amount is also thrown off from the body through four waste-pipes, or avenues of discharge, — the pores of the skin, the lungs, the kidneys, and the lower intestines. The supply and corresponding waste amount in the course of a year to one and a half tons, or three thousand pounds.

Thus every human life may be compared to the

wick of a lamp, burning day and night unceasingly, and consuming in the course of a year three thousand pounds of oil. As the steadiness and brilliancy of the flame of a lamp depend as much upon the quality and amount of oil with which it is supplied, as upon the original texture of the wick, so the comfort, vigor, and efficiency of a human life are in the same degree influenced by the aliment which sustains that life, as by the quality of its original constitution.

Every mother and every wife may then regard herself as a vestal priestess in the temple of existence, and charged with the sacred duty of keeping the flame ever bright upon the altar of life.

The alimentary canal in the human body is about thirty-six feet long, commencing with the mouth and terminating with the lower intestine. With the exception of the stomach, which is an irregularly shaped sack or pouch, this canal is a tube, into which, at various points, digestive juices are poured from glands which secrete them, and the entire lining membrane is provided with a series of mouths or absorbing vessels which drink up from the alimentary mass, as it passes downwards, the various juices which are required to support life.

The first of these digestive juices is the saliva, which is mingled with the food in the mouth while

chewed, and which, aided by thorough mastication, reduces it to the consistency of paste before it is introduced to the more vigorous and complicated action of the stomach. Here food remains generally from one to six or seven hours, according to its digestibility, and, as stomach digestion progresses, a considerable portion is absorbed by the little mouths of its lining membrane, and the residue poured through a circular gateway into the intestines, where two other juices, one from the liver and the other from the pancreas or sweet-bread, both powerful solvents, are mixed with it. Here again the absorbents are busy, and, as it passes on, they drink up everything that has power to nourish, leaving only matter that is quite useless.

There are two grand demands of the body which are met by food: one is the replacing of minute parts of all the frame, and especially of the muscles that are worn out by the motions of the limbs and organs; the other is the necessity of keeping the heat of the body, in all climates and seasons, at 98° ,—the temperature of the hottest noons of July.

The most general division of food is one that recognizes these two prime demands: one, the restoration of worn tissues; the other, the supply of fuel; and, since Liebig, physiologists have, ac-

cordingly, divided food into tissue-making and heat-producing.

It is to be observed that in proportion to the complexity and perfection of the organisms of life, a greater variety of food is required. The stupid reptile gorges himself once a month, perhaps, with the carcass of its prey. The cow and horse daily crop their simple and fragrant food from a score of different grasses. Man, with a nature far more complicated and delicate ; with wastes of the nervous system from ceaseless activity of the mind as well as of the muscles to be constantly supplied ; with the necessity of adjusting himself to all climates, all sorts of weather, and social and mental conditions that change unceasingly ; might naturally be supposed to be omnivorous. And, in fact, as he advances in civilization, we find him drawing his food from a larger and larger variety of substances, coming from remote and often opposite quarters of the globe. This exhaustless variety addresses itself gratefully to different parts of the alimentary canal. Some substances, as fruits, give delight and refreshment as soon as their delicious juices touch the lips and tongue ; and others, as the strong and rich meats, remain comparatively undigested till mixed with the powerful solvents from the liver and pancreas in the upper part of the intestines. Observe

that the mouth, guarded as it is by the lips and then by the teeth against the intrusion of unwholesome or noxious substances, commences the alimentary process by grinding the hard portions of the food, by mingling all substances taken into it with saliva, and by absorbing some of the more delicate juices, especially of fruits, before they are swallowed. The saliva is not a moistener only. It has chemical properties which fit the food for being further acted upon by the gastric juice in the stomach. Hence it is a very common but mischievous practical error to suppose that water, or any other beverage in general use at the table, is a substitute for the saliva. As a rule, they retard rather than promote digestion, and should be taken, when eating, in very small quantities. For this reason crusts of bread, crackers, and other firm food are considered particularly wholesome. The necessity for mastication gives time enough for the flow of saliva and for its being properly mingled with every part of the substance. The guarding from any improper intrusion by the mouth and lips is a type of what occurs several times over in the lower parts of the alimentary canal. The entrance to the stomach is secured by strong muscular lips, which are only opened to receive the food as it passes down the œsophagus or gullet.

The stomach is a vaulted chamber or vessel composed of three walls or coats. The inner coat is made up of little compartments, placed side by side, which open into its cavity and are overspread by a mesh of the smallest blood-vessels. The interior face of the stomach forms a kind of honeycombed surface, crowded with little mouths, and when the organ is roused by the presence of food, these are red and turgid with blood. At this time, also, numerous little points waken up upon the membrane and give forth a dissolvent liquid termed the gastric juice. This is for the stomach what saliva is for the mouth. It still farther dilutes and dissolves the food, releasing from it such juices as the blood-vessels of the stomach can take up and pour into the circulating medium of the body. It should be borne in mind, as forming a fundamental rule to guide in cookery, that this juice or solvent acts only upon the *surfaces* of substances introduced to the stomach. Hence lightness or porosity in bread and many other substances is a matter of prime necessity, so that the gastric fluid may have free access to as large a surface as possible. Thus, for instance, an ounce of wheat flour moistened with water, if taken into the stomach, would form a tough, close, and gummy mass, presenting but a small surface, and very difficult of digestion. The same amount

of flour, made into good, light bread, would permit the solvent to act upon it through a thousand little pores and interstices, and be quite thoroughly digested in an hour and a half.

As soon as good food enters the stomach, it begins to nourish. Some juices, like those of fruit, can be at once taken up by the little mouths that dot the interior surface. Others are speedily produced by the action of the gastric fluid; and, as fast as evolved, they are drank up and poured into the blood.

Some food, as venison, is digested in an hour. Other substances, as boiled cabbage, the white of eggs cooked hard, or fried salt pork, require several hours—about four—to become completely dissolved. There is a class of substances, moreover, which, though nutritious, are not made available by stomach digestion. These are the oily and fatty portions of food. The gastric juice mingles with these substances, but does not dissolve them. It is not until they have passed through the orifice leading from the stomach into the intestines, where the bile and the pancreatic juice are poured upon them, that they can be taken up by the lacteals and made available in lung combustion. An important and practical corollary may be drawn from this fact: that no cookery is good which introduces oily

substances into the stomach in a crude and uncombined form. Any oil swallowed raw is a medicine, an emetic, or a cathartic, utterly useless for nutritive purposes. And in proportion as the fatty substances of food are skilfully combined by the arts of cookery, will they remain in the stomach without producing derangement, and pass kindly on to a lower compartment, where they are utilized and assimilated. Thus, for instance, half-a-pound of lard made into light and flaky pie-crust, by thorough and skilful mixing with the other ingredients, will not derange the stomach, while the same amount imperfectly blended, and forming a heavy, greasy crust, will produce indigestion, and perhaps in delicate stomachs work great mischief.

Thus it will be seen that every part of the alimentary canal requires to be fed with food convenient for it: the mouth with savory tastes, delicious flavors, and the more subtle and delicate parts of food, which are immediately taken up by the absorbents that line the mouth and palate. This is illustrated by the fact that the mere holding in the mouth, and gargling the throat with, brandy and water, will revive and stimulate a person that is greatly exhausted. In the stomach, a large part of the muscle-making and blood-repairing digestion is carried on. Here it is that the gluten of flour, the

curd of milk, and the fibre of flesh, go directly to reinforce the blood, and supply muscular waste. In the intestines, or lower compartment, the rich, oily, starchy, and saccharine parts of food are wrought over, some parts into tissue, others in repairing the general wastes of the frame, and others are sent up to the lungs as fuel, for keeping up the animal heat.

It is the duty of every person, then, who presides over a household, to bring to her station such a knowledge of these elementary principles of nutrition as shall enable her to provide for the different members of her family, food suited to their age, health, occupations, and the climate in its changes. She should know what food is best for the laborer, what for the sedentary person, when tissue-making quality in food should be supplied to meet an unwonted muscular waste, and when the falling of the thermometer calls upon her to lay upon the table, and incorporate with other food, those elements which serve as fuel in the body. She should be able to minister to the gratification of the palate, without sacrificing the ease of the stomach; for it by no means follows that food which gives the greatest delight in the mouth, will be equally agreeable when swallowed. A celebrated French cook was heard to say, that with what every one of the

guests should pronounce a splendid dinner, he would give a first-class indigestion, and not one of them should be able to tell the reason why.

The provider of home comforts has it in her power to do more than merely to meet physical demands. She may make her table the school of manners, the centre of delights that are at once physical and intellectual.

The lips, tongue, and palate were not equipped with that delicate reticulation of nerves merely to discriminate between substances that are food, and those that are noxious or useless. They are not arbiters simply, but designed by Providence to elevate what would otherwise be a gross and sensual act by uniting it with the graces of refinement, the charms of society, and the rational delights of conversation.

The accommodated use of the word *taste* teaches us a lesson here, since it has come to signify whatever is refined and of good fashion in the objects of our knowledge. There is no surer way of cultivating a love for whatever is most becoming and appropriate in morals, deportment, and fine art, than by skilfully arranging and properly adjusting all the appliances for nourishing the body; and in this view gastronomy and cookery approach the region of the fine arts.

CHAPTER II.

THE CHEMISTRY OF FOOD.

THE foregoing chapter on the alimentary process shows that food, when taken into the system, goes mostly to one of two processes, each of which is alike indispensable for either health or strength.

The chief part of what we eat is consumed by the lungs as fuel, and keeps the body at a healthy temperature. The rest, excepting small portions of mineral substances, such as lime, potash, and sulphur, goes to the production of muscular and mental force.

On this ground we have the most general, and, at the same time, the most scientific division of all articles of diet. As the heat of the body is mainly produced by breathing, those parts of food which are consumed for this purpose are called respiratory, or heat-producing. As all force implies the using up of muscular or nervous tissue, the other kind of nutriment is called muscle-making, or tissue-making, or plastic food. In the final chemical analysis, when food is reduced to gases and various mineral constituents, the essential difference in these kinds of food is found to consist in the presence or

absence of nitrogen. Hence some physiological writers divide food into nitrogenous and non-nitrogenous. This is only a more technical way of saying heat-making and muscle-making.

In order to gain a clear practical idea of this difference, let us take an ordinary dinner of lean beef, roast or broiled, and rice pudding. In eating a hundred grains of the muscular beef, one takes into his system fifteen grains of nitrogen. The same weight of rice yields but a little more than one grain of nitrogen; but it gives eighty-five grains of starch, of which nearly one-half is carbon, a substance of which charcoal is the type, and which is consumed in the body to produce warmth. In this case the oily matters, as butter or the fat of meat, usually eaten with rice, are left out of view. They are useful mainly as heat-producers.

The principal articles of our food may, on this basis, be divided into three groups; first, those in which nitrogen is the chief element, and which go to make tissue; second, those in which carbon is the chief element, and which go to make bodily warmth; and third, those in which the two are quite evenly blended, as in milk, eggs, and coarsely-ground wheat.

Another and very correct way of estimating the value and amount of different kinds of food required,

is by studying the composition of our blood, and the relation of food to it.

It is a well-established fact in anatomy, that in a healthy person every part of the blood makes frequent visits to the heart and lungs, and that the effect wrought upon it in the lungs is produced by oxygen, the active and pungent element in the air. The amount of blood in a healthy adult is about twenty-five pounds, of which about nineteen and one-fifth pounds are water, leaving five and four-fifths pounds of solid matter. In order to convert the carbon and hydrogen contained in these five pounds into carbonic acid gas and water, something more than sixty-four thousand grains (French measure) of oxygen are required. As in ordinary breathing a person absorbs through the lungs into his system a little more than thirty-two ounces, or about two pounds of oxygen, in every twenty-four hours, it would require something over four days to inhale the whole amount necessary to oxygenate the blood. Now, as the weight of a healthy man changes very slightly in that time, it follows that in four days and a few hours he ought to receive as much of these elements — carbon, nitrogen, water, and other constituents — as will make twenty-four pounds of blood. Since eighty per cent. or nineteen pounds of blood is water, it follows that about

six pounds of the dry matter of the blood should be found in the food consumed by a man in four days.

In what substances do we find the same elements as in the blood? The substance richest in nitrogen, the blood and muscle making element, is animal albumen, of which a perfect instance is found in the white of an egg. The lean or red parts of beef, mutton, venison, and chicken contain nearly the same percentage of nitrogen as the white of an egg; that is, about fifteen per cent., or not far from one-seventh. The curd of milk, also, contains it, and a considerable amount is found in peas, beans, and wheat. If food were taken altogether as a nourisher, to reinforce the constantly wasting muscles, these articles would be the only food required; in short, man would be by constitution a carnivorous animal, since the blood is more promptly reinforced from flesh than from any other article of diet.

But, as above stated, the reinforcement of the blood is not the sole reason, in fact not the chief reason, for taking food. The carbon stands to the nitrogen, in well-proportioned food, in the ratio of five to one; that is, we swallow five ounces for warmth, to one for strength.

Of the substances taken into the system for

warmth, those composed mainly of STARCH are the most bulky, and compose the chief part of the food of the greater portion of mankind. It is universally distributed in the vegetable kingdom, and exists in many plants which are not used as food.

When a potato is grated, and the pulp washed in a succession of waters, each time allowing the sediment to be deposited, there will be seen at the bottom of the vessel a floury substance, perfectly white, and having a dry, crispy feeling between the fingers. This is starch, and consists of very small, rounded grains, that cannot be seen with the naked eye. The starch grains of the potato are larger, and of different shape from those of wheat, rice, arrow-root, or Indian corn.

The following table from Pereira, who takes Dr. Prout as his authority, shows the chemical analysis of different kinds of starch :—

COMPOSITION OF STARCH.

	Carbon.	Water.
Fine wheat starch,	37.5	62.5
Fine wheat starch, dried, at 212 degrees, . . .	42.8	57.2
Fine wheat, highly dried, at 350 degrees, . . .	44.0	56.0
Arrow-root starch,	36.4	63.6
Arrow-root, dried, at 212 degrees,	42.8	57.2
Arrow-root, highly dried, at 350 degrees, . . .	44.4	55.6

Thus it appears that nearly one-half the bulk of ordinary dry starch is carbon. The remainder is

called water. Strictly speaking, the elements are carbon, oxygen, and hydrogen. The two latter are found in starch in exactly the same proportions as in water; hence, when taken into the system, its effect is precisely that of water.

The starch made from wheat is seldom used as an article of food. Sago, tapioca, and arrow-root are almost identical in chemical composition, as each is starch, with a slight coloring matter and flavor that comes from the plant from which they are prepared.

Sago is procured from the pith of several kinds of the palm-tree. Tapioca is starch extracted from the root of the *Janipha manihot*, a growth of Brazil, the stem of which is poisonous.

Arrow-root is a pure white powder, a very large percentage of which is starch. Like tapioca, it is prepared from the root of *Maranta arundinacea*, which grows in the West Indies, and especially in Bermuda, which affords the best quality of arrow-root.

Corn starch is very similar to the above, except that its flavor is less agreeable, and it does not form, when boiled, so firm a jelly. The same may be said of potato starch. In cooking these amyloseous or starchy substances, they are combined with milk, sugar, eggs, and butter, in the form of

puddings, and are easy of digestion, but not a nourishing kind of food.

In an ordinary tapioca or corn-starch pudding, there is an abundance of carbon, for it composes nearly half the starch, and a considerable part of the eggs and butter. What little plastic or tissue-making power such dishes have, must come from the nitrogen in the curd of the milk, and in the albumen of the egg. Liebig says that children fed upon arrow-root, sago, or any kind of starchy food which does not contain ingredients fitted for the formation of bone and muscle, become fat; their limbs appear full, but they do not acquire strength, nor are their organs properly developed. This class of nutriments is often prescribed for the sick and aged, because it is the least stimulating of food, and because it goes directly to keep up the animal heat, which is reduced by feeble respiration and sedentary habits. In a healthy stomach, sago and tapioca are digested in an hour.

As stated above, starch is found in all the farinaceous substances that compose man's diet, but there is nearly twice as much of it in some grains as in others. The following table, by Professor Youmans, shows the percentage of starch in the grains which form the chief food of man : —

	Per ct. Starch.
In rice flour,	84 to 85
In Indian meal,	77 to 80
In oatmeal,	70 to 80
In wheat flour,	39 to 77
In barley flour,	67 to 70
In rye flour,	50 to 61
In buckwheat,	52
In pea and bean meal,	42 to 43
In potatoes, which contain 75 per cent. of water,	13 to 15

It will be observed that in this table wheat flours are said to vary in the quantity of starch they contain, in round numbers, from 40 to 80 per cent. ; that is, some are twice as rich in starch as others. When it is remembered that starch contains no element that is strictly nutritive,—for carbon is not a plastic or tissue-making substance,—it will be apparent that a flour that is rich in starch must be proportionally poor in gluten, oil, sugar, and gum. Now, there is some difference in different specimens of wheat, but in general that difference is only about five per cent. That is, of some forty kinds of wheat examined, the starch was found to vary from 67 to 73 per cent.

The above difference of from 39 to 77 per cent. in Professor Youmans' table, is the result of different modes of grinding and bolting. When the grinding and bolting are so conducted as to bring

to the flour-barrel only the *middle parts* of each kernel, as is commonly the case in the manufacture of "Superfine" and "A No. 1 Family," the product will be snow-white, dry, and powder-like, and makes a delicate bread, which seems to melt in the mouth. Such flour is usually much esteemed, and commands a higher price than pale, straw-colored flours, that are a little gummy to the touch, and give a firm and slightly dark-colored bread. Yet the latter variety of bread and of flour is actually the best, though not so much esteemed in market. Flour that is very white, and makes a delicate "melting" bread, abounds in starch, and the glutinous parts which contain the most nitrogen, and hence the most nutrition, were removed in the bran. When the gluten is so abundant in wheat, and so well retained, by proper grinding, in the flour, that the nitrogen stands to the carbon as one to five, such flour, and the bread made from it, is extremely valuable as an aliment. The heat-making and the muscle-making elements are both present in due proportions. Such food is easily digested, promptly assimilated, and is with propriety called "the staff of life."

The element of food next in importance to starch, and serving much the same purpose in the body, is OIL. It is valuable, mainly, for its carbon or heat-

producing qualities. In suet, which is so largely used in the kitchen, there are (neglecting the fractional divisions) eighty parts of carbon, ten of hydrogen, and ten of oxygen. The most general division of oil is into fixed and volatile. Those which, when smeared upon paper, produce a grease-spot that time and heat do not remove, are called fixed. Those which under such circumstances leave no stain, are called volatile. It is only the former or fixed oils, that are of much importance as an element of food.

The fixed oils which compose a part of most food are butter, lard, and the fat of beef. The oil contained in various nuts, as the walnut, filbert, and butternut, need only be alluded to. Their composition is nearly identical with the oils in general use.

The following table, prepared by Pereira, shows the oil or fat yielded by a hundred pounds' weight of the following substances in common use for food :

In 100 pounds of Indian meal,	9.0 lbs. of oil.
“ “ yolk of eggs,	28.75 “
“ “ ordinary lean meat,	14.3 “
“ “ ox liver,	3.89 “
“ “ cow's milk,	3.13 “
“ “ bones of ox-head,	11.54 “
“ “ rye flour,	3.5 “
“ “ wheat flour,	1 to 2 “

In 100 pounds oatmeal,	6.0	lbs. of oil.
“ “ barley,	2.0	“
“ “ rice,	0.8	“

The following table shows the ultimate or chemical composition of some of the fixed oils or fats : —

	Carbon.	Hydrogen.	Oxygen.	Traces of nitrogen.
Liquid olive oil,	76.036	11.545	12.068	
Solid olive oil (or margarine),	82.170	11.232	6.302	do.
Walnut oil,	79.774	10.570	9.122	do.
Train oil,	76.1	12.4	11.5	none.
Butter,	65.6	17.6	16.8	none.
Hog's lard,	79.098	11.146	9.756	none.
Mutton suet,	78.996	11.700	9.304	none.

From these tables it appears, that while most of the fats contain about eighty per cent. of carbon, butter is much less concentrated, having only sixty-five per cent. A great difference can be noticed, also, in the flour of different grains. Thus, Indian meal has nine per cent. of oil, while wheat has a little more, and rice a little less, than one per cent.

As the office of oil, when taken in any form as food, is, mainly, to give warmth and not strength, it is difficult to see why it should be made to usurp the place of starch, by employing it to any great extent. It differs from starch in this important respect, that, while oil is one of the most indigestible and refractory substances that can be taken into the stomach, starch is one of the easiest of digestion. Melted butter is converted into chyme (a fluid resem-

bling milk) in the stomach in three and one-half hours, the fat of mutton in four and one-half hours, the fat of beef in five and one-half hours, while lean venison is digested in an hour, and rice, and other substances abounding in starch, in about the same time.

In warm and temperate climates the animal oils are used in quantities much larger than the science of chemistry or physiology would suggest as necessary or wise. In fact, recent discoveries in physiology go to show that a diet abounding in oils, and especially such a concentrated fat as hog's lard, actually perverts and deranges the digestive process. In a sound and normal stomach, where only bread and lean meat have been habitually presented, it is doubtful whether bile is found.

Dr. Beaumont, who has investigated this subject as thoroughly as any other man, says that bile is found in the stomach only under peculiar circumstances. "I have observed," he adds, "that when the use of fat or oily food has been persevered in for some time, there is generally the presence of bile in the gastric fluids." The popular notion, then, that such substances cause bile in the stomach, is by no means groundless. The reason is this: oil of any sort and in any form, but especially when badly combined, is slowly and with great difficulty

acted on by the gastric juice, but bile, being alkaline in its properties, greatly accelerates its stomach digestion; but the presence of bile in the stomach produces an uneasiness which resembles hunger in feeling, though not in its cause. It promotes, also, the secretion of saliva; and food is taken in consequence of the craving or uneasy sensation thus induced. As a matter of fact, the saliva, unblended with food, and the bile, are both in the nature of reinforcements, sent, one from the upper and the other from the lower regions of the alimentary canal, to aid the stomach in the mastery of a refractory subject.

Thus the whole process of digestion is interfered with; and the mischief is only increased when the uneasiness thus produced is mistaken for hunger, and more food, and perhaps more oily food, as rich cake, is introduced to the already overtaken stomach. The influence of heat on fatty substances effects various chemical changes in them, whereby they are rendered more difficult of digestion, and hence more obnoxious to the stomach. On this account, no food that has been cooked by frying in hot oil is harmless.

Doctor Pereira says that the use of oil for food will be found the reason of most of the dyspeptic diseases. "In some more or less obvious or con-

cealed form," says that eminent authority, "I believe it will be found the offending ingredient in nine-tenths of the dishes which disturb weak stomachs. Many dyspeptics who have most religiously avoided the use of oil or fat in its obvious or ordinary state, as fat meat, marrow, butter, and oil, unwittingly employ it in some more concealed form, and have suffered in consequence. Such individuals should eschew the yolk of eggs, livers, and brains, all of which abound in oily matter. Milk, and especially cream, disagree with many persons, or, as they term it, 'lie heavy on the stomach,' in consequence of the butter they contain. Rich cheese, fried dishes of all kinds, buttered toast, pastry, marrow puddings, suet puddings, are all, for a like reason, obnoxious to the stomach."

There is but one condition that justifies the copious use of oil in the daily diet, and that is, exposure to excessive cold. A pound of fat goes as far in heating as 2.4 pounds of starch, or 7.7 pounds of muscular flesh. Hence, in polar regions, when the thermometer remains for weeks below zero, and often sinks to -50° , and sometimes to -70° , the diet of the natives is oleaginous to a degree that sounds revolting and almost incredible to a person that rarely sees ice more than six inches thick.

Dr. Kane, in reporting on the diet of polar voy-

agers, says : "Our journeys have taught us the wisdom of the Esquimaux appetite ; and there are few among us who do not relish a slice of raw blubber or a chunk of frozen walrus beef. In Smith's Sound, where the use of raw meats seemed almost inevitable, from the modes of living of the people, walrus holds the first rank. Certainly, its finely-condensed tissue and delicately permeating fat—oh, call it not blubber !—is the very best kind a man can swallow. It became our constant companion whenever we could get it."

When the cold is such that the water of the breath is converted to ice as soon as it leaves the lips, and freezes in beads and pendants on the beard of a traveller or axe-man, the air, deprived of all watery vapor, is very pure. That is, it contains a large percentage of oxygen, and this should be met by an abundance of carbon at the lungs. This demand is soonest satisfied by oil, as it is much cheaper and less bulky than its equivalent of carbon in the form of bread. But, as above stated, there is a great difference in the flour of different grains. Corn-bread, for instance, contains nine per cent. of oil, while common wheat-bread, from fine flour, has only one per cent. Hence, the Hudson's Bay traders have found, according to Sir John Richardson, that corn-bread is decidedly more supporting than wheat.

But in temperate climates and among people of civilized habits, the cold of winter is so far resisted by increase of clothing and warmth of apartments, that practically the most of our time is spent in an atmosphere of from 60° to 70° . For brief exposures of a few hours or a single day, to a freezing temperature, there is fat enough in the blood to meet the demand for carbon. But where the suffering from cold is lengthy and constant, as when soldiers or sailors are exposed to long, cold storms, or in the case of pilots, helmsmen, drivers, and travelers, who cannot increase the bodily warmth by free motion of the limbs, the diet should be considerably modified by the free use of fat beef, the yolks of eggs, and a generous allowance of butter.

There is, however, considerable difference in the digestibility of different oils in common use as food. Butter, containing, as it does, but sixty-five per cent. of carbon,—while lard contains eighty,—and grateful to the palate and stomach on account of delicate flavors which characterize good butter, is the least objectionable of all the fats.

The fat of salt pork, and especially that of smoked bacon, is for some reason much less injurious than fresh animal fats. The salt and the smoke produce some effect not well understood, but easily appreciated at the table, which deprives the suet of

its most noxious qualities. In many cases of dyspepsia, bacon fat is digested with perfect ease, when articles apparently much more appropriate oppress the stomach.

The manner in which they are combined with other alimentary principles also makes a great difference in the ease with which animal oils are managed in the stomach. They should be eaten in connection with substances which contain a large share of starch, as, for instance, rice, "mealy" potatoes, and bread made of fine wheat flour. The oil should, moreover, be thoroughly blended with the substances with which it is eaten. Thus, an ounce of lard added to a pound of flour, and well combined by stirring and kneading, makes a loaf of bread somewhat more palatable and hearty than the union of flour and water, and for most stomachs equally as digestible. The same amount of fat combined with a pound of Indian meal would make a compound fit only to be eaten by a wood-chopper when the thermometer is at zero; for corn meal contains nine per cent. of oil, which, being of vegetable origin and intimately blended with the starch and gluten, is easily digested in most healthy stomachs.

While the free, or at least the excessive use of oil, and especially the fat of hogs, is opposed by all

the known principles of physiology, it must be remembered that the oils have a part of considerable importance to discharge in the animal economy. In cold weather, a fatty diet is required by those who are much exposed, and at all times the adipose and nervous tissues must derive their oily or fatty constituents from the blood, and the blood must find them in the food.

The thing principally to be borne in mind by one who has charge of the diet of her family, is that oils are easily digested only when they are carefully and intimately blended with a large bulk of some other alimentary principle. Nature has given us a pattern here in the composition of milk. In a hundred drops of new milk there are but three and one-half drops of oil. Let the cook employ the same wise temperance, the same sagacious moderation in blending the constituents of her cakes, her pastries, and desserts.

SUGAR is contained in greater or less quantities in most of the vegetable substances used for food.

The instinct of children, who show universally a fondness for sugar, is not without a just foundation in nature, for it is contained in the mother's milk in a quantity nearly double that of butter. By the analysis of French chemists, the percentage of

sugar in woman's milk was found to be six and one-half.

Dr. Pereira has prepared a table, by comparing the analyses of various French and German chemists, in which he shows the proportion of sugar in various substances much used for food, as follows :—

Proportion of sugar in barley meal,	5.21 per ct.
“ “ oatmeal,	8.25 “
“ “ wheat flour,	4.2 to 8.43 “
“ “ wheat bread,	3.6 “
“ “ rye meal,	3.28 “
“ “ Indian meal,	1.45 “
“ “ rice, . . . . .	.33½ “
“ “ peas,	2.00 “
“ “ figs,	62.00 “
“ “ ripe green-gage plums,	11.61 “
“ “ pears, ripe and fresh,	6.45 “
“ “ “ kept for some time,	11.52 “
“ “ ripe cherries,	18.00 “
“ “ ripe apricot,	11.61 “
“ “ ripe peach,	15.48 “
“ “ beet root,	5 to 9 “
“ “ cow's milk,	4.77 “
“ “ woman's milk,	6.50 “
“ “ goat's milk,	5.28 “
“ “ juice of sugar-cane,	12 to 13 “

It thus appears that our most delicious fruits, as the fig, pear, cherry, and peach, owe their attractiveness to the sugar they contain, a ripe peach containing as much of it as an equal weight of cane-juice. More than half the substance of the fig appears to be sugar; and the effect of keeping fruits

is seen in the case of the pear, where the difference between those fresh from the tree and those kept for some time was found to be an addition of five per cent. to the sugar.

There is no evidence that sugar, when taken in moderate quantities, has any injurious effects. Its composition is found to be very similar to that of starch, a hundred grains of sugar containing a little over forty grains of carbon, the balance being water.

According to Liebig and Dumas, sugar is an element of respiration; but there is evidence that it is first converted into animal fat, for there is no trace of sugar in healthy blood.

An English writer on the plants of Jamaica says that "during the sugar season in the West India Islands, every negro on the plantations, and every animal, even the dogs, grow fat." That it is not to any great extent a heat-producing substance is shown by the fact that the Esquimaux do not care for it, their children sputtering it out when put into their mouths as though it were so much sand, but devouring a candle with as much avidity as the children of warm and temperate climates eat candy. A part of the sugar ordinarily eaten passes into lactic acid in the stomach, and aids digestion. If too much of this acid is produced, it is said to sour on the stomach, and the effect is to retard digestion.

There is no evidence that sugar goes to build up any of the important tissues of the body. Persons confined to sugar (as the crew of a vessel laden with sugar, that was shipwrecked) as their sole diet, perish from hunger almost as soon as those who eat nothing.

In commerce, there are a variety of sugars, known as "brown," "refined," "double refined," "crushed," etc., but, chemically speaking, there are but two varieties of sugar. Cane sugar, which comprises eleven-twelfths of all the sugar of commerce, and includes that made of cane, maple-sap, juice of beets, corn-stalks, etc., is one kind, and grape sugar is the other. The chemical difference in these two sugars, and also their difference in solubility and sweetening power, is of importance to every house-keeper, and is well stated by Professor Youmans, as follows:—

"Those plants and fruits which possess sour or acid juices yield grape sugar, while those which contain little or no acid in their saps contain, generally, cane sugar. Grape sugar may be produced by art, while cane sugar cannot.

"Sugar, like starch, consists only of carbon and water; but these two sugars differ in the proportion of these elements. While cane sugar contains twelve atoms of carbon to eleven of water, grape

sugar contains twelve atoms of carbon to fourteen of water. Grape sugar is, therefore, less rich in carbon than cane sugar, and cane sugar may be transformed into grape sugar by the addition of chemically combined water. It is an essential property of sugar, that under the action of ferments they are decomposed, converted into carbonic acid and alcohol. Grape sugar is most prone to this change; and cane sugar, before it can undergo fermentation, must first be changed into grape sugar. Cane sugar passes into the solid state much more readily than grape sugar, taking on the form of clear, well-defined crystals of a constant figure; grape sugar, on the contrary, crystallizes reluctantly and imperfectly, without constancy or form. Crystals of cane sugar are regular, six-sided figures, while those of grape sugar are ill-defined, needle-shaped tufts.

“Pure cane sugar remains perfectly dry and unchanged in the air, while grape sugar attracts atmospheric moisture, becoming mealy and damp. Yet cane sugar dissolves in water much more readily than grape sugar. While a pound of cold water will dissolve three pounds of the former, it will take up but two-thirds of a pound of the latter. Cane sugar will, therefore, make a much thicker and stronger syrup than grape sugar, dissolving, also,

more freely in the juices of the mouth, — a property upon which taste depends.

“Cane sugar possesses a higher sweetening power than the other variety. Powdered grape sugar has a floury taste when placed on the tongue, and very gradually becomes sweet and gummy as it dissolves. *Two* pounds of cane sugar are considered to go as far in sweetening as *five* of grape sugar. Therefore, five of grape should cost as much as two of cane sugar; and the mingling of the two is a serious deterioration.”

Two practical conclusions may be drawn from this statement, of much value to the house-keeper. 1st. The fine, floury substance sold as “powdered sugar” by the grocers is to a great extent grape sugar, and even when pure it requires five pounds of it to be equal to two of pure cane sugar. 2d. When a quantity of brown sugar has stood for some months, a chemical change takes place throughout the mass, and it degenerates into a substance of less than half the value of pure granulated sugar. Hence the experience of a great number of purchasers may be summed up in the sentence, that “it is always cheapest in the end to buy the best white sugar.”

Aside from these three leading alimentary principles that do not contain nitrogen, there are three or four others which should be mentioned. Of these,

the most important is that described by Pereira under the name PECTINACEOUS. By this term, he and other chemists refer to vegetable jelly.

Pectine and pectic acid are most extensively distributed in the vegetable kingdom. Most pulpy fruits contain vegetable jelly; as, currants, apples, pears, quinces, tomatoes, and various berries. While unripe, these fruits contain but a very small portion of pectine, but in the process of ripening the vegetable acids, acting on the pulpy matter of the fruit, produce pectine. These acids, as the malic, citric, and tartaric, are enclosed in little cells, which, while the fruit is green, are unbroken; but ripening is the process of bursting these cells, by which the acids become diffused through the mass of the fruit. By subjecting fruit to heat, these cells are burst, and the roasting or baking is, in fact, only a rapid artificial ripening.

By the union of sugar with vegetable jelly, a variety of delicate articles of food is prepared; such as currant jelly, apple, strawberry, and raspberry jellies, and apple and quince marmalade. These preparations derive the most of whatever nutritive qualities they possess from the sugar employed in their preparation; but they are very easily digested, and, when properly made, are agreeable, cooling, and delicious articles for the table. In febrile and

inflammatory complaints they are peculiarly grateful to a patient. In preparing jellies, it should be borne in mind that if the juice is boiled too long, the action of the heat takes away the power of gelatinizing; and the result is a thick paste, that lacks the flavor of well-made jelly.

Aside from the substances above described, which make up the chief part of human food, there are certain chemical or inorganic salts which are demanded by the constitution of man, and which must exist, to a greater or less extent, in a perfect diet.

The first of these is *phosphorus*, which occurs in the blood, and in various tissues of the body generally, in the form of phosphate of lime, or of phosphoric acid.

It is well known that phosphorus is an important element in the brain and nerves, and that high mental activity and nervous excitement produce a waste of phosphates in the system, and a demand in the diet for articles rich in phosphorus.

About thirty years ago a French savan thought he had made a wonderful discovery with regard to the presence or absence of this element in the tissue of the brain as a measure of mental soundness and power. He said he found twice as much phosphorus in the brains of sensible people as in the

brains of fools ; while the heads of insane persons had more than a proper share of this remarkable salt.

More recent and accurate analyses have failed to corroborate these views of Couerbe ; but it is pretty well established that nervous and mental activity demands food that is rich in this salt, and that contains it *in such a form as can readily be assimilated*. This latter condition is of more importance than the mere presence of phosphorus in the stomach. This is the reason why such food as beans and peas, though well suited to supply muscular waste, is not adapted to the requirements of those who live by brain-toil.

The food that a man craves, who leads an intense life amid the exhausting demands of a city, is not the same that will best sustain the quiet farm-laborer. Eggs abound in phosphorus, as also fish of most kinds, especially oysters, lobsters, and crabs. Game is richer in this salt than ordinary flesh, and cheese contains a great deal of it, — three times as much, according to Berzelius, as the whites of eggs. Among the culinary vegetables, the potato is found to be the best supplied with phosphorus. Now these are just the substances most esteemed for food by city people, who lead lives of excitement, and by the dissipated, whose waste of nervous energy is the most rapid and reckless.

Another important mineral, which should be found in a healthy diet, is *sulphur*. The system requires it in the formation of bone and cartilage, in the growth of the hair and nails. There is a little sulphur in the saliva also, and in other gastric juices. This salt is supplied by most articles of diet. There is so much of it in the yolk of eggs, when boiled, that a silver spoon is discolored by the formation of sulphuret of silver, if left in contact with the egg. The curd of milk is rich in sulphur, and it is this which gives the strong smell to old cheese. Sulphuretted hydrogen is the principal element of that disgusting odor that arises from animal substances when decaying.

Iron is another mineral always present in healthy blood. In fact the chief difference in the blood of a vigorous, well-fed person, as contrasted with the blood of one who is pallid and strengthless, consists in the quantity of iron which they respectively contain. For this reason, nothing is so good for many persons in low health as to drink water strongly impregnated with iron; and hence chalybeate springs are often places of resort.

Most articles of food contain some iron; it is quite abundant in the juice of flesh, in eggs, and in milk; hence these substances should be freely given to convalescents who have lost blood from wounds,

or whose blood has been greatly deranged by acute fever.

Lime and *salt* are also constant ingredients of our food, the former being demanded in the formation of bones, and the latter being indispensable to the creation of the digestive juices. Lime is found in most of the substances largely consumed as food. The cereal grains, and especially wheat, contain it in the form of subphosphate. In the same form it is a considerable element in milk. On this account it can be seen why milk and wheaten bread is such a suitable dish for the nursery. Children need a large allowance of lime in their food for the production of their growing bones. Salt exists in small quantities in many articles of food, but not enough is thus taken into the system to supply its demands. The hydrochloric acid of the stomach, and the soda in the blood and in the bile, must both come from salt.

Liebig has pointed out the remarkable coincidence that exists between the ash of the plants that compose man's food, and the ash of his blood. Many of the vegetables and meats consumed as food yield in their ash a little fluorine, and sometimes considerable amounts of potash and magnesia. These salts are all in demand for some part of the body. Fluorine is required for the teeth, and

small quantities of magnesium and potassium are found in other parts of the system.

When muscle is burned, some potash is found in the ash. Now, it makes no practical difference whether a muscle is brought to an ash in a crucible, or worn out in bodily activity. There is in each case a liberation of potash; and when this consumption has taken place in the human system, it must be replaced by the ingredients of food.

Among the vegetables, few contain more potash than the potato; and this accounts for the well-known circumstance that heavy muscular labor, as the constant use of the shovel by Irishmen, is connected with a large consumption of potatoes.

Thus chemistry has given us a good scientific reason for the choice we make of a great variety of articles of food. The blood and the whole economy are daily consuming a list of substances, some of which are by no means abundant in nature; and a special appetite or fancy for this or that dish is often nothing less than the voice of nature asserting herself and calling for some subtle and hidden element which she demands, for perfect success in the rare and wonderful chemistry by which human life is sustained.

CHAPTER III.

THE NUTRITIVE POWER OF DIFFERENT KINDS
OF FOOD.

WHOEVER possesses the skill that comes of practice and of proper instruction may become a good cook ; but the competent housewife should have a higher and more valuable knowledge than the simple art of making a palatable dish.

There is, in the diet of every nation at all remarkable for vigor and development, an habitual blending of the two great classes of food described in the foregoing chapters,—a due and skilful mixing of the heat-making with the muscle-making elements. Thus, for instance, the Irish, as a nation, eat but very little meat ; yet Irishmen are larger, stronger, and more capable of muscular toil, than any other people on the face of the earth. In bodily development, the average of the size, weight, and height of a hundred Irishmen will be found very near that standard which physiologists have determined upon as the nearest approach to perfection. Professor Quetelet came to the conclusion, that the model man should weigh a hundred and fifty-four pounds. This is found to be the average weight of Irishmen.

Now, how does it happen that a nation so remarkably vigorous are yet almost exclusively vegetarians in their diet? Because their national diet is so largely nitrogenous. They consume, in great amounts, those vegetables which are richest in muscle-making power. Potatoes, oatmeal, cabbage, and milk are the grand staples of their food. The cabbage excels all the plants of its class in the amount of nitrogen which it contains. The potato is abundantly supplied with potash; and as this mineral is found in the ash of muscle, it follows that it is particularly adapted to the production of muscular strength. The oat is richer than wheat, or any other grain, in nitrogen; and this is also largely found in the curd of milk.

Another circumstance, more remarkable still, must be considered, in explanation of the fact of the large osseous development of the Irish race. None of the kinds of food above mentioned are particularly rich in the phosphates which are required for bone growth. The question, where the Irishman gets the lime necessary for perfect development, is thus answered by Professor Johnston: "The human body requires a certain proportion of lime to be contained in, or mixed with, its food. If the common diet do not contain a sufficient proportion of this mineral ingredient, the common water of the

country may supply the deficiency; and thus a national mode of living may spring up, the salutary properties of which depend partly upon the food, and partly upon the water. In another district or country, where the drinking water is different, the same solid food, eaten alone, may be unsuited for the maintenance of health. Ireland presents us with a case in which this state of things appears to exist. Potato has become, in a sense, the national food of Ireland. In 1854, one million acres on that island produced potatoes. This root contains larger proportions of potash and soda, but much less of lime and other necessary ingredients, than either wheat or oats, which are the staples of English and Scottish life. But the greater part of Ireland is covered with a broad limestone formation, which impregnates with lime the springs and other waters employed for domestic purposes; so that the mineral contents of what they drink supply the natural deficiency in what they eat. In this way it will appear that the reasons for the adoption of a peculiar national diet may lie much deeper than political economy can generally go."

In the same way, and for a similar reason, the Englishman eats bacon, which is heat-producing, with beans, which are highly nitrogenous; and to

rice, which is rich only in starch, adds milk, eggs, and butter.

The macaroni of the Italian, which is very similar to rice in its properties, is eaten with rich cheese, to obtain the benefit of the oil and curd, both abounding in substances demanded by the body.

Dry wheat bread is everywhere eaten with some kind of oil. Now, it is precisely this skill in blending of foods—this art of balancing the defects of one article by the abundance of the lacking elements in another article of food—this knowledge of the *complementary* value of different substances eaten—that is most required. The voice of nature is always strong, and, if she has an abundant supply from which to choose her election, except in the case of morbid appetite, is always just and wise. In the rudest diet, as well as in the luxuries of refined gastronomy, the main cravings of animal nature are never lost sight of. "Aside from the first taste in the mouth," says the chemist whose words we have just quoted, "there is an after-taste of the digestive organs which requires to be satisfied. An indifferent cook may gratify the first; he is no mean physiological chemist who can at the same time fully satisfy the second."

In order to know how to blend alimentary prin-

ciples, the house-keeper should be familiar with the nutritive powers of the different articles which are brought most frequently upon tables.

When a substance is brought before the physiological chemist, and his opinion asked as to its value as an article of food, his inquiries will be directed to three main points : —

1st. What is its value as a plastic or strength-giving substance?

2d. What are its heat-giving or respiratory qualities?

3d. With what facility is it digested in a healthy stomach?

As an answer to these main lines of inquiry, four tables have been prepared, — the first two arranged so as to give the highest position to those substances which are most abundant in strength-giving qualities and in heating power; the third presenting the most digestible substances; and the fourth giving the most *complementary* food, by which is meant those which by themselves contain the greatest variety and the best proportion of alimentary elements.

TABLE I.

Giving the quantity of Nitrogen, or tissue-making Element, in certain Foods, mostly on the authority of Bous-singault.

Various Kinds of Food.	Quantity of Nitrogen.
Animal albumen, or white of eggs, . . .	15.9 parts in 100.
Vegetable albumen, from wheat, . . .	15.9 "
Animal fibrine,	15.8 "
Vegetable fibrine,	15.8 "
Animal caseine (prepared from beans), . .	15.7 "
Vegetable caseine (from milk),	15.6 "
Gluten (separated from wheat),	15.9 "
Roasted flesh of roe deer,	15.2 "
" " of beef,	15.2 "
Dried ox blood,	15.0 "
Dried beef,	15.0 "
Roast veal,	14.7 "
Horse beans, dried at 212°,	5.5 "
Lentils, dried at 212°,	4.4 "
White kidney beans,	4.3 "
Peas, dried in vacuo at 230°,	4.2 "
Cabbage, white, dried at 212°,	3.7 "
Wheat, dried at 230°,	2.3 "
Oats, dried at 230°,	2.2 "
Barley, dried at 230°,	2.0 "
Carrot, dried at 212°,	2.4 "
Turnips, dried at 212°,	2.2 "
Indian corn, dried at 212°,	2.0 "
Potatoes (fresh), dried at 212°,	1.8 "
Rye, dried at 212°,	1.7 "
Jerusalem artichoke, dried at 230°, . .	1.6 "
Rice, dried at 230°,	1.3 "
Potatoes, kept ten months, and dried, .	1.1 "

TABLE II.

Giving the quantity of Carbon, or respiratory and heat-producing Element, in certain widely used Articles of Food.

Various Kinds of Food.	Quantity of Carbon.	Authority.
Hog's lard,	79.0 parts in 100.	Chevreul.
Mutton fat,	78.9 "	do.
Olive oil,	77.7 "	Saussure.
Butter,	65.6 "	Berard.
Animal albumen (white of eggs),	55.0 "	Scherer.
Animal fibrine,	55.0 "	do.
Animal caseine (from fresh milk),	54.8 "	do.
Vegetable albumen (from wheat), .	55.0 "	Jones.
Vegetable fibrine,	54.6 "	Scherer.
Vegetable caseine,	54.0 "	do.
Gluten, from wheat,	55.2 "	Jones.
Venison, roasted,	52.6 "	Boeckmann.
Beef, roasted,	52.5 "	Playfair.
Veal, roasted,	52.5 "	do.
Ox-blood, fresh,	10.3 "	do.
" dried,	51.9 "	do.
Alcohol,	52.0 "	Fremy.
Oats, dried at 230°,	50.7 "	Boussingault.
Acetic acid,	47.0 "	Peligot.
Cane sugar (anhydrous),	47.0 "	
Peas, dried at 230°,	46.5 "	Boussingault.
Pectine, or jelly from sour apples, .	45.8 "	Fremy.
Wheat and rye, each dried at 230°.	46.0 "	Boussingault.
Pectine, or jelly from sweet apples,	45.1 "	Prout.
Black bread, dried at 210°,	45.4 "	Boeckmann.
Wheat starch, dried at 350°,	44.0 "	do.
Arrow-root starch, dried at 212°, .	44.4 "	do.
Gum arabic, dried at 240°,	45.0 "	Mulder.
" dried at 212°,	41.0 "	Prout.
Sugar candy,	42.0 "	
Sugar of milk,	40.0 "	Prout and Liebig.
Potatoes, fresh,	12.2 "	Boussingault.

Various Kinds of Food.	Quantity of Carbon.	Authority.
Potatoes, dried at 230°,	41.0 parts in 100.	Boussingault.
Turnips, fresh,	3.0	do.
Turnips, dried at 230°,	42.0	do.
Jerusalem artichoke, dried at 230°,	43.0	do.
Beans,	38.2	Playfair.
Lentils,	37.5	do.
Peas,	35.7	do.
Wheat bread, fresh,	30.0	Liebig.

TABLE III.

Showing the time in which various Articles of Food are digested. Prepared by Dr. Beaumont.

Article of Food.	How Prepared.	Time of Digestion.
		H. M.
Rice,	Boiled,	1 00
Pig's feet (soused),	Boiled,	1 00
Tripe (soused),	Boiled,	1 00
Eggs, whipped,	Raw,	1 30
Salmon trout,	Boiled,	1 30
Salmon trout,	Fried,	1 30
Barley soup,		1 30
Apples, sweet and mellow,	Raw,	1 30
Venison-steak,	Broiled,	1 35
Brains of animals,	Boiled,	1 45
Sago,	Boiled,	1 45
Tapioca,	Boiled,	2 00
Barley,	Boiled,	2 00
Milk,	Boiled,	2 00
Liver of beef, fresh,	Broiled,	2 00
Eggs,	Raw,	2 00
Codfish, cured,	Boiled,	2 00
Apples, sour, mellow,	Raw.	2 00

THE NUTRITIVE POWER OF FOOD.

Article of Food.	How Prepared.	Time of Digestion.
		H. M.
Cabbage, with vinegar,	Raw,	2 00
Milk,	Raw,	2 15
Eggs,	Roasted,	2 15
Wild turkey,	Roasted,	2 18
Turkey, domestic,	Boiled,	2 25
Gelatine,	Boiled,	2 30
Turkey, domestic,	Roasted,	2 30
Goose, wild,	Roasted,	2 30
Pig, sucking,	Roasted,	2 30
Lamb, fresh,	Broiled,	2 30
Hash, meat and vegetables,	Warmed,	2 30
Beans, from pod,	Boiled,	2 30
Cake, sponge,	Baked,	2 30
Parsnips,	Boiled,	2 30
Potatoes, Irish,	Roasted,	2 30
“ “	Baked,	2 30
Cabbage-head,	Raw,	2 30
Spinal marrow of animal,	Boiled,	2 40
Chicken, full-grown,	Fricaseed,	2 45
Custard,	Baked,	2 45
Beef, with salt only,	Boiled,	2 45
Apples, sour and hard,	Raw,	2 50
Oysters, fresh,	Raw,	2 55
Eggs, fresh,	Soft boiled,	3 00
Bass (striped),	Broiled,	3 00
Beef, fresh, lean and rare,	Broiled,	3 00
Beef-steak,	Broiled,	3 00
Pork, recently salted,	Raw,	3 00
“ “	Stewed,	3 00
Mutton, fresh,	Broiled,	3 00
“ “	Boiled,	3 00
Bean soup, . . . . .	. . . . .	3 00

Article of Food.	How Prepared.	Time of Digestion.	
		H.	M.
Chicken soup,		3	00
Apple-dumpling,	Boiled,	3	00
Corn-cake,	Baked,	3	00
Oysters, fresh,	Roasted,	3	15
Pork, recently salted,	Broiled,	3	15
Mutton, fresh,	Roasted,	3	15
Corn-bread,	Baked,	3	15
Carrot (orange),	Boiled,	3	15
Sausage,	Broiled,	3	20
Flounder, fresh,	Fried,	3	30
Catfish, fresh,	Fried,	3	30
Oysters, fresh,	Stewed,	3	30
Beef, fresh, lean, and dry,	Roasted,	3	30
Beef, with mustard,	Boiled,	3	30
Butter, melted,		3	30
Cheese, old, and strong,		3	30
Mutton soup,		3	30
Oyster soup,		3	30
Wheat-bread,	Fresh baked,	3	30
Turnips,	Boiled,	3	30
Irish potatoes,	Boiled,	3	30
Eggs,	Hard boiled,	3	30
Eggs,	Fried,	3	30
Green corn and beans,	Boiled,	3	45
Beets,	Boiled,	3	45
Salmon, salted,	Boiled,	4	00
Beef, fresh,	Fried,	4	00
Veal, fresh,	Broiled,	4	00
Fowls, domestic,	Boiled,	4	00
“ “	Roasted,	4	00
Ducks, “	Roasted,	4	00
Beef soup, with vegetables,		4	00

Article of Food.	How Prepared.	Time of Digestion.
		H. M.
Heart of animal,	Fried,	4 00
Beef, salted, old and hard,	Boiled,	4 15
Pork, recently salted,	Fried,	4 15
Soup of marrow-bones, . . . . .	. . . . .	4 15
Cartilage,	Boiled,	4 15
Cabbage,	Boiled,	4 30
Pork, recently salted,	Boiled,	4 30
Veal, fresh,	Fried,	4 30
Ducks, wild,	Roasted,	4 30
Suet, mutton,	Boiled,	4 30
Pork, fat and lean,	Roasted,	5 15
Tendon,	Boiled,	5 30
Suet, beef, fresh,	Boiled,	5 30

TABLE IV.

Complementary Articles of Food, such as in themselves supply the wants of the body.

Articles of Food.	Their Composition.
Milk,	<p>Contains water, 87 per cent.; butter, 3 per cent.; caseine and insoluble salts, 5 per cent.; milk-sugar, 4 per cent.</p> <p>In final analysis, albumen, caseine rich in nitrogen, oil and sugar rich in carbon, chloride of potassium and sodium, and the phosphates of soda, lime, magnesia, and iron.</p>

Article of Food.

Their Composition.

Eggs,

The white consists of water, 80 per cent.; albumen, 15.5 per cent.; mucus, 4 per cent.

The yolk, — water, 53.7; albumen, 17.4; yellow oil. 28.7 per cent.

In final analysis, the egg contains albumen rich in nitrogen, yellow oil rich in carbon; while the ash is found to contain sulphur, phosphoric acid, chlorine, potash, soda, lime, magnesia, and their carbonates.

The composition of the yolk and white together is as follows:—

Water,	. . . . .	74.0	parts in 100.
Albumen,	. . . . .	14.0	“
Fat,	. . . . .	10.5	“
Mineral salts,	. . . . .	1.5	“

Wheat,
Rye,
Corn,
Oats,

{ When made into bread, or otherwise prepared for food,

{ Contain of starch about 60 per cent.; of gluten about 12 per cent.; with sugar, gum, oil, and a mineral ash, which consists of phosphoric acid, potash, soda, magnesia, oxide of iron, and common salt.

{ In final analysis, the substances of which bread is usually made yield nitrogenous matter in proportion to carbonaceous nearly as one to five, and they contain the most of the salts required by the body.

Muscular flesh of the ox, deer, sheep, and hog,

{ Consists of water, about 74 per cent.; of albumen, or fibrine, about 20 per cent.; of gelatine, 6 per cent., — giving nearly 27 per cent. of nutritive matter, of which more than one-half, or 15 per cent., is nitrogen.

With these tables before us, it is easy to select those articles of food which are, on the whole, the most perfect; and any dish which combines the

merits of each of these tables, must possess high value as an article of food. For instance, from the first table, suppose we take venison, or the roasted flesh of roe-deer. It is found to contain more than fifteen per cent. of nitrogen, the element which is needed to give strength. It also contains, according to the second table, fifty-two per cent. of carbon, or heat-producing element. That is, the strength-producing power of venison is to its heat-producing power, as fifteen to fifty-two, or as one to three and a half. But in perfect food this ratio ought to be as one to four, or one to five; hence, there should be eaten with venison some article rich in carbon, as, for instance, wheat bread, which contains thirty per cent. of carbon; or oat-cake, which contains fifty per cent. of carbon; or potatoes, the dry part of which contains forty-four per cent. of carbon; or rice, which is known to be very rich in starch. Suppose the latter farinaceous dish is selected, and a person dines on broiled venison and boiled rice. Let us now turn to the third table, and see in what time these articles will be digested. The rice will be converted into chyme in an hour, the venison in thirty minutes longer. If, in connection with this dish, a mellow apple should be eaten, it would digest at the same time with the venison. Thus, it appears, that no articles

can be selected from the above tables, on which so perfect a meal could be made, as broiled venison and boiled rice, followed by an apple. This is an explanation of the well-known fact, that no people are equal in hardihood, vigor, and strength to the Rocky Mountain hunters, who subsist almost entirely on fresh venison. For a man who takes a great amount of exercise, venison alone would for a long time satisfy all the demands of his system, particularly if the water he drank contained, in solution, phosphate of lime, and some other mineral elements, in small quantities.

Let us take, now, the old standard farmer's dinner of salt pork and boiled cabbage.

The cabbage contains nearly four per cent. of nitrogen, standing next to beans and peas as strength-supporting vegetables. The pork is richer than any other meat in carbon, or heat-producing power, and the oil from the fat meat penetrating the cabbage renders it easier of digestion, unless too much pork is used. Thus the dish seems to be very proper for a laboring man, particularly in cold weather. Now, if we look in Table III. for its digestibility, we find it near the bottom of the list. It remains four and a half hours in the stomach before it is reduced to chyme. Hence its propriety as a dinner dish. It should be eaten many hours

before sleep; whereas the hunter may sink to the most perfect repose in a little more than an hour after eating his venison supper.

Beef is precisely like venison in composition; that is, it has fifteen per cent. of nitrogen, and over fifty-two per cent. of carbon; but it remains unchanged in the stomach two full hours after venison is wholly digested.

Wheat bread contains, according to Boussingault, thirty-nine per cent. of carbon, and a little less than two per cent. of nitrogen. The butter which is commonly eaten with it contains sixty-four per cent. of carbon, but no nitrogen. Hence large quantities of this food are necessary, in order to give the muscular strength for hard labor. Some kind of meat, having fifteen per cent. of nitrogen, should be eaten with bread by persons in active life.

An examination of these tables will show why certain vegetables are so extensively used for food among vigorous and industrious populations. The bean, on account of its capability of being thoroughly dried, is the standard vegetable for soldiers, sailors, and remote laborers, as lumbermen and miners. In Table No. I., it is found standing immediately after the meats as plastic food, containing, according to the variety, about four and a half per cent. of

nitrogen. Next stands the cabbage, and close upon it oats, wheat, and barley. By another analysis, the oat is found considerably superior to wheat in plastic power.

Now, these vegetables are precisely those most consumed in Northern Europe and the United States, where there is greatest amount of activity of both mind and body, and where the labors of progressive civilization afford the highest displays of both mental and muscular force.

So, also, the potato, which probably stands next to wheat among civilized nations as an article of food, contains, when fresh and mealy, nearly as much nitrogen as barley and Indian corn; that is, about two per cent., the balance being starchy, or heat-producing. Horsford, by analysis of the dry matter, which is one-fourth of the weight of the potato, found the amount of nitrogenous element to be one-tenth, or two and a half per cent. of the whole potato. This would make its nutritive powers nearly equal to wheat. The analysis of Professor Johnston, of England, makes the result as follows: Of starch, sixty-four per cent.; of sugar and gum, fifteen per cent.; of nitrogenous matter, nine per cent.; of fat, one per cent.; of fibre, eleven per cent. "The dry potato, therefore, is about equal in nutritive value to rice, and not far behind

the average of our finer varieties of wheat and flour." When it is remembered, that in cooking rice and wheat, we add a large amount of water, whereas in cooking potatoes a portion of the water is expelled, it will be seen that a dozen large-sized potatoes are about equal to a pound of wheat flour, made into bread. According to the experiments of Boussingault, a field that yields three thousand four hundred pounds in wheat, will produce thirty-eight thousand pounds of potatoes. If these products should be reduced to ashes, the wheat would afford ninety pounds, and the potatoes three hundred and twenty-three pounds. These figures are a sufficient explanation of the value of the potato as an article of diet, as it is doubtful whether, by the cultivation of any other crop, so large an amount per acre of wholesome and nutritious food can be produced.

The onion is also a very valuable vegetable, and contains a high percentage of nitrogen; one analysis showed that the dry parts of the onion yield nearly thirty per cent. of plastic material. If this be so, one onion is equal to three potatoes of the same size. A very obvious lesson to be derived from these and similar tables is a knowledge of the plants which are the most economical for the gardens of the poor. If a family have, for instance, a fourth of an acre of fertile soil, how can they plant

it in such a way as to yield them the largest amount of nutrition?

Those who are poor, but industrious, eat not for enjoyment, but to repair the strength which is wasted by daily toils. Yet, as exercise is the best condiment, "the bread of the laboring man is sweet." It will be seen that the plastic or nitrogenized foods are, in general, the most difficult to be obtained. For instance, the most perfect nitrogenous food, venison, is, in the nature of things, a luxury difficult to be obtained, except by hunters, or by those whose means enable them to command every delicacy. In Europe, this is true, to a great extent, of beef. It must be, therefore, from the vegetable kingdom that the great bulk or major part of the nitrogen consumed by the activity of the race must be derived. And, where land is expensive, the question is one of immense importance, — What vegetables will furnish, from a given surface, the largest amount of nitrogen? With this in view, science informs the owner of a few square rods of ground, that he had better plant it in *onions*, *peas*, *beans*, *cabbage*, *turnips*, *potatoes*. If his breadth of land admits of a cereal crop, let it be *oats*, *barley*, or *wheat*.

It is remarkable to observe how closely long experience has arrived at results justified by the most

refined analysis of chemistry; for the garden of a thrifty and hard-working man will be almost sure to have all these vegetables growing in it.

Let us turn, now, to the fourth table, and discuss some of those articles of food which in themselves supply the bodily wants, and which are, for that reason, adapted to be, for considerable periods, a sole diet. At the head of the list we find *milk*, which is, on some accounts, the most perfect of all substances for food. There is not a single element demanded by the body (unless it be very small quantities of sulphur and fluorine), that is not contained in this primal, and well-nigh universal, article of food. We need water in large quantities. Eighty-seven per cent. of milk is water. We need a small amount of oil. In the form of butter, milk yields this oil at the rate of three parts in a hundred. Sugar is always found grateful and wholesome as a part of our food, and of it milk contains four parts in a hundred. The curd of milk is caseine, identical in composition with vegetable albumen, and the albumen of eggs, blood, and muscular flesh; while, in final analysis, there are found in milk the phosphates of soda, lime, magnesia, and iron, all of which are necessary to the growth of bone, and other tissues. Why, then, is not milk as suitable and perfect an aliment for the adult, as

it is for the child? First, because nature, by giving us teeth, has designed that a large part of human food should be solid, not liquid; and, second, because the stomach, and other parts of the alimentary canal, are prepared to receive and digest food which contains a large amount of starch, albumen, and some woody fibre.

Hence, though milk in sufficient quantities would nourish the body so as to preserve its health, its use as the sole food would be followed by a derangement of the stomach and bowels, more or less acute. Dyspepsia and constipation would be the first mischief. Milk would be an insufficient diet, also, from its lack of both nitrogenous and carbonaceous elements, as it contains but three per cent. of oil, and four per cent. of caseine. But some important hints as to the mixture of the alimentary substances may be derived, by observing its composition.

For instance, the moderate amount of oil which milk contains is thoroughly interfused and blended with the mass. Thus should it be with all dishes which contain oil. It should enter the stomach as butter does, when we drink milk; there is no evidence that oils and fats begin to yield any aliment until the digestive juices have wrought them into a fluid resembling milk, which is called an emulsion.

By blending with milk other substances which contain the elements which are lacking, very perfect articles of food can be formed, — dishes which can alike delight the palate and satisfy the inner man. Thus, by adding eggs, rich in albumen, and rice, which consists mostly of starch, and some sugar, rice pudding is the result; a dish which, for its nutritive power, and the ease with which it is digested, is surpassed by few others in the whole range of culinary art.

By noticing the mineral ingredients of each, it will be seen why wheaten bread and milk is a dish so universally grateful and wholesome for children. The milk and the wheat are both quite rich in phosphate of lime, which is precisely what a child wants for bone growth; while the curd of the milk, and the gluten of the wheat, go to make up muscular waste, which, on account of the perpetual activities of childhood, is always great.

The nutritive power of milk is but little diminished by the separation of the three per cent. of butter which it contains. The whole of the curd remains in both skimmed milk and buttermilk, and their sourness is due to the formation of lactic acid, which, like the acid of fruits, though less agreeable, is entirely wholesome. There is no drink, in summer time, more suitable for laboring

men than buttermilk. It directly reinforces the wasting muscular tissue with its curd, which is rich in nitrogen; and the sugar and salts which it contains are also nutritious. It is extensively used as an article of food in Ireland and in Germany, and forms an agreeable, cooling beverage in febrile and inflammatory cases.

Milk and eggs may be regarded as in their nature fruits which the animals yield us; and eggs, in particular, are among the most perfect articles of food which we have. They contain fourteen parts in a hundred of albumen; and hence, weight for weight, are almost as valuable for tissue and strength-making, as muscular flesh. They contain ten and a half per cent. of fat, and one and a half of mineral salts, such as sulphur, potash, chlorine, lime, magnesia, and phosphorus.

By reference to Dr. Beaumont's table of the time of digestion of various articles, it will be found that the mode of cooking has much to do with the digestibility of eggs. When prepared by beating alone, an egg is equalled by very few articles in the promptness with which it is reduced to chyme. An hour and a half suffices. But when fried, it remains three hours and a half before the work of digestion is complete. When soft-boiled, the white only being coagulated, three hours are required. By

comparing the percentage of oil with that of albumen, it will be seen that the proportion of carbon is much higher than it should be in perfect food. This indicates that eggs are a proper diet in cold weather, and that they should be eaten, as they generally are, in connection with dishes in which starch abounds. Though health could be enjoyed, for a great length of time, on a diet of eggs only, there would be danger of the same derangement of the digestive organs that is likely to occur where milk only is eaten. The mass of food taken into the stomach would be so small that the organs would become feeble and languid from inaction, and severe constipation ensue.

On this account, eggs should be eaten with food that is coarse and bulky, or with such as contains much starch.

The large amount of oil in the yolk of eggs renders the blending of animal fats, such as lard or butter, with eggs, as in rich pound and fruit cake, and most other compounds of similar description, altogether unwholesome. The kind known as sponge cake contains little or no butter, and is, on that account, much less objectionable than the other varieties.

The breads made of the cereal grains, and particularly from wheat, rye, corn, and oats, differ but

slightly in ultimate analysis. Corn-meal is a little richer in oil, and correspondingly poorer in nitrogen; oatmeal is richer than any of the others in nitrogen. The blending of the elements in wheat, where it is coarsely ground, and the peculiarly tough and gummy nature of its gluten, render it better adapted for bread than any other grain. Wheat bread, alone, has supported life longer, probably, than any other single article of food, except animal flesh. The ratio of the nitrogenous to the starchy element is about in the ratio of one to five. For a sedentary person this is, perhaps, the best proportion. Hence the bread and water of the prisoner, though cheerless diet, is yet quite well suited to the main demands of the system.

The last-mentioned substance in our list of complementary foods is the muscular flesh of the ox, deer, sheep, and hog. To this may be added the flesh of fowls and of some wild animals. The nutritive power of the flesh of these different animals is almost the same: fifteen parts in a hundred, of muscular flesh, as a rule, are nitrogenous; but the difference in the facility with which various meats are digested is very great. By reference to Table III., we find roasted venison as easy of digestion as almost anything that can be taken into the stomach, being reduced in an hour and a half; while

roasted pork, fat and lean, requires more than five hours for its reduction. The digestibility varies, also, with the age of the animal, the circumstances under which it was slaughtered, and the manner in which it was cooked. But, when man lives on flesh alone, he takes into his stomach a much larger amount of muscle-making and force-producing power than the ordinary demands of civilized life require.

Hence, a diet of meat only, implies two conditions of barbarism or semi-barbarism: first, sparseness of population; for "a nation of hunters on a limited space," says Liebig, "is utterly incapable of increasing its numbers beyond a certain point, which is soon attained;" and, second, a great amount of useless or unnecessary movement; for, says the same eminent authority, "man, when confined to animal food, respire, like the carnivora, at the expense of the matters produced by the metamorphosis of organized tissues, and just as the lion, tiger, hyena, in the cages of a menagerie, are compelled to accelerate that waste of the organized tissues by incessant motion, in order to furnish the matter necessary for respiration, so the savage, for the very same object, is forced to make the most laborious exertions, and go through a vast amount of muscular exercise. He is compelled to consume

force, merely in order to supply the matter for respiration." Since, in the nature of things, the Creator has made a carnivorous diet incompatible with the highest civilization, it is but a natural conclusion, that, as man ascends from savage to cultivated life, he will eat less flesh and more bread, until his diet is regulated by strictly scientific principles. Many writers, noticing this tendency, have argued from it the arrival of a time when man will cease to consume flesh. But this is not a just inference; for man is made throughout, in his teeth, and in the whole alimentary canal, for a diet partly of flesh. The true tendency is to a condition of things where man will draw his plastic or muscle-making food from the best sources of such food, and his heat-producing food from the best materials of that character.

Flesh diet is often called stimulating. This is a proper term, when employed to indicate the fact that animal food imparts a force which is not felt from even the best selected vegetable aliments. This force-giving or stimulating power of flesh arises from two sources, which should be distinctly understood. First. Flesh diet is stimulating, because it contains a mixture of peculiar and complex products; and as the chief object of nitrogenous food, at least, is to produce flesh, it is quite natural

that no other preparation should do this with such promptness, and such perfection, as flesh itself. Suppose, for instance, a Rocky Mountain hunter passes through a region nearly destitute of game, and walks for fifty miles without eating. During the latter part of his march he will move by consuming his own flesh, it being eaten up by oxygen at the lungs. If now he kills a deer, and eats two pounds of venison, he will continue his march, consuming the flesh of the deer, in his movements, instead of, as before, wasting his own body. Flesh is nearest to blood; its ingestion increases the proportion of fibrine, and the activity of nutrition. In the first place, the heart, the source and centre of vigor, itself a powerful muscle, is reinforced in its own tissue, so as to act with increased force on the mass of fluid life which every four minutes pours through it. So, also, the whole volume of blood is promptly reinforced, by which all parts of the body, as they are visited by it, are spurred to activity, by the constant infusion into the circulating system of fresh vitality. In this way, the more violent and executive propensities of man are heightened.

Second. When the juice of flesh is analyzed, it is found to consist of albumen, and lactic and phosphoric acids. It also contains a small quantity of

creatinine, a substance not fully understood, but which is known to be a powerful organic base, of similar nature with the active element of coffee and of tea. Hence it is that men of active, restless, and roving dispositions become attached to a diet purely of flesh.

With these suggestions as to the general nutritive and stimulating powers of various foods, we pass, in our next chapter, to a consideration of due and just combinations of articles in common use on the table.

CHAPTER IV.

ON GASTRONOMY.

THE common idea conveyed to an American mind, by the word gastronomy, is the art of delighting the palate by fine flavors and savory dishes. Webster defines it as the art or science of good eating. In the present chapter, we use it in a sense broader than either the common meaning or the signification given by the dictionary, but not beyond the original and legitimate scope of the word.

The proper import of this term is, a knowledge of the laws that control the stomach, and the art of selecting, combining, and preparing food, so as to conform to those laws.

Everybody knows the sensation that is given by eating a good breakfast or a satisfactory dinner; they have experienced the genial warmth, the kindly glow that follows a perfect adaptation of food to the demands of the system. Those, also, who labor have frequently found that certain dishes have peculiar power to sustain muscular vigor in the interval between meals, or to restore the strength wasted by toil; yet how small is the number of those who have ever reasoned sufficiently upon the

subject to arrive at valuable conclusions, or who can analyze the different courses and various dishes of a good dinner, and tell why soup is generally eaten before the roast, why desserts and fruits are brought on last, and why supper should, in the nature of things, be a lighter repast than either breakfast or dinner. Yet what knowledge is more thoroughly practical, or what conduces more directly to the comfort and physical well-being of her family, than a proper familiarity on the part of a housewife with all these topics?

No person can be a good engineer without a knowledge of the steam-producing value of different kinds of fuel. He should know when he wants fat pine, and when he wants ash under his boilers, and when inferior wood will give as much motive-power as he requires. In like manner, she who provides for a family their daily food, or who studies the comfort and delight of her guests, should know what makes the best dinner for laborers, how winter fare should vary from summer fare, how to brace the system to endure the cold, how to repair the waste of nerve-force produced by excitements and over-activity, how to fortify the constitution when there is frequent exposure to malaria, and when the nectar of delicious fruits and the gratification of toothsome viands may be freely indulged in.

Beginning with the morning meal, which, in a great majority of families, is eaten, in summer, about seven o'clock, let us take what would be considered a good bill of fare, and analyze it, to see how it corresponds with the established and scientific principles of hygiene, as deduced from chemistry and physiology :—

Broiled Steak ;

Boiled Eggs ;

Coffee, with milk and sugar ;

Wheat Batter Cakes ;

Graham, or Boston Brown Bread ;

Baked Apples.

As our society is constituted, the greatest amount of physical and mental vigor is concentrated within the hours that intervene between the first and second meals of the day. We come to the breakfast-table hungry, for more than twelve hours have elapsed since the last food was taken. The frame is refreshed with the repose of sleep, and there are before us seven hours of strenuous exertion of some kind, of toil of the hands or of the brain. It is obvious, then, that a breakfast should not load the stomach with a large amount of rich and bulky food. It is not a time for puddings or pastries, or for oily meats. The demand is for strength-giving or muscle-making food, and, of the various dishes

which have this power, none is more valuable or effective than beef-steak. Take a slice of the lean flesh of a bullock, of the size and thickness of the four fingers, dress it with pepper and butter, and lay it over hot coals on a gridiron,—one of wire is the best,—turning it three times. Eat while hot, salting to taste. This amount of tender and well-cooked flesh will reinforce the blood more promptly than anything else, and fortify the system for the work of the morning. The eggs have nutritive powers very similar to those of steak, but they are less exciting. While the fibrine of the flesh and the albumen of the egg yield all that is required to the muscles, provision must be made for the lungs, which require a supply of carbon for heat-producing purposes, that varies with the season of the year and the exposure to the external air. The starch of wheat flour and of bread afford this carbon in a form easily digested and universally palatable. If the wheat cakes are of fine flour, the bread should be of materials more coarsely ground, because the gastric juices can act upon the surface only of what is presented in the stomach, and large particles of crushed grain do not form lumps, as is apt to be the case with cakes made of fine flour. In the baked apple, a small amount of mild, vegetable acid is blended with the other viands, and, aside from their

grateful taste, active and kindly digestion is thus promoted.

If coffee is indulged in at all, it should be drank in the morning, so that its stimulating effect upon the nerves may pass away before the hours of relaxation and repose. A single cup of well-made coffee, which has not boiled more than five minutes, — thus giving, not a decoction, but an infusion of the Arabian berry, — will rarely prove injurious to a great majority of constitutions; and in hot climates, or hot weather, especially where heat and moisture are combined, it acts, according to Liebig, directly upon the liver, and checks the tendency to bilious derangements. When a person is travelling, or expecting to travel, and is thereby exposed to great vicissitudes of temperature and sudden changes, the cup of coffee at breakfast is of nearly as much importance as any article of food. The wagoner or teamster, who leaves the house perhaps at daylight in winter, and does not see it again till night-fall, let him not go out from the place he calls home, no matter how humble the cottage or cabin may be, without having his stomach fortified by a good, smoking cup of well-boiled coffee. It is better for him far than a drink of whiskey, as any man who has tried them both will testify.

Although the above is very nearly perfect as a

bill of fare for breakfast, it is by no means practicable to have beef-steaks, or eggs, or baked apples upon the table every morning, nor, in fact, does any person wish to have precisely the same food for breakfast three hundred and sixty-five days in a year. Change is not only desirable for the palate, but necessary to meet the various demands of the body. One part or another of the economy is in want to-day of a little more phosphorus, to-morrow of another grain of iron; another organ is clamorous for potash; and the bones, particularly in youth, are perpetually calling out for phosphate of lime. These various though subtle chemical wants are met only by a proper variety of dishes. A man wishes to range through the whole gamut of cookery, and bring upon his table representatives of all the zones and continents. But however the breakfast or the dinner may be varied, in the former meal we should never fail to give a due ascendancy to dishes of a highly nutritious or muscle-making character.

Ham may very properly take the place of beef-steak, and boiled or baked potatoes of the wheat batter cakes, apple-sauce being substituted for baked apples, and milk or buttermilk for coffee.

In the country, particularly in spring and summer, the question often puzzles the housewife what she shall prepare for breakfast. Let us suggest a few

dishes that are eminently suitable for that meal. For six persons, for instance, take from quarter to half a pound of dried beef, cut into thin slices, and, after trimming off the edges and tough ends, soak in a pint of soft water. If a little soda or borax is added to the water the dish will be improved. When the fire is burning, put on the beef, in a stew-pan, in the water in which it has soaked. Let it boil ten minutes. By that time much of the water will be evaporated. Now, add half a pint of milk, and, when that is boiling, beat six eggs and add them, stirring constantly till the eggs are nearly stiffened. Pepper according to taste. This dish is especially suited to hot weather, as it supplies plastic material from the flesh, the egg, and the curd of milk, with but a moderate amount of animal oil in the yolk of the eggs. Eaten with good wheat bread, it forms an excellent breakfast.

Cold sliced tongue, treated in a similar way, is very good; or it may be eaten separately, and the eggs poached and served on a slice of dry toast.

Fish of some kind is very largely eaten by most families at breakfast. The cod and mackerel are to be had in nearly every grocery in the country. In general, fish contains from half to two-thirds as much nourishment as flesh, pound for pound. But, on account of the salt used in curing them, and the

oil they contain, fish create a thirst which makes them unsuitable for warm weather. Some fish as a relish, and because the system can derive the required phosphates from it, is very well; but for nutrition, no variety of fish will compare with beef, mutton, and eggs.

In northern climates, and in winter, food is taken for the purpose of supplying the animal warmth, as well as for strength; and this should be kept in view by the housewife when she prepares her breakfast. The oils and fats are the substances that are richest in carbon, the element required in lung-combustion; and the problem for the cook and purveyor is how to introduce these substances into the stomach in such a way as not to impede digestion. The mode of blending the animal oils with various other substances that come on the table requires special skill and attention on the part of the housewife. Butter is the animal oil which is most readily assimilated in the stomach. The smoking of hams, and the sage and other seasoning used in making sausages, are found to have some effect, the reason of which is not understood, in making the fat of pork digestible and wholesome.

Let us take now a bill of fare for breakfast in winter, and see how it meets the demands of the system in that season:—

Fried Sausages, with Potatoes ;
Cold boiled Tongue ;
Indian Mush, fried ;
Buckwheat Batter Cakes ;
Pickled Cucumbers.

The sausages yield an abundance of animal fat, that, combined with the potato, which is almost wholly starch, is taken into the stomach in a form to be easily attacked by its juices. The lean parts of the meat in the sausage, which should exceed the fat parts by one-half, give muscle-making elements. The tongue is wholly muscular and flesh-producing. The Indian mush, fried, is heat-producing, but in a lower degree than the fat of the sausage. It contains gluten, which affords the elements of muscle. The buckwheat batter cakes are also rich in carbon, but poor in nitrogen ; this is the reason why they are generally eaten in winter ; and, as they give but little strength, are ill suited to the laborer, and should be combined with substances rich in plastic material. The acid, a little of which should accompany every meal, especially one so rich in carbonized materials as this, is supplied by the cucumber and vinegar.

A breakfast like this is very well adapted to a cold winter's morning, when the male members of the family expect to be out all day sledding, or

otherwise engaged in the open air, but not at hard work. If a man is to chop, or thresh, or shovel, he should eat more of muscle-making food, as the heat required will come from the combustion of muscle in active exercise. But where one has to endure cold passively, — that is, without the ability to move freely and vigorously, as in teaming, — there should be a generous allowance of carbonized materials in the diet.

Approaching, now, the most important meal of the day, let us take, first, a good dinner in cold weather, the bill of fare running, for instance, as follows : —

Barley Soup ;

Roast Beef, with Cranberry-sauce ;

Potatoes, Parsnips, Ruta Baga ;

Dressed Celery ;

Baked Indian Pudding ;

Apples.

What are the characteristics of a good soup, and why are soups universally eaten as the first dish ?

No soup is good, or fairly entitled to the name, that is not essentially the *essence of some nutritious meat*, properly dissolved in water, and duly cooked.

When we sit down at two o'clock, having eaten nothing since an early breakfast, what is the condition of the system ? There has intervened since

breakfast a period of six or seven hours, during which there has been a constant draught upon the muscles and the nervous system. Probably the greater part of a day's work is accomplished. The loudest clamor is made by the stomach, where the digestion of strength-giving food takes place, and the first call of nature is for something that will repair as quickly as possible the wasted muscular tissue. Nothing will do this so quickly or so effectually as to present *the juice of flesh*, properly prepared. Let a soup, then, be made by taking any good piece of flesh, whether of ox, sheep, or fowl, and putting it in soft, tepid water, and apply heat gradually. The warm water will favor the extraction of the juices of the meat; and the process will, of course, be facilitated by cutting the piece into small slices or fragments. After this extraction has continued two or three hours, then increase the heat, and add various ingredients to flavor the soup. It comes to the table hot, and the chief flavor should be that of the meat used in making it. Barley, rice, or vegetables may be used singly or in combination. Barley alone, in a soup made of the lean flesh only, gives a fine color and a pleasant flavor.

Why is such a soup as this so grateful to the stomach of a hungry man? Because the absorbents of the stomach can take up the elements of muscle

from this juice of flesh, and thus reinforce the blood with the greatest promptness. In other words, the uneasiness of hunger can be more quickly removed by "a hasty plate" of good soup, than by any other variety of food. But our digestive organs are not fitted to operate on liquids alone; their soundness and vigor depend on their having solid matter upon which to act. Hence the impropriety of swallowing any great amount of soup. After a few spoonfuls, eaten with a little stale wheat bread, we pass on to what the French very properly call the *pièce du resistance*, or that upon which the hunger wears itself down, and becomes nearly satiated. This is roast beef, eaten with cranberry-sauce, the usual vegetables, and a little dressed celery.

Up to this point, the meal has abounded in the plastic rather than the heat-giving elements. But the long, cold night of winter is soon to follow, during which there will be little or no muscular exercise to aid in keeping up animal heat. Hence the propriety of closing the meal with some dish in which carbon abounds in a form easily digested. This is found in most of the puddings, which are composed of some of the grains or starchy roots, combined with sugar and butter, and agreeably flavored with spices or an aromatic oil.

The juices of the apple quench thirst, aid in diges-

tion, and act beneficially upon all parts of the alimentary canal.

Thus we see, in the various dishes of an ordinary family dinner, not a fashionable code, not a chance arrangement, but a true and rational order, a just and normal method, suggested by every enlightened appetite, and endorsed by the last and most valuable conclusions of animal chemistry.

How should this bill vary in summer, to suit the demands of the system in that season? Chiefly in the omission of highly carbonized or heat-making dishes, and the substitution of the ripe vegetables and wholesome fruits which are then in season. Thus, for Indian pudding, tapioca, suet, and rich plum puddings, use blanc-mange, frozen pudding, snow pudding, velvet cream, cold custard, whortleberry pudding, apple pie, gooseberry pie, currant, and cherry pie.

What are — we may properly discuss in the closing paragraph of this chapter on the science of good eating — what are the essential requisites of a *feast*? What points should the gastronome, the gourmand, or the lady who aims to delight her guests, bear in mind?

Shall we enumerate them in order? First of all, she should consider the probable condition of those who come to her table, asking herself how long it

has been since they may have eaten, and how they have been engaged in the interval.

If a company of vigorous men approach her table, who have been chasing a fox, or surveying land, or rowing, or rolling ten-pins, or ploughing, or hoeing, or chopping wood, they will want the materials for making up muscular waste, and should find an abundant supply of juicy flesh. If, on the other hand, her men are only white-handed, carpet knights, each one of whom is to be sandwiched between two ladies, their fastidious appetites are to be enticed by variety and flattered by novelties.

She should then regard the season and the amount of exposure to the cold. Thus a party who have been out sleigh-riding will relish nothing so much as a highly carbonized dish; while those who have been exposed to continued heat will be delighted with cooling fruits and acids, and require lean meats only for repairing the waste of tissue.

Third; let her consider the digestibility of her dishes, remembering that some meats require three hours longer to become assimilated than others, and that a difference of two hours in the digestion of an egg is produced by the mode of cooking.

Above all, and perpetually, let the cook bear in mind that animal oil is a curse, a burden and nightmare in the stomach, unless duly and skilfully

blended with coarse and starchy material, and that nature can, with far greater ease to herself, derive carbon from starch than from crude quantities of fat.

Fourth; the chief delight of the palate comes from delicate flavors; but the richness of flavor is no sign of the value or digestibility of an article as food. The delight of flavors is given in two ways; first, by preserving in the greatest perfection the natural flavor of the flesh or the fruit, as in cooking a beef-steak or a shad, or in serving strawberries; and, second, giving foreign flavors to dishes naturally insipid, as when nutmeg is grated over rice, or thyme and garlic are added to soup.

The old Persians had a maxim, that hunger is the best sauce; but none relish a fine flavor better than those whose appetite would enable them to eat of a dish though unpalatable. The laborer, accustomed to a diet of fried pork, boiled potatoes, cold cabbage, and baked beans, is just as able to appreciate a pineapple, a Bartlett pear, or Italian cream, as the professional epicure.

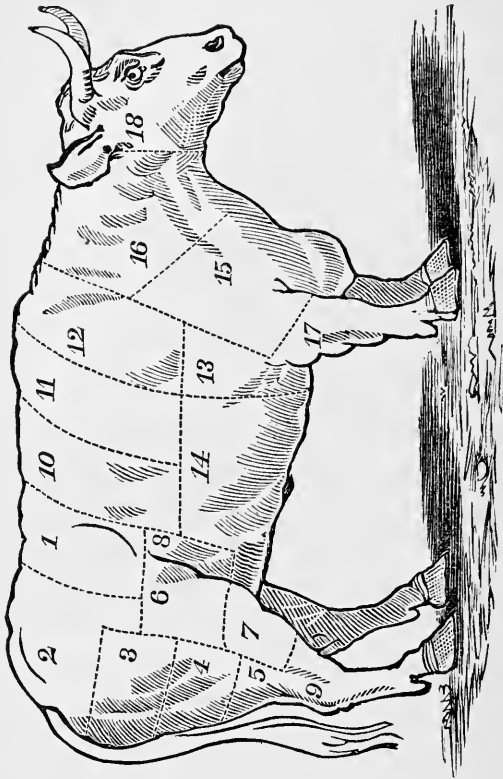
The reputation of a meal is often made by the farewell flavor left by the last delicacy. On that account, let the hostess reserve some rare and highly-flavored fruit for the conclusion of the meal;

as, for instance, canned peaches, strawberries, or cherries, grapes, pears, or a pineapple.

The pleasure that may be given by a careful regard to all these principles of gastronomy, is as rational and as noble as any human delight, except those which flow from the exercise of the highest faculties and the cultivation of the celestial virtues. In that rarest and richest picture of the hospitalities of the sinless creatures whom God placed in the primeval garden, we read that, —

— “with despatchful looks, in haste
Eve turns, on hospitable thoughts intent
What choice to choose for delicacy best,
What order, so contrived as not to mix
Tastes not well joined, inelegant; but bring
Taste after taste upheld with kindest change.
From many a berry and from sweet kernels pressed,
She tempers dulcet creams: nor these to hold
Wants her fit vessels pure; then strews the ground
With rose and odors from the shrub infused.”





1. Sirlain.
2. Rump.
3. Edge Bone.
4. Buttock.
5. Mouse Buttock.
6. Veiny Piece.
7. Thick Flank.
8. Thin Flank.
9. Leg.

10. Fore rib : Five ribs.
11. Middle rib : Four ribs.
12. Chuck : Three ribs.
13. Shoulder or leg-of-mutton Piece.
14. Brisket.
15. Clod.
16. Neck, or Sticking Piece.
17. Shin.
18. Check.

CHAPTER V.

SELECTION, PRESERVATION, AND COOKERY OF
MEATS.

THE more Nature is interrogated by Science, inquiring into the all-important subject of Human Food, the more uniform and emphatic the testimony becomes as to the superiority of a flesh diet for giving strength and vigor to the frame.

Some vegetarians have reached advanced years, but there is no reason to suppose that beefsteaks would have shortened their days. All the more vigorous nations of the world are large consumers of lean flesh. The rice-eating millions of Asia are governed by the beef-eating thousands of England. New York City consumes a larger proportion of beef to her population than any other city in the world; and where on the face of the earth can be found a million of people more vigorous, more energetic and enterprising, than in the metropolis of the New World?

"The influence of diet over muscular fibre," says Dr. Chambers, a popular English writer on Physiology, "is an important social question; for thews and sinews have always ruled the world, in peace

and in war, in a proportion quite equal to brains. Indeed, it is a question which the present writer is disposed to answer in the affirmative, whether, *nationally*, muscular and mental energy do not always run in couples, and whether the first is not the cause of the second. It does not appear that any diet, so there be plenty of it, is incapable of fitting a man to get through his daily work *in a fashion*; but the *best specimens* of the species in their several sorts, hunters, agriculturists, or citizens, *are those nations who get most flesh-meat*. A collateral advantage of a meat diet to a nation, is the difficulty of obtaining it; for the truth, probably, is, that the mode of procuring food has as great an influence over mind, manners, and muscles, as the nature of the food itself. He that is satisfied with what he can pick up, ready grown, degenerates either into a starved New Hollander, where food is deficient, or into an effeminate creature like the old inhabitants of the West Indies, where it is abundant; while a civilized people, with a care for their meat and diet, will have thought about it, labored for it steadily, advanced science, and ransacked nature, to improve it, and obtained their reward in the search itself."

In the configuration of this continent, nature seems to have fitted it up as the home of a vigorous

and powerful race, who should have greater facilities for supplying themselves with flesh for food than any great nation that has ever figured in history. The vast region lying in the centre of the continent reaching from the great lakes to the Rio Grande, and from the Mississippi to the bases of the Rocky Mountains, is designed by the Creator as the grazing field for America. Millions and millions of beeves and of muttons can be produced at but a trifling cost, and made to feed all the inhabitants of the Central Valley and of the Atlantic Coast with food more perfectly calculated than any other to the development of strength and the supply of mental and muscular waste.

By resorting to the bullock and the sheep for a considerable part of our food, we are really making a more economical use of the earth than if the race lived only on seeds and roots. In this way the grasses of the great prairies and the wide plains which stretch for a thousand miles eastward from the mountains are transmuted into food for man. The ox takes grass, which man cannot eat, and converts it into the albumen, the fibrine, and the gelatine, which man can use directly, and with the greatest facility, in repairing his wasting tissues. These animals may be considered as moving laboratories, fitted up with all the necessary apparatus for

transmuting the nourishing properties of grass into a form suited to human uses. It is somewhat remarkable that the juices of flesh are peculiarly useful in repairing muscular waste. We can get our warmth from wheat and corn, oats and potatoes; but, in swallowing a few mouthfuls of juicy and tender steak, we are taking into our circulation a fund of life and vigor, which could not be derived from a pound of bread alone.

As a nation, the Americans make far too constant and universal use of pork. The flesh of the hog has none of the juicy and stimulating properties of beef, and is far more difficult of digestion than mutton. The fat of the hog is the heaviest and most unmanageable of the animal oils taken into the stomach. He is fattened almost wholly on roots and grains, which might with much better economy be consumed at first-hand as food by man. The labor of the ox and the milk of the cow rank them among the most valuable of animals before they are brought to the shambles. But the hog is a filthy, useless, and often diseased brute, that would not be tolerated near the haunts of civilized man, were he not fattened and brought upon the table.

THE SELECTION OF BEEF.

The first rule, then, that should govern in the selection of animal food, is to choose the red, or muscular flesh of clean beasts. Among these, the ox has the same preëminence that wheat has among the edible grains.

As to which affords the best beef, the ox or the cow, the age at which a bullock should be brought to the slaughter-house, the food upon which the animal is fattened, as affecting the flavor of the meat, these are matters of importance to the drover, the butcher, and the epicure; but the experience of the housewife begins at the market-house, and the earliest of her duties is to know, when she approaches a butcher's stall, or stands over the meat-cart, what part to choose, what are the characteristics of rich and juicy, and what the signs of jejune, tough, and unsavory flesh.

The first thing to be observed in buying beef, is its color and general appearance. The muscular parts should be of a fine carnation red, and the suet, or fat, of a clear white. Much depends, also, on the fibre or grain of the meat. Heifer beef is generally of a closer grain, and a little paler in color. In choice beef, there is a blending of fat

with the muscular parts, which gives a somewhat mottled appearance. If the muscle is of a heavy red, without any graining or streaking of fat, you cannot expect fine flavor. The animal was poor, and probably old, and you will get no satisfaction from the purchase, no matter how you dress it. As a general thing, it does not pay to buy much bone with the meat. Many people, in limited circumstances, think it economy to buy a hock, or shin, to boil for soup, or to make a stew. In general, the butcher does not make sufficient deduction for the weight of bone. That tough, sinewy part, has very little nutriment in it. The gelatine will not give strength, and hardly supports life. The fat is useful only as a juice for the muscle, and then its quantity should be small, except in the coldest weather. Remember, that what you want is *red, savory juice*, in tender muscle. The mere muscle, after all the juice is washed and pressed from it, has no virtue at all. Even a dog will refuse it. There is no juice in the bone, or in the tendons and cartilages.

The choice cuts of beef are, first of all, the sirloin, marked 1, in the cut at the head of this chapter, and the rump, marked 2. From these you may have steaks cut, or it may be roasted or baked

whole, in a piece weighing from ten to fifteen pounds.

The buttock, marked 3 and 4, is often called the round, and steaks cut from it are called round steaks. At most stalls, if you call for steak, you will have three kinds or grades offered you,—*tenderloin*, or *porter-house*, as it is called in the New York market, *sirloin*, and *round*. The tenderloin steaks are a few choice cuts from near the point where the sirloin merges into rump. You may know this part by the shape of the bone that goes with it, which resembles the letter T. The flesh on the upper or larger side is not quite equal to that on the under side. This last is, by the French, cut from the bone, and cooked in small, delicate slices, or *tit-bits*. This part of the animal is the tenderest, but its flavor is not so rich as that of some cuts from the rump. If the animal is young, and well fattened, that is, a bullock or heifer three years old, and killed as soon as fully grown and in good order for the butcher, the round is likely to prove well-flavored, and sufficiently tender. But an old ox, or cow will never give choice cuts from the buttock. The thickness of the steak is a matter of much importance; and most butchers will require an instruction on that point. You may not want more than a pound or two for a single meal. In

that case, if he cuts a thin slice from the whole face of his round-piece, you cannot hope for good eating from it. It will shrink to a dry, leathery morsel, which no additions of butter, or pepper, or sauce, can make toothsome. Call nothing a steak that is not as thick, at least, as the palm of your hand; and on no account allow your meat-man to serve you anything thinner.

With regard to roasting pieces, your choice as to size must depend, mainly, upon the number of persons who surround your dinner-table. For a family of twelve, seven or eight pounds is none too much. For roasts, the sirloin is the first choice, but the ribs of the fore-quarters marked 10, 11, and 12, in the cut, are very good.

For beef à-la-mode, the proper part is the round, and six or seven pounds are generally bought for that form of cookery. The inferior pieces, from the fore-quarters, neck, and head, marked 13, 15, 16, and 18, are good only for stews, soups, or to chop fine for mince-meat, and beef sausages.

DIRECTIONS FOR COOKING BEEF.

How to Broil Steaks. — As above indicated, the thickness of a steak should be from half to three-quarters of an inch, and uniform. It ought to be cooked as soon as possible after it is cut from the

rump or sirloin. Trim each steak neatly. A proper fire should be prepared beforehand. If you are burning anthracite coal, let the contents of the grate burn down so as to emit little or no blue flame. Then lay on the top of this bed a few pieces of charcoal; and when they are fairly ignited, have the steak ready. The best gridiron, is one made of wire; in all cases the bars of a gridiron should be small. Apply a little melted butter to the surface of the steak, and a slight sprinkling of black pepper, but no salt. The fire should be hottest at first; or, what amounts to the same thing, the meat should be held nearer at the first than at the latter part of the broiling. Shall I give you, now, a good reason for this? If so, the direction will be much better remembered. Bear in mind that the juice of flesh, and particularly of beef, is the all-important part, and the fibre is of no importance, except as a vehicle for conveying the juice in a proper condition into the stomach. This juice of flesh has very nearly the same constituents as the contents of an egg; and the effect of heat is to coagulate, and render it hard, just like the white of an egg, hard-boiled. When this coagulated albumen of flesh is taken into the stomach, it requires twice as long to digest it; just as it takes over three hours to digest

a hard-boiled egg, whereas one cooked in the best manner can be assimilated in an hour and a half. Now, if a sharp fire is applied to the surface of a steak, the juice near the surface becomes immediately stiffened or coagulated. This locks in the remaining part of the juice, and it is not necessary that this should be coagulated. All it requires is to be thoroughly heated, in order to take off the raw taste of the flesh. Two or three minutes is long enough to cook the surface of each side of a steak, and it should remain over the fire a minute or two longer, according to the intensity of the fire, or the thickness of the steak, so that in all, from eight to ten minutes is enough for most palates, and too long for those who like their meat decidedly rare. There is a difference in the practice of the most skilful cooks, as to the number of times a steak should be turned while cooking. Some say but once, others every two minutes, making three or four times in all. Let the plate or platter upon which the steak is to be served be heated, and carry the dish immediately from the fire to the table. There is no dish in the world that so rigidly requires to be eaten hot, as steak. A cold cup of coffee, cold batter cakes, "the cold shoulder," and "a cool reception," are all tolerable,—we can use philosophy, and forget them; but a cold steak is

abominable, — it is barbarous. A good steak, duly and artistically cooked, requires no sauce at all; like peaches, it should be eaten in its own juice; if your butter is truly first-class, fragrant, and delicate, use a little of it, nor is there any objection to two or three drops of lemon-juice; but Worcestershire, tomato, walnut, mushroom, I would as soon think of pouring them over a Bartlett pear as over a first-class, fragrant, juicy, savory, smoking beefsteak.

There is hardly any dish so universal on American tables everywhere as what is called beefsteak; yet for one properly cooked specimen, the traveller will eat nine hundred and ninety-nine scraps of tough, juiceless, leathery meat, sometimes swimming in hog's lard, sometimes drenched with bad butter, and anon smothered and reeking in bits of stewed onion.

If you are using wood as fuel, draw out upon the hearth a bed of hard-wood coals, and place the grid-iron directly over them. Turn once in the course of three minutes, and then reduce the heat by sprinkling ashes upon the coals, otherwise the outside will burn before the interior is cooked.

Roast Beef. — This fine old English dish is at present very little used in this country. What we call roast beef, is cooked by baking in a stove oven. But if one has an open fire in the kitchen,

there is no better way of cooking a sirloin than as follows :—

After washing the piece in cold water, hang or otherwise place it before the fire with a dripper beneath containing a pint of cold water. The heat should not be such as to scorch the outside. Turn frequently, and baste every fifteen minutes, until the meat has been before the fire nearly two hours. Then remove and baste thoroughly, and sprinkle it with flour. Returning it to the fire, allow it to brown and froth all over till done. About two and a half hours are necessary to roast a sirloin or rib-piece of ten or twelve pounds' weight.

Beef à-la-mode.—This is almost the only French style of cooking beef that has become fairly naturalized in this country. There are several ways of preparing *à-la-mode*, of which the following, recommended by Monsieur Blot, is certainly as good as any, and probably the best :—

Take eight or ten pounds of round, rump, or the inside of the sirloin, called by the French the fillet, — the round or buttock is the most suitable, — and, after removing the bone, if any comes with it, cut several deep gashes in the flesh, and fill them with salt fat pork. Then put into a crockery stewpan half a calf's foot, a handful of parsley, a bay leaf, a little garlic, a sprig of thyme, two onions with a few

cloves stuck in them, half a carrot, half a pound of fat pork cut into little square pieces, cover with a gill or more of good cider vinegar. Place the beef upon this mixture, and set over a slow fire or in a moderately heated oven, and let it cook about five hours. The heat should be just enough to keep it simmering gently.

When done, strain the same, taking off some of the fat and pour it over the beef laid in the centre of a large salver or platter. For a small family who wish to avoid the labor of frequent and laborious cookery, this mode of preparing beef is very well suited. When hot, the dish is savory, and makes a good dinner with little else. When cold, it is almost as good; and, in cool weather, will keep a week.

Another style of *à-la-mode* is, to chop fat pork with bread crumbs, using most of the above seasoning, and forcing or stuffing the mixture into the gashes cut in the beef. Put it into a saucepan, with the rind of a lemon, four large onions, three or four carrots and turnips cut into little squares. Pour over all half a pint of good vinegar; stew over a slow fire six or seven hours, turning the beef several times. Half an hour before the dinner hour, take out the piece and the vegetables, skim off the fat, strain the sauce, thicken it with a little

flour mixed smooth in water, add a teacupful of port wine. Return all to the saucepan, and, as soon as it boils, take up and serve.

To make a Beef Stew.—Take three or four pounds of the muscular flesh, — it may be from the neck or a leg, — and slice it thin. Cut a quarter of a pound of pork into little square pieces; put them into a stewpan, with a little water. Lay the meat in, and set over a brisk fire for fifteen minutes. Take off and remove the meat from the stewpan, both beef and pork. To the sauce add a lump of butter of the size of a walnut, and a little flour, stirring constantly with a wooden spoon. Then return the meat, and with it half a wineglass of tomato catsup, four onions, a bay leaf, some allspice, two or three carrots cut fine, a little parsley, a little thyme, and some salt. Keep over a slow fire for five hours; skim off the fat, and serve.

Here let us indicate one almost universal error in American cookery. *We cook by too hot a fire.* With the exception of steaks, all other ways of preparing beef require a slow fire.

To make a Soup, or Broth.—In preparing soup, begin betimes, and allow full five hours for the process. Cut the meat small, and put it in *cold water*. The fire should be very gentle, so the water shall be only a little hotter than the hand can bear for

four hours. By this time the juices of the meat will be well dissolved in the water. Now add rice, barley, vegetables of various kinds, and increase the fire so the soup will boil from half an hour to an hour.

To Cook Beef in a Dutch Oven.—In many parts of the country, particularly the South, stoves and ranges are very little used; and it often becomes a question how to use the old-fashioned oven to the greatest advantage. Let no housewife despair of the most brilliant success with her roasts if she has nothing else to depend upon. Only let her begin in time. Immediately after breakfast prepare your roasting-piece, and let the oven be scrupulously clean. Put it in the corner of the fireplace, and lay in, first, a few slices of pork, and some chopped onions and summer-savory. Cover with water, and add a little vinegar. Then lay in the beef, and put hot coals under the oven. In an hour baste and turn, increasing the fire a little, and adding a little hot water, if necessary. So continue, putting on the lid and covering it with hot coals, the heat being all the time increased to the full roasting temperature, which should be kept up an hour and a half or two hours, according to the size of the roast.

These are all the directions that are deemed necessary for one to meet the chief demand of the Amer-

ican palate. A housewife who can prepare all the above dishes *well* may regard herself an accomplished cook, so far as the flesh of oxen is concerned.

MUTTON AND ITS COOKERY.

The flesh of the sheep is by no means as highly esteemed for food by our people as it deserves to be. There are thousands who have an absurd and ill-founded prejudice against it, simply because it is "sheep meat," and others who dislike it and seldom or never eat it, because "it tastes of wool."

Mutton is superior to beef in the amount of nutrition it contains, pound for pound, and its digestibility is considerably greater.

Mr. Brande, in his *Manual of Chemistry*, gives the following table of the

CHEMICAL COMPOSITION OF VARIOUS MEATS.

100 parts of Muscle of	Water.	Albumen, or Fibrine.	Gelatine.	Total of Nutritive Matter.
Beef,	74	20	6	26
Veal	75	19	6	25
Mutton . . .	71	22	7	29
Pork	76	19	5	24
Chicken. . .	73	20	7	27
Cod.	79	14	7	21
Haddock . .	82	13	5	18
Sole	79	15	6	21

If Mr. Brande is right (and he has always been

regarded as an excellent authority), the value of mutton is to that of beef as eleven to ten; so that eleven ounces of one are equal to ten of the other. By the same table, it is seen to compare with cod, in the amount of albumen and fibrine, in nearly the ratio of three to two; that is, two pounds of lean mutton will go as far as three of codfish.

The great objection to mutton among the American people — its peculiar flavor, that reminds them of wool — is due, in great measure, to *the mode of killing*; and a practical suggestion on this point may be of very great value. When a mutton is butchered, it is of the first importance to remove the entrails and the skin as rapidly as possible. But, contrary to the usual custom, *the entrails should come out the first thing*, and afterwards the skin stripped off. An attention to this simple rule I have known to produce such an effect as to remove at once a life-long prejudice to this excellent flesh.

The reason for this rule I conceive to be as follows: When any animal is killed, the surface cools first, and then there is a radiation of internal heat from the region between the ribs outward. This heat is, in fact, a moist vapor that carries with it some degree of flavor or odor. Now, if the skin is taken off first, the surface cools a great deal faster, and much more of this offensive vapor from the en-

trails passes through the flesh, impairing its flavor. It is clear, then, that the first step should be to arrest, as quickly as possible, this transportation of objectionable flavor through the flesh. It is well, on this account, to cool the interior cavity, as soon as the bowels are removed, by dashing through it two or three buckets of cold water. Let the skin be removed rapidly, and the carcass soon placed in some cool, dark room.

The leg and loin are the superior joints. The signs to be observed in selecting mutton at the butcher's are very similar to those that indicate good or bad beef, with this difference, that too great fatness is an objection in mutton. This flesh is rather a summer than a winter meat; and in summer there is no reason and no health in swallowing animal fat of any kind. It is advisable, therefore, to trim away nearly all the fat from mutton, and cook only the red flesh. Yet the best-flavored mutton is that which comes with the most fat upon it; this is the flesh of the wether, which is always superior to that of the ewe. On the leg of the wether there is commonly a large, firm mass of fat, but only a white membrane, with a little fat attached, on the leg of the ewe.

The following recipes, or instructions, are taken, with a few modifications, from the excellent treatise

of Monsieur Blot, called, "What to Eat and How to Cook It." Mr. Blot is a thoroughly educated French cook and gastronome. It may be well to say, by way of explanation, that a chop is the part of a mutton that corresponds to the sirloin of beef and the roasting-pieces. It is the upper end of the rib and part of the spine, with the muscle adjacent.

Chops Broiled. — Sprinkle salt (not much of it, however) and black pepper on both sides. Dip the chops in melted butter; lay on the gridiron (one of wire is the best), and set on a sharp fire, and turn two or three times. Arrange them tastefully on the dish, the curves being all the same way. Serve hot, and eat at once.

Another Style. — After sprinkling pepper and a little salt, dip in melted butter and roll in pounded cracker or bread-crumbs crushed fine. Place upon the gridiron, and allow about twelve minutes, if the fire is brisk, turning several times.

Chops Fried. — Put a piece of butter of the size of a butternut in a stewpan, placed over a slow fire. When melted, lay in the chops, and turn two or three times while cooking. When done, take out and keep warm. Add to the gravy in the pan half a teacupful of broth, a sprig or two of parsley, and two green onions chopped, and two pickled cucumbers, and a pinch of allspice. Allow to boil.

Then pour over the chops, using, also, lemon-juice as a sauce.

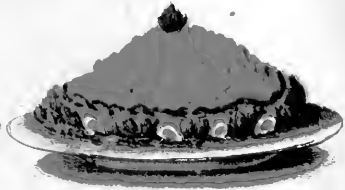
How to Prepare and Improve a Leg of Mutton. — In order to make it tender and exquisite, keep it from four to eight days in winter, and from two to four in summer, according to the heat; then place it in a tureen, with one salt-spoonful of pepper, one teaspoonful of chopped parsley, and two table-spoonfuls of sweet oil, the whole spread all over; leave thus one day in winter, and from six to twelve hours in summer. This process improves it very much.

Boiled Leg of Mutton. — Take the leg of mutton and dust it with flour, all around (after having been prepared as directed above, if you have chosen so to do), envelop it in a clean towel, after having bent the smaller bone; throw it thus in boiling water, with a little salt, pepper, a bay leaf, two sprigs of thyme, two of sweet basil, and a pinch of scraped nutmeg; move it gently now and then with a wooden spoon, and, when properly cooked, serve it on a white or caper sauce.

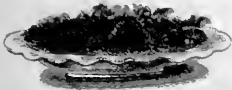
The same, Roasted. — Improve it as above directed, if you choose. Place it on the spit before a sharp fire, baste often with the drippings, and, when cooked, serve it with the gravy only, or with white kidney beans cooked in water, and fried five



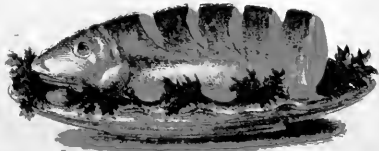
Blanc-Mange.



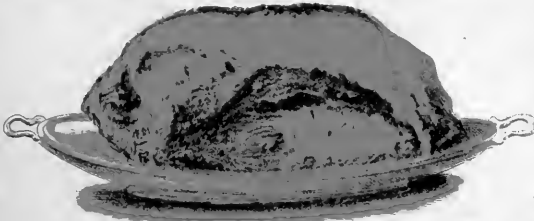
Mayonnaise of Lobster.



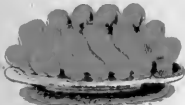
Mixed Pickles.



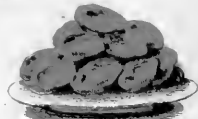
Cod's Head and Shoulders.



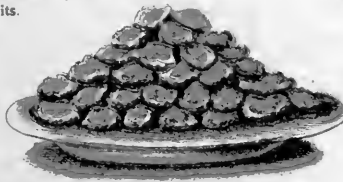
Roast Surloin of Beef.



Dessert Biscuits.



Meringues.



Dish of Oysters.

1870

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minutes in butter. It will take about one hour and a half to cook it well. Many persons lard the leg of mutton with fillets of garlic.

TO ROAST OR BAKE A FOWL.

A turkey, goose, or large hen should be cooked in this way. Smaller birds are best when broiled. The fowl should hang two or three days in cool weather, and one day in warm weather.

Prepare a dressing by chopping stale bread with a little fat pork; season with summer-savory, sage, salt, and pepper. Fill the inside, and close with three or four stitches. Bend the legs down and tie them. Rub the outside with melted butter, and sprinkle with flour. If the hen is old, or in cooking a goose, wet with vinegar, and use vinegar in wetting the stuffing. Pour a pint or a pint and a half of water into the pan and place in the oven. The heat should be uniform, but not very high. Two hours is the rule; to be extended to two and a half if the fowl is very large or tough.

TO BROIL A CHICKEN.

It should hang a day or two. Split open on the back, rub over with melted butter, and sprinkle with black pepper before laying on the gridiron. The fire must be carefully regulated so as not to

burn, and yet be hot. A charcoal fire is the best. Eat while hot from the fire, with good potatoes or toasted wheat bread.

TO STEW AN OLD TURKEY OR A GOOSE.

If not fat, lard well. Put in a large stewkettle half a pound of bacon cut in slices, four ounces of knuckle of veal, three sprigs of parsley, two of thyme, a bay-leaf, six small onions, a carrot, three cloves salt, and pepper, and then the fowl; wet with half pint of vinegar, same of broth; cover as nearly air-tight as you can; place in a moderately heated oven or over a slow fire, and let it simmer, not boil, two hours and a half. Then turn it over and put back on the fire and cook for another two hours and a half. Dish the turkey, strain the sauce and boil it down to a jelly. It is as good eaten cold as warm, and may be cooked the day before a grand dinner.

PRESERVATION OF MEATS.

It is a characteristic of all highly nitrogenized food that it perishes very rapidly. It is on this account, as much as any other, that all the meats are more expensive than the starchy foods.

No discovery would have a greater effect upon the markets and the diet of the world than some inven-

tion by which animal food could be transported from one part of the world to another, with the same ease that wheat and sugar are conveyed, and with as little deterioration.

Salt is universally employed in the process of curing or preserving nearly all kinds of meat. But the grand objection to salt is, that, when used in sufficient quantities as to be effectual, it almost wholly destroys the flavor, and greatly impairs and reduces the nutritive properties of muscular flesh.

There has been discovered by a Dr. Morgan, an English chemist and physician, a method of preserving all kinds of animals used for food, which bids fair to supersede every other method. He calls it the infiltrating process, and it may be described, in brief, as a method of expelling all the blood from the body of the animal immediately after being killed, and infusing in the room of the blood, a preserving liquid of greater or less strength according to the time during which the flesh or body is to be kept.

In this way a bullock may be slaughtered at any seaport near the great plains of South America, and taken entire to London or New York, and the flavor and the richness of the meat so little impaired as to be hardly distinguishable from that which has been killed but one day. For meats that are to be kept

but a short time, and in cool weather, no more salt is required for the infiltrating liquid than will suffice for seasoning. A solution of sugar, a little saltpetre being added, with salt enough to make a weak brine, will preserve beef from one to three months, according to season and climate.

The discovery of Dr. Morgan is evidently based upon sound anatomical and chemical principles, and it requires no expensive apparatus. Every farmer could use it by simply having a large tub or hogshhead placed in some upper room or loft about ten feet above the ground. The liquid is injected by means of a tube extending from the bottom of the hogshhead to the platform where the animal falls. There is a small brass tube or nozzle at the end of the flexible pipe, which is inserted in one side of the animal's heart. The pressure causes the liquid to flow into every artery and vein, and return again to the heart, as in natural circulation.

There are two liquids used : the first a weak brine, which is permitted to flow until all the blood is expelled and the liquid runs clear ; then the opening at the heart is closed, and the preserving liquid injected by a similar pressure.

When the veins of the animal are all filled, the tube is removed from the heart, and the opening which was made for it carefully tied up. In this

way the preserving fluid is securely fastened within the animal, and the juices of the meat are thus all retained instead of being drawn out by the salt, as in the old way of cutting up and packing in brine.

This discovery, when fully perfected and brought into general use as it will be, is destined to supersede the old use entirely, at least so far as the preservation of beef and mutton is concerned.

With regard to the preservation of pork, the case is somewhat different. The fat parts of a swine are very little injured by being packed in brine. The hams and shoulders are not injured in their flavor by the usual method, if well conducted.

An excellent Rule for Preserving Hams. — The following method is practised by a large pork-raiser in Indiana, by which he is able to send to market hams of the finest flavor. This is his rule : —

“When first butchered, rub the hams and shoulders with salt, and let them remain in that condition twenty-four or thirty-six hours. This will draw out the blood and prepare them for the brine, of which you will have a sufficient quantity in a cask to cover all the pieces you wish to treat in this way. They should remain in the brine six weeks, — longer will not hurt them. Brush off carefully the salt and

impurities before putting into the brine. At any time after six weeks, I take my hams out of the brine, insert a strong string in the large end, and hang them up in the smoke-house, hock end downwards. By this means you save much of the oil and juice, and give tenderness and flavor to a portion of the ham often thrown away. Smoke with green hickory chips to suit *your fancy*, or not at all, if you prefer it. But the pyroligneous acid, has, I think, a preservative effect, and I like the flavor it imparts.

"After being sufficiently smoked or dried, make loose bags of brown domestic, amply large to receive the ham, which wrap up in a large sheet of brown paper. Put it in the bag and tie up carefully the mouth, leaving out the string by which it was hung up, and return it to the hook in the smoke-house, or pantry, cellar, or any other safe, convenient place.

"Hams are sometimes packed in barrels or boxes, with cut hay, oats, or something of the kind, but I think the flavor is materially injured by such process. The paper and cotton bags effectually protect the ham from the fly, and it will keep *years* in this condition."

Another Recipe. — To each green ham of eighteen pounds' weight, allow one tea-spoonful of saltpetre

and a quarter of a pound of brown sugar. Rub this mixture briskly upon the fleshy side, and around the hock. Then lay them in a large tub, the skin side down, covering the upper side with fine salt, half an inch thick. In cool weather they may remain in this state for six weeks or two months, then take out, wipe them carefully, and sprinkle thoroughly with black pepper, especially the edges and hock end. Then take a large, old cask, and bore a number of holes opposite each other in the sides, and hang the hams within, on sticks inserted for the purpose; cover the top with a cloth and with boards, and, through a small opening at the bottom, introduce a pan of hot coals covered with corn-cobs or green hickory chips. Two or three days' smoking will generally prove sufficient; but in families it is well to leave the hams hanging in the cask, as the flies are thus excluded. After the principal smoking, it is well to smoke for a short time, once in two weeks.

Hams treated in this way are likely to have a remarkably fine flavor, and to be very juicy and tender. The acid that comes from the smoke of corn-cobs or hickory wood is of a more delicate fragrance than that which is deposited by ordinary smoke.

Directions for Preserving Beef, Mutton, Venison,

and Poultry. — It is often desirable to keep meats for a number of days or weeks, without using salt enough to impair the flavor. There are several methods of doing this, of which the following are the best:—

First. By the use of Snow. — This is practicable throughout the winter months, as long as it is cold enough for snow to remain unmelted in a cool situation.

Take a large shallow tub or box, bore a few holes in the bottom, so the drip can run off. Lay two or three sticks of wood crosswise across the bottom, fill with snow to the depth of four or five inches, and pack down hard. Then lay in the pieces of meat or the poultry, crowding the snow hard around them; cover with snow to the depth of several inches. In this manner the meats will preserve their flavor perfectly.

Second. By the use of Sugar. — Take dry or powdered white sugar, and wipe the articles to be preserved. Wrap them in clean linen, or cotton, cloths, and cover with the sugar. They should be kept in a dry place, and the air excluded as much as possible. The sugar thus used is not impaired for ordinary cooking purposes.

Third. By the use of Oatmeal. — There is a bitter principle in the oat, which has considerable

antiseptic virtue. The oatmeal should be dried before being used; it can then be applied in the same manner as sugar. In cool weather, meat may be kept two weeks, and much longer, if the air is very dry.

Fourth. By the use of Chloride of Lime.—If you wish to keep steaks and other small cuts for a number of days in hot weather, wipe the pieces very dry, and smear them with a solution of chloride of lime, and hang in a cool, dry place. Of course the lime is to be carefully washed off before using.

PRESERVATION OF EGGS.

There are many ways of keeping eggs fresh a long time. A very simple mode is by placing them on a sieve and pouring hot water over them slowly. This stiffens or cooks the white to the depth of the sixteenth of an inch. Then smear the outside with a little copal varnish or a solution of gum-arabic, and pack in bran, or oatmeal, or salt, with the little end down. Others pack them in salt, and others in lime. But by this method the flavor is impaired, especially when lime is used.

PRESERVATION OF MILK.

As soon as milked, place in narrow, deep cans

and set in a very cool place, being very careful not to stir or jar it, and excluding the air as much as possible, especially when it thunders. In this way, even in July, milk may be kept sweet three days.

CHAPTER VI.

FISH AND ITS PREPARATIONS.

MAN has from the earliest times derived a considerable part of his sustenance from the waters. With respect to heartiness, or the ability to satisfy hunger and supply the waste of the system, fish occupies the middle ground between vegetable and animal food.

According to the analysis of Mr. Brande, given in the preceding chapter, the amount of albumen and fibrine, that is, of muscle-making nutriment, in the cod, the haddock, and the sole, is, to that contained in beef and mutton, as fourteen to twenty-one. In other words, it requires three pounds of fish to give as much strength as may be derived from two pounds of flesh. The distinguishing peculiarity of all fish, by which they differ totally from ruminating animals and birds, is the absence of blood and of the juice of flesh. On account of this lack, in the flesh, of juice, fish is entirely wanting in the stimulating properties which characterize beef. This is the reason why many kinds of fish, when properly cooked, are much more suitable for invalids than flesh. But, for the same reason, fish is not adapted

to those whose duties are strenuous and exciting, nor is it well fitted to sustain heavy muscular toil. But fish is always a grateful contribution to our diet, on account of the chemical salts which it contains.

It has been supposed that many kinds of fish, particularly oysters, are rich in phosphorus; but the most careful and recent analyses have failed to detect any considerable amount of the phosphates. When a diet is regulated for particular purposes, fish is used to reduce the plethora. It is also employed when the digestive powers are unable to assimilate stronger kinds of aliment, or when it is considered necessary to avoid the stimulation which butchers' meat imparts. The jockeys who wish to reduce their weight to the lowest figure, and submit to a special diet for that purpose, are never allowed meat when fish can be obtained. In families, fish is a very suitable kind of food to be used with other dishes that are more stimulating. It cannot be made a constant substitute for butchers' meat without considerably impairing the muscular, and perhaps the mental, force; yet, for persons whose occupations are altogether sedentary, it is found a very proper diet. It answers very well as a substitute for more expensive food in feeding prisoners and soldiers in barracks.

The cooking of fish must vary greatly according

to the amount of oil which is found in it, and also according to its condition, whether fresh or cured by smoke, by drying, or by salt.

In selecting fish that are fresh, there is very little danger of deception. Fish of any kind, that is stale, emits an unpleasant odor. If it has been dead too long the color of the gills is faded, the fins are stiff, and the eyes blurred and sunken. There is no way in which the flavor can be restored to a stale fish. It should also be cleaned as soon as practicable after being caught. This is done by removing the scales, if it is a scaly fish, cutting it open, and taking out the insides. In dressing small fish, such as mountain trout, perch, bream, pike, and catfish, be careful not to use much water or to allow them to be in it. The nutritive power probably is not much impaired, but the delicate and ethereal flavor is absorbed in the water and lost.

In order to extract the greatest degree of enjoyment from a string of mountain trout, which is perhaps the finest of our fresh-water fish, open the belly with scissors, taking care to cut no deeper than the skin, remove the inside without breaking any of the bowels, and wipe out the cavity with a wet cloth rung from clean water. Sprinkle with a little fine salt, unless they are to be cooked at once. If

it becomes necessary to soak them to remove the salt, the flavor will be destroyed.

To Fry all the smaller kinds of Fresh-water Fish.—

The French, for this purpose, use sweet oil, and in this way produce a very delicate and perfectly cooked dish. On account of the difficulty and expense of obtaining pure olive oil in this country, the fat universally in use among us is that obtained by frying salt pork. Cut three or four slices of the pork and allow it to soak over night to extract the salt. At meal-time, fry the pork until it becomes crisp, and after removing the pork, allow the fat to remain upon the fire and become hot, but do not let it burn. Roll the fish in Indian meal or flour, and lay them in the frying-pan. If they are small, let them remain on one side four or five minutes, then turn, and shortly after reduce the heat. They are done when they have a crisped appearance, and the flesh easily parts from the bone. Very much depends on the quality of the fat employed in frying and on taking them out the moment they are done. The finest of fish can be utterly ruined by allowing the flesh to become soaked with rancid or burnt fat.

To Cook Fresh Shad, Salmon, and Mackerel.—

These fish have a fine flavor of their own, which should be retained in cooking and preserved "unmixed with baser matter." This is best done by

broiling. For this purpose you need a *wire gridiron which folds*, as this saves the trouble and annoyance of turning by the knife and fork. The cost of a good one is not over sixty or seventy cents.

With these kinds of fish use no fat of any kind, unless it be a little butter; no pepper, and but little salt. The best sauce is a few drops of lemon-juice squeezed over the fish just before eating. The heat of the broiling-fire should be such as to crisp the outside in a short time, but not to burn it. The time necessary for broiling a shad or salmon cannot be prescribed. It is a matter of judgment, and must be varied according to the size, — that is, the thickness, of the fish and the sharpness of the fire. Generally speaking, the edges and ends will begin to burn a little before the cooking is thorough. Let the platter be warm, and the broil served as soon as it leaves the fire. Cooling is fatal to enjoyment here, — as much so as in eating steaks.

Mr. Blot recommends enveloping the fish in oiled paper before it is laid on the gridiron.

To Bake a Fish. — Many varieties are better baked than in any other way; this is especially true of the sturgeon, turbot, halibut, and sheep's head, when of a size weighing from three to ten pounds. Chop bread-crumbs with the soft roe of the fish, if any is found in cleaning, and add a little fat pork.

Season with an onion or two, salt, pepper, a little sage or savory, and a very little mace. With this mixture stuff the inside of the fish and bake.

Mr. Blot's Rule. — Take three pounds of halibut, flounder, or flat-fish. Put in a crockery dish four ounces of butter, set it on a good fire, and when melted sprinkle in it a teaspoonful of flour, and stir. Add a pinch of grated nutmeg, salt, pepper, some chopped parsley, two or three mushrooms chopped, then the fish. Pour over it a glass of good vinegar somewhat diluted. Cover the dish and transfer to a moderately heated oven, where it should remain till done. Serve in the dish in which it is cooked.

For carp, tench, bass, perch, black-fish, blue-fish, bream, porgies, weak-fish, whiting, and the white-fish of the lakes, the above directions are varied by using a smaller quantity of good vinegar, and water enough to cover, and boiling gently till cooked.

To Fry large Fish. — Many kinds of fish, especially those which have a white, dry flesh which opens in flakes when cooked, are as good fried as in any other way.

Cut the fish in slices at right angles to the backbone, and divide in pieces about the size of the palm of the hand and three-quarters of an inch

thick. Make a thin batter by mixing grated cracker or dried bread with two eggs well beaten. Dip the fish in the batter and lay at once in hot suet. Fry about twelve minutes. Eat with a little walnut sauce and a few drops of lemon.

To Cook Salt Mackerel.—Soak for two days after coming out of the brine in cold water. A very good way, where there is an open well, is to sink it by a small weight and twine several feet below the surface. If this is not practicable, lay it in a small tub, *with the flesh side down*, and change the water several times. Just before cooking, lay it in a shallow vessel and cover with hot milk. The effect of the milk is to remove the strong taste so unpleasant when this dish is carelessly cooked. Take out of the milk, pour water over it to rinse, and wipe dry with a napkin. Then lay in a wire gridiron, and broil in the same manner as fresh shad or fresh mackerel, and eat with lemon-juice for sauce.

To Cook Salt Codfish.—Cut into pieces about the size of the palm of the hand, soak in water until quite soft, remove the skin and large bones, and dry it with a napkin. Then make a batter by thoroughly mixing two eggs with three or four Boston crackers, grated. Cover the pieces of fish with this batter, and fry brown with butter.

Another Way.—In buying, select a big fish with little odor and a uniform color throughout. Avoid those that have spots upon them, as they spoil the flavor of the whole fish. Pick the flesh fine, and place it in cold water over night. In the morning, pour off the water in which it has soaked, and rinse with more cold water. Next pick it to very fine bits, cover with cold water, place upon the stove, and just before it boils, pour off this water and put in a pint or more of milk. As soon as the milk is hot, stir in flour, or, what is better, grated cracker. When it has boiled a few minutes, stir in two or three beaten eggs, add a little butter, and more milk if necessary to make it just thick enough to dip with a spoon. This makes a very suitable dish for breakfast in all seasons of the year, and is vastly more palatable than any of the ordinary preparations of codfish.

Boiled Codfish.—Take half a small fish, cut it into pieces and freshen, as above, and then boil for five or ten minutes in a large quantity of water. This removes the salt and most of the unpleasant odor. For gravy, take two tablespoonfuls of butter, and stir into it one of flour; pour on to this a pint of boiling milk or water, and when it has boiled, serve hot with the fish. If any of the latter remains,

it can be made into fish-balls with potato, and fried in hot fat for a breakfast dish.

Oysters, Stewed. — Separate the oysters from the liquor; to this, add milk, butter, pepper, according to the quantity to be cooked. Bring this broth to a brisk boil, and then put in the oysters, after which, the boiling should not continue more than from two to three minutes. Serve hot, with crackers.

Scalloped Oysters. — This is an excellent dish to set before a lady's guests as a supper or for lunch, or as one of the side dishes in a fine dinner. Take a quart of oysters, separate them from the liquor, and crush a pound of Boston crackers. Put a layer of the crackers at the bottom of a good-sized pudding-dish, then a layer of the oysters, seasoning them with salt, pepper, butter, and bits of lemon, then a layer of crackers, and so on until all your oysters are in. Pour over the whole the oyster-liquor, add a cup of milk, and bake forty minutes.

Oysters, Broiled on the Shell. — Perhaps no dish is able to give more epicurean delight than this, if well managed. It is just the thing for a night supper or for a *recherché* breakfast.

Select as many dozen as you have guests. They should be large, and the shells of good shape. Clean them with a stiff brush, and open, saving the juice.

Throw the oysters into boiling water, and let them remain a minute or two, according to size. Take out, and lay at once on one half of the shell, and place on a gridiron over a brisk fire. As soon as the oyster begins to boil in the shell, season with butter, pepper, and a drop of lemon-juice. Serve hot, on the shell.

CHAPTER VII.

VEGETABLES, AND HOW TO DRESS THEM.

THE most general division of fruits and vegetables is into such as are very perishable, and must be eaten after being a day or two gathered; and such as will keep for a considerable length of time. It is impossible to draw a distinction between fruits and vegetables in such a way that all articles included under both these names shall be ranked under one or the other. Thus, for instance, rhubarb, or pie-plant, — is it a fruit or a vegetable? It may be said, in general, that fruits are distinguished from vegetables by the circumstance that they contain hardly any nitrogen or plastic material, while vegetables are all more or less rich in nitrogen. The most of our common garden and orchard fruits are composed of nearly the same constituents, — a little woody fibre, more or less sugar, and several acids, the most common of which are the malic, the citric, and the tartaric. Two or more of these acids are found in almost every fruit. The value of fruits as articles of diet is mainly owing to the presence of these acids. The vegetables, on the other

hand, are mainly valuable on account of the starch and albumen which they contain.

The following tables, prepared by Prof. L. C. Loomis, present in a new light the relative value of vegetable and animal diets.

	Starch.	Sugar.	Albumen.
Wheat,	60	5	30
Rye,	60	3	12
Corn,	80	1	10
Potatoes,	15	0	4
Rice,	82	0	0

From which it is seen that rice is highest in the amount of starch, and lowest in albumen, while wheat, which has a heavy per cent. of starch, is first in albumen.

From the above we deduce the following table, showing the proportionate weight of the elements in 1000 pounds of nutrition.

	Carbon.	Hydrogen.	Oxygen.	Nitrogen.
Wheat,	508	67	326	98
Rye,	485	64	389	62
Corn,	477	64	415	44
Potatoes,	498	65	364	72
Rice,	492	62	446	—

In which, with the exception of rice, we are struck with the remarkable uniformity of the proportions

of carbon and hydrogen, — the one being not far from 500, the other 65. The proportions of oxygen and nitrogen are somewhat more variable.

If we now analyze the substances that constitute the human frame, we may be able to institute a comparison between the actual wants of the system and the actual supplies offered in the above articles.

As bone is slow of growth and decomposition, and therefore correspondingly feeble in its nutritive action, we shall omit it, as unimportant to our present investigation. The remainder of the body is chiefly composed of muscular fibre and membranous tissues.

Proceeding in the analysis of animal substances, as, previously, in vegetable, we find three animal proximate elements quite similar to the vegetable, — fibrine, albumen, gelatine. Muscle is almost wholly fibrine; tendons and the membranes gelatine.

The composition of these is as follows: Fibrine and albumen are composed each of, —

40 parts carbon,	12 parts oxygen,
31 parts hydrogen,	5 parts nitrogen.

Being the same as vegetable fibrine and albumen.

Gelatine is composed of, —

33 parts carbon,	15 parts oxygen,
30 parts hydrogen,	6 parts nitrogen.

Reducing these proportions to the same basis as before, for the purpose of comparison, we have the following:—Relative weight of elements in 1000 pounds of animal fibre, —

Carbon, 549 pounds,	Oxygen, 219 pounds,
Hydrogen, 70 pounds,	Nitrogen, 160 pounds.

That is, of 1000 pounds of muscle and membrane, the chief components of the body, 549 pounds are carbon, 70 hydrogen, 219 oxygen, 160 nitrogen.

Now, it is evident that if these are component parts of the body to this extent, food must supply them to this amount, or there can neither be health nor strength. Let us make the comparison, —

	Carbon.	Hydrogen.	Oxygen.	Nitrogen
Animal fibre has	549	70	219	160
Wheat has	508	67	326	98
	—	—	—	—
Deficiency or excess,	—41	—3	+107	—62

From these figures it appears that wheat furnishes almost exact supplies of carbon and hydrogen, a large surplus of oxygen, but has a marked deficiency in nitrogen. Again, —

	Carbon.	Hydrogen.	Oxygen.	Nitrogen.
Animal fibre has	549	70	219	160
Rye has	485	64	389	62
	—	—	—	—
Deficiency or excess,	—64	—6	+170	—98

Here the deficiencies and the excess, in every instance, are greater than before, and therefore rye is less able than wheat to satisfy the wants of the system. Expressing these deficiencies and excesses in decimals, we find in wheat a deficiency in carbon of only 8 per cent. ; in hydrogen of only 4 per cent. ; but in nitrogen of 39 per cent. ; of oxygen there is a surplus of 50 per cent. In rye the deficiency in carbon is 12 per cent., in hydrogen 9 per cent., in nitrogen 62 per cent. ; while there is an excess of oxygen of 77 per cent. Comparing the others in the same manner, we have the following statement, —

	Carbon. Deficiency.	Hydrogen. Deficiency.	Oxygen. Excess.	Nitrogen. Deficiency.
Wheat,	.08	.04	.50	.39
Rye,	.12	.09	.70	.61
Corn,	.13	.09	.89	.83
Potatoes,	.10	.07	.66	.55
Rice,	.11	.12	1.04	.00

This table gives several valuable and practical results.

First. We observe that there is no noticeable deficiency in either carbon or hydrogen ; all of these vegetables furnishing, nearly, if not quite, the requisite amount.

Second. They all yield a large excess of oxygen.

Third. But all have a material deficiency in nitrogen, only one having a supply of even 50 per cent.

Fourth. As we are considering the composition of muscle, and consequently the growth of children and the strength of the adult, it appears *that these vegetables are not sufficient for either class.* They can produce neither material for the one nor strength for the other. There can be no muscle nor membrane without 160 parts of nitrogen in a thousand. Wheat furnishes a little more than half that amount, potatoes but 45 per cent., rye but 38 per cent., corn but 27 per cent., and rice little or none.

Fifth. As all furnish nearly or quite a supply of carbon, hydrogen, and oxygen, it is evident that the vegetables having in addition the largest amount of nitrogen will possess the greatest nutrient value. *Thus, for the laborer, wheat is by far the most valuable vegetable food; next to it ranks the potato, next rye, next corn, and last rice.*

A very natural inquiry which follows these conclusions of Prof. Loomis is, What additional food is needed to be eaten with potatoes and other vegetables, in order to make a sound and sufficient diet? Obviously such food as contains a large amount of nitrogen.

It may here be remarked, that in preparing vege-

tables for the table, they should not only be eaten at the same time with hearty food, but, in order to be relished, they should be intimately blended with meat, eggs, fish, and similar dishes. In this way the flavor of the richer food is imparted to the more bulky, and, if the compound is skilfully blended, an almost perfect nutriment will be the result.

THE POTATO.

This is, on the whole, the most valuable of all our vegetables, since in nutritive value it stands next to wheat, and surpasses all the grains in the amount of nutrition that can be derived from a given area. Considering how universal is the use of the potato in this country, — a large proportion of our people deriving their chief sustenance from this plant, — we have made, as yet, very little advance in the art of preparing this esculent for our tables. We boil and bake potatoes. Beyond this the cookery of the most valuable of all roots is unknown. We commit, moreover, several cardinal errors in boiling potatoes. We very frequently find them, on American tables, nearly ruined and unpalatable, because water-logged; and the most nutritious part, which lies just under the skin, is thrown away in peeling.

If young and tender, take off the surface skin by

scrubbing them with a stiff brush; if old, scrape them with a blunt knife. It is never best to let them remain in contact with the boiling water; certainly not when they have begun to soften. The best way is to place a quart of water in the boiler, and cover with a strainer, which may be any tin, copper, or brass sheet pierced with holes. Put over a brisk fire, and when the water begins to boil, put in the potatoes, the largest at the bottom. Cover tightly, and let the boiling be brisk for half an hour, or until the potatoes are done. If the water should become evaporated, supply with that which is boiling, not cold. As soon as done, take out into a wooden bowl, mash fine and smooth with a wooden potato-masher or pestle, adding salt, pepper, cream, or butter, to taste. Place in a dish of proper size, smooth the surface with a spoon moistened with milk, and cover it with an egg well beaten. Set it into the oven until the egg covering is a little browned.

Sweet Potatoes. — Boil them till done; then peel, and cut in longitudinal slices, and pour upon each slice, as you lay it in the sauce-dish, gravy made in the following manner: Of sugar and butter take one cup each; add half a cup of hot water, and boil till it is thick. This sauce is a great improvement

to the sweet potato, and removes the dryness of that vegetable.

Fried Potatoes. — Peel, wash, and cut in thin slices; have hot lard in a stewpan, on a sharp fire; throw in the potatoes, and let them be entirely covered with the lard until fried. Arrange neatly on a dish, and serve hot, sprinkled with salt. This dish is commonly eaten with beefsteak or mutton-chops, and, when well prepared, is the most satisfactory style in which potatoes can be cooked.

Democratic Potato Cake. — *Mr. Blot's Recipe.* — Prepare and cook by steam, a quart and a half of potatoes; peel and mash them; mix with them the yolks of five eggs, half a lemon-rind grated, and four ounces of fine white sugar. Put four ounces of butter in a stewpan, and set it on the fire. When melted, put the mixture in, stirring with a wooden spoon continually. As soon as it is in the stewpan, add the whites of the five eggs, well beaten; leave on the fire only long enough to mix the whole well together and take off. When nearly cold, flavor with a few drops of orange-flower water. Put in a tin mould, and bake in hot oven for about half an hour.

ONIONS.

How to Cook Onions. — The onion is, next to the

potato, the most valuable garden vegetable. It abounds in nitrogenous matter, and is as good vegetable food as a laboring man can eat. Properly cooked, it is delicious in taste and easy of digestion. But no vegetable is so little understood as the onion. That strong smell comes from a small amount of pungent volatile oil, which can easily be expelled, and the bulb left as delicate and as little objectionable as the potato or the beet. Now, how is this rank odor to be disposed of? As follows:—

Select those that are alike in size, and not very large. Boil half an hour, and pour off the water. The offensive oil has been liberated by the heat, and most of it goes with the water. Now make a dressing, by adding a lump of butter of the size of an egg to a pint of milk; put in a little chopped parsley and a bit of mace. When it boils, put in the onions, and let them stew slowly until done. When you take them up, open the top of each and drop in a small lump of butter. Eat while warm, and have no misgivings about your breath; for thus dressed they are as mild as baked apples and far more nutritious.

BEANS.

How to Cook Beans.—Sort and wash them, and cover with lukewarm soft water to which a pinch of

soda has been added. Let them soak, adding, at times, a little hot water, for half a day. Pour off this water, and fill with boiling water, allowing them to simmer till nearly soft. Place in an earthen baking-dish, and in the middle of the beans bury a piece of fat salt pork. For a quart of beans a piece as big as a goose-egg is sufficient.

TOMATOES.

There is no more wholesome plant cultivated than the tomato. It has a direct but mild action upon the liver, and aids digestion generally.

When perfectly ripe, pour scalding water over them, peel, cut in slices, and serve with claret wine and crushed white sugar. Good cider-vinegar may be substituted for claret wine.

Stewed Tomatoes. — Peel and cut up; put in a saucepan; add a very little water, a little claret wine or vinegar; sugar, butter, salt, and pepper, to taste. Stew till done, and thicken with pounded cracker or bread-crumbs.

Tomato Toast. — Cut the tomatoes without peeling, stew them till done in a little water; then strain through a sieve or colander, and add butter, sugar, salt, and milk. When it boils, stir in a little thickening made of flour or corn-starch. Toast your bread

brown on both sides, and cover each slice with a portion of the tomato-sauce. Serve hot.

Fried Tomatoes. — Select those that are fully grown but green; cut them in slices a quarter of an inch thick, and lay them in hot butter or hog's fat; sprinkle a little salt over them. When brown on one side, turn them and cook the other. They will be found a pleasant breakfast dish in midsummer.

Baked Tomatoes. — Select such as are sound and ripe; pour boiling water over them; cover, and let remain an hour; peel, and lay in the bottom of a deep pie-dish; season with pepper and salt, and cover with grated cracker and small lumps of butter; put on another layer of tomatoes, and cover as before. Bake one hour.

EGG-PLANT.

Egg-plant is best when fried. Cut in slices; season with salt and pepper; dip in a batter made of grated cracker and egg. Fry in butter till quite brown.

TIME OF BOILING CERTAIN VEGETABLES.

Cabbage, two hours. Turnips and parsnips, an hour and a half. Carrots, two hours. Beets, from three to four hours. Green corn, half an hour. Asparagus, twenty minutes. Green peas, from

thirty to fifty minutes. String beans, one hour. Squashes, one hour.

THE CEREAL GRAINS AS VEGETABLES.

By the expression cereal grains, we understand all such grains as are commonly ground into flour and made into bread or cakes. Of these, the chief is wheat, which every different mode of analyzing, as well as the general consent of the race, has pronounced the king of vegetables. Very similar to wheat in chemical composition, and only a little inferior in nutritive value, we may enumerate as the leading cereals, rye, corn, barley, oats, buckwheat, and rice. Of these the best known, and the most universally raised in this country, are corn, oats, and rye, and we eat these grains and wheat almost exclusively in the form of flour, without thinking that by simply crushing the grains of wheat, of corn, or of oats, we can obtain a vegetable more nutritious than the same weight of flour, equally palatable, and easier of digestion.

Cracked wheat, cracked corn, also called little hominy (the whole corn being known as big hominy), and oatmeal, are all cooked in about the same way. *The water in which they are plunged should be boiling and never allowed to grow cool.* The reason of this rule will be seen by a little reflection. The

gastrie juices can act only on the surfaces of objects presented to it. Now, if coarsely ground wheat or oats is allowed to soak, even for a few minutes, in tepid water, the whole becomes pasty, and no amount of boiling or baking can ever overcome this difficulty. Taken into the stomach, thus badly cooked, it is unpalatable in the eating, and remains two or more hours longer than there is any need of in the stomach.

To Cook Cracked Wheat, Oatmeal, and Hominy.
— Let the meal be dry and a little warm. Have two or three quarts of water boiling briskly. Throw into it a lump of butter of the size of a butternut, and a small handful of salt; add the meal by little handfuls, sifting it over the face of the water, and stirring constantly. After it is thick enough, it may stand for hours over a slow fire. The longer corn thus stews, after the first brisk boiling, the better it is. Coarse hominy should stew half a day. Finely ground Indian meal should not be kept on the fire so long, and half an hour of boiling heat is all that is necessary for wheat and oatmeal. Cracked wheat is an excellent breakfast and supper dish, eaten warm with butter and sugar.

Oatmeal mush is best in milk. Samp or hominy can be eaten in milk, with cream and sugar, with molasses only, or, when cold, cut in slices, and fried

in hot lard or butter, and eaten with butter and syrup.

It is a little remarkable that a grain so valuable and easily produced as the oat, should, in this country, have been abandoned altogether to the horses.

Boussingault and Norton, both thorough chemists, have found the oat superior to wheat in strength-giving power. Horsford, in dried oatmeal found over twenty per cent. of proteine, that is, of muscle-making constituents.

And we know from the hardihood, the physical and mental vigor of the Scotch and Irish, with great numbers of whom oatmeal is the standard dish in childhood, and from its well-known value as food for hard-worked horses, that the excellence of this cereal has been overlooked by our countrymen, as it will not be in the future.

Rice is very little esteemed in this country as an article of food. It is digested with great ease, and properly dressed and combined is palatable. But rice is, according to numerous analyses, and by the uniform testimony of all who have eaten it, the least nutritious of the grains we consume.

It is almost pure starch, with no proteine or muscle-making constituents, or so small as to require the swallowing of enormous quantities of it to give strength enough to labor.

Rice is useful as an absorbent of oils, and for giving the requisite dilution and mechanical separation to rich and concentrated foods. Hence it is well to eat it with fat roast beef, with eggs and sugar, in the form of rice pudding, and blended with rich meats in the form of rice curry.

To Boil Rice.— Throw it into boiling water, and, as soon as done, drain out the moisture, and let it stand near a hot fire till quite dry.

CHAPTER VIII.

BREAD.

THE accomplishment of bread-making is a fundamental virtue in a good housewife. Like truth-telling among the social traits, like the rose among flowers, like corn among the useful plants, the art of making perfect bread, and keeping her table constantly supplied with this staff of life, outweighs every other domestic merit, and outshines all the sisterhood of housewifely graces.

Experience, as well as chemical analysis, shows that bread made of wheaten flour is more perfectly adapted than any other single article of diet to meet the demands of adult life. It is, indeed, for the man, when well compounded and thoroughly baked, what milk is to the infant; we might almost say, what grass is to the ox.

It is a remarkable fact, that those climates which are adapted to the development of the finest races of men are also abundant producers of wheat.

The hopeless and stationary millions of Asia are rice-consumers; while Europe, with her restless blood, her active, analytical brain, and her world-

wide commerce, relies upon wheat as her great staple of food.

The wisest of our geographical writers has remarked it as a universal distinction between semi-civilized and fully civilized nations, that the former eat boiled rice, while the latter feed on wheat bread.

As the greater portion of our American States are peculiarly adapted to the growth of the best quality of wheat, may we not, from this fact alone, infer that they are designed by Providence as the home of a race presenting the highest type of manhood, and the noblest results of civilization? If, then, wheat is so regal and typical among all the plants to which man looks for food, wheat bread must occupy a position among all the articles of diet, of corresponding dignity and importance. As woman is the great civilizer, perhaps in no one part of her realm does she possess a more effective influence for good, than in keeping her family supplied with the best quality of bread.

The crudest form of bread is a simple mixture of flour and water, worked to a stiff paste, spread thin, and baked hard. Under the name of navy-bread or hard-tack, this constitutes the nutritious but homely fare of the sailor and the soldier. Between this rude, though effective means of sustaining life, and

the light, sweet, fragrant, and delicious loaf, resting beneath the snowy napkin, beside the ball of golden butter, around which the family gather at their evening meal, there is a contrast as wide as between the roughness and hardships of the camp and the forecastle, and the sancity, the purity, the taste, and the rest of home.

The difference between these two compositions of wheat flour is not mechanical merely. In the perfect bread, there are mingled with the flour those elements which will develop from it all its most nutritious and palatable qualities. In other words, the effect of leaven or yeast is to convert the glutinous mass of wet flour into a porous, spongy substance, in which starch, sugar, carbonic acid gas, and alcohol are in process of development. The skill of the domestic baker consists in mingling these elements in just proportions, and in arresting the process of fermentation, at precisely the right moment, by the heat of her oven. No domestic art requires the exercise of more judgment, or requires it more constantly. There is no such thing as prescribing an infallible rule for making bread, for success depends upon at least four variable elements, which cannot be embraced under any one formula. These are the quality of the flour, the strength of the yeast, moisture, and heat.

It seldom happens that two successive barrels or bags of flour, brought into the family store-room, will bear the same treatment. Wheat raised on different soils is composed of varying constituents. The amount of gluten or adhesive matter is much greater in some wheat than in others. Where the proportion of this element is large, a sweeter and more nutritious, but not so snowy-white an article of bread can be made from it. The flour made from such wheat is of a pale cream color, and, for making into light bread, requires a longer time in fermentation, and should remain a little longer in the oven.

In judging of flour, if, upon opening the barrel or sack, the color is, as above described, not perfectly white, but of a very pale straw or cream color, and a little of it when compressed in the hand retains the stamp of the fingers, and does not fall immediately apart, you have a sweet and nutritious article. If it also passes the tests of smell and taste, you may, with application of proper skill, be sure of good bread.

Bread-making, chemically considered, consists in evolving, by fermentation, from the constituents of flour, and distributing uniformly through the mass carbonic acid gas, and then arresting fermentation at precisely the right point. It is this gas which

has given good bread the spongy appearance which always characterizes it.

This is done by incorporating with moistened flour a certain amount of yeast. According to Mitscherlich, a German chemist, who brought the science of the laboratory to the investigation of culinary art, flour made from fresh, sound wheat contains no sugar. By the addition of ferment, — hop yeast being generally used, — this is further increased at the expense of the starch in the process of fermentation; and the grape-sugar thus produced is converted into alcohol and carbonic acid. It is on account of this chemical change of a part of the gluten into sugar that dough which has been mixed two or three hours is observed to be sweeter to the taste and less sticky to the touch. The carbonic acid gas formed everywhere throughout the mixture is entangled and retained by the tenacious gluten; and the dough is thus rendered light and cellular. When submitted, in an oven, to a baking heat, the outer surface becomes roasted, assuming a brown color; the alcohol developed in fermentation is driven off; a part of the water evaporates; the starch, a principal constituent of gluten, is rendered more soluble, and, in short, by the continued application of heat, all the elements in the flour are made palatable and easy of digestion.

The process of fermentation is induced by various kinds of yeast. That most in use is brewer's or hop yeast, which is at once the most certain in its operation and the most effective, while at the same time it contains nothing deleterious. It is made by boiling a handful of hops in two quarts of water, with six or eight peeled Irish potatoes. When they are soft, mash the whole; pour the mixture, while hot, upon two quarts of sifted wheat flour. Add a cup of brown sugar, and two tablespoonfuls of salt. When nearly cool, add a pint of brewer's yeast or yeast made from cakes. Mix thoroughly. When it is well risen, thicken with either corn meal or wheat flour to a very stiff paste; cut into cakes two inches square, and dry by the fire or an open window, but not in the hot sun. Put away in an earthen jar, in a cool place, and keep well covered.

A few hours before you wish to make bread, dissolve one of these cakes in half a pint of water; stir in flour till it becomes a thick batter; put in a warm place till it rises. Now sift about three quarts of flour into a bread-bowl, pour in the yeast, add two tablespoonfuls of salt, and sufficient warm milk or warm water to make a stiff dough. Set in a warm place. In about three hours it may be expected to be light enough for working over. If no signs of fermentation appear, a longer time must be allowed it. When

well risen, knead thoroughly, and put into baking-pans, setting them in a warm place. In from half to three-quarters of an hour they are ready for the oven, where they should remain an hour, more or less, according to the size of the loaves.

If, when the bread is ready to be worked over, it should be acid in any degree, sufficient saleratus or soda should be dissolved and added to correct the acidity. If the oven is not hot enough to arrest the process of fermentation, the bread will sour after being placed in the oven; if it is too hot, the crust formed over the surface of the loaf will impede the escape of the various gases evolved and liberated in the process of baking, and prevent the bread from having as much lightness and sweetness as it otherwise would possess. Experience alone can instruct the housewife fully, in this as well as in other departments of the bread-making art. Judgment and skill must be employed, at every step, to secure the most perfect results.

In cool weather, yeast prepared as above, without being thickened, may be kept in a tightly corked bottle or jug, in the cellar, when it is ready for immediate use; or potato yeast may be used as a substitute for hops. Bread made from this kind of yeast is whiter and moister than that made from hops, and it rises more readily. In summer, it is

not recommended, on account of its liability to sour. It is prepared in the following manner : — Boil three or four Irish potatoes till soft ; then peel and mash them fine, and mix thoroughly with them a pint of sifted flour ; pour upon the whole a quart of boiling water ; when cool, add two tablespoonfuls of salt, half a cup of sugar, and a cup of yeast or a piece of raised dough dissolved in a cup of water. When well fermented, pour into a bottle, and set in a cool place. A cupful will raise three or four loaves of bread.

Perhaps no bread is more suited to the digestion of invalids and young children than that made from milk yeast, or, as it is frequently called, salt-rising. It requires, however, more skill and more time than the two varieties above described, but when perfectly made is superior to them both, and is a very pleasant change for an appetite that craves variety. To make the yeast, put in a perfectly clean and sweet earthen pot a pint of new milk ; pour upon this a pint of boiling water ; stir in a tablespoonful of salt ; add flour until it is a thick batter ; cover the pot with a saucer or plate, and set it where it will retain the same temperature that it has after the flour is stirred in, for six hours, when, if all the conditions are complied with, it will begin to rise. Have flour ready to make three good-sized loaves,

and when the yeast is risen pour it into the flour, and add warm milk or water sufficient to moisten the flour. Knead but a short time; place the loaves in pans, and set them by the fire, to rise. When risen, put in an oven, not too hot, and bake till done.

In this kind of yeast, the three processes of fermentation — the saccharine, the vinous, and acetous — may be very perfectly and distinctly traced. When the yeast has set for two or three hours, little bubbles of air appear around the sides of the pot, and the batter has a perceptibly sweet taste. This is the first stage. As the fermentation advances, the taste resembles that of cider a day or two old, and the yeast begins to rise. Now it has reached the second stage, or vinous fermentation. If not arrested here, it will soon become sour, or pass into the third or acetous fermentation. The skill of the baker is exercised in seizing the precise moment — before the vinous fermentation ceases, and the acetous begins — to compound his loaves. Though the acidity of the bread may be neutralized by soda, it cannot pass the vinous fermentation without losing some of its nutritive qualities. If he does not wait long enough, fermentation will not be sufficiently advanced, and heavy bread will be the woful result; if he waits too long, it will be sour,

and soda will be needed. What skill, what judgment, what experience, is required to make a loaf of perfect bread !

When hop yeast, salt-rising, or potato yeast is used, the product may very properly be called natural bread. When properly made, it contains no substances that may not assimilate kindly and perfectly with the blood, without detriment to the coats or liquids of any part of the digestive tract. The adulterations of baker's bread are often affected by the use of substances that are in the highest degree deleterious.

The flour used by bakers is seldom of the best quality, and, if made into bread in the manner above described, would produce an article less white than is demanded by most consumers. To remedy this defect, alum is the chemical most in use ; yet few substances that could be mixed with food are more thoroughly noxious. The leading property of alum is its power of retaining substances with which it is combined in an unchanged state. Bread containing it cannot be operated on by the liquids of the stomach, and is likely to remain undigested.

Another difference between baker's and home-made bread is, that the former is more meagre and innutritious in its constituents. Milk and lard are generally used in making domestic bread, while

baker's is simply flour, water, and salt, with yeast to produce fermentation. A larger proportion of yeast is used by bakers, the effect of which is a dry, spongy bread, comparatively tasteless and in-nutritious, and often adulterated by substances in the last degree unsuited to the human stomach. Though wheat bread constitutes by far the greater portion of all our vegetable food, yet other grains are very largely consumed in the form of bread, especially by those who raise their own cereals.

Much discussion has also arisen of late years, among writers on health, as to what part of the coarser products of ground wheat ought to be excluded from bread.

Dr. Sylvester Graham, in his well-known writings on hygiene, was a strenuous advocate of using every part of the crushed kernel or unbolted wheat meal instead of flour, and bread thus made is quite generally known as Graham bread. Whether his views are entitled to general acceptance or otherwise, this has been found true, that bread made of unbolted wheat is better for all persons of dyspeptic habit. The reason seems to be, that while the particles of bran contain little that is nutritious, they hold apart the glutinous portions by presenting a larger surface to the attack of the digestive fluids, and thus promote active and easy assimilation.

To make Graham bread palatable, more must be added than is required by common wheat flour. To two quarts of unbolted flour add a gill of yeast, a gill of molasses, half a gill of lard, a teaspoonful of salt, and warm milk enough to make a dough not very stiff. When well risen, work over, and bake as common wheat bread. On account of its coarse and porous texture, it becomes dry and unpalatable sooner than bread made of bolted flour, and, to be enjoyed, should be eaten soon after it is cool.

Bread made from rye flour ranks next in excellence to that made from wheat. The manner of mixing the ingredients is the same as with wheat bread, except that more liquid is used in proportion to the amount of flour, and it is put into the pans without being kneaded. It is quite common to add a small handful of caraway seed to the dough of rye bread, and, for most palates, bread thus spiced is considerably improved.

The upper crust of rye bread is made much firmer and more palatable by moistening the surface with milk just before putting the loaf into the oven. A variety of bread quite common in the Eastern States, and, when well made, surpassed by none for its palatable and nutritive qualities, is a combination of rye meal and corn meal, called rye-and-indian, or Boston brown bread. For persons of sedentary

habits and a dyspeptic turn, no food is more wholesome, yet it is by no means easy to produce this article in perfection.

Of unbolted rye meal sift one quart, of unbolted corn meal three pints; to the corn meal add, say, a tablespoonful of salt and half a pint of molasses. Pour upon this, boiling milk or boiling water, till the corn meal is thoroughly scalded. Now add cold sour milk or butter-milk with your rye meal, and soda enough to correct the acid in the milk and in the molasses. If you have stewed pumpkin or mashed Irish potatoes, a half pint added will improve the flavor of the bread. Mix all the ingredients thoroughly with the hand. It needs no time to rise. Bake in a hot oven for two or three hours. This will make a large loaf; and it is better to put it into one pan than to divide the dough. A very thick and hard, tough, and palatable crust is formed, which some find their teeth strong enough to masticate. A mode of cooking, preferred by some, is by steaming in an ordinary pudding-pan, with a tube running up through the middle, after the manner of a cake-pan. Put the dough into such a dish, cover lightly, and place in a kettle of boiling water, where it should remain and boil constantly for four hours. As the water evaporates, supply from a boiling tea-kettle. Cooked in this way, no crust is formed,

and the bread has a delicious flavor, and remains moist for a number of days. When a day or two old, it is improved by warming in an oven before being brought to the table. Successfully compounded, there is no danger that this article will grow stale upon the hands of a house-keeper. It makes the heartiest bread that is eaten, and is at the same time remarkably easy of digestion.

The varieties of bread above described are mostly eaten when a day or more old. Where close attention is paid to the rules of health, bread will invariably be eaten cold or stale, — never when fresh from the oven. The reason of this is, that mastication of hot bread reduces it to a tenacious, gummy mass, that is with difficulty dissolved by the gastric fluids. As the taste for hot food, and especially for warm biscuit, hot rolls, buns, hot corn bread, waffles, and batter cakes, is almost universal among the Americans, instructions are given for preparing these dishes, a protest being at the same time made against this wide-spread and unwholesome practice.

It should, however, be remarked, that grains which contain a moderate proportion of gluten may be eaten in some form of bread while hot, with less injury than such as contain it in larger proportion. Thus, dishes made up principally of corn meal, rice,

barley, or buckwheat may be taken moderately hot with little mischief to the stomach.

Johnny Cake.—Rub two tablespoonfuls of butter into a quart of corn meal. Add a small teacup of molasses to a teaspoonful of brown ginger, pour on slowly sufficient water or milk to make a moderately soft dough. Bake in small, shallow pans in a hot oven.

Egg Bread.—Three quarts of milk, a little sour, seven eggs, two ounces of butter (a lump of the size of an egg weighs about two ounces), a teaspoonful of saleratus; add corn meal to make stiff batter. Bake by a brisk fire. For a smaller quantity, rub a piece of butter of the size of an egg into a pint of corn meal, add two eggs, a spoonful of yeast, and milk enough to make batter. Let it rise in pans by the fire, for an hour. Bake in shallow pans by a brisk fire.

Corn Batter-Bread.—Six tablespoonfuls of flour, three of corn meal; add a little salt; make it a thick batter, with four eggs and enough milk. Bake in small pans in a hot oven.

Breakfast Corn Cakes.—Three teacups of corn meal, one cup of wheat flour, two of milk, one of cream (or a tablespoonful of butter), one egg, and a teaspoonful of salt. Bake in small pans with brisk heat.

Missouri Corn Cakes.—Sift three pints of corn meal into a pan; add a teaspoonful of salt, a table-spoonful of lard or the drippings of roast beef, a teaspoonful of soda in a little warm water. Make to a soft dough with a pint of milk or cold water; then add gradually more than a pint of hot water. Beat for half an hour. Bake on a hot griddle, and eat with butter.

CHAPTER IX.

PRESERVATION OF VEGETABLE FOOD AND FRUIT.

THE chief distinction in the garden vegetables mostly used by us depends not so much upon their flavor or their nutritive value, as upon the rapidity with which they decay. In other words, the most useful plants we have are those whose fruit can grace the table for nearly twelve months of the year. This is true of the potato, the onion, and the bean. Among the fruits, we have none that will compare with the apple in the length of time for which it may be kept. The potato, the onion, the cabbage, and the turnip will keep during the winter with only a slight falling off of their flavor and their nutritive value; but, in spring, the germinative principle is irrepressible, and they undergo a change which unfits them to be used as food.

In the case of the *potato*, this germinating change may be arrested in the following manner:—Select potatoes that are of excellent quality and about uniform in size, put them in a coarse bag, and throw them into a caldron of scalding water; they should not remain more than about ten minutes. There should be a good deal more water than enough to

cover the potatoes, so that the temperature may not be very much reduced by the introduction of so many cold potatoes. The scalding should last long enough to destroy the germinating principle in the eye of the tuber, but must not be continued so as to cause the skin to peel. They should be dried and thoroughly cooled before being stored, and then laid away in boxes or bins; sawdust, chaff, fine shavings, or oats being sprinkled between successive layers. The reason of this precaution is to exclude most of the air, and prevent those in the bottom of the receptacle from being pressed and bruised by the weight of those above. This preserving process may take place in the fall, when they are stored for winter use. When they are not subjected to some such treatment, the starch of potatoes is very much injured during the latter part of the season, so that a tuber, if kept till May, is not worth more than half as much for food as though it had been brought to the table in October.

The preservation of winter *apples* depends upon the natural facility with which they may be kept, under almost any circumstances, and also upon the care that is exercised in gathering them. The russet, for instance, and the Rhode Island greening are very slow ripeners; that is, the pulp does not become brittle and mellow for several months after the

apple leaves the tree. Certain species of winter apples are said not to keep well ; that is, they ripen in the early winter, and, like all juicy fruits, pass from perfection to decay. Other species ripen more slowly, and are not perfect till midwinter, while a few, like the russet, are unripe till spring. But at some time, each variety reaches its perfection, and at that time, and that only, are its qualities altogether beneficial. Before that time it is more or less noxious, and, after the period of absolute ripeness, decay sets in. Therefore, in raising or in purchasing winter apples, it is desirable to have on hand several varieties, all of which ripen or come to their greatest perfection in different months. The pippin, the greening, and the seek-no-further become mellow and afford the finest flavor in January and February. The russet, during the early part of the winter, is tough and pithy, but in early spring becomes fully ripe and agreeable in flavor. Some winter apples, and these are the best, are very good when a little unripe, and hence, not only keep a long time, but are good during almost the whole time they are kept. Such, for instance, is the Newtown pippin, than which there is no better apple. When exported to Europe, it has been pronounced superior to all varieties, native or foreign : a juicy, crisp, fine-flavored, delicious fruit, that is in the

greatest perfection in January, but, when carefully gathered and well stored, may grace the table in May.

The Baldwin is the best of New England apples, but degenerates or fails in the Middle States, and at the South becomes a summer fruit. The Massachusetts Baldwin is strictly a winter fruit, becoming mellow in November and lasting till March, when well cared for.

In gathering and storing choice winter fruit, too much care cannot be used. The skin of the apple and pear is all that protect them from the air. This protection is thin, and in all cases easily broken, but so firm and smooth, that, as long as it remains entire, the apple will decay only by becoming over-ripe. The same care that keeps one pippin, or Belle-fleur, or Belmont, or Spitzenberg till March, will keep all perfect specimens of the same fruit.

In gathering such apples, they should never be shaken from the tree upon the hard ground, but picked by hand, and laid gently in a broad, shallow basket, so those at the bottom will not be compressed by the weight of those above. They should then be laid out upon the floor of a chamber or loft, or on wide shelves, and there remain till freezing weather. Then pack them in barrels or boxes, in

layers, with sawdust, tan-bark, chaff, or straw cut fine, and keep them in a cool, dry cellar.

The *grape* needs no praises or recommendations from this or any other pen. Both the whole fruit and the juice have been, from the days of Noah until now, prized by all civilized nations, and honored as the symbol of joy, abundance, health, and mirth. When the Hebrew spies went up from the parched and thirsty desert wherein they had so long wandered, they could bring back to their expectant brethren no more perfect assurance that the promised Canaan was, indeed, a goodly land, than the great cluster from its vines. "They came unto the brook of Eshcol, and cut down from thence a branch with one cluster of grapes, and they bare it between two, upon a staff. And they said, Surely the land floweth with milk and honey; and this is the fruit of it."

Grapes have the same acid as apples, the malic, and in addition, tartartic acid and the bitartarate of potash. The potash required in the system is never presented in a form more agreeable or more easily assimilated than when taken in the grape.

The preservation of grapes requires nearly the same care as that bestowed on apples. Pluck the clusters carefully, remove those that are green or bitten by insects, or blasted, and tie them to a pole

about ten feet long, and so firm as not to bend much under the weight. Saplings a little smaller than bean-poles, will answer the purpose. Hang these poles with the clusters suspended in a loft or chamber where there is free circulation, and there let them remain till freezing weather, looking over them occasionally, and removing any that have begun to decay. Then pack in dry sawdust in shallow boxes, and keep in a cool, dry cellar. The French often keep them a number of months by dipping in a thick whitewash, which, on drying, covers stem and fruit with a thin, white crust, and excludes the air.

There are three ways or methods by which fruits are preserved: by expelling the air, by desiccation, or drying out the greater part of the moisture, and by combination with sugar.

By the first method, all our canned fruits and vegetables are prepared, and by the last, our "preserves," jellies, and sweetmeats.

To Can Peaches.—Select ripe and sound fruit; peel, and if you wish, cut in halves, and take out the stones. To make your syrup, take in the proportion of a half a pound of sugar to one pint of water. When all the scum has been removed, place the fruit in the syrup gently, and boil five minutes, or until it is well scalded through. Then, with a

skimmer with holes in it, remove the fruit to cans set in hot water. Put more fruit in, and continue in this way until your cans are filled. Then pour the scalding syrup over the fruit, till the cans are full, bring the water to the boiling-point, and seal the cans. A very good sealing-wax, for this purpose, is made by melting two parts of resin and one of beeswax, together.

To Can Strawberries.—Prepare the syrup as for peaches, scald the strawberries in the syrup, remove them to the cans, cover with scalding syrup, boil the water around them, and seal up. Cherries, tomatoes, apricots, pears, and plums may be put up in the same way as peaches and strawberries.

Glass cans or jars are far preferable to tin, and have almost superseded them. Any glass jar is a good one that entirely excludes the air and is easily sealed and easily opened. The best I have ever seen, have india-rubber covers, and are sealed up tight by simply turning a screw in the cover.

A recent mode of canning fruit is to place it in warm water simply, raise the water to the boiling-point, and seal the jar or can; but the author has not tested it. When used, sugar is to be added. By this method, it is said the flavor of the fruit is very perfectly preserved.

RULES FOR PRESERVING.

A porcelain kettle is the best for preserving. A brass kettle will answer ; but it must be thoroughly scoured every time it is used, and preserves must not be allowed to cool in it.

White sugar is cheaper than brown for this purpose. To clarify sugar, mix with one quart of water the white of one egg, and stir it into four pounds of sugar. Have a hair sieve with a piece of muslin laid in it to drain the scum through. Thus, you will save all the syrup.

In preserving fruit whole, first boil it in a thin syrup, or it will shrink very much.

A wooden or silver spoon must always be used in making preserves. A pound of sugar to a pound of fruit is the general rule for making preserves. Jars should be of brown stone or of white wedgewood ware, and after the preserves are placed in them they must not be moved until cold. Then they must be covered with pieces of white paper cut to fit them nicely, and dipped in brandy or rum.

When they begin to ferment, the syrup should be poured into the porcelain kettle, scalded or boiled till thick, and again poured over the fruit placed in clean jars. They must then be stored in a clean, dry place.

A little powdered alum dissolved and put into the syrup will sometimes prevent their candying.

Peaches.—Allow of sugar, pound for pound, put the peaches into the preserving-pan, and cover with scalding water, and boil ten minutes. Take them out carefully, and, when cool, rub off the skin with your fingers. Take the sugar, and pour into it a little of the water the peaches were boiled in, and boil it till it becomes a syrup. In this, stew the peaches, a few at a time, till all are done. Put them in a jar, boil down the syrup, and pour it hot over them. A few peach kernels boiled with the syrup improve its flavor.

Brandy Peaches.—Prepare them as above, except the sugar; allow three-quarters of a pound of sugar to a pound of fruit. When they are done, allow a quart of brandy to a quart of syrup. Lay the peaches, while hot, into the brandy, and when cool, take them out of the brandy, and put them into the jar; then strain the syrup hot into the brandy, and pour it upon the peaches.

Quinces.—Peel and core the quinces. Put the peelings and cores into just water enough to cover them, and simmer an hour and a half. Strain, and return the water to the kettle, in which, after weighing the quinces, and allowing of sugar, pound for pound, place as many as the water will cover, and

stew them until soft ; take them out upon a flat dish, put in more quinces, and so continue till all are stewed. Then add the sugar, and boil till it is a syrup. Into this place as many quinces as the syrup will cover, and boil half an hour. Take out, and put in others till all are done. Then boil the syrup down thick, and, when the quinces are cool, put them into jars, and strain the syrup over them through a fine sieve or coarse cloth.

Quince Jelly. — Take a pint of the water in which the quinces have been boiled, as above described, add a pound of sugar, boil about twenty-five minutes, and strain it into moulds.

Quince Marmalade — may be made by mashing some of the quinces before putting them in the syrup, allowing pound for pound of sugar. Boil them together until well softened, strain through a coarse sieve, and put in small jars.

Crab-Apples — are preserved, jellied, or made into marmalade, in the same manner as quinces.

Plums. — Allow a pound of sugar to a pound of fruit. Make the sugar into a syrup, with as little water as possible, and when it boils, put in the plums, and stew them till tender, and then lay them on a dish to cool. When cool, lay them in a jar, and proceed in this manner till they are all in the

jar; then pour the boiling syrup over them after having boiled it down till it is thick.

Cherries—are preserved in the same manner as plums. The stones may be removed, or not, according to taste.

Raspberry Jam.—Allow a pound of sugar to a pound of fruit. Put them into a kettle together, and boil gently, stirring frequently till they are thick enough; an hour may suffice. Let it be put in jars two or three days, and, if the syrup rises to the top, put it back into the kettle, and boil half an hour.

Blackberry Jam—is made in the same way as raspberry jam.

Currant Jelly (1).—Mash fully ripe currants, and strain through a flannel bag. To a pint of juice add a pound of sugar. Boil twenty minutes, or until a teaspoon dipped in the jelly and plunged into cold water shows that the jelly is done.

Currant Jelly (2).—Put the currants into an earthen jar, and place the jar in a kettle of cold water, over the fire. Let the water boil till the currants look white, then strain them and proceed as above.

Blackberry Jelly.—Mash the berries, pass them through a sieve, allow pound for pound of sugar, and boil to a jelly.

Raspberry Jelly—is made in the same manner as blackberry.

Grape Jelly.—Green grapes, picked just before they begin to turn, make the handsomest jelly. Stew them in water enough to cover them, mash, and strain through the jelly-bag, add pound for pound of sugar, and boil down to a jelly.

Pears—are preserved in the same way as peaches.

Strawberries.—Make the syrup with as little water as possible, allowing a pound of sugar to a pound of fruit. Put in as many strawberries as you can without crowding, and proceed as with peaches and quinces. You may let the strawberries lie in the sugar over night, then drain off the syrup, and proceed as above.

Apples—are preserved like quinces.

PICKLES.

These preparations are not open to the objections that are commonly made to them on the ground of health. In moderate quantities, and in connection with other food, pickles are *not* injurious. They are like salads, a kind of extemporized or manufactured fruit, formed by taking some vegetable of very loose cellular structure, as the cucumber, and substituting vinegar for the water with which the cells were originally filled.

The acids and salts of the cucumber, melon, bean-pod, or tomato, are not entirely expelled, but form a combination with the vinegar, which is much more agreeable and easier to assimilate than the vinegar alone.

Cucumbers (1).—Pick small cucumbers, and leave the stems on. Wipe them clean, and place in stone jars and firkins. Pour upon them scalding brine, made by boiling one quart of coarse salt with two gallons of water. Cover them tight, and let them stand twenty-four hours. Then drain them, and, having placed them in clean jars, pour on them as much boiling vinegar, in which alum (in the proportion of half an ounce to a gallon) has been dissolved, as will cover them. Put cabbage leaves over them, and cover tight. In two days they will be ready for use.

Beans, onions, and some other vegetables may be pickled in the same way.

Cucumbers (2).—Peel and cut up the cucumbers, as for the table when eaten green, put them in cold brine, made as above, and let them stay twenty-four hours. Then drain them, and pour vinegar enough over them to cover them, and let them stand two weeks. Then pour off the vinegar, and add fresh vinegar, after having mixed with the pickles, in the proportion of one ounce to a quart of vinegar,

each of the following whole spices : allspice, cloves, cinnamon, pepper, white mustard-seed, and two onions chopped fine. Cover lightly, and in a week the pickle will be ready for use.

Cucumbers (3).—*To salt down.* Get an oaken barrel, and pick the cucumbers every other day. Let them be about the length of your forefinger, and as nearly of a size as possible. Wipe them off with a cloth, and put in the barrel in layers, with coarse salt between them. Place over them a cover, and upon the cover a heavy stone to keep them under the brine. You need add no water, as the salt will extract water from the cucumbers. Proceed in this way till your barrel is full. When you wish to put them in vinegar, pick out fifty or a hundred from the barrel, soak them in water till the salt is removed, changing the water every day. Then put them in cold vinegar, with a bit of alum in it, and just bring the vinegar to a boil. Pour into a jar, and cool. In a day they will be ready for use. If done in a brass kettle, they will be more apt to be green. The alum makes them brittle.

Cucumbers (4).—Take large, yellow cucumbers, pare them thin, take out the cores, and soak in salt water two days, then pour over them boiling water, and let them stand over night, and they are ready for the pickle, which prepare thus:—For

each quart of sharp vinegar, take one pint of hot water, two coffee-cups of sugar, one tablespoonful each of ground cinnamon, cloves, allspice, mace or nutmeg. Add one handful of raisins or ripe grapes. Scald all together, and boil till they are easily penetrated with a fork.

Tomatoes.—Slice thin a peck of full-grown green tomatoes. Pour over them vinegar enough to cover, and add, for each quart of vinegar, of whole spices, an ounce of each of the following:—Pepper, cloves, allspice, two ounces white mustard-seed, and two onions chopped fine. Boil all together one minute, and set away to cool. In a week it will be ready for use.

Peaches.—One quart of good vinegar to three pounds of sugar. This will be enough for a peck of peaches. Boil and skin. Stick five or six cloves in each peach, and boil a dozen or so at a time till all are tender. Take out with a fork, and lay in a jar. When all are done, strain the vinegar over them.

Mangoes.—Cut a piece from the cucumber or melon you are pickling, scrape out the inside, and let it lie in salt water two days. Then fill with small bean-pods, onions chopped, mustard-seed, cloves, and peppers. Replace the piece, sew it in or tie it tight, and pour boiling vinegar over.

METHOD OF PRESERVING FRUIT, PRACTISED BY THE
ONEIDA COMMUNITY.

1. The fruit, properly hulled, assorted, or prepared, is placed in clean glass bottles manufactured for the purpose, filling them to the neck.

2. Prepare a syrup of melted, or refined, or white sugar, and pour into the bottles, by the following rule, namely: Allow six ounces of sugar to one quart of fruit, or melt one pound of sugar in one-half pint of water, and give one-half pint of syrup thus produced to one quart bottle of fruit.

3. Place the bottles in a steaming-box, or a boiler with a false bottom, which may be made of loose slats resting on supports so as to raise it a little above the water in the boiler. Cover the boiler or steam-box, and gradually raise a steam that will thoroughly heat the fruit and syrup in the bottles, bringing them to the boiling-point. This may take an hour from the commencement of heating; but, whatever the time, be sure that the whole contents of the bottle are at boiling heat.

4. Have ready corks, steamed or moistened sufficiently to make them flexible. They should be large enough to fill the bottle tightly, and require some force to crowd them in. One cork, as pro-

cured of the dealers, allows of being cut in two, so as to stop two bottles.

5. Have ready a vessel of melted sealing-wax, compounded of the following materials and proportions: One pound of resin, one and a half ounces tallow, three ounces beeswax.

6. The fruit being sufficiently heated, take the bottles successively to a table, and quickly cork them. With a towel in the hand, they should be carried in such a way as to close the opening, and retain the heated steam in the bottles on the way to the corking-table. The corks may be forced in by a blow of the mallet, or, better, by a small lever-arrangement fixed to work at the right height above the table. When inserted as far as practical, if any part of the cork remains above the bottle, pare it off with a sharp knife.

7. Immediately after the cork is in its place, a person should stand ready and apply a coat of sealing-wax to the end of the cork, with a paste or lather brush, to close the pores of the wood.

8. Next proceed to seal the bottle by dipping its mouth in the melted sealing-wax, so as to cover the bulb. Then transfer it to a basin of cold water, dipping to the same depth, to cool the wax. If the dipping is carried below the bulb or rim at the

mouth of the bottle, there is danger of cracking the glass. Now examine the sealed part to see if the wax has formed blisters. If there are blisters, rub them away with the finger; use a little tallow or oil to prevent sticking.

9. Repeat the dipping operation in wax and in water. See that the wax is left smooth and without flaws, and the sealing is complete.

10. Pack away on shelves or in chests in a cool, dry cellar. If placed on shelves, a cloth should be hung before them to exclude the light. In a few days after packing away, inspect the bottles to see if any show signs of fermentation, which may be detected by a foamy appearance of the fruit. If this is observed in any bottle, it denotes either a crack in the glass, or that the sealing was imperfect. The bottle should be opened or examined, the contents scalded, and the process of sealing repeated as before. In some cases, during the season, a little vegetable mould may be seen to gather on the surface of the fruit in the bottles, but this is not to be regarded, as it can be readily separated on opening the bottles, leaving the mass of fruit without harm.

Two or three persons can carry forward the different operations of preserving at the same time, and with more convenience than one alone.

The rule for syrup given above is adapted to the strawberry, cherry, and other and similar fruits. Very acid fruits, like the curraat, will allow a greater proportion of sugar.

CHAPTER X.

THE KITCHEN-GARDEN.

GOOD house-keeping does not begin or end with the front and back doorsteps of one's home. The same spirit and system, the same thoughtfulness and care, the economy and forethought that reign within, infusing a tone and, so to speak, a soul through the well-kept house, from the wholesome cellar to the orderly garret, will expand into the door-yard and bloom in the garden.

The heavy work of cultivation will, of course, be done by the broader shoulder and the tougher hand. But to lay out, plan, and keep a garden requires the same sort of care and attention that are demanded in house-keeping.

The highest success in gardening requires that gentle fostering, that daily vigilance, that patient and ever-recurring attention to the same little details, which consume the time and engross the attention of the housewife.

All a lady has to do, in order to have her garden in as high a condition as her parlor, her kitchen, or the family wardrobe, is to carry her system and the maxims of thrift, and order, and thoroughness out

among her currant-bushes, her cherry-trees, her vines, and her beds.

The point of fundamental importance in a good garden is that it be well situated, so as to be capable of drainage, and also of receiving the sewerage of the house.

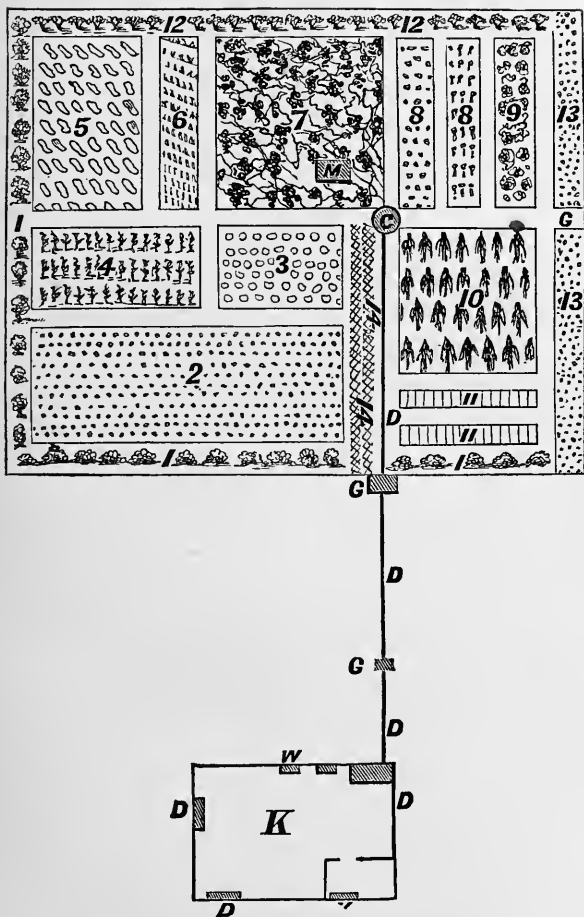
As a rule, where the soil is naturally strong, and a good manuring is given at the beginning, a tract of half an acre can be not only kept in condition, but constantly improved in productiveness, *if it receive all the fertilizing matter that a family of six persons produces.*

Hence the first step for one who has resolved on success in gardening is to have effective drains made from the kitchen and back yard, and to establish the law in her household that no slops, or suds, or offal, or filth, shall go anywhere but into that drain.

By a wise and beneficent law of organic chemistry, the more repulsive and disgusting any substance is, the more valuable it is as a manure. A dead dog, properly applied to the soil, gives as much fertility as ten or twenty pounds of the best guano. A tub of filthy suds is a solution of some of the richest of the agricultural salts. It contains soda, ammonia, sulphur, phosphorus, potash, and some lime,—all of which are in constant demand by the most valuable of our crops. Hence the im-

portance of some arrangement, that will be found not too expensive, yet effectual, for conveying all the wash and offal of a house, and discharging it upon the kitchen-garden. The plan which faces this page is suggested as one that can be carried into execution in the greatest number of houses, and which can be introduced upon any premises where the garden is on a level with or a little lower than the dwelling.

K represents the kitchen, the same in arrangement as that more fully described in Plan No. 1, in the twenty-second chapter. On the south side of the room is *s*, the sink, with a pump and water-pipe. This waste-pipe discharges into a drain, marked *d d d*, which conveys the waste of the house into the middle of the garden, at a sufficient distance. The opening, marked *g*, is about two feet square, and covered with grating. The earth should be stamped hard and made to dip around its edges, so that buckets or tubs emptied near will discharge into the drain. From *g* to *c* the drain should be of ample size, and laid below frost with the ordinary large draining-tiles of porous texture. It discharges into *c*, a cesspool, which may be made by digging a pit and sinking a large hogshead, after giving it a heavy coating of tar within and without. Cover it with stout plank, and near by, at *m*, have



1, 1, 1, Currant Bushes. 2, Strawberries. 3, Tomatoes. 4, Beans. 5, Potatoes. 6, Onions. 7, Vines. 8, Carrots and Beets. 9, Cabbages. 10, Corn. 11, Peas. 12, 12, Raspberries. 13, 13, Blackberries. 14, 14, Grape Trellis.



a pit two feet deep and eight feet square. The bottom and sides should be made firm with stone covered with cement, or by ramming clay so as to hold water. It would be advisable to cover it with a rude shed, made by setting up four posts and thatching with straw or sea-weed. This completes the apparatus for manure-making, the whole of which need not cost over twenty-five dollars.

The waste water from the sink will, of course, go into the drain. At *g* all the dirty water from the yard, the wash-tubs, fetid brine, fish-scales, and offal can be thrown; and, if the descent is sufficient, everything will be washed down into the cesspool, the bars keeping back what would choke the drain.

Let all the decaying vegetable matter,—the leaves, weeds, turf, vegetables that have spoiled,—as well as all the dead cats and hens, pigs and puppies, be taken to *m*, and thrown into a promiscuous pile, and covered with earth or dry muck enough to absorb the offensive gases. From time to time, open the cesspool, and, with an old pail tied to a pole, dip out the contents, and use them in watering the garden.

In wet weather, and in the fall, when the garden needs no watering, pour the contents of the cesspool over the manure pile, adding a little diluted sulphuric acid, or chloride of lime, or copperas-

water, to absorb the odors and enrich the heap. Thus every spring will see a pile of manure, the richest and strongest that can be made at home, in the centre of the garden, when it can be applied with the shovel and the wheelbarrow, without costing more than a few hours' attention every month. In this way a family can, in the easiest and most perfect manner, discharge the first grand agricultural duty of man, — *that of returning to the soil as fertilizers all the salts produced by the combustion of food in the human body.*

Provision thus being made for an abundant supply of manure, nothing but proper cultivation is lacking for the production of a first-class garden, unless the soil be of hopeless sterility. But first of all, let it be remembered that the primary requisite for root culture especially, to which gardens are chiefly devoted, is a deep soil and thorough underdraining. The great defects of American farming have been, first, that we plough too great a surface; and, second, that our agriculture is based upon English antecedents and practices; whereas our climate is a great deal dryer than that of England.

Hence the importance of so pulverizing the soil to a considerable depth that when the surface moisture is exhausted in a dry time, the roots may find all the moisture they need by going deeper. It is

commonly understood that wet, clayey soils are greatly benefited by draining; but it is just as true of most heavy, loamy soils, even though lying on a hill-side. Those who drain the most are the most deeply impressed with its importance and its value to all crops; and, instead of saying that a person cannot afford the expense of so much draining, it would be more correct to say that no one can afford to impoverish himself by gathering three bushels from a square rod, when he might gather ten.

If there are stones in the garden, no matter of what size or shape, let them be removed; and the best way of doing this is to bury them in drains. Dig a ditch two feet wide and three or four feet deep. If there are any stones that are flat, no matter how irregular in shape, arrange them so as to form a rude sort of arch over the bottom. Then lay in the larger stones, and fill up with the smaller. Before scraping back the earth, scatter some straw, or shavings, or brush and twigs over the stones. The more of these stone drains you build through the garden the better; enough, certainly, should be made to dispose of all the stones, great and small. Having in this way made provision for the thorough under-draining of the soil, give it a good sub-soil ploughing, and let the surface be broken by the plough and the harrow into fine, deep, mellow tilth.

In a garden thus prepared, anything that the climate permits will grow; and a soil thus thoroughly prepared is so easily cultivated, and returns so bountifully from the seed placed within it, that the greater part of the subsequent cultivation can be done with the fingers and very light instruments, so that boys, girls, and invalids can work to advantage in it. This explains the leading difference between American and European garden culture. With us land is cheap and rough; its cultivation is laborious and often disheartening; so that we uniformly regard it as a hardship, if not a disgrace, for women to be employed in tillage. But the labor of working the deep, mellow, and highly-fertilized soils of the English and German gardens is so light that it is no more of a hardship for a female to cultivate her cabbages, her beans, or her onions, than to sweep the cottage floor or wash the cottage windows.

In laying out a garden, the most appropriate situations should first be assigned to flowers, shrubs, and bushes. Currant-bushes should often stand near the wall or fence, as the custom is. But they will bear much better if planted on each side of the main walk, where on one side, and perhaps on both, the soil can be stirred and fertilized. No garden-shrub pays better than the currant, for the space it occupies and the care it demands. The raspberry

and blackberry bushes can be planted close by the walls and in the corners. No matter if these berries are found wild in the pastures and by the roadside, a dozen bushes planted on one side of the garden, and properly tended, will, for a month in midsummer, supply the family with a cheap, wholesome, and delicious dessert.

In planting the vegetable garden proper, the first question to be determined is the relative dryness and warmth of the soil in different parts.

The side that is the mellowest, the best drained, and the best protected should be devoted to early corn, peas, and early potatoes. The lower and moister land is best planted in potatoes, in cabbages, and ruta-bagas.

For the gardens of farmers and other hard-working people, there is no vegetable of so much importance as the onion. Unlike the potato and turnip, it requires garden culture, and, in order to success, great pains and care must be taken with it.

In establishing an onion bed, or plat, this remarkable circumstance must be remembered, that, unlike most if not all other crops, the onion is not benefited by a rotation of crops. The bed on which you sow onion-seed this year will bear the largest bulbs next year, and the next, and the next. In preparing your plat, spade deep, and harrow or rake till the

ground is perfectly mellow. The onion is a delicate feeder; entirely different, in that respect, from corn, or beans, or cabbages. It draws its nutriment from the soil, through those fine, thread-like filaments at the bottom of the bulb, and will not flourish unless the soil is soft and deep enough to allow these roots to penetrate freely eight or ten inches, and find the necessary nutriment in a small space directly beneath the bulb.

This is the reason — the narrowness of the space occupied by its roots — why the onion may be sowed in rows so near each other.

Having prepared the ground as above described, and manured it with well-rotted yard-manure, thoroughly blended in the soil, lay off the rows perfectly straight and one foot apart. Sow thick and early, and keep perfectly clean. A great many farmers will give onions and other roots of like nature two good workings, and when the press of July work comes on, they confine themselves to the hay-field, and in two or three weeks find the onion-bed infested with rank weeds and grass, too big to be pulled up without disturbing the young plants. To allow this, is practically to throw away half the labor and manure expended on the plat, for the want of a single day's work. The onion requires thorough culture, and, if kept clean from the first, the labor is

moderate and not painful. But if the rows once become overgrown with weeds and grass, it is a long and tiresome task to clear them.

According to the analyses of Boussingault and Horsford, no garden vegetable is so rich as the onion in nitrogen, and hence in fitness to repair muscular waste. Instead of putting two or three bushels into the cellar, to use for flavoring soups and broths, as is generally the practice, every family that has a garden should take from it fifteen or twenty bushels of this invaluable esculent for the table. There is a way of cooking them that removes almost wholly the objectionable odor.

The quantity of nitrogen in a vegetable must be the measure of its utility with the great majority of families. Hence, next to the onion, the cabbage is as profitable as anything that can be raised in a garden. Unlike the former, cabbages can be produced with a very little light work. Early in the spring, sow the seed in pans or boxes, or on the earthy face of a sod, and protect from the cold. During the moist days that are certain to occur early in the month of June or in the latter part of May, transplant with the fingers, and, if the sun comes hot upon them, cover with green grass or broad leaves, or with paper, and keep the ground stirred. All the subsequent cultivation can be done with a light

garden-rake that any woman can use without fatigue. This stirs the surface, kills the weeds, makes heavier work with the hoe unnecessary, and leaves the surface smooth and handsome. But the rake should go over the ground, in June and July, every three or four days. Otherwise the weeds will become so vigorous and well-rooted that the hoe must be used, and the strength of a man called in to wield it. Three feet apart each way is the proper interval for cabbage-plants. They should be planted in the latest part of the garden, — that is, on a cool, clayey soil, if such the plat affords. About the first of November, pull them up, and take stem, root, and all into the cellar, and set close together in sand. Thus treated, they will be good till the following May.

The leguminous plants, or such as have pods, including peas and beans of various kinds, are profitable vegetables, both on account of the considerable share of nitrogen they contain and their productiveness.

In sowing peas, remember to drop them very thick, and cover quite deep. This protects the plants, when young, from cold, and, in June, from drought.

The Lima bean is not surpassed for productiveness, or in richness and nutritive power.

It does not pay to devote much of the area of a rich kitchen-garden to summer squashes. Winter-squashes, of which the Hubbard and the nutmeg are not surpassed, are more profitable. Vines of this class are rank feeders, and should be planted in the richest part of the garden, not far from the cesspool described in the first of the chapter, or where they can receive the drain from the house. They can utilize raw and gross manures that would have little effect on more delicate plants.

Of the spindle-shaped roots, the carrot is, on the whole, the most profitable, though the large sugar beet should not be neglected. It is not commonly known that the tops or leaves of the carrot, the beet and the ruta-baga are as valuable for feeding to cows as the root. They can be kept for some time, by partly drying them and salting. Coming as they do in November, just when the grass is killed, they may be used so as to prevent the feeding out of hay and roots.

It is of great importance, for securing cleanliness in a garden, that no weeds or grasses be allowed to go to seed. Most people keep their gardens quite clean till August, and then let the weeds have their way. Many, even at that late hour, will hasten to maturity, and scatter their seeds over the surface after the first frost. This should

never be tolerated. If a piece of ground is kept clean for three or four years, most of the foul seeds will die ; and the garden can be kept free of weeds on half the labor.

CHAPTER XI.

COWS, HENS, AND BEES.

As a general practice, the wives and daughters of this country spend far too much time in cooking pork, potatoes, bread, and pies, washing dishes, sweeping and ironing. To live snugly, to do her own work, to vibrate perpetually between the kitchen and sitting-room, and save the expense and perplexity and waste of hired service, this is supposed to be the best that our women can do to aid a husband or a father in making a moderate income command the greatest number of home comforts.

Now, what is the effect of this system, and what does it make of our women? It condemns them to pass a considerable part of each day in close and heated apartments, bending over a cube of hot iron, their hands immersed in disagreeable compounds, breathing a vitiated air, their minds dwarfed by the perpetual recurrence of the same task, to be gone through with, in precisely the same way, three hundred and sixty-five days in the year.

Is there, in the nature of things, any necessity, because a man is in moderate circumstances, that

his wife, and sister, and daughter must ever remain nothing but household drudges, their minds and bodies alike absorbed in brainless labors?

We are not urging greater exemption from work of all kinds for the women of America. As a general proposition, as many of our diseases are produced by the lack of proper exercise as by overwork. The precise lesson we would inculcate is found at the head of the page. We would have the housewife employ a German or Irish girl, and give her two dollars a week for going through the daily drudgery of the kitchen, in order that she may earn twice as much, with ten times the ease, comfort, and recreation to herself, by employing the time thus rescued from the broom, the dish-pan, and the wash-tub, in attention to her cows, her hens, and her bees.

The same remark made in the foregoing chapter, as to the fitness of garden labor for women, applies here. With the exception of supplying the winter's food of a cow, there is nothing connected with the care of this animal that may not be done with moderate exertion, — nothing that is beyond the strength of any woman in good health. In temper and disposition a woman is more suitable than most men to have the care of a cow.

Zadoc Pratt, who is probably the most successful

and thrifty dairyman in America, gives the most unqualified testimony on this point.

"It is important," says he, "always to treat milking cows with kindness. Blows and harsh words have as much effect in rendering them ugly as they would have upon children and servants."

Especially at milking-time, one should never forget that gentleness is an essential requisite. As far as possible, the same person should always milk the same cow. Cows should never be run, or dogged, or in any way annoyed. A girl is better than a boy, on this account, for driving cows to and from pasture. They are damaged as milkers by everything that annoys or frightens them. Cows and all ruminating animals are very social in their nature, and this should never be lost sight of. Two cows in a pasture will give more milk and fatten faster than the same two, if kept on equally good grass, but separated by a high fence. A horse, or even a hog, is some company for a cow; and anything that makes an animal of this gregarious disposition contented and cheerful adds to her value.

A great deal has been said, of late, on the advantage of green-soiling cows, and, where milk is sold by the quantity, the practice is a good one. But where a family has but one or two good cows, and wish to have milk of the finest flavor, and butter in

the highest perfection, the animals should, for at least half the day, range in a pasture where they can find a variety of sweet grasses and an abundance of shade and water. If the pasture is small or close-cropped, then have some green crop, as millet, clover, corn sown broadcast, or, in the latter part of the season, pumpkins and roots, from which the cow may be fed regularly as much as she will eat. There is no better or cheaper food for a cow than corn sown broadcast, cut when in tassel, and dried. It should be cut fine, moistened, a handful of salt sprinkled over it, and a quart of provender mixed with it. The flavor of butter, as well as its color, is much affected by the food of cows; and for dry food there is nothing so good for cows as clover, second crop, or rowen and corn, the blade and ear.

Everything about a cow should be done with the utmost regularity and uniformity;— the times of feeding and milking, the hour of coming from pasture, and the rate of milking should never vary.

In the care of milk, much depends upon the use to which it is destined. That which is set for cream should be strained into shallow pans, and kept undisturbed, in a cool and uniform temperature, until the cream has risen.

After many experiments on this point, Mr. Pratt came to the conclusion that he skimmed the most

cream when the milk was set in pans at the depth of *an inch and a quarter* in summer, and *an inch and a half* in winter.

The most mistakes are made *in the time for skimming*. Some families have practices, on this point, which are handed down, from mother to daughter, for two or three generations, and in consequence of which a very badly flavored butter often goes on the table or into the firkin, and, when observed, the poor cows are said to have eaten wild turnip, skunk-cabbage, or some other ill-savored shrub. The fault is not in the innocent cows. Their pure instincts will keep them from rank feed, unless hunger compels. The fault is here: the milk stood too long, and then the cream stood too long. Now, the question arises, what is too long, and how is the housewife to know when to set her skimmer into the edge of a pan? In cool weather, — that is to say, for eight months of the year, in the Northern States, and for six in the Southern, — nothing is gained by allowing milk to stand more than thirty-six hours, and generally not more than twenty-four. In other words, and as a rule easily remembered, the milk drawn from the cows Monday morning should be examined Tuesday morning. If it appear entirely sweet, let it stand till night, before skimming.

When milk is curdled simply, the cream is un-

injured ; but when the souring has proceeded so far that whey rises and stands under the cream, nothing will make good butter of it. It should be put in a vessel by itself, and on no account mixed with the sweet cream. If cream that has become thus infected is mixed with other cream, the whole acquires the same sharp, disagreeable taste ; and there is no mode of treatment by which it can be expelled, and good butter made from it.

It should also be remembered that cream easily absorbs odors and flavors, and, on that account, should be kept closely covered and in a clean, cool place. The bottom of a cool cellar is generally selected for that purpose by the careful housewife. An earthen-ware churn is the best, because the sweetest. If wood is used, some variety should be chosen that has no resin or taste. Hemlock is, on that account, the best timber for all vessels into which milk, cream, or butter is put. Oak and ash are open to but slight objection. Too much care cannot be used in making all such vessels perfectly sweet. In washing and scalding a churn or firkin, and especially the latter, remember that a handful of *hay* thrown into the hot water will make everything very sweet. Some use scalding whey or buttermilk ; but the hay-water is universally employed

in English dairies, which send the finest butter to market.

A difference of practice is found in the best conducted dairies as to whether butter should be worked in water. The finest-flavored butter is more frequently produced without water, the buttermilk being expelled by hand only. On the other hand, butter that is to be packed in firkins is more entirely cleared of milk by the use of water. The hand is more effective than any paddle or roller in working a small lot of butter, such as is generally made for family use, from one or two cows. Much depends upon the movement of the hand in working. If moulded too long, or pressed in the hand, the grain is thus injured, and the butter will stick to the knife when cut. This is never seen in first-class butter. The best way to work from two to five pounds is to have a wooden tray, about a foot wide, and two and a half feet long. Place it so that one end is higher than the other, and lay the butter, as you take it from the churn, in the highest end. Dip the hand in cold water, — ice-water, if it is summer, — and rub with fine salt. Commence to work by making channels, or furrows, down the lumps, through which the milk may run off. Continue by using the palm or ball of the hand, taking care not to squeeze the butter through the fingers. The working should

be continued as long as a drop of milk is to be seen. Salt should be fine and dry. Allow an ounce to a pound. In warm weather, after working awhile, put in half the allowance of salt that has been dried, and set the butter away to cool. In twelve hours, work again till all the moisture is expelled, and add the balance of the salt. When designed for immediate table use, stamp the balls prettily, after making them into pound or half-pound lumps. There is no more tasteful figure than the small diamonds made by the fluted wooden roller, or paddle.

Of late, the fashion has obtained of moulding butter into lumps of the size of a walnut, and adorning them with a delicate figure. This should be done when the butter is fresh, and the little balls laid carefully on a large platter, covered with a cloth wet in salty water, and put away in a cool place.

In all the above directions as to butter-making, none is of such vital importance as that which relates to the time of skimming. On no account allow the smallest quantity of bitter milk or bitter cream to be mingled with that which is known to be sweet; and probably the best rule to follow is to skim, in cool weather, twenty-four hours after milking, and, in warm weather, as soon as the milk begins to curdle. Churn the cream before it begins to smell or taste in the least degree sour.

When it is desirable to keep milk sweet for several days, without reference to butter or cheese-making, it can be done by putting the milk in deep, narrow cans, and setting them in cold water or on ice, or on the wet bottom of a cool cellar. Be very careful not to jar or disturb it in any way. The animal heat should be removed from milk as quickly as possible, by placing the pail in^o cold water.

Where the care prescribed above has been employed in skimming the milk, and looking after the cream, the buttermilk will be sweet and agreeable. There is no better drink, in summer, for laboring men. In like manner, milk from which the cream has been removed before the souring proceeds too far,—that is to say, before the whey separates from the curd,—is a very palatable dish, served in various ways. Pour the coagulated milk on a fine sieve, and let the whey run off. Then lay in a soup-plate. Serve with crushed sugar and cream; or, hang in a muslin bag, and allow it to drip, and become hard. Serve with cream and sugar. Pot cheese is made by heating coagulated milk, draining off the whey in a bag, and then mixing with the curd, salt, and sometimes a little sage or some other herb, as a flavoring, and then making it into little balls or cakes. In order that such cheese should be palatable, the coagulated milk must not be bitter in taste.

A little cream added to the curd, when it is worked over, improves the taste very much.

THE CARE OF POULTRY.

There is no form of out-door industry in which a little care and attention will be followed by such satisfactory results, as the study of the habits and wants of the domestic fowls. The foundation of good living and good cookery is an abundant supply of eggs. Ten eggs, of the average size, weigh a pound. There is as much nutriment in these ten eggs as in a pound of the choicest "porter-house" or venison steak.

Aside from their nutritive power, eggs can be used in combination with other, and less concentrated, articles, to an extent not equalled even by milk.

Where chickens have a good range, and receive proper attention, they will grow from the shell to the weight of from two to three pounds, in five months, and to a size suitable for broiling, in three months; and the amount of food that need be supplied to them is too small to deserve an estimate. Geese require no feeding while there is green grass in sight, and in winter they will subsist on the odds and ends of the cellar, devouring the outside leaves of cabbage, potato-peelings, chopped pumpkins, and

other cheap vegetables; but some corn should be fed them in the coldest weather.

The same may be said of ducks, except that a pond or marshy ground, not far from the house, is necessary for their comfort.

Turkeys are much more delicate than other fowls, and demand much attention and skill in raising. But they abundantly repay pains bestowed on them, in the rich flavor and high value of their flesh.

With poultry at its present prices, there is no way in which a woman can earn, in cash, or save in family expenses, from fifty to one hundred dollars annually, with so much ease and pleasure to herself, as by surrounding her premises with thrifty families of the feathered tribes. If she has hens, it is but a little additional trouble, while looking after her eggs and chickens, to attend to a dozen or two geese, a dozen ducks, and a small troop of turkeys. A variety, also, prevents discouragement, and repairs disasters. If she has bad luck with chickens, a family of goslings may grow to geese, and be fit for the oven before corn is ripe. If her ducks wander off, and the vermin devour their little ones, she may look with mingled pride and satisfaction on a platoon of gobblers parading through her grounds, and awakening in the mind of every beholder the most toothsome

anticipations of Thanksgiving and Christmas dinners.

It is not practicable for most families to keep more than fifty or sixty hens. If larger poultry-yards are wanted, special and somewhat extensive preparations must be made for them. With this number, two or three dozen eggs, each week, can be sent to market during more than half the year, and ten dozen chickens grace the domestic table, or enrich the contents of the market-wagon, during the autumnal months.

But in order to have this degree of success with poultry, one must have a thorough knowledge of their requirements, and be able to supply them with everything they need for their comfort, thrift, and health.

It is not best to keep hens, nor any of the domestic fowls, strictly confined. They should have a poultry-house, where they roost every night, and where they can find dark, soft places for their nests. The most successful lady I ever knew, in poultry-raising, who often had fifty young turkeys for market in the fall, and could broil a chicken for her breakfast every morning in the year, had her garden enclosed with a high picket fence, and kept her hens, geese, ducks, and turkeys in a very large back yard, where were a pond of water and a large num-

ber of trees and bushes. On the trees she fastened boxes, old casks, and barrels, the side down, and half filled them with straw or hay. Clumps of bushes were left near the margin of the water, and here the ducks and geese had their nests, while the hens and turkeys sought out the boxes and barrels. A good dog was kept in the same yard, and he protected all the tender broods from vermin and stragglers. A small patch in the back side of the yard was several times in the summer turned over with the plough to disclose the worms and bugs, and, for a part of each day, the adult animals, and especially the turkeys, were permitted to "wander at their own sweet will" about the farm. But all had stated and unchanging roosting-places at night.

This plan is not always practicable, especially in villages. But, in keeping hens, bear in mind that there is no profit or satisfaction from them unless they can be made quite comfortable and cheerful. They need a sunny, south exposure in which to bask. They must have soft, fine earth or ashes to shake through their feathers, small, hard gravel-stones, and access either to lime, or food that contains it, in order to make shells when laying.

With regard to the food of hens and turkeys, it is easy to see, that when a laying hen has an egg to make every day, besides her own living to pick up,

she must have food that contains the elements of an egg. Now, there is as much hearty, nitrogenous food in an egg as there would be if you should blow out the contents, and fill the shell with chopped ham or tongue. A large egg weighs a little less than two ounces, and the shell, composed almost wholly of lime, weighs a fifth of an ounce.

On this account, no hen ought to be expected to lay regularly, unless she gets, over and above what she needs to sustain her own life, two ounces of meat, or of grain containing nitrogen. The composition of an egg is nearly the same as that of human blood and muscle. Hence, anything that we like for food, the hens like. This is the reason why hen-food should be varied as much as our own. For a steady diet, there is nothing better for poultry, in cold weather, than mush, made by boiling the meal of corn, rye, and oats together, throwing in refuse bread, potatoes, pumpkin, and all the bits, ends, and trimmings of fresh meat or fish. As a grain to scatter for them, there is nothing cheaper or better than oats. They are better than corn, because richer in nitrogen.

For six or eight months of the year, hens that have free range in the country find an abundance of animal food in worms, bugs, beetles, flies, and grasshoppers. This is the principal reason why

they do most of their laying in summer. They have then an abundance of nitrogenized food from which to make up the albumen, fat, and salts found in eggs. If their winter diet was equally hearty, they would lay all the year as well as they do in April and May, or September.

The great poulterers near Paris, some of whom send a million of eggs to market annually, take the horses and dogs, as soon as they die in the city, cut them up, and boil them in a big kettle in the poultry-yard, and feed them to the fowls, thickening the water with meal, and thus economizing all the nutrition in the carcass.

In the country, there are, with us, coons, woodchucks, and other vermin, that might be converted into eggs, in the same way that the French utilize dead horses.

While it is not practicable to give hens much animal food in midwinter, they might have an abundance in the fall, if the entrails of slaughtered animals were saved and cooked for them, and in January and February their grain food should be rich in nitrogen. Wheat and oats are much better for them, on this account, than corn, rye, or buckwheat; and, of the vegetables, potatoes, onions, and cabbages are the best.

As to rearing broods of chickens, little need be

said beyond two suggestions. First, many kind souls make the same mistake in feeding young chickens that is made with babies. They feed them too much and too soon. When a chick comes from the shell, he carries with him a part of the yolk enclosed in his stomach; and this is enough for his sustenance for several days.

The eyes of very young chickens are so directed that they literally "cannot see beyond the end of their nose," and this peculiarity lasts till nature provides for the newly awakened appetite for food, by improving their vision. As to what is best for them, the instinct of the hen is better than the wisdom of man. It is easy to see, however, that as, in its earliest days, its life is sustained by animal food alone, it would not be best to make a sudden transition to a diet wholly vegetable; yet this is done when the little crop of an infantile chick is stuffed with dough. The hen should not be strictly confined for a few days. Let her have the liberty of a yard of moderate size, where, by scratching, she can disclose small worms and insects; for these are the most appropriate food for her tender brood.

Chickens grow fastest when supplied, or rather when allowed to supply themselves, with animal food. As they increase in size, they will naturally take a wider range; but this roving temper

should not be suffered to lead them too far from the protection of the yard and the guardianship of man. They have many enemies. Snakes are lurking in the grass to swallow them; hogs will sometimes devour them at a mouthful; and when the sunny days of August come, and the enterprising brood venture into the meadows and pastures in pursuit of grasshoppers, the hawk, wheeling his great circles in the summer sky, will bolt upon them with a terrific swoop. Hence they are safest when within call of the mistress's voice, and not beyond reach of her watchful eye.

Millions of little chicks perish every summer by wandering in the early morning, on cool, wet days, in tall grass, where they become thoroughly wet and chilled. In unfavorable weather they should be confined in a dry enclosure, or at least kept from the grass.

There is but one disease that is much to be feared in a feathered nursery, and that is the "gapes!" When you notice a little chick opening the mouth in a singular way, and, at night, coughing with a peculiar, choking sound, you may know that he or she is suffering from this terror of the chicken-coop.

The remedies should be promptly applied. Catch the tiny sufferer, and dip a feather about six inches

long into a mixture of melted butter and ground pepper. Open his mouth, and carry the feather down his throat, turning it around so as to swab out the little windpipe quite thoroughly. Two or three such applications will generally give permanent relief. Here, as in the maladies of the unfeathered bipeds, prevention is far easier than cure. Mix a little vinegar and a little black pepper with the dough that is thrown to them, and you will probably never be called to treat a single case of the gapes.

Young turkeys are more delicate than chickens, and require more care and thought. They are fonder also of animal food, and, for a number of days, should have an egg boiled and chopped for their fare. They must not be allowed to frequent the thick woods too much, as there is always a tendency in turkeys to relapse into their original wildness. But their range should be dry as possible, for tall, tangled grass is quite sure to be fatal to some members of a tender brood.

On account of their natural fondness for thickets, they are more likely than chickens to expose themselves to the attack of the weasel, the polecat, and other insidious foes. They do not consume much more food than a chicken, and are worth twice or thrice as much in the fall.

In fattening turkeys for the market or the table,

some kind of oily seed is the best. Those fed on pecans have the best flavor. Flax-seed is good for them, but should be mixed with other grain. Wheat, oats, and corn, coarsely ground, and made into a pudding with some milk, is the best of turkey food. So also is buckwheat, and the seeds of the sunflower.

When ducks are being fattened, if they eat fish or refuse of any kind, of which they are quite fond, it affects the flavor of the flesh. Hence, during the last week or two of the life of a duck or a goose, let them be restricted in range, and fed only on corn or some clean, delicate grain.

All kinds of poultry should lodge at night on roosts, or in sheds suitable for them, and so arranged as to permit all the droppings to be scraped together and saved.

Guano is nothing more than the droppings of sea birds that have never been leached by rain.

A domestic guano can be made, almost as rich, by saving all the excrement of fowls, and mixing it with wood-ashes or dry peat. Attention to this point pays better than in the case of larger animals, and the fertilizer thus obtained is concentrated, and may be removed to much greater distances than the heavier composts of the cattle-yard.

BEES.

As yet we are very much behind the European people in the care we bestow on these curious and profitable little animals. Costing nothing for their support, consuming nothing in the collection of their nectar, and yielding a substance delicate in flavor, and of constant value as an article of food, grateful to every palate alike, and at all seasons, why have we so far neglected the production of honey that there is, upon an average, but a little more than one and a half hives to the square mile in that one of the United States where the most bees are kept? And how is it that we have so far lost the lore of the ancients, that we take but a little over thirteen pounds, on an average, from each hive, while the Greeks obtained an average of thirty pounds? The chief reason is this: Our men have been too busy in clearing land, ploughing, mowing, and threshing, to give the time and the delicate and kindly attention that bees require; and it has not occurred to one in a thousand of our women that they could learn the mysteries of the industrious little creatures, and manage them so as to supply their table with the most delicious of all syrups.

A lady in Iowa has of late made the most valuable contribution, as yet offered by any American

woman to agricultural science, in an admirable little treatise on bee-keeping. From the close of Mrs. Tupper's essay, which our readers will find at page 458 of the Report of the Department of Agriculture for 1865, we take the following interesting paragraph:—

“The ancients called the honey-bee ‘Deborah, or she that speaketh.’ Would that its gentle hum might now *speak* to many women in our land, and awaken an interest in a pursuit so interesting, and, at the same time, so profitable! The quick observation and gentle handling, so requisite in the business, belong particularly to women, and there is no part of it which is laborious, or that may not be appropriately performed by them.

“It has proved to me of great benefit. I came West twelve years ago, under sentence of speedy death from one of New England's best physicians, yet now rejoice in perfect health restored. More than to all other causes, I attribute the change to the interesting occupation which has kept me so much of the time in the open air, and *paid me for being there*. I most heartily recommend it to others, who are seeking either health or a pleasant and profitable employment.”

The common impression, on the minds of most persons, with regard to bees and bee-keeping, is

that some danger and much difficulty must be expected in any endeavor to regulate or control the affairs of a colony of bees. Others, again, are under the impression that the modern improvements in the structure of hives have been so great, that, with some of the patents, the bees will keep themselves, not requiring any management. Both these views are incorrect. The bees will permit a person who approaches the hive gently, and with whose touch and presence they are familiar, to do almost anything with them; and, so far from its being true that the patent hives are decidedly the best, some of the most successful honey-producers in the country use nothing but a hollow tree, sawed off at a proper length, and cleared out within; a cover being fitted to the top, and cross-pieces being inserted in the middle.

In commencing to keep bees, we will suppose that you have bought a hive in the latter part of winter, about the first of March, when the bees are still torpid with cold. The first question is, what to do with it.

Select a sunny exposure, protected from wind, away from any large body of water, and fenced from all possible intrusion of larger animals. The grass should be kept clean cut around it; shrubs

and low trees may be in the vicinity, but no high trees.

As soon as spring flowers open, you will see indications of activity. Every now and then a honey-bee will rise, and fly slowly around the hive in circles, apparently taking note of the surroundings, and then start off "in a bee-line" for her work.

You will soon know something of the strength of the hive, as it is called, and you will take precautions against the moth or miller, that is a mischievous enemy of the bee. All the movements around a hive must be gentle and slow. It is well to visit it every morning, and gently raising it, first on one side and then on the other, an inch or two, look for moths, and, if any are seen, remove them with a small brush, and kill them.

The most experienced bee-keepers are now in favor of not allowing new colonies to swarm, but they colonize new hives by removing a part of the bees from a strong hive, taking a queen bee with them. Generally speaking, the new colony, as they issue from the parent hive, proceed but a little way, alighting on a bush or shrub, where they can be removed to a new hive. But if always left to swarm for themselves, some will betake themselves to the forest, and be wholly lost. After the swarming time is over, the colonies address themselves to the

great business of the summer, that of providing for the young, and laying up a store for themselves for winter. In the amount made, there is no regularity one year with another, and there are great differences in hives. If the weight to the hive is known, when nearly empty of honey, the robbing, as it is called, may be exactly regulated. As a rule, thirty pounds ought to be left in a large hive for the winter's store.

Bees consume much less honey when protected from severe cold. Hence, in the dead of winter, for three months it is best to take them into a large, dry cellar. If this is not practicable, make straw ropes, and swathe all around the hives, or otherwise protect them as much as possible. When the business is carried on extensively, a bee-house is built, and made as snug as possible, and dark. It should not be used for any other purposes, as bees are dissatisfied with a situation that is not quiet and safe. Unless a great many bees are kept, they will find flowers enough on any farm where there is the usual amount of clover and of apple-trees. The maple is a favorite with them, but this lasts only for a short time. The chief reliance of the bee is upon clover and buckwheat. The former makes the nicest honey, and the latter that upon which the bees are to winter.

No matter what form of hive is chosen,—and probably Longstreth's are the best,—there should either be a long, narrow door, which may be opened from time to time, or, a glass inserted, so that the operations of the summer may be watched, and the habits and eccentricities of this wonderful little animal made a delightful study.

No part of bee-keeping requires labor or strength. Any lady, who can be in the open air an hour daily, may take care of fifty or even a hundred hives.

To show how surprisingly profitable this form of industry may be made, we subjoin the following statement by Mrs. Tupper:—

“E. G. McNiel, of Tipton, Iowa, says,—‘I shifted six colonies of bees out of logs into the Longstreth hive for a gentleman, in May, 1859. That year he increased to twenty-four, and took off five hundred pounds of honey. The next spring he began with eighteen weak colonies, and increased to forty-six. This year (1860), he took off one thousand pounds of honey. In 1861, he increased to sixty colonies, and took off two thousand two hundred pounds of honey. In 1862, he increased to one hundred and four stands, but, it being a poor season, he obtained only one thousand five hundred pounds. In 1863, he increased to one hundred and sixty, and took off three thousand pounds of honey. Thus he obtained

eight thousand two hundred pounds of honey, and one hundred and fifty-four colonies, in five working seasons.'

"I am not prepared to give an accurate statement of each year's gains, either in honey or stock, since I commenced bee-keeping; but, in the spring of 1859, I purchased four hives for twenty dollars, two of which died before the flowers came. In the autumn of 1865, I was offered one thousand five hundred dollars for my stock of bees, but declined selling, as they are worth much more than that to me. Thus we have, in six seasons, an increase from ten dollars to one thousand five hundred dollars in the capital alone, with no account of honey sold each season, or of bees sold repeatedly.

"During the summer of 1864, I sold from twenty-two hives, four hundred and nine dollars and twenty cents' worth of honey. Two of these seasons are called the poorest ever known in Iowa. What branch of agriculture or horticulture pays better than this?"

CHAPTER XII.

CAKES, DESSERTS, AND DELICACIES.

THIS toothsome chapter treats of articles which can hardly be considered as the necessary constituents of daily food, though found to a greater or less extent on every good table. They are the poetry of nutrition; they are the melodies among sounds; concessions made by the stomach to the gustatory nerves.

Bread, meat, vegetables, milk, eggs, and fruit are able, when taken in due proportions, at proper times, and well cooked, to supply all the constituents of perfect blood. But the delicacies and luxuries of the table are universal among all the enlightened races, and, like the careful and skilful adaptation of clothing to changes of temperature, they are at once a type of the progress, and an index of the degree to which civilization has advanced.

No matter how much reformers may inveigh against all dainties, as unnecessary and injurious, their continued use is a foregone conclusion, assured by all the past of culinary art, and by an ineradicable taste in human nature for styles of cooking, which not only supply the great demands of nature, but

which tempt the appetite, delight the palate, and adorn the hospitable board.

When ladies, by common consent, dispense with ribbons and laces; when pianos and melodeons are banished from parlors; when books that seek merely to instruct are the chosen companions of all hours, and have usurped the places of the novelists, the rhetoricians, and the poets,—then we may expect mankind generally to be satisfied with a diet such as is prescribed to the United States' soldier by the army regulations, and hard-tack, baked beans, and boiled rice form the grand staples of universal food.

But, in the present state of civilization, the lady who seeks to entertain in her parlor by the charms of her manner, and by the sweetness of music, will be equally ambitious to grace her table with food that is not only wholesome, but by all the arts of cookery rendered delicious. The constituents of cake—flour, butter, eggs, sugar, and flavoring extracts—are all of them suitable articles of food. They are highly nutritious, and are calculated to supply both demands for which food is taken,—the production of tissue, and the evolution of heat.

But the very reason that makes cake delicious, the concentration and blending of a great many pleasant tastes, renders it, at the same time, harder of digestion than common food, as it presents to the gastric

fluids but a small surface upon which they may act. In this case, the palate and the stomach are in antagonism, and the skill of the cook is displayed in so blending the constituents as to render this antagonism as small as possible. This she does by creaming the butter, and working it in very thoroughly with the other elements, by beating the eggs for a long time, by having her flour very dry, and thus producing as much porosity as possible, so that the cake, to use a common expression, will "melt in the mouth," and thus, entering the stomach in a semi-fluid state, be more easily acted upon by the digestive juices. With this explanation, it is easy to see why sponge cake is more wholesome than pound cake, and why fruit cake, the most concentrated, and perhaps the most delicious of all, is the most indigestible. The universal fashion of crowding the dinner table with desserts and relishes, and placing upon the tea table only light and easily digested food, is thus seen to be justified by sound principles of physiology. The concentrated desserts and puddings, mingling with the coarser viands which are first eaten, are deprived of much of their power of doing mischief in the stomach.

We must not be understood as advocating the undue or common indulgence in rich food, whether cakes, pies, or desserts. They are under no circum-

stances the most wholesome diet ; but as people will eat them, and as good housewives will make them, and take a pride in making them, we would give all the suggestions possible for rendering the dyspeptic punishment, that must to a greater or less extent overtake them, as light as it may be.

Probably the most difficult thing in making good cake and pies is the proper incorporation of the oily matters with other ingredients. Oil of any kind taken unmixed into the stomach is simply a physic ; imperfectly mixed with food it may be considered a specific for producing dyspepsia. But, as it is indispensable to the production of animal heat, it is a component, in larger or smaller proportions, of nearly all kinds of good food, and enters very largely into the composition of cake. Other things being equal, that cake will be the most delicious and the least unwholesome in which the butter is most thoroughly incorporated with all the other elements. In order to this, it should be put into the flour, not in a melted state, for then it will make a paste, or in a very solid state, for then it will with difficulty be rubbed in with the flour, but moderately soft, so that the warmth of the hand will cause it to mingle easily with the other ingredients. The eggs and sugar must be made perfectly fine by beating and rolling, so that the atoms which compose them may

be intimately blended with the atoms of the butter and the sugar. To accomplish this result, beating and stirring are of prime importance in making good cake. If time is of importance to the housewife, if her cares are multiplied, if her fingers are busy with other affairs, let the mysteries and subtleties of cake-making be postponed to a more convenient season. The goddess of cuisine is not to be successfully wooed by votaries whose breasts are panting, and whose cheeks are flushed. She dwells in perpetual calm; she revels in abundant leisure, and bestows her sweetest smiles only upon those who approach her in the same spirit.

Cake-making, like cake-eating, should never be regarded as a duty to be done, but as a pleasure to be enjoyed. It is the festivity of the kitchen; the flower-plot of the garden; the rose of cookery.

GENERAL DIRECTIONS FOR MAKING CAKE.

First of all, let the materials be each in their kind first-class. Lard is never at any time a good substitute for butter; and good cake cannot be made with *poor* butter. The sugar need not necessarily be crushed loaf, or perfectly white. A good article of cake can be made of light-brown sugar; but, if a delicate and snowy cake is desired, then it must be pure white, and only the whites of eggs

used. The quality of flour is also of importance, as flour which will make palatable bread will not always make good cake. It should be sifted and perfectly dried. The eggs should be well beaten, and the cake will be nicer if the yolks and whites are beaten separately. The fruit should be carefully prepared. If raisins are used, they should be seeded and chopped fine, then rubbed in flour, and dried, which will prevent their sinking to the bottom of the loaf. If dried currants are used, they must be washed in several waters, floured, and dried. If citron, it must be cut into small, thin slices. Almonds should be blanched. This is done by putting them in boiling water till the skins rub off easily. They must then be pounded fine, with rose-water. The materials must all be collected, and set in a warm room, some time before mixing together. An earthen bowl is the best article to mix cake in. It should be stirred until it is ready to be placed in the oven. The order in which the ingredients are mixed is a matter of great importance, though it is varied to produce different effects. Generally the butter and sugar are stirred together till white; then the eggs are added; then the flour; then the spice; then the saleratus is dissolved and added. If cream tartar is used, it had better be sifted with the flour. Put in the fruit last. Have the pans well buttered,

or, what is preferable, lined with white buttered paper. Move the cake as little as possible, and by no means jar it while baking. Most kinds of cake require a quick oven; but fruit cake is best with a moderate heat, and baked for a long time. When cake is done, a broom-straw stuck in the thickest part of the loaf will not show any of the cake adhering to it.

The form of the cake pan is a matter of some importance. When the cake is to be cut in slices a long narrow pan is the most desirable to bake it in. If it is to be frosted or cut in sections from the center of the cake to the outside, let the pan be round with a conical projection of tin in the center, reaching to the top of the pan. The cavity in the cake can be filled with crumbs of the same when it is frosted.

PUDDINGS.

The gastronomical taste of the French and of the English is in fierce antipathy on the matter of puddings. The Gaul abhors them, the Briton revels in them. That scientific gourmand, Monsieur Blot, accounts for the difference as follows: "Pudding-eating is an English custom; but before following

the custom of another country, people ought to consider if that custom or fashion (whatever it is) has not been introduced in that country by necessity, which is the case for pudding-eating in England, and in some parts of Holland.

“In England, where the fog is perpetual, or nearly so, in many parts, and where it exists eight or nine months of the year in others, the stomach requires to be filled with something very heavy, something that will stay there till the next meal, and very often longer than that. It is well known that, in England, farm hands, or other persons working in the open air, eat six times a day, and have pudding at least three times; they drink home-brewed beer, which is very heavy and very rich also; let any one here, in this pure, clear atmosphere, eat six times a day, have pudding three times, with a pint of home-brewed beer every time, and see how he will feel in the evening. We beg of all that may doubt our observations to try the experiment.”

On the other hand the English muse has thus immortalized the national dish:—

“ O Puddin’,
Brown Puddin’,
Puddin’ in a pan;
Boiled Puddin’,
Baked Puddin’,
Beat ’em if you can.”

While the greatest of her philosophical historians has alluded to the effect of the gastronomical preferences of his country in the following paragraph:—

“It is not in human nature to be quiet on an empty stomach, and while the English nation vaunts herself for Magna Charta and the Bill of Rights, the more sagacious observer will give to plum pudding no small share in the affection of the British stomach.”

As our climate and the characteristics of our people are said to be a happy medium between the vivacity of the French and the stolidity of the Saxon, we have displayed in this country a moderate and chastened appetite for puddings, neither eschewing them entirely with the French, nor chewing them so constantly as their graver neighbors on the other side of the channel. By referring to Chapters II. and III. of this work it will be easy to arrive at the true philosophy of puddings. They should be composed of constituents of oppo-

site qualities; rice, for instance, which is almost pure starch, should be combined with eggs and milk, which are muscle-making. If this principle is not observed, but those grains or fruits which are in themselves rich in carbon and oily are combined with butter or suet, the compound will be indigestible and unfit to be taken into the stomach, except when the climate reminds us of "the pitiless coast of Labrador." Rich puddings are suitable only in winter; in summer their place on the table should be supplied with some of the varieties of cream or fruit.

PASTRY.

Most of the indigestion from which thousands of our people suffer, and by which, in many cases, health is wholly destroyed, is produced by eating freely of badly made pies. They are the least wholesome of any of the dishes in common use among our people, unless it be fat pork. It is by no means easy, in the nature of things, to make pies, and especially pie-crust, in such a way that they will be at the same time both palatable and wholesome. If you put in lard or butter enough to make the crust short, you produce an indigestible paste. If, on the other hand, you omit the animal oil, your pie-crust will remind those who eat it, of army "hard-

tack." There are processes by which a moderate amount of suet or butter can be combined with flour, and pie-crust, which is quite tender, be the happy result. But it requires skill and care to insure success. The utmost cleanliness and nicety must be observed in making pastry ; the paste-slab must be free from all old paste ; the rolling-pin and cutters also. The flour and sugar must be of the best quality, dried and sifted. Butter free from coarse particles of salt, and of good quality, is essential to first-rate pastry. Lard may be used in place of butter, but the paste will not be as light or as wholesome as when made by the latter. Puff paste should *always* be rolled *from you*. Paste should be baked as soon as possible after it is made, otherwise it will become dull and heavy.

Good baking is very important to secure good pastry. If the oven is too hot the pastry will not rise well ; if not hot enough, it will become sodden, heavy, and lack color. Raised pies require more heat than the other varieties.

Be sure the oven is brushed and wiped out clean before pies are put in it, else they may acquire an unpleasant flavor from articles previously baked in the oven. Be careful to pour out the juice of a pie if it begins to run over, so as to prevent a steam in your oven, which would make the pastry heavy.

PIES.

In making pies of berries, apples, and other fruits, it is desirable to have the pastry and fruit so prepared as to require the same time each to be well baked. If for instance, you place hard, green apples in rich puff paste, the latter will be done some time before the former. The same is the case with green currants and some other fruits. The pastry should be removed from the oven as soon as it is done, but it does not injure fruit to remain there even after it is well cooked. The cook must therefore exercise her judgment as to when fruit shall be stewed before placing it in the paste. Ripe currants, and some other berries, juicy and fully ripe apples, do not require longer for cooking than will suffice to bake the paste. When fruit is stewed before being made into pies, it should be allowed to become perfectly cold before being put on the paste, otherwise heavy and sodden under crust will almost certainly be the unhappy result. It is a good plan, when you intend to make pies, to prepare the fruit beforehand, and be sure that your oven will be hot by the time your pies are ready to go into it. Bake them on the bottom first, and put over them a piece of paper to prevent burning on top, if the oven should be too hot.

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You can always know by the looks of a custard or squash pie when it is done. If it is risen up all over, and especially in the middle, you may remove it at once to the shelf. The same remark applies to all baked puddings in which eggs and milk enter largely as ingredients.

Another mode of telling when pies, puddings, and cake are sufficiently baked, is this: Take a straw from the broom, and pierce the pie or cake in the thickest part; if the straw is perfectly clean when withdrawn, the dish is done.

Thorough cooking is indispensable in this department of the culinary art, as it aids materially in lessening the indigestion which too great indulgence in these rich dishes is liable to produce.

ICE CREAM.

During the summer months there is no after dinner delicacy so prized as ice cream. In order to make it in the best manner and with the least trouble, some machinery for turning the freezer in the ice is necessary. In large establishments where hundreds of gallons are manufactured daily, a small engine is employed for this purpose. But most families in the country could enjoy this luxury with a very small outlay. All they must buy is the freezer

which is nothing more than a long round tin dish with a tight fitting lid. A tinner can make one for fifty cents. Any deep tub or long firkin will serve to contain the packing of ice and salt. Ice cream is nothing more than frozen custard, with this difference that more cream can be used than when a custard is boiled or baked. With eggs and milk at country prices, the materials for a gallon of ice cream, cost a dollar, for a quart twenty-five cents. The following minute directions will enable any country family that has ice and coarse salt, to make their own ice cream.

Take two quarts of rich cream and one quart of rich milk; put the milk on the fire; cut up a vanilla bean in small pieces, and throw it into the milk, letting it boil half an hour. Beat up a table-spoonful of flour or powdered arrow-root in some cold milk, and stir it gradually into the boiling milk. Beat up three eggs well, adding a little cold milk to them, and pour them into the boiling milk; boil it all together, a few minutes stirring it all the time. Take it off the fire and strain it through a fine sieve. Add the two quarts of cream, and three pounds of sugar; stir it until the sugar is dissolved. When cold put it in the freezer; place the freezer in a deep pail, which is partly filled with



Compote of Apples.



Compote of Pears.



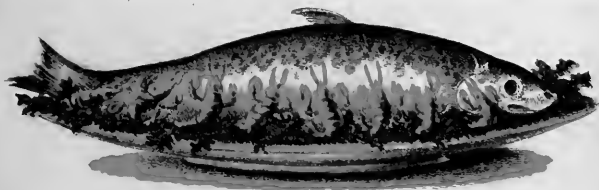
Christmas Plum Pudding.



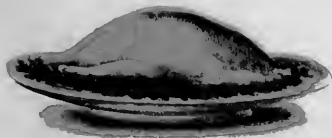
Open Tart.



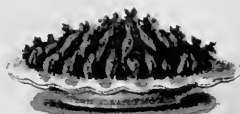
Pickled Anchovies.



Salmon garnished with Crayfish.



Duck and Green Peas.



Shrimps.



pounded ice, and surround it with coarse salt and ice, in alternate layers. Shake the freezer by turning the handle all the time. Every ten minutes open the freezer and cut down the cream as it congeals around the sides, beating the cream well each time, also digging it out from the bottom. A little iron or tin spade with a strong handle is the best for the purpose. If the ice is to be kept after it is frozen, the water must be let off from the bottom of the pail by a hole that is stopped with a cork, and a woollen cloth put on the top of the freezer to exclude the air. When the freezer is opened the edges should be carefully wiped with a towel to prevent the salt from getting in. When the frozen cream is to be turned out, apply a cloth wrung out of boiling water to the bottom and sides of the freezer. If you wish to flavor it with lemon instead of vanilla, take a large lump of sugar, before you powder it, and rub it on the outside of a large lemon till the yellow is all rubbed off upon the sugar. Then, when the sugar is all powdered, mix with it the juice. Do the same for orange. For strawberry ice cream, mix with the powdered sugar the juice of a quart of ripe strawberries squeezed through a linen bag.

The proper time for eating cake, puddings, pies, and all luxurious desserts is at dinner time, a good many hours before sleep. Thus ample time will be afforded for full digestion. Composed as these articles are of rich and concentrated materials, they should be mingled with plainer and coarser food, so that the stomach shall not require to digest a compound, not easily attacked and assimilated by its juices.

It is easy to understand why late suppers, where rich cake and similar delicacies tempt the appetite are so injurious to health. In sleep, with the rest of the body, the stomach also should repose from its functions, but when forced into ill-timed activity by late suppers, it retaliates in retributive dreams of fear and horror, and if reformation comes not soon, visits upon the unhappy violator of hygienic laws, dyspepsia with all its long train of woes. If the stomach must be overtaxed, let it be done in waking hours, and the last meal before sleep be plain and simple.

CHAPTER XIII.

CHILDREN'S FOOD.

DIRECTIONS are given, in a subsequent chapter on Infancy, for the regulation and selection of the food of infants. This chapter treats of the diet of growing children, from the time the first teeth appear till adolescence. There is not a great deal to be said under this head, but the suggestions we have to make are so important that we ask every father and mother, and every keeper of boarding-schools into whose hands this book may fall, if they only glance at the other chapters, to peruse this.

There are two scientific truths that lie at the foundation of sound knowledge on this subject, and if these are steadily borne in mind important errors will not be committed.

First, the child eats partly to supply to his system the means of growth, while the adult takes food merely to prevent his body from wasting. Hence, though his stomach is somewhat smaller than a man's, the active and healthy boy of from seven to twelve years needs almost as much food as a grown person, but his meal hours should not be precisely the same.

It is the nature of growing things not to intermit in the absorption of their food. The tree draws sap constantly from the ground during the growing season. A stalk of corn does not cease to grow from the first sprout till maturity. The unborn infant draws its food from its mother's blood at all hours till the embryo state is ended.

For some time after birth it requires its natural food at intervals of about two hours, by day and at night. During childhood this tendency to frequent feeding is natural and should not be repressed. The stomach of a child is not deranged, like that of an adult, by lunches and irregular snatches of bread and butter. Too much of this there should not be, for as the child becomes a youth there is a tendency to settle upon the usual intervals between the times of taking food.

We have all of us known some strenuous and systematic mothers, who with even little children have put down their foot on what they call dietetical irregularities, and laid down the family law, — no eating between meals, — and believe they are doing the stomach of a youngling a real favor by making him repress all expressions of hunger, from a seven o'clock breakfast till a two o'clock dinner.

This is not the voice of nature. This is not the true law for the period of growth. A very careful

and judicious English doctor, who has written a good book on the management of children, says they should have food at intervals of about four hours.

Another law of growth, too obvious to need dwelling upon, is that the growing creature requires food that contains the elements of the body; in other words, food that abounds in albumen, fibrine, gelatine, and the earthy salts. Now, referring to the tables in chapter second, what substances do we find richest in the constituents of perfect food? *Flesh, milk, eggs, and wheat bread.* Since, then, children require tissue-making food, for the double purpose of repairing muscular waste and for growth, what substances can be more suitable than such as contain the plastic elements in greatest abundance?

Another scientific truth should be alluded to. For some reason, the cause of which has never been discovered, the animal heat of children is higher than that of adults, and this without reference to the character of the food consumed. The blood heat of an adult is about 98° , while that of a boy or girl of seven is often three or four degrees higher, ranging at 100° and 103° . Hence it follows that children have not the same need of carbonized, that is, fatty dishes, even in the coldest weather. This accords with nursery experience. Give a hearty

boy a supper of baked beans and pork, the pork somewhat in excess. His father will eat it with impunity; but the boy's stomach will be likely to reject it in a few hours. So with rich pie-crust, cake abounding in butter, and other fatty dishes. They should never be given to children, for children never need them, and they are worse than useless in their stomachs, — they are noxious.

There is in the minds of thousands of anxious mothers a great dread of fruits of all kinds as being dangerous diet for the young. Not a particle more so for the healthy child than for the healthy adult. The difficulty and prejudice arise not from the injurious qualities of ripe sound fruit of any kind, but because children will not discriminate between that which is ripe and that which is nearly so, and because they are likely to eat fruits of all kinds to excess.

Perhaps the subject cannot be summed up in a better or more available form, than by condensing the results of personal experience, and the testimony of several medical writers on this point into the following

RULES FOR THE DIET OF CHILDREN.

1. Children should have a full supply of muscle

and bone making food, because they are growing and because their habits are active.

Wheat bread and crushed wheat, oatmeal, potatoes, onions and cabbages, milk, eggs, and red or muscular flesh are the substances best adapted to their requirements.

2. Grease of all kinds is less useful and more injurious to children than to grown folks.

3. Sugar, sugar candy (if uncolored), molasses, and honey are not bad for children, if eaten moderately. They do not injure the teeth.

4. Cakes and rich pastries are bad for children, not because they are sweet, but because they are greasy.

5. From four to six hours is long enough for a child to go without food. It is better for children to eat four times a day rather than three.

6. A low and imperfect diet is a great curse to a child. It blunts the feelings and dwarfs both mind and body.

7. It is easy to give a child too much rich food, but not easy to give an active child too much strong food.

8. Children should do the most of their eating in the early and middle part of the day, and sleep, not on an empty stomach, but an hour or two after a light meal.

CHAPTER XIV.

FOOD FOR THE SICK AND AGED.

It is of great importance to know, with reference to the cookery of the sick-room and of convalescents, whether the invalid is suffering from a special affection of some part of the alimentary canal, or whether the disease is of a different character, and the stomach is delicate only from sympathy.

In the past generation, and still among some old-school doctors, the low-diet system has been quite too much employed with the sick.

Many diseases impoverish the blood, and the patient needs building up with food that is strong yet easy of digestion. Hundreds of patients are made to languish through a slow convalescence on boiled rice and a baked apple, when a piece of broiled chicken or a tender steak would be very much better.

While an acute disease is upon the patient, his diet should be prescribed by the doctor; and, if he is skilful, too strict a compliance with his instructions is impossible.

In some diseases, the whole question of recovery depends on the quality of food taken into the system.

In ordinary fevers and derangements of the bowels, the safest as well as the most palatable dish is *gruel*, either cornmeal or oatmeal.

In many cases, the diet should consist of this, and nothing else, for several days, sometimes for weeks; and the comfort of the patient greatly depends on the skill with which this dish is compounded. There are few accomplishments of a domestic nurse more important than the ability to make good gruel.

I am *sure* the following recipe, if strictly followed, will produce a dish that will be eagerly taken in the pallid hands, and light up a gleam of joy "in eyes that had forgotten to shine."

The lady from whom it was learned, than whom a more perfect nurse never bent over a suffering mortal, — vigilant, prompt, firm, obedient, self-possessed, her presence a balm, her step soft, her eye like May morning, her voice a lullaby, — was thus complimented by the physician that regularly practised in her family: "Ah, madame, that porridge-kettle of yours saves your husband many a dollar on my bills!"

To make Gruel. — Pour a quart of hot water into a clean earthen or tin vessel, over a brisk fire. When it boils, take two large tablespoonfuls of corn or oat meal; mix it smooth in just water enough to

make it a thin paste; put a small lump of butter into the water, and when melted add the meal, and stir frequently for about half an hour; then add a gill of sweet milk, and, when it boils again, throw in the upper crust of hard-baked bread, cut in small pieces; let boil some time, and then add a little black pepper, some salt, a pinch of grated nutmeg, and a little more butter, and a tablespoonful of French brandy. This makes a palatable and harmless dish, in most cases of moderate sickness. When the case is serious, the butter, spices, and brandy should be omitted. As the case improves, and appetite returns, increase the milk and the crusts of bread, and stir in the yolk of an egg, boiled hard and mashed. By varying these ingredients, a dish of various degrees of strength can be made to suit the condition of the sufferer.

It often becomes necessary to support life through the crisis of an acute distemper, or when the strength is greatly reduced, by giving small quantities of highly concentrated nourishment. There is nothing so good, at such times, as the juice of flesh. This can be made by the following

Recipe for Beef Tea. — Take a pound of the red or muscular flesh of beef; cut it fine, and put in a bottle; cork tightly, and put into a kettle of warm water; increase the heat till it boils; remove the

bottle, and pour out the contents. A liquor, or tea, will have been extracted from the flesh which has a rich, brothy smell. Salt a little, and give a spoonful every hour, or more frequently, as the physician may direct.

Toast Water. — Toast thoroughly, but not to burn, half a slice of stale wheat bread; pour over it a quart of water which has been boiled and then cooled; let it stand two hours, and pour off; flavor with lemon or orange peel.

Flaxseed Tea. — An ounce of flaxseed, not bruised; a little liquorice-root, pounded; pour in a pint of boiling water that is soft, or rain-water, and place the jug or vessel containing these ingredients near but not on the fire for four hours; strain through a linen or cotton cloth; make fresh every day. An excellent drink in fever accompanied by a cough.

In some fevers, especially the typhus, there is a low or sinking stage, when something that is at once food and stimulus must be given. The best preparation of this kind is

Egg Brandy. — Take the yolks of two eggs; beat them well, adding half an ounce of fine white sugar, a little cinnamon-water, and two drops of the oil of cinnamon; mix thoroughly, and add, by little

and little, a wineglass of best French brandy. Give frequently, a teaspoonful at a time.

In convalescence, as above remarked, much depends on the nature of the disease that has been vanquished, or the injury recovered from.

In general, and unless a physician gives special instructions, the following dishes will be found safe: Boiled rice, baked apples, tapioca pudding eaten with little or no butter; mealy potatoes, boiled or baked; soft-boiled eggs, dry toast, lean baked mutton, boiled chicken, tender beef-steak, broiled without the fat.

As nourishing and strengthening beverages, suitable especially in the later stages of convalescence, there is nothing better than a combination of brandy or rum with eggs and milk, as follows:—

Milk Punch.—A teaspoonful of sugar, and enough water to dissolve it. Pour in two gills of milk, and then, in a small stream, stirring constantly, a tablespoonful or two of brandy or rum.

Egg Nog.—Teaspoonful of sugar well beaten with an egg; add a gill of milk, and then, by degrees, one or two tablespoonfuls of good French brandy; spice with grated nutmeg.

THE FOOD OF OLD PEOPLE.

In the interval between threescore-and-ten and

the time when "the golden bowl is broken," there sometimes intervenes a period of time when "their strength has become weakness," and "desire fails, and the grasshopper is a burden." One of the more frequent annoyances and infirmities of age is a loss of appetite. With the aged, the reverse occurs of what we observed in children as to the warmth of the body. Their heat is lower than that of middle life, and they are quite liable to be carried away by a sudden fall of temperature, against which they are not duly protected.

For this reason they should not sleep in cold rooms, nor live on the north side of a house, nor dress in any material but flannel.

Their food should be starchy, and the milder animal oils, especially butter, should be indulged in as freely as is consistent with digestion. The effect of tea and coffee, especially tea, is to aid in digestion, and to prevent the wearing away of tissue under insufficient nutrition. Hence the fondness of the aged for these beverages, and the propriety of their indulging in them; for they to a degree supply the place of food, which, if taken into the system, would not be digested.

Potatoes are relished as long as any vegetable by the old. Hence pains should be used to obtain such as are mealy and well preserved.

Baked apples are also peculiarly grateful in declining years.

A broth made of chicken, well boiled, or from good juicy beef, and thickened with rice or barley, can be digested when nothing else would be relished.

The loss of the teeth is generally but a type of the decay and relaxation which extends to all parts of the digestive apparatus. Thus the stomach as well as the mouth is unable to manage tough food, and the necessity arises of introducing substances, as nutritious as can be found, which do not require chewing. An egg, soft-boiled, answers this description; and many advanced persons sustain life in surprising vigor, after the allotted period, by eating freely of eggs, and using mildly stimulating drinks.

CHAPTER XV.

BEVERAGES.

OF the three infusions in common use among different nations, for drink, it is somewhat remarkable that each contains the same peculiar principle. This fact was pointed out by Liebig, about forty years ago, who also discovered that the active principle in each has a striking similarity to some of the most important constituents of bile. Hence the inference that tea, coffee, and cocoa are in some way specially adapted to the needs of the human system. However this may be, it is idle, now, to attack the almost universal custom of serving one or, frequently, two of these beverages, at the morning and evening meal of the American people. Two hundred years ago, coffee was spoken of as a rare and mysterious Eastern drug. Now it is consumed, on the North American continent, at the rate of six pounds annually to every man, woman, and child in the land. A vast deal more, according to the population, is drunk by us than by any other people in the world, not even excepting the Arabs, in whose hot and sandy land it attains its greatest perfection. Since, then, coffee is so much used as to be almost the

national beverage of America, no housewife can afford to be ignorant of the best modes of selecting and preparing this infusion for the table, as well as those temperaments with which coffee is congenial; the circumstances under which it may be indulged in, and when it should be avoided.

When the house-keeper goes to her grocer, to make purchase of family supplies, and orders, among other things, a package of coffee, she is met by the question whether she will have Rio or Java. Nothing is more proper than that the good lady, thus interrogated, should be able to make an intelligent choice, and to give, if need be, a reason of the faith that is in her. What, now, is the difference between "Java," "Mocha," and "Rio," and how does this difference arise?

The coffee-plant is a native of Arabia, and, as it is a perennial, can flourish only in those countries which are not visited by frost. It grows to the height of fifteen or twenty feet, commences to produce on the third year after planting, and continues to bear fruit for sixteen or seventeen years. As it is strictly a tropical plant, it has no appointed time for flowering or for fruitage. Blossoms, half-grown berries, and the ripe fruit may be plucked at the same time from the same tree. When the berry is ripe, it is about as large as a cherry, the pulp sweet

and quite pleasant; while at the centre are found two seeds, or kernels, or rather one seed in two hemispheres, the flattened sides of which face each other. If the berry is allowed to remain until the pulp perishes or dries away, the seed continues to ripen, and acquires a more rich and delicate flavor the longer it remains on the tree. As Arabia is seldom visited by rain or violent storms of wind, the coffee-planters of that country permit the fruit to remain until the pulp dries up or drops off, and the seeds attain the most perfect maturity. When they are gathered, all that is necessary is to get rid of the dried pulp which envelops them, and see that the berries are entirely dry before being shipped.

The Java coffee is produced in a manner quite similar. The climate of that island has, however, this disadvantage as compared with that of Arabia: it is subject to frequent and violent storms, which beat the ripe berries off the bush. On this account, the Java planter can never wait until all his seeds are ripe. A portion of what he gathers is immature, and none of the berries remain so long upon the tree as in Arabia.

The world looked to these two countries for its supplies of coffee until the early part of the present century, when the inexhaustible soil and perpetual summer climate of Brazil were found to be admir-

ably suited to its growth and culture. Within a generation, Rio Janeiro has risen to be by far the largest exporting city, for this article of commerce, of any in the world; and more than half of all the coffee consumed is raised in Brazil, and takes its name from the city where it is shipped. As this is a slave country,—slavery being still supported by law,—the kind of labor applied to the production of coffee is rude and unskilled in the last degree. A time is selected when there is the largest number of ripe or nearly ripe berries upon the shrubs; and then, instead of picking only those that are ripe, the limbs are stripped, and the ripe and unripe together are subjected to several successive processes, the effect of which is to remove the pulp and the tough membrane which envelops the seed. Though the plant thrives in South America, and produces largely, the delicate flavor and the fragrant oil which characterize the Arabian berry cannot be produced in the hot and moist climate of the New World. Thus Rio coffee is inferior to either of the other commercial varieties above named, in respect to that fine aroma which comes only by reaching full maturity in a rainless climate. This difference is easily perceived in the size and color of the kernels, the genuine Arabian berry being of a pale straw color, and large in size, with very few crushed or broken kernels.

Rio, on the other hand, is of a pale green color, the berry smaller and harder, from being gathered while unripe, and having a greater proportion of woody fibre. The appearance and characteristics of the Java are intermediate between those of the other two varieties.

Mocha and Java, particularly the former, are greatly superior to Rio in the delightful fragrance which they exhale, and in their soothing and nutritive effects. The berry, when fully ripe, contains a quite large proportion of gluten; so that the Arabs drink their coffee and eat the grounds, as we do chocolate. Rio makes a much more bitter infusion, less aromatic, and far less soothing; but to compensate, it seems to surpass the infusion made from the Arabian berry in stimulating qualities, and enables the person who drinks it to resist the miasmatic influences of tropical and semi-tropical climates. Growing as it does exclusively within the tropics, coffee seems to be designed by nature as the proper beverage of the inhabitants of warm and moist climates. In the southern regions of the United States, tea is very little used as a beverage, while coffee is found upon many tables two and three times a day. On the lower Mississippi, ever since the settlement of the country, it has been the practice, in most families, to have served a cup of strong

coffee the first thing upon awaking, and before a person leaves his bedroom. Its effect, thus taken, is to neutralize the malarious influence of the early morning air, especially in low and miasmatic situations. The universal preference for Rio coffee, in this region, would seem to indicate a larger admixture of those elements which make coffee the most proper beverage for hot and moist climates. This peculiarity is explained by the discovery made by Liebig of the identity of caffeine, the active element of coffee, with one of the constituents of bile. We know that the first organ to suffer, when a person of the Caucasian race commences to live in a tropical climate, is the liver; and coffee owes its universal popularity, in such climates, to the fact that, while it is a grateful and fragrant beverage, it acts, at the same time, as a corrective to derangements of the liver resulting from climate.

Understanding thus the properties of the different varieties, a house-keeper will regard the demands of those for whom she prepares the infusion. If she would delight her guests and her family, and supply her breakfast-table with a beverage at once fragrant, soothing, grateful, and enlivening, Mocha will be her choice. If, on the other hand, the drink is designed for persons exposed to cold, or suffering hardships of any sort, — such as laborers, watch-

men, soldiers, or travellers by night, — she will find in a strong cup of Rio those qualities most needed. For ordinary family use, a mixture of Java and Rio will be found at once the most salubrious and agreeable.

But no variety of this plant, whether Rio, Maracaybo, Java, or even the unrivalled Mocha, will answer to her expectations, or afford the gratification she desires to give, whether festive or hygienic, unless every step in the preparation for the table is taken with skill, care, and judgment. A child can pour hot water on a handful of tea-leaves, and make a palatable infusion; but let no nursing lay inexperienced fingers on the coffee-pot! If there is a spirit that presides over beverages, — a genius into whose nostrils the fumes of the fragrant bowl rise more grateful than Arabian frankincense or myrrh, — his presence should be sought, his aid invoked.

The first thing to be done is to pick over a small quantity, as half a pint, of the grains, rejecting all that are imperfect or much discolored, and all foreign substances. The first stage of the roasting should be over a moderate fire, and conducted slowly, the object being simply to expel moisture. Then increase the heat, and stir constantly, till the kernels are of a dark-brown color, like the peel of a chestnut, taking care that none are charred or

blackened. When properly roasted, the grains are twenty per cent. lighter and fifty per cent. larger than in the raw state. Just before they are done, a shining appearance indicates that a delicate and fragrant oil, that is contained in minute cells just below the surface, has been driven to the outside by the heat. If the roasting is continued two or three minutes, this oil is expelled and lost, by which the flavor and fragrance are greatly impaired. Too much care cannot be exercised in removing coffee from the fire at precisely the right moment. It is very desirable that the last part of the roasting process should be conducted in a close vessel, so as to retain the odor. Two or three different designs of coffee-roasters have been patented, all of which are calculated to secure a constant agitation of the roasting kernels, and yet confine the aroma. After roasting, the most perfect infusion is made by grinding and pouring on boiling water as speedily as possible. That which is not used at once should be kept in a canister with a close-fitting cover. In this way, much of the aroma is reabsorbed, which would be entirely dissipated if the coffee were freely exposed. Fine grinding is best.

Now, as to the process of extraction: The full strength of the ground coffee is best obtained partly by boiling, and partly by dripping, or leaching. Nei-

ther process alone is so effectual as a combination of both. The French arrangement, known as the hecla, or dipper, and the pot, of Yankee contrivance, called the Old Dominion, are each an attempt, in different ways, to combine these two processes. In the hands of a skilful person, a very superior article can be made with them. But as they are easily deranged, require constant vigilance, and consume a greater quantity of coffee, in order to give the same amount of the infusion, than the vessel generally used, the common pot is not likely to be superseded on the great majority of tables, especially as it is capable, by the observance of two or three directions, of giving very satisfactory results.

Allow for every large cup to be filled a table-spoonful of ground coffee; mix, in the pot, with a small quantity of cold water, adding a little of the white of an egg or a crushed egg-shell; beat the whole together with a spoon, for a minute; then add scalding water, and continue the boiling heat for fifteen minutes, the lid being carefully closed, and a small opening only allowed for the escape of steam; scald the milk, and have, also, a cup of sweet cream on the table; stir the hot milk and sugar together in the bottom of each cup, and add a teaspoonful of cream. These should fill the cup one-third full. Now add the coffee, pouring slowly.

If the parching was properly done, and enough white of egg used, the liquid will pour off clear, of a rich dark color, — transparent as amber, fragrant as ambrosia, delicious as nectar.

The stimulus of one large cup such as is here described is as much as most constitutions can safely indulge in. This should be taken with the first meal of the day, that its effects may wholly cease their action before the hour for repose arrives. After a hearty dinner, especially if the food is rich in animal oil, a small cup of strong black coffee, drank without milk, but with a liberal allowance of sugar, is found to promote digestion and a lively flow of spirits. No French dinner is considered complete without this crowning cup of *café noir*.

Nothing is gained, in economy, health, or satisfaction, by diluting this infusion. One small cup of strong coffee is as much more healthful as it is more agreeable to the taste than a large cup of weak coffee. Neither this beverage, nor others in common use, should be employed to dilute the food of a meal as it is taken into the mouth. When much liquid of any kind is drank with food, its effect is to retard the process of digestion, by mixing with the gastric juices, and rendering them less effective.

As coffee is a native of hot countries, it will be found more grateful and healthful as a summer than

as a winter drink. For the same reason, it is likely never to attain the same popularity in the northern as in the southern portions of the Union. In high regions, where cold winds abound, and in a climate cool and moist as that of England, tea will generally be preferred; and in such places coffee is more injurious. A similar observation may be made of different temperaments. With persons of black or dark hazel eyes and olive complexions, coffee is almost invariably found to be a congenial and favorite beverage, while tea is the preference of blue-eyed and fair-complexioned people. The aid coffee affords the liver in the performance of its functions accounts for these differences in taste.

Though the varieties and different brands of tea are more numerous than the kinds of coffee, the chief distinction known among consumers, in this country, is that of green and black.

This difference is produced mainly by the way in which it is harvested and prepared for market. The best class of green teas are those that are made by rolling up the young leaves into small and nearly spherical shape. On the other hand, the black teas are those which are picked after the leaves have attained larger growth. Hence in black teas there is more woody fibre than in green teas. There is, also, in the young leaves of which the green teas

are made, a larger proportion of the volatile oil, which contains the greater part of the active element of tea. This is the reason why green tea is found stronger than black tea. It contains more of those elements or qualities which make all teas more or less injurious to the nervous system.

That greatest of organic chemists, Liebig, has made a very thorough analysis of tea and coffee. He finds the active element of each, which he calls *theine* in tea, and *caffeine* in coffee, identical, and he has discovered, also, a remarkable connection between *taurin*, a peculiar compound in the bile, and the two substances above named. He says that "two and eight-tenths grains of caffeine (theine) can give to an ounce of bile the nitrogen it contains in the form of taurin. If an infusion of tea contain no more than the tenth of a grain of caffeine or theine, still, if it contribute in point of fact to the formation of bile, the action of even such a quantity cannot be looked upon as a nullity." The conclusion to which this distinguished authority has been led by his investigations is, that tea, as well as coffee, has two effects upon the human system, — one upon the nervous tissues, and the other upon the bile; the latter effect being to render these beverages to a considerable extent substitutes for exercise, and for that portion of food which would be consumed by

muscular activity. This is the reason why these drinks are so popular with the sedentary, students, persons advanced in life, and with those who are too poor to buy food of the best quality, and in sufficient abundance. To the poor sewing-woman, in her garret, cut off from the wholesome exhilaration of country walks, and subsisting upon bread and potatoes, the cup of tea is at once a necessity and a luxury. The same is true of the aged, whose infirmities condemn them to the easy-chair and the chimney-corner.

Though tea and coffee are not, properly speaking, nutriments, they have in the system all the effects of nutritious substances, by checking the waste of tissue, and by aiding in the formation of bile. When drunk very strong, however, and in improper quantities, these beverages are drafts upon the future, like the alcoholic drinks, consuming the vigor of to-morrow in the duties of the passing hour.

Chocolate, as prepared by the Mexicans and Spaniards, directly from the bean of the cocoa-tree, is the most nutritious of all the decoctions used as drinks. Its active principle, theobromine, is very similar to the essence of tea and of coffee, and its other constituents are very similar to those of milk. But the great objection to chocolate is, that hardly any of those in this country, who grind the bean and

sell the paste, give a pure article. Sugar and rice flour are freely used, and often coloring agents that are highly deleterious. The proper way of preparing this charming dish, which is at once food, drink, and stimulus, is by grating the chocolate-cake into boiling milk and water, allowing the same amount of the grated powder for each cup as would make a good cup of coffee, — that is, a large spoonful.

Take, say, a pint of hot water, and add a pint of milk. When the mixture boils, put in the chocolate. It should boil twenty minutes, or half an hour. The aroma, as well as flavor and nutritive qualities, will depend almost wholly on the purity of the article bought for chocolate. If you have been so fortunate as to obtain a genuine paste of crushed cocoa-beans, the beverage will be found entirely wholesome and highly nutritious. If you are drinking a mixture of cocoa, rice flour, burnt sugar, annatto, and red lead, it will be found indigestible, if not poisonous.

The shells of the cocoa-beans are often dried, and boiled like tea. The infusion is pleasant, and has the effect of weak chocolate. It is a cheap and harmless drink.

RECIPES.

To Make Spring Beer. — Gather a quantity of

sweet fern, sarsaparilla roots, winter-green leaves, the roots and tender leaves of sassafras, and a little black-birch bark. Boil them for four hours in three or four gallons of water. At the same time boil in another vessel two ounces of hops in a gallon of water, adding three potatoes cut in slices. Each should be strained and mingled, allowing a quart of molasses to three gallons of beer. Cut up half a common-sized loaf of bread into thin slices; brown them thoroughly, and put into the liquor. When the beer is nearly cool, put in a pint of good yeast, that has not been salted. The air should not be entirely excluded. The root of yellow dock is often added to make the beer a tonic.

Ginger Beer.—Pound well one ounce of ginger-root, of which make a quart of strong tea. Add water to make four gallons. In this, dissolve four pounds of brown sugar, one ounce of cream tartar, add and thoroughly mix one pint of good yeast. After standing twenty-four hours, strain carefully, and bottle tightly, tying down the corks. In forty-eight hours from the time of bottling, it is fit for use, and makes a delightful drink for hot weather.

To Make Mead.—Beat to a strong froth the whites of three eggs. Add them to sixteen quarts of strained honey diluted with six gallons of water. Flavor with the thin or yellow part of the rind of

two dozen lemons. Boil and skim for three-quarters of an hour. Pour into a clean tub of oak or hemlock (as pine imparts a disagreeable flavor), and when nearly cool, add a gill of good, fresh yeast. Cover and leave to ferment. When it has done working, transfer to a clean barrel. In six months it may be bottled.

CHAPTER XVI.

CLOTHING IN GENERAL.

As so large a portion of the housekeeper's time is occupied in the purchase or manufacture of clothing for her family, in making it up, and keeping it in order, it becomes a matter of the greatest importance to know how each of these processes shall be performed in the best manner.

Before entering upon the practical details of this subject, it may be proper to present some of the facts and conclusions, elicited by modern observation and science, as to the best materials for dress.

That the amount or weight of the clothing should be regulated according to the temperature, and with the changing seasons, is so obvious that only a passing allusion to it is necessary. A question of the highest importance, as relates to health, is what shall be the immediate covering of the skin?

The first and principal rule on this subject is that *the fabric or garment next the skin should be always of the same material.* In all variations of climate and latitude the vital heat is about 98° , and it is but reasonable to suppose that the best characteris-

tic of all clothing is that it shall preserve in the best manner this uniform temperature.

Nature here gives us a valuable hint. The covering of the sheep is always wool, — not wool in winter and hair in summer. So also of other animals who furnish clothing to man. The thickness of the coat of wool, hair, or feathers, varies with climate, but the material is unchanged.

The fabrics in use among civilized nations for this purpose are of linen, cotton, silk, and wool. Let us examine these substances, and determine which of them, from its nature, is best adapted for the immediate covering of the skin.

As to linen — the material generally regarded, at least among ladies, as the most desirable — its chief characteristic is that it is too rapid and facile a conductor of heat, while it absorbs and retains the insensible perspiration and the humors of the body.

Feeling cool, as it always does to the touch, it is grateful only in excessive heat, when the thermometer rises above 96° . But even then it is an unsuitable and unwholesome material, for the moment it becomes damp from perspiration, evaporation from its surface is very rapid, and it produces a chill wherever it touches the surface of the body. In addition to this objection, on account of its retaining perspirable matter, it becomes, when soiled, the

most intolerable of all fabrics used for clothing. One can wear soiled flannel without discomfort twice as long as soiled linen. For these reasons all modern writers upon health and physiology pronounce linen the most unsuitable of all substances in use for under-clothing.

For the past thirty years, since cotton has become so abundant in this country and in England, its use for garments next the person has superseded, to a very great extent, that of linen.

Its surface is much more furry than that of linen, making it a less rapid conductor of heat; and it absorbs less from the skin. Hence it may be regarded as on the middle ground between linen and flannel; better than the former and not so good as the latter.

Being, however, a vegetable substance, it cannot compare with wool in its adaptation to all the demands of the skin. It retains perspired matter less readily than linen, but more so than wool, and frequent changes become more necessary.

Animal wool has this for its first recommendation, that it is the general covering of such animals as most resemble men in their structure. A slow conductor of external heat to the body, its porous texture allows the transmission of perspirable matter from the body more readily than any other fabric.

Its peculiar merit, in which it excels all other material, is that it keeps the vessels of the skin constantly open, stimulates them to free perspiration, and protects them from the chilling effects of external moisture.

Thus, if violent exercise is taken in a flannel shirt, the perspiration which follows, instead of being absorbed, as it would be by a linen garment, passes off through the pores of the woollen fabric, and the skin remains dry and comfortable. Hence, it follows that flannel is by far the best material for the clothing of laborers, especially such as are exposed to frequent changes, and whose activity varies at different times in the day.

Of all the industrial class, none probably require the use of flannel so universally as farmers. The diseases to which farmers are liable are to a great extent the result of a sudden check to copious perspiration, and the wide differences of temperature and situation in which their work is performed, and nothing would tend to counteract the mischief of these exposures so effectually as the wearing of flannel next the skin.

All other persons who lead lives of exposure, as fishermen, mariners, soldiers, and travellers, should adopt flannel under-garments.

Females, also, who by the retiracy and refinement

of their daily lives, cannot enjoy the vigorous health that comes of free exercise and exposure, should, for that very reason, be completely encased in flannel garments. The objection made to this fabric, that it irritates the skin, is removed by the consideration that such irritation is healthful, and may be entirely allayed by friction of the skin when the woollen garments are removed upon retiring, as they invariably should be. A little persistence in this practice will inure the skin to its new covering, after which no inconvenience will be felt.

As a clothing for children, flannel cannot be too highly recommended. It protects them, as nothing else can, from the thousand ills and maladies to which they are constantly exposed from their thoughtlessness and ignorance.

The most kindly and genial of the old French monarchs once expressed the wish "that every one of his subjects were rich enough to have a chicken for his Sunday dinner." Even more kindly, and in the direct line of their highest physical welfare would have been the wish, that every man, woman, and child in his kingdom might be encased in a complete suit of flannel.

Contrary to the usage of most families, the best time for the purchase and making up of flannel is in the spring. By repeated washings a fabric that is

thin, and thus suited to summer wear, becomes full and warmer for winter use. In making up flannels for children that are over two years old, it is an excellent plan to cut the garment whole, reaching from the neck to the ankles. This fashion relieves the waist of mischievous compression or weight, and gives the utmost freedom of movement to all the limbs. It possesses also the double advantage of economizing both time and material. Ample allowance should always be made for shrinkage in all flannel goods. If three yards of domestic would be sufficient for a garment of any description three and a half or four of flannel should be allowed. All garments next the person should be as loose as possible, and, in particular, compression at the waist and neck should be provided against.

CHAPTER XVII.

THE FITTING AND MAKING OF CLOTHING.

WITH the present facilities for sewing, it is practicable for every house-keeper to cut out and make up all the articles worn by the different members of her family, with the exception, perhaps, of dress-coats and overcoats.

The saving which she may thus make will more than pay the wages of a domestic, who will perform all the drudgery of a household, such as washing, cleaning, ironing, sweeping, etc.

In this way, a housewife, who undertakes the manufacture of the family clothing, may not only command the time and strength necessary for this enterprise, but may secure for herself more leisure than she otherwise could have for the improvement of her own mind, the culture of her children, and the society of her friends.

Let us, for illustration of this subject, take a look at figures. Suppose your family consists of five persons, of whom two are adult males. To keep up their external wardrobe, at least three pairs of pantaloons and three vests each will be required in the course of every year, besides loose summer

coats, and under clothing. Now, the average difference in the cost of a pair of woollen pantaloons, purchased of a tailor or at a ready-made clothing store, as compared with the same garment made up at home, the buttons, lining, etc., being supplied from material on hand, and costing nothing, will be from four to six dollars.

Three yards of cassimere or doeskin, which, if of single width, can be bought at about two dollars a yard, is a full pattern for a man six feet high. His pantaloons, then, may cost him six dollars, and he will thus have a better and more durable article than he could buy at a clothing store for ten. On every vest she makes, she saves two dollars; on every shirt, at least a dollar, and on other articles of a man's wardrobe in the same proportion. Thus, fifty dollars per annum judiciously expended for material, made up by the housewife herself, will furnish a man a better wardrobe than a tailor would supply to him for one hundred dollars. On the supposition made, that there are two adult males in the family, a saving of fifty dollars on the dress of each, amounts to a hundred dollars.

A girl, capable of performing all the household drudgery, can be hired at, say, five dollars per month or sixty dollars a year. Forty dollars will cover the cost of the food she consumes. Thus, by taking

full charge of the wardrobe of the males in the family, the housewife can save the cost of a servant. To this must be added the amount saved in the making of articles for other members of the family, beside the satisfaction of feeling that her family wardrobe is, by her skill and industry, kept in good condition.

The first enterprise for a lady who proposes to manufacture at home those articles of dress commonly made by tailors, is to provide herself with good patterns.

These may be obtained by cutting a paper pattern from some garment that fits well, and is of fashionable shape, or the gentleman may procure patterns cut by a tailor.

In cutting out a pair of pants, first smooth out your patterns with a warm flat-iron, and spread your cloth on a table that gives you ample room. Pin the patterns down smoothly on the cloth, which should be folded double, so that both legs may be cut out at the same time. Take care that your patterns are laid the right way of the cloth, so the nap will run down the leg. Your patterns should be arranged so as to cut the cloth at the greatest advantage, and leave the remnants in pieces as large as possible, out of which you will easily find sufficient for the facings and waistband. Even thin, woollen

pants are better if lined from the waistband six or eight inches down.

The first step in making up pants is to sew the facings on for the pockets. Then press these down and insert the pockets. Now make the upper front part, or what is called the "dress." Next, baste together the legs, sew the long seams, and press them. Stitch the legs together on the back seam, baste on the waistbands, and sew them; add the triangle at the back, and the strap and buckle. Sew on the buttons, and the garment is now completed, except around the foot. This is the most difficult part, and you will best learn how it is finished by examining carefully a neatly fitting pair, made by a good tailor, taking pains to have the buckram fit nicely, and stitching it on so the work will not show through. Very much depends on the pressing of pants. Your iron should be heavy and quite hot, and should be allowed to stand upon the seams, which are to be dampened with a sponge, before the iron is applied, until they are perfectly smooth and flat. However difficult the feat may appear to a novice, she will find, after one or two successes, that the difficulties are easily overcome. Two days of moderate application, aided by a good machine, will suffice for the cutting out and making a pair of pantaloons, and the economical wife may solace her

industry with the thought that she may be saving her husband four dollars by the task.

In cutting a vest, pin your patterns smoothly upon the cloth folded double, as in cutting pants, taking care to have the nap run the right way. After the fronts are out, cut from the pieces the collar, facings, and pocket-welts. Then cut your back, linings, and pockets. Before removing the patterns from the fronts, mark carefully with chalk or a thread the places of the pockets and of the buttons and button-holes, remembering that the button-holes of a vest, when on the person, come on the left side, and the buttons on the right.

Very much of the ease and success in making a vest depends upon the *order* in which the various parts are put together. This is much more important than in making pantaloons. First, stitch up and press the little gore beneath the pocket. Cut the places for pockets, sew on the welts, and insert the pockets, and press. Next, upon the right side, baste a strip of strong brown linen, under the places for the buttons, and sew them on strongly. Then sew on the lining of the collar to the outside front of the vest. Stitch on the facings down the front and bottom, and press them. Now sew the outside of the collar to the lining of the vest, and baste upon it whatever padding or buckram you wish to

insert. Next fit the lining and the outside neatly together, and sew all around with the facing-stitch. The right, or button side, is now done. Proceed in the same way with the other side, except the button-holes, which are wrought last.

What remains is to prepare the back, make and baste on the buckle-straps, sew the back and fronts together at the shoulder and under the arms, sew the collar (the lining and outside separately) together at the back of the neck, and face the collar down upon the back lining.

If any lady of common skill with her needle will follow these directions, at the same time examining a well-made vest, she will find that what seemed a task quite beyond her powers, has become simple, successful, and satisfactory.

As to children's clothing, patterns are easily procured through the courtesy of a friend or by copy from a well-fitting garment of suitable size. The garment may be ripped up and carefully pressed before cutting a pattern from it.

Boys' pants are made in the same general order as men's; and the rules for jackets are the same as those given for vests, with such modifications as are readily suggested to a person of good sense.

After a housewife has made a vest and pants for a man, the difficulties of boys' clothing will disap-

pear. It is always best to line their clothing throughout; and in selecting the material, gray, brown, and the neutral colors in general, will prove most suitable.

In making shirts, the order of putting together the different parts conduces materially to the ease with which the work is accomplished.

In making the sleeve, for instance, the first thing to be done is to hem the opening by the wrist, gather the sleeve and sew on the wristband, after which the seam of the arm may be sewed up. In making the body of a shirt, the facings of the sleeves should be put on first; then put in the bosom; then attach the front and back breadths by the seams down the sides, hem the flaps, and insert the flap-gussets. Next, put on the yoke, which is always lined or double; sew in the sleeves. Now you approach the most hazardous and difficult part of your task, the collar and its attachment to the binding. Here, all the ingenuity of genius, all the resources of experience, and the combined skill of the sex have again and again signally failed. In treating upon this fastidious subject, it should be borne in mind that the circumference of the masculine neck varies at different points, and at different times, and the style of cravat and vest collar has much to do with the fitting of a shirt.

If a military vest is worn, fitting closely under the chin, the binding and collar must be wider than with a vest of the ordinary pattern. If the cravat commonly worn is narrow the binding must be narrow; if the style of vest is low in the neck the bosom and binding of the shirt must vary to correspond. Patience and a judicious use of the scissors will in the end achieve success and satisfaction below the most obstinate and refractory chin that ever wore beard.

Probably the housewife will not find her skill and patience called into greater requisition in making any article of apparel so much as in the manufacture of a gentleman's coat. If she is a novice in these matters, usually given over to a professional tailor, let her essay her skill first in producing a sack coat. The patterns of this she may obtain either of a tailor or by ripping up a well-fitting dress or frock coat, and from it cut patterns herself. It is important that about the neck and shoulders the coat fit well, but the fulness and length of the body are matters of taste and fashion. If she is making a coat for a tall man, let the skirts be ample and of sufficient length, whatever the dictum of fashion may be. The most becoming coat to any man should be aimed at, no matter what the Parisian tailors may say about it. Cut out the body of the

coat first, then the sleeves, and from the pieces the collar and facings may be made. Cut out the linings in like manner. Now, with the old coat before you, proceed in the following order: First sew up the little openings at the top of the coat around the neck, press them, and sew the buckram or stiffening on to the lappels and press them. Then sew up the seams on the shoulder, the back, and under the arm, and press. Then fit in nicely the stiffening in the front of the coat, and sew the buttons on to the right side. Under each button there should be sewed to the stiffening a strong piece of brown holland, to keep the button from tearing out. Mark the button-holes corresponding to the buttons, but they need not be worked till nearly the last thing is done.

Then prepare the lining, padding, and quilting, as in the coat you use for a model, and fit the lining to the outside, basting it carefully to every edge, and sew it neatly on the shoulder. Then make the sleeves and insert them, taking care to have the fulness come on the shoulder or under the arm, and press smoothly on the edge of your pressboard. Face the lining of the sleeve on to the lining of the coat. Now prepare the collar; sew the inside of the collar, with the buckram sewed on to it, just as it is on the lappels, to the outside of the coat, and

the outside of the collar to the lining of the coat ; baste the seams together around the neck, on the inside, so that the lining and outside will be firmly fastened together ; then turn the collar over as it is intended to be worn, and baste it around the edge ; then take the binding, after it has been well scalded, to prevent shrinking, and, beginning at the opening in the skirt at the back seam, baste it all around the coat, ending where you began ; sew it down, and press ; work the button-holes, and your coat is done. If the coat contains outside pockets, these must be inserted immediately after the lappels are finished.

When one has once made a sack coat, it will be comparatively easy to accomplish the manufacture of frock or dress coats, especially if a model is at hand to examine at every step in the process. It will frequently happen that the lining of an old coat will be good enough, when washed and pressed, to put into an every-day business coat. In purchasing cloth for linings, it may be well to remember this, as thereby many stitches may often be saved, as well as many dollars. In this way a very respectable every-day coat may be gotten up, with no expenditure but for the outside cloth, the binding, and buttons, which five or six dollars will cover, and be every way as good-looking and last as long as a

coat from the furnishing-store or the tailor's costing twelve or fifteen.

It cannot be expected that a person unskilled in the art of tailoring should undertake the making of heavy beaver-cloth overcoats, as these require a heavier "goose" to press them properly than a woman's arm can easily wield; but the housewife who has made a sack coat need not fear to undertake the manufacture of a sack overcoat. Let the same patterns be used as for the coat, enlarging each pattern a half inch or more. The lining can be wadded and quilted, and all the parts put together as in the sack coat. It may be well to remark in regard to the collar, which is quite the most difficult part of the whole to do in a workmanlike manner, that when it is sewed on to the coat the middle of the collar must correspond to the back seam of the coat, and each end be pinned to the point at the angle of the lappel and collar, and the fulness of the coat, if there is any, be evenly distributed along the collar. When the seam is pressed, both sides will seem of the same fulness, and there will be no puckering of the cloth. In every stage of the work, particular attention must be given to the pressing; for in this respect, more than any other, clothing made at the tailor's is superior to that of home manufacture.

If the housewife has a sewing-machine, and is

willing to undertake the making of all the clothing of her family, she would find it economy to hire a capable domestic to do the housework; to procure a "goose," and get her husband to assist her in the heavy pressing. In this way she could easily save enough in one week to cover the cost of the raw materials, of the food of the house-girl, and her monthly wages.

Where the occupation of a gentleman is sedentary, or confines him much of the time within doors, a dressing-gown will be found equally promotive of comfort and economy. Let it be made after the style of the sack coat, varying from that according to taste, and, in summer, of thin material, calico or de-laine. The lining and outside should be cut exactly alike, the front facings sewed on to the lining, the two fitted and basted together, and bound all around with binding either corresponding with the color of the gown or forming a pleasant contrast with it. For a winter dressing-gown, it is better to make the lining of heavy red flannel than to have a thinner lining, with cotton padding tacked to it, as the garment can be more readily washed, and retains its shape better, and a good lining will wear out two or three outsides.

The wife may sometimes find, in her winter wardrobe, a worn de-laine, or merino, or alpaca dress,

from the skirt of which she may make for her husband a very serviceable gown, which, trimmed with some pleasing color, may be made even handsome, at a trivial expense.

In ripping up old coats, or garments of any description, save all the linings and other pieces. They will be found useful for boys' caps, for slippers, for patches, for carpet-rags, and rugs. Have them rolled up in bundles, and put away where they can be easily found when you have occasion to use them; and in a family everything comes in use at least every seven years.

Women's clothing is far more easily made than men's; yet to how many is it a vast undertaking to make even a calico or de-laine dress, simply because they do not know how to cut it out and put it together. For such, and for those especially who by the mutations of fortune are reduced—we might more properly say exalted—to the necessity of making their own clothing, the following suggestions and directions are given:

For a lady of ordinary height, ten yards of calico are required to make a dress, and of merino seven or eight of double width will be sufficient; while of silk, especially if it be narrow, from twelve to fifteen yards are none too much. But whatever the material be, let the quality be good; for it is never

economy to purchase anything of an inferior kind, no matter how cheap it may be. A good, strong though coarse gingham will be far more serviceable for a working dress than a cheap though showy calico. And one handsomely printed calico, in fast colors, tastefully made and neatly fitting, is of far more real value to the wearer than three of a low grade carelessly made and ill-shaped. For the mother of a family, whose duties frequently call her into the kitchen, and who is surrounded by children, there is no dress so suitable as a calico, for none other is so easily cleansed of spots and odors necessarily contracted in the ordinary routine of her family life. Every time it is thoroughly washed, starched, and ironed, it is a new dress, fresh and sweet. Let it be of a cheerful tone, ample and becoming; and when its term of service as a dress is ended, it may be permitted, for long years, as a quilt, to recall to the children whose little fingers often clutched it in infancy and childhood, sweet reminiscences of the nursery, — of the loving and tender care of the mother, and the innocent enjoyments of the early days of life's spring-time. It is well for a mother to consider, when purchasing for herself, whether, after she has done with the garment, it can be wrought over for her family; and, if she is in moderate circumstances, it will be economy

to buy goods that will answer to make over for her little girls. Children should always wear small figures, or goods of a solid color, trimmed with braid, or some other material of a contrasting hue. A neutral tint may be brightened by a crimson or scarlet trimming, while for bright, decided colors, white or black trimming is most suitable.

In buying an expensive dress, as a thibet or silk, which with care may be made to last handsomely for many years, it is always best to purchase three or four yards more than is required for the first making up. Lay it and all the pieces left, carefully folded, away in a safe place, where they may be free from soil of any kind; and when, either by accident or change of fashion, the dress requires renewal, the means will be at hand.

If a lady can have but one silk dress in a series of years, she will find a black silk will be of more use to her than any other color. Black is becoming to every complexion, and a black silk may be worn at a wedding, a party, a funeral, or to church. It is nowhere out of taste except in the kitchen. It may be made gay with bright trimmings, or severe with those of the same color. It can be worn with hat and wrappings of every hue, and is never out of fashion. If the silk is figured, let the figure be small, the same on both sides, with no up or down

to it; so that when worn at the bottom it can be turned upsidedown, and when soiled outside, it can be turned inside out. Be careful, too, that the figure is well woven in, and no long threads left on the surface. These will catch in everything, and be soon worn off or frayed out so that no care or skill can restore a new appearance to the dress. If the silk be plain, let it be of excellent quality, not stiff and inflexible, but soft and pliable, and, when pulled in bias folds, easily returned to its former shape.

Suppose, now, that, all preliminaries ended, the dress is purchased, the next thing is how it shall be made up. Let the skirt first be measured, either by holding the fabric to the bottom of the back waist, and determining its length, or by measuring a dress that just suits in this respect. Be sure and allow enough for the waist and sleeves. In tearing off the breadths for the skirt, have regard to the stripe or figure, to make each match its mate if desirable. Allow enough in the length of the skirt to permit two or three inches to be turned in at the top, so if it wears out at the bottom you can let it down; and if you are making a calico, allowance should be made for the hem. If the skirt is to be faced, let the facing be cut out and laid with the breadths. These you can run together any time, as

any one can make a skirt. It may be well, however, to add, here, that in running or basting on the facing, it must be held next to you, so that if there is any excess of fulness it shall be in the facing, rather than in the skirt. A facing may be fulled on to a skirt, and not injure its appearance, but the reverse is impossible. Be careful, too, that all the breadths run the same way as to figure, and sew them up, beginning at the bottom, so that any unevenness in length may be at the top. After the facing is put on, or the hem made, braid should be sewed all around the bottom of the skirt. If the braid is scalded and dried before being put on, shrinking will be prevented. For making the waist and sleeves you must have patterns. Few have an eye so good as to be able to cut this part of a dress without a guide. If you cannot procure patterns from a dress-maker, take a neatly-fitting dress, and, after pinning newspaper very carefully to all the seams in the front, first, and then to those in the back, cut out a pattern yourself, making due allowance for all the seams. Smooth out your patterns, and pin them nicely to the lining for the dress. Be careful not to cut out the neck or the arm-size too much, and to make the waist considerably longer than the pattern. It is easy to trim off, but difficult to piece on. If you are doubtful about your pat-

terns fitting well, baste up the lining, and try it on. You can thus easily make any changes that are required. When you have everything to suit you in the lining, unless your patterns are exactly right, it will be best to throw them aside and cut out new, so as to have them all ready next time. The task of making a dress will seem very sensibly diminished, when you know that at any time you can cut one out and be sure of a good fit. When your lining is all right, sew on first the hooks and eyes. This will make it much easier to try on. Then baste the lining on to the outside, taking care to match the stripe or figure, and have it run the same way in front and back. If there is a fold or stripe in the goods, let it run down the middle of the back; then baste up the darts in front, the seams on the shoulder and under the arm, and try it on. If any changes are required, you can now make them before stitching up the seams; then baste on the belt and the band round the neck, and sew them on; Make the cord for the sleeves, and baste it around the arm-size; cut out your sleeves, make them, baste, and stitch in. The waist is now ready for the skirt to be sewed on. When this is ready, try on the body, and measure the length from the front, side, and back of the waist, making the skirt longer or shorter, according to your taste or the fashion.

Turn down the skirt thus measured ; lay in plaits, if it is a woollen dress, or, if calico, gather it ; sew it firmly to the body ; insert a pocket, sew on a loop to hang it up by, and it is done. Be careful to keep the skirt, waist, and sleeves nicely folded while yet unmade, unless you are sewing on them. Wrinkles and folds in the wrong place make a new dress seem shabby. After making one garment, the second will be quite easy, and the third give very little trouble.

For working-aprons, two breadths are always better than one. Tear one breadth in two, and sew the halves on to each side of the other breadth, so as not to have any seam down the middle. Sew on a binding, and have a bib sewed on the apron. This is a piece three or four fingers wide, and one and a half long. Let it be ample, so as to cover the front of the waist. As a rule, the housewife should always wear an apron, except when at church, visiting, or in the street. Very pretty dress-aprons may be made of white muslin, and trimmed round the edge with a fold of another color, or of French calico, bordered with a graceful stripe.

It is unnecessary to give directions with regard to female under-clothing ; but it may be well to suggest that for little girls the chemise may be superseded by a neatly fitting waist, upon which the drawers

may be buttoned. A single breadth of sheeting will make the waist. Let it be torn off so as to come several inches below the belt. Cut out the arm-size, gather the top, and make the band fit round the shoulders just right, gather and sew on the belt, hem the part below the belt, make and sew in some short sleeves, put on the buttons and trimming, and it is done. For very little girls, especially in summer, this little waist will be found quite convenient, and may be worn until they are twelve years old. Their skirts, too, may be buttoned to it in summer, thus diminishing the amount of clothing around the waist, and, as they outgrow it, the length may be increased by moving the belt an inch or two lower.

The preparation of the clothing of the family has, from the beginning of time, been deemed woman's appropriate duty. Formerly, and within the recollection of our mothers, the manufacture of cloth was carried on in every farm-house by its female inmates; and now that machinery has relieved the housewife of this heavy and tedious task, and most effectively aids her, too, in the making up of garments for her household, she can find little to excuse her from so pleasant a task. Let the same ingenuity and devotion be displayed in this most important department as we see constantly manifested in those purely orna-

mental, and how few families would need the assistance of the tailor or dress-maker! How many young ladies, who waste their time over novels and small embroideries, would, by aiding their mothers in the dress-making and tailoring of the family, fit themselves to become excellent wives, and, by their ingenuity and skill, make the fifteen hundred or two thousand a year which may constitute a young man's income, easily and pleasantly cover the expenses of two instead of one! By the knowledge of the *accomplishments* treated in this chapter, "solitary ones may be set in families," and many a bachelor, who cannot afford to marry, find that he cannot afford to remain single, — that economy dictates to him to secure a capable, industrious, and *accomplished* partner for life.

Any wife who can make herself mistress of the needle and the scissors, to the extent above described, may bring her husband's expenses for wardrobe within fifty dollars a year, even at present prices, and yet keep him, if he takes reasonably good care of his clothes, well protected from the changing skies, and presentable in appearance. And it is not likely that a young lady thus capable will be permitted to remain long without being invested with the highest honors and the truest dignities of her sex.

CHAPTER XVIII.

ECONOMIES OF DRESS.

ONE of the effects of the war which has just closed has been to bring our American society into much closer resemblance to the European civilization. It has exaggerated the differences between the upper and the lower classes, making the rich richer, and the poor poorer. By this means, the large middle class, whose fortune in life was a realization of Agur's prayer, when he asked that he might have neither poverty nor riches, has been greatly diminished. A fraction of it has been raised above the modest independence, which they formerly enjoyed, to the possession of wealth and the indulgence in luxury; while by far the larger portion, with incomes but little increased, and prices often more than doubled, have a far harder struggle to make the ends meet than they had ten years ago.

At the same time, the city, with its extravagance and fashion, its factitious splendors and its social ambitions, has intruded upon the quiet country, and is imposing its arbitrary distinctions upon our rural population.

For these reasons, which are substantial and per-

manent, likely to increase rather than diminish, there is a growing necessity for the study of the art of deriving from a limited income the largest amount of comfort, both actual and apparent.

The two fundamental principles which should regulate economy of dress, are, —

I. To take care that the purchases of family clothing are of the most appropriate and durable materials, and that they be preserved in the best condition, and for the longest time.

II. To employ skill and judgment in extracting from the material on hand, both old and new, the fullest and most varied service they can be made to render.

In the purchase of cloths, the error which besets a person who feels committed to economy is that she cannot afford first-class articles of any sort, but must content herself with a second quality. The result is, that clothing thus purchased, even when new, cannot give the wearer the look of being well dressed; and, as soon as the new appearance has worn away, the dress becomes shabby, and must soon be replaced with new, unless all thought of keeping a presentable appearance is relinquished.

A little more money invested in the purchase of a first-class article, at the outset, would have been saved several times over, by making a person look

well dressed as long as it lasted, and by its lasting three or four times longer than an inferior article.

A rich man or woman can afford to be mistaken in the quality of a piece of cloth. Not so with the poor. He must get the worth of his money, or remain ever poor. There is no economy and generally no success for him but in buying goods that are at once handsome and lasting. He may think he cannot afford to buy a good article; the truth is, *he cannot afford to buy a poor one.*

When sound judgment has been used in the purchase of cloths, and articles of an excellent quality are ready for use, the attention should then be directed to their preservation in the best condition for the longest time. The secret of making a cloak, a shawl, or a coat retain its new appearance is by keeping all folds and wrinkles out of it except such as must inevitably be produced by careful wearing. Very much depends upon the practice of the careful folding or hanging up of such articles of dress the moment they are removed from the person. How very common it is, upon entering a warm room, to throw off one's wrappings upon a piano, a bed, or across a chair, instead of folding them at once, and laying them away in a closet, a drawer, or a trunk! No matter how excellent the materials, or how thorough the making up of a garment, if treated thus,

it soon has a tumbled and wrinkled appearance, which no subsequent care can remove. This is particularly true of silks, and woollen goods of all kinds, in which it is desirable to retain as long as possible the original folds of the cloth, or the shape given it when it left the hands of the tailor. For instance, a new broadcloth or dress coat should be carefully hung up in a closet, or folded and laid away in a drawer, and protected from dust by a cloth laid over it. As long as it can be made to retain the shape around the collar and lappels which the tailor gave it, so long it will have a new and stylish appearance.

So of a lady's cloak or shawl. When taken off, the original folds can, with a little care, be preserved for a long time. If these folds are lost, by being thrown over a chair, with other clothing, or by careless tossing into a drawer, a few weeks' use will give it a common look.

Another cardinal principle in the care of clothing, and one which the American people are, in general, singularly prone to forget, is not to wear a new and expensive dress except on suitable occasions. For instance, how common it is to see persons going on a journey dressed, as though for a social visit or a party, in garments which are liable to be quite ruined by the dust, cinders, and mud, which are

the inevitable accidents of travel! The stains of mud thrown upon a new overcoat, by a ride in an open buggy, may damage it more than a whole winter's wear. The dust of a summer afternoon, or a dash of rain, may ruin a new and expensive hat, when a little forethought in either case would have suggested that a suitable costume for the road always looks better than one that is unsuitable, though much handsomer. The old aphorism, "Dress according to your work," bears directly upon this subject; no matter what care you take, "The pitcher that goes often to the fountain is broken at last." So if a silk or merino is worn around a cooking-stove, by the neatest of housewives, it will be ruined at length by some of the inevitable accidents of the kitchen. Here, emphatically, "An ounce of prevention is worth a pound of cure."

In purchasing cloth for the family wear, and especially for its adult members, regard should be had to the various uses to which the fabric may be put when the first wearer has done with it. In this way a serviceable piece of goods may be kept on duty until it no longer hangs together, and even then its parts may be made to contribute to the family comfort in the form of a quilt, a rug, or a carpet. With this in view, it will be found that cloths of a gray or neutral color can be converted

to more numerous and various uses than either black or blue. Clothing of this color will bear washing, and it cuts up for boys at a better advantage than any other color. In choosing cloth for a gentleman's coat, and deciding on its cut, it is well to remember that a frock, while suited to a greater number of occasions than a dress coat or a sack, affords larger pieces for the pattern when it is cut up for smaller garments. For instance, the skirts of any frock coat, in tolerable preservation, will furnish an ample pattern for a business vest, which will be of almost as much service as though made of new cloth. The linings of the skirts, if not badly worn, will make the back of the vest; and the body, if ripped in pieces, pressed, and cut down, will make a boy's jacket. The unworn parts of a fine silk or velvet vest will give a number of pieces which, properly fitted together, will make a handsome cap for a boy, and almost the whole may be used in trimming children's clothing.

In a general way, it may be stated, that in a family of the average size, and disposed to a thrifty economy, no article of dress should be thrown away.

From the rim of a common felt hat, double soles may be cut, which will protect the feet from the cold and damp of the winter. It may be worth

while to remember that felt makes also the best of gun-wads.

From pieces left in cutting broadcloth, pincushions, caps, and slippers may be manufactured. A saving of from ten to fifty dollars a year may be effected in a gentleman's dress-bills if he will discard boots and high shoes for ordinary wear, have his shoes low-quartered, and well made from the best of French calf, and adopt gaiters, buttoning just above the ankle. These may be made at home from the best remnants of old garments, and lined with buckram from the collars and facings of coats and vests, so as to cost nothing. They afford ample protection to the lower part of the leg, and are a more yielding and agreeable covering than the leather of a boot. A pattern may easily be made by fitting paper over a high shoe or boot. The buttons are on the outside of the leg, and on a line with the ankle. It will be found convenient to cut them out at the same time with the pantaloons, and from the same cloth. In all cases where the external cloth of a garment is old, a strong lining will greatly enhance its durability and warmth.

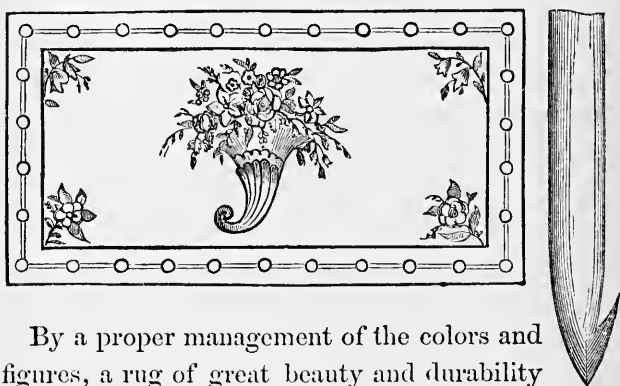
All pieces of the material of ladies' dresses, whether of cotton, silk, or woollen, should be preserved, and may be wrought over, by the exercise of taste and skill, into very handsome quilts, the

patchwork of which may be done at odd moments, which might otherwise be unemployed. Quilts of calico patchwork are so universal that only an allusion need be made to them. Those of woollen are less common, but are equally durable, and warmer for winter comfort.

The most economical and expeditious way of making useful all scraps, ends, and remnants of woollen clothing, which are too small or too much worn to be employed for any other purpose is to work them all into a rug. It is advisable to keep a rug-bag or basket, into which all such pieces are thrown. When your collection is sufficient for the purpose, purchase a piece of common tow-cloth or coffee-bag, cut it of the size you wish the rug to be, hem the edges strongly all around, and put it into a frame, after the manner of a quilt. Any blacksmith will make you a rug-hook in the shape of a crochet needle, only much larger. The shank of an old steel fork, when the tines are broken out, makes a good one by filing to a point, and cutting the spur or hook in the side.

A drawing, which shows the proper shape, is inserted. Now, draw on the foundation or coffee-bag, the design which you wish to work; cut the rags into strips from a quarter to a half an inch wide, according to the thickness of the cloth. Hold the

strips under the foundation, in your left hand, and, with the hook pushed through the foundation, draw the rags to the upper side, leaving them less than half an inch long. After the pattern is complete, trim the surface smoothly. No binding is necessary, as the rags may be drawn through the hem.



By a proper management of the colors and figures, a rug of great beauty and durability may thus be made, hardly costing more than the price of an empty coffee-sack.

A simple, and more common mode is to braid the rags, and sew them together in a circular form, thus producing a series of concentric rings. Where the colors are tastefully and harmoniously arranged, very pleasing effects may be produced.

Another very important point in the economy of dress is the best mode of securing a comfortable, a tasteful, and durable covering for the feet.

Here it will invariably be found that cheapness is the worst economy. The practice of buying at the stores shoes and boots ready-made has become almost universal, and the result is that the majority of people wear out two pairs where one should have lasted, and never, even when the purchase is fresh, have the satisfaction of wearing neatly fitting and thoroughly made shoes.

A visit to any of the great shoe manufactories will convince one that it is useless to expect anything like thoroughness and durability in the work that comes from them. They consume only the lowest grades of leather. The art of working in all sorts of fragments and remnants is carried to an unenviable perfection. The whole study is, not to produce a good article, but to make one that is inferior and nearly worthless resemble genuine shoe-making, and pass for it in the market. It is impossible to make machine sewing as strong and durable as that done by hand; yet all the sewing is done by machine. The only admirable thing about the pegging machines is the rapidity with which they perform, and the deceitful regularity of their work. In a month of constant wear, a pair of these machine shoes begins to come in pieces. The stitching rips, the pegs begin to draw, and if taken to a cobbler he will cast them aside with contempt, and say they are not

worth mending. It is far better to pay a good price for good leather, and have it well made up by a conscientious and thorough workman. You pay half as much more, or twice as much, may be, as for slop work, and the boots or shoes will give you six months of constant service; and then with moderate repairs will be of use two or three months longer. In this way the best of French calf may be worn with truer economy, and far more satisfaction, than any of the cheap, spongy, rough, and scalded qualities of leather.

There is as much contrast between the best of French leather and the common American stocks as between a linen fishing-line and the paper twine with which your grocer wraps up a pound of sugar.

The chief reason of this difference is found in the time occupied in the tanning process. In America the skin that was taken from a calf in the spring will, by the following winter, be made into shoes. In France, it would be left to soak in the vats two, three, or five years.

In this country we cannot afford to wait so long; we must turn over our capital and realize the profit on an investment. Yet there is very good leather made in this country, and every first-class shoemaker has, or can obtain for a customer who requires it, a satisfactory article. No sensible mother, who

has taken the trouble to inform herself, will be content with anything less than the best, after she has once had it on her children's feet.

Almost as much depends on the care taken of leather, as on original differences in quality. Shoes should be made up some time before they are to be worn. As soon as they are brought into the house smear them thoroughly, on the soles as well as on the uppers, with a preparation made as follows :

Take One pint of linseed oil,
 Two ounces of beeswax,
 One ounce of Burgundy pitch,
 A table-spoonful of lamp-black,

Melt together over a slow fire, and stir frequently. Three or four successive coats of this mixture should be applied, and a day allowed for each coat to dry in thoroughly. When shoes or boots are worn in the snow, and particularly in the spring in melting snow, a little of this dressing should be applied daily, or as often as the least rawness of the leather appears.

Woollens and silks, after they are faded, can often be colored, and continue to be of great service. Old domestic can also be colored and used as linings. There are for sale, at moderate prices, assortments of dye powders, with minute instructions as to their use.

The following recipes are simple and the materials easily obtained.

To Dye a Slate Color. — Boil green chestnut bark an hour. Take out the bark and add four ounces of green vitriol to one pound of woollen yarn or cloth. Stir frequently one hour and dry the articles before washing.

Butternut Dye. — Soak butternut bark in warm water for some time. Wash the cloth to be colored, and be sure to remove all grease spots; rinse in clear water two or three times; put the articles while wet in the dye, which should be hot, but not boiling; lift up and press down frequently, for say half an hour, till the desired color is produced. Dry before washing. It produces different shades of color in different seasons of the year. Press on wrong side and iron dry.

To give Silk or Wool an Orange Color. — Boil the skins of ripe onions half an hour. Take them out and add an ounce of alum to a quart of dye. Put in the silk or woollen; stir often for half an hour. Dry, wash in clean water and iron when damp.

To Dye Black. — Take six cents' worth (two ounces) of extract of logwood, one ounce of blue vitriol, put each separately in six quarts of water, — the logwood in an iron vessel, the vitriol in brass.

Bring both to a boiling heat; dip the cloth into the vitriol-water first, then into the logwood-water, then alternately from one into the other till it has been dipped in each three times. Then dry, and wash in strong suds and rinse in soft cold water and press when damp. This coloring is proper for lace, silk, worsted, and cotton, and does not fade.

Deep Blue. — To a common indigo dye add a tablespoonful of madder to one ounce of indigo.

Silk a rich Brown. — Boil chipped logwood in pure water one hour. Put in the silk and stir frequently for half an hour. Dry, wash in strong soap-suds and iron when damp.

To Color with Tea. — Boil a tablespoonful of tea in two quarts of water. Dissolve a bit of copperas as large as a walnut in a quart of water. Dip the articles into the copperas-water first, and then into the tea and let them remain, lifting them up and down frequently until the color is as deep as you wish it to be. Hang out to dry, and iron while damp. It produces a pale slate color and is suitable for either cotton or woollen.

CHAPTER XIX.

INFANCY.

THERE is many a draught of sweetness in the mingled chalice of life ; some hours of perfect happiness given to woman to cheer and strengthen her along the dusty thoroughfare of existence ; many a beam "of purest ray serene," to illumine the darkness which at times shrouds every human pathway ; but she who has passed through life without knowing the unutterable blessedness of maternal love has missed the most delicious draught ever pressed to the lips of woman. The deep, unconscious delights of a joyous childhood may have been hers ; she may rejoice in the rich endowments of rare womanhood, fortunate alike in the bloom of its May-time and in its autumnal fulness ; the sweet charities of daughter, sister, wife, may make her life a happy one : but if the crowning grace and joy of motherhood is not given to her she goes to her grave without having won the first honors on the arena of the world, without a taste of life's richest and reddest wine.

For the happiness of every woman who may consult these pages, the author may here be allowed to

express the wish that she may turn to this chapter with a motive deeper and more earnest than mere curiosity. When she feels that the comfort and well-being of the sweet little creature entrusted to her care is entirely dependent upon her own skill and knowledge of its requirements; when she realizes that an error of judgment or the lack of the knowledge required in a special emergency may entail a life-long sorrow upon her own heart, and make existence but a heritage of pain to her offspring; with what deep and studious solicitude will she resort to every source from which the all-important instruction may be obtained!

Suppose, for instance, the young mother falls into that very natural and frequent error of supposing that the first sign of discomfort that a babe exhibits, the first wail that comes from the darkened chamber, is an indication of hunger, and crams the little stomach with food not supplied by nature. Does she in this commit the simple error of over-feeding a child? Far graver. Nature, wiser than any art, has in most cases provided a slender but sufficient supply for the very small demands of infantile life at this early stage.

Within the first three days, when the tiny stranger requires scarce anything but sleep and quiet, she may lay the foundation for an infancy tormented by

colic, and a mature life cursed with dyspepsia. Every physician who has been much in families will testify that where one has, during these first days of life, suffered for lack of nourishment, ten have been injured by over-feeding.

So deep and constant is the anxiety that springs up in the mother's breast, and ever keeps pace with her love, that it is very uncommon for infants to suffer on account of neglect. The danger is not from doing too little, but from doing too much. There is many a grave, no more than a span in length, decked with white roses and pansies, and marked by a tiny slab, where if the true epitaph were recorded we should read the words, — "**Killed with kindness.**" Many a child is rendered peevish and sickly by the natural effect of perpetual anxiety and worry on the part of the mother.

Let the mother remember that the law of the child's being is growth, and that the infant itself will, by the tone of its wail, if she can but understand it, and maternal love makes her ear very quick, indicate its real wants. The cry as often proceeds from a bandage too tight, from slight over-feeding, from the prick of some malicious pin, from remaining too long in one position, or some other slight discomfort, as from hunger, and no treatment can be more ill-judged or more injurious than to

cram food into a stomach, already perhaps overloaded, in the hope of quieting the child. The mere act of crying is not injurious to an infant, unless it is excessive and prolonged, and if the mother notices every note of discomfort, the child will soon learn to exact more attention and tending than are really beneficial to it. When all its wants are supplied, unless it exhibit signs of illness, let not the mother be worried if the baby still frets. It is as important for the well-being of the child that the mother preserve an equable and cheerful frame of mind, as it is that its clothing should be properly attended to, or its hunger satisfied. The crying of a young infant is frequently caused by improper food eaten by the mother; by her drinking excessively of cold water; by her exposure to opposite degrees of temperature; by anxiety, anger, fear, or over-work. The same principle that applies to all lactiferous animals, applies equally well to the mother, whose breast furnishes a babe its natural and most perfect aliment. Where cows are kept for dairy purposes only, great care is taken by the skilful dairyman that they be provided with an abundance of rich, juicy food, plenty of water, and, in particular, that they suffer no hardships, annoyance, or unkind treatment, as this will inevitably diminish the quantity and deteriorate the quality of their milk.

For the same reasons must the mother care for her physical well-being, since any departure from the laws of health will immediately show itself in the effect of her milk upon the child.

The following table shows the composition of cow's milk and woman's milk, according to Hadlein's analysis :—

	Cow's Milk.	Woman's Milk.
Butter,	3.0	2.35
Sugar of milk and salts soluble in alcohol,	4.6	3.75
Caseine and insoluble salts,	5.1	2.90
Water,	87.3	90.50

The following are analyses by Henry and Chevalier :—

	Cow's Milk.	Woman's Milk.
Butter,	3.13	3.55
Milk Sugar,	4.47	6.50
Caseine,	4.48	1.52
Salts, . . . . .	.60	.45
Water,	87.02	87.98

By examining these tables, it will be seen that cow's milk contains far more caseine or curd than woman's milk, somewhat more butter, and considerably less sugar. If, therefore, the mother must call in the assistance of the cow in nourishing her young, she must cause such alterations in the milk as to make it most resemble woman's milk. This is done by adding to cow's milk water and sugar, thus decreasing the proportion of curd in a given

quantity of the diluted milk, and increasing that of sugar. For a very young child, let four tablespoonfuls of water be added to one of milk, and if cream is used instead of milk, as is practised by many judicious mothers, add proportionately more water, according to the richness of the cream, remembering that it is better to add too much water than too little. If the mother always prepares her babe's food herself, and is careful to observe how it is digested, she will soon learn just what agrees best with the tender stomach of her infant and how to adapt food to its requirements. If milk cannot be obtained, as occurs at some seasons of the year in the country, water in which cracker or good wheat bread has been soaked with sugar added to it is very nutritive and digestible. Hear Dr. Pereira on this point: "As milk is the only food furnished by nature for the growth of the young child, it is found to contain all the elements necessary for the nutrition and growth of the body. Out of the curd of the milk are formed the albumen and fibrine of the blood, and the muscles and sinews. The butter serves for the formation of fat, and contributes with the sugar to support the animal heat, by yielding carbon and hydrogen to be burnt in the lungs. The earthy salts are necessary for the development of the osseous system; the iron is required for the blood cor-

pusesles and the hair; while the alkaline chloride furnishes the hydrochloric acid of the gastric juice."

Arrow-root, tapioca, sago, potato starch, sugar, butter, and other fatty bodies go to produce heat in the lungs, and fat; but they do not contain the elements of bone, muscle, ligament, and cellular tissue which are found in the curd of milk, and are consequently less suited to the wants of the infant stomach than food made from the cereal grains, as wheat, barley, and oats.

As the child grows older it may have its milk thickened with a little wheat flour, and as its teeth increase in number its food should be gradually changed from fluid to solid. Broth and soup, destitute of oil, may be given it, thickened with rice or bread. Potato is always a safe and healthy food for quite young children; but it should be mealy, and thoroughly mashed and moistened with a little cream or milk. As the habits of activity increase, the food should be more and more nitrogenous or muscle-making. Of this class of foods the lean and red parts of beef and mutton, the dark flesh of fowls, and eggs, are best. The subject of children's food is treated in chapter thirteen of this volume.

The dress of an infant should be simple and perfectly comfortable, preserving uniformity of temper-

ature over the whole body as far as possible. Let a bandage of soft flannel be snugly pinned about the abdomen, reaching to the hips. It should be tight enough to prevent rupture of those parts from crying, and yet not obstruct the circulation, or cause the infant any discomfort. Over this put a shirt of knit lamb's wool (directions for knitting one will be found at the end of this chapter), or of soft flannel. Then come the foot-blanket and the long flannel skirt; over all a slip of white muslin. For very young babies, dresses with belts are inconvenient and unsuitable. Let the slip be made with a band about the neck, and flow loosely down. It is the fashion for babies to wear low-necked dresses and short sleeves; but opposed to this, as well as to many other absurd and wicked fashions, which destroy the health and lives of women and children, the almost unanimous opinion of the medical profession is, that babies should have their necks and arms protected with flannel. Passing at once from a climate of tropical warmth, where the thermometer never ranges below 98° , how can the little creatures resist the cold of a Labrador? It is very difficult to keep one's room always at the same degree of heat, or to avoid draughts and sudden changes of temperature; therefore let the tender human bud be so protected that its life and health

may not be at the mercy of chance or a careless nurse. Sacks may be made of rose or salmon colored merino, or knit of zephyr or lamb's wool, that will be at once tasteful and warm. It will be far better for both mother and child to be warmly clad, and let the temperature of the room be moderate rather than the reverse. An atmosphere above 70° is less conducive to vigorous health than one at or below that point.

The utmost care must be taken that at all times the clothing of an infant be kept scrupulously clean. All wet and soiled clothes should be removed, and the whole body be bathed thoroughly in tepid water at least once in every twenty-four hours. If the whole head and face be first wet, the baby will not complain so much of cold or chilliness. Fine, pleasant soap should be used, and, if at any point the tender skin is reddened or chafed, a little corn starch or rice flour will remove the difficulty. After the bath, let the surface be thoroughly dried, and then with the hand rub the body and limbs until they are warm and rosy. This will promote the circulation and give strength and vigor to the child. Then, when it is dressed, let it have a full supply of food and be laid in the cradle for a long morning nap, during which the mother may have quite an interval to devote to domestic affairs. If the

weather permits, let the morning walk precede the nap, and be as regularly taken as the skies will allow.

Many mothers have an idea that babies must on no account be permitted to breathe the open air, and so the little innocents are kept shut up in close rooms, with double windows and an air-tight stove or hot-air furnace, and, as an English writer vigorously expresses himself, they fear the sweet breath of heaven "as though it was laden with the poppies of eternal sleep."

Errors of this sort are most frequently committed by those who have buried young children. The infant should certainly be protected from cold, but it should as sedulously be guarded from impure air, and supplied with that which is wholesome and fresh. Those little lungs have just commenced their action; the blood, when it begins to circulate, if the mother is healthy, is entirely pure; and the most perfect pictures of absolute health that we ever meet with in this world are seen in cradles and in nurseries, before the anxieties of life, the wear of the passions, and the waste of the brain have abated the pristine vigor of the constitution. What injustice, then, what unspeakable damage and detriment does the mother impose upon her offspring by refusing the opportunity to keep that blood pure

and normal! What seeds of disease are thus implanted at the threshold of life!

As soon as children are old enough to run about, if their natural activity is not cruelly restrained, they will, to a great extent, take care of themselves in this respect, and be certain to have enough fresh air. It is for the little ones that we plead,—the nurslings who sleep in cradles, and who have no voice but a cry,—the innocents, the darlings; and we say to the over-anxious mother, who will not allow a breeze of even summer air to blow through her nursery, that by running clear of Scylla she is certain to plunge into Charybdis; the child may be screened from the effects of cold, but at such a loss of vigor and elasticity that the first onset of disease of any kind will pierce to the vital centre, and lay the bud, wilted and crushed, in an untimely grave.

Very few children in this country, except in poverty-stricken families, suffer for want of food. Thousands, tens of thousands, die annually from the lack of flannel and fresh air. Many a tender-hearted mother, who would cry her eyes out if she thought her child did not have enough to eat, will yet innocently take its life by defrauding it of the other requisites of healthful life, the woollen garments and the vital air.

All human beings, from the cradle, are creatures

of routine, and no service can be of more importance to a child than to impress upon it good physical habits at an early stage in its existence. This regularity of habits is, moreover, a great convenience to the mother. Let the child have stated times for eating, sleeping, bathing, and taking the air. Thus, for instance, in mild weather, while the mother is busy, as every good housewife must be, with morning duties, let the baby ride in its carriage in the open air, or be carried in the arms of a nurse or older sister. After breakfast let the mother bathe the child, feed it, put it for a while in the open air, and then lay it in the cradle for a long forenoon sleep. This routine once established can easily be kept up, and conduces greatly to the vigor and cheerfulness of the child. So also, in the after part of the day, let the evening walk, the food, and the length of the afternoon nap be so regulated that the infant will be sleepy at dark in summer and at six-o'clock in winter, and be undressed and put asleep at a prescribed time. There is no need of an hour's annoyance with rocking, and pacing the nursery floor, and lullabies, and perhaps Mrs. Winslow's soothing syrup, in order to secure quiet at the right time and for the night, if the mother will begin betimes to train her baby into proper habits.

The first disorder that disturbs the quiet of the

nursery is generally the colic, and this will be almost sure to visit the baby if during the first three days of its life it has suffered from over-feeding. Some children are constantly tormented with colic for the first three or four months of their life, but probably a proper attention to clothing and food from the beginning will prevent these unpleasant visitations. Simple remedies will frequently remove the malady. Give the baby two or three teaspoonfuls of hot water, with a little sugar in it. Place a warm flannel over the bowels, and be sure that the feet and hands are warm. Colic is often caused in infants simply by cold extremities. Move the child gently, pressing the warm hand over the bowels so as to disengage the wind in its stomach, if possible. If this fails, a few teaspoonfuls of warm catnip tea may be effectual. A teaspoonful of gin mixed with three or four of hot water will sometimes relieve. A warm foot-bath gives ease to the little sufferer, or an injection of warm water. And here it may be proper to remark, that every mother should be provided with a small syringe, so that if her baby has irregularities in its daily passages, she may relieve any temporary constipation by an injection of warm water with a little sweet oil or soap in it. This is far better than to drench its stomach with castor-oil. If the baby still cries from

colic or some other cause, by no means give it pægoric : this most noxious drug should be banished from the nursery, and counted among medicines to be administered only under the advice of a physician. The influence of any preparation of opium upon the brain of an infant is very deleterious, and many a mother who relies upon poppy-leaf tea or the pægoric bottle to quiet her crying child, will do it a far less injury if she suffers it to cry itself still than by administering a drop of what the great opium-eater himself calls "angelic poison." If the mother has been exposed to great extremes of temperature, as for instance, going from a warm room into a cold one and becoming chilled, or if in summer she has drank freely of ice-water, or eaten too much sour fruit, or other unwholesome vegetables, or heated her milk by over-exertion, she must expect her baby to cry.

One of the earliest maladies that afflict little babies is the snuffles, or difficulty of breathing through the nose, caused by a slight cold in the head. A simple remedy, and one that will usually be found effective, is a liniment made of two parts of sweet oil and one of spirits of hartshorn mixed together. Rub the liniment under and upon the baby's nose, and let it breathe the ammonia a little through its nostrils, but not enough to produce strangling. This will gen-

erally relieve almost immediately. This liniment is also excellent to remove all irritation and soreness or swelling caused by the bites of mosquitoes, wasps, or other poisonous insects, and should always be kept in the nursery closet.

If the lungs of the baby are affected by cold, and it coughs much, give it five or six drops of syrup of ipecac in a little water. This is a dose for a baby two or three months old, and should be repeated every three hours until the cough is relieved. Where the cold becomes well seated and congestion threatens to take place, the following mode of treatment will be found effective. It was practically tested in the family of the author, a few months since, with the happiest results. This treatment was originally prescribed by one of the most eminent physicians on this continent, and it is so simple that any mother may apply it.

The little patient was only two months old, and during a long, severe spell of wintry weather a deep cold settled on her lungs, and they became somewhat congested. The family physician was called in, and prescribed a shirt made of oiled silk reaching from the neck to the knees, with sleeves of the same material extending below the elbow, and a plaster of mustard and flour in about equal proportions, wet with water, and extending around the

entire body. This was kept on until the little sufferer showed signs of great uneasiness, when it was removed. At the same time seven drops of syrup of ipecac in a little water were administered to the patient, and her feet placed in hot water for fifteen minutes. A blanket was spread all around mother's lap, in which the baby sat, and the foot-tub, to keep in all the heat and the steam, and prevent the air from coming at all in contact with the exposed surfaces. The ipecac and the foot-baths were given every three hours, day and night, and the mustard plaster was put on when the cough became at all worse, which it generally did towards morning. The little patient was kept in the same room all the time, and as equable a temperature as possible preserved day and night. After a day or two a small bit of soda, half as large as a peppermint drop, was dissolved in half a glass of water, and the ipecac given in a little of this water. This corrected the acidity produced in the stomach of the infant by the syrup, so that no derangement of the bowels resulted. This treatment was found entirely successful, and, as health returned, the foot-baths and ipecac were given at longer intervals, until they were discontinued altogether. The little silk shirt was kept on until at length it began to drop to pieces, and was then taken off.

In whooping cough, these remedies are probably as good as any that can be used. Let the foot-baths and ipecac be given at intervals of three hours during the day, and particularly at night, when the child is put to sleep, and the silk shirt be worn as long as the cough continues. In an ordinary cough the foot-baths will always be of benefit, and may cure without other remedies, and if the infant is disposed to be restless and sleepless they will soothe and quiet.

Infants who are nourished at the breast of a healthy mother seldom have derangements of the bowels, except when teething, while those who use the bottle or spoon will frequently suffer from acidity of the stomach, and consequent irregularity. The proper remedy here is to remove the cause. Let the milk the infant drinks be thoroughly scalded, and the bottle or cup be entirely sweet, and the process of digestion will become normal and proper again. In warm weather, especially, the mother will carefully guard the child from drinking milk that is not perfectly sweet. Many people are not aware that milk just on the point of turning sour is less wholesome than that which has become a little acid.

During the process of cutting teeth, all children suffer more or less, and require constant attention

to keep them in good health. Let the infant be kept perfectly clean, if possible, and pass many hours every day in the open air; let its milk, if it requires to be fed, be scalded, and let it sleep sufficiently, and be amused when it is awake. If its bowels are loose, a teaspoonful of chalk mixture, or of spiced syrup of rhubarb, is always harmless, and generally proves effective. These may be procured at any apothecary's, but must be purchased in small quantities, as they are apt to sour and are then worthless. In the country, where wood is used as fuel, a very excellent tea, both for mother and child, may be made of soot. Take the sweepings of the chimney, or soot from the stove-pipe, pour scalding water on it, strain and sweeten, and you will have quite a palatable drink, which is at once tonic and corrective.

The young mother, in her anxiety to do everything for her babe, will be told of some new remedy, by every visitor, for any little malady the child may be suffering from, and there may be made a dozen prescriptions for the same thing. She will hear of snakeroot, and bayberry, and chamomile, of pennyroyal, ginseng, and lobelia; and all these may be very good at the proper time; but let her beware how she drenches the stomach of her infant with

herb-tea, and doses it with nostrums at the recommendation of every chance visitor.

Who has not noticed the newly married woman, while yet the flush of bridal happiness is upon her brow and in her eye, quietly embroidering the edge of a piece of flannel, working the border of a tiny shirt, or knitting a liliputian sock! If any such young expectant mother, about to have the joy of the nursery superadded to the delight of the wife, is reading this nineteenth chapter of our treatise, she may deem it a favor to know precisely what articles of wardrobe the little stranger will require upon its first advent into this breathing world. She *may* expend a large amount upon the infantile wardrobe, or she may, by the exercise of skill and taste, provide one ample and suitable at a small expense. We suggest only the articles that a baby must have to be comfortable; to these the mother will add, as her means will allow. Two flannel pinning or foot blankets, three-quarters of a yard in length, and laid in plaits at one end for five inches, so as to form a waist or band; two flannel skirts, three-quarters of a yard long, and with bands of linen or cotton five fingers long. In the front of this band plaits may be laid so as to reduce its size until the infant grows to require the full length. It will take four yards and a half of flannel for these, and another

half yard will make two bands for the lower part of the baby's body.

The little dresses should be six in number, a yard in length, and made of dimity, nainsook, or cross-barred muslin. Let them be simple in their make, with a band at the neck, and little sleeves inserted. Two yards will make a dress.

The sacks should be of soft blue or rose-colored flannel or merino, and delicately embroidered on the edge. A yard will make two, or they may be crocheted or knit of zephyr or lamb's wool. Let there be three or four night-wrappers, high in the neck, and with long sleeves. Two or three calico double wrappers will be found very serviceable; let them be cut sack-shaped, and button up to the throat. Two yards of fine flannel, a yard in width, will make a couple of blankets. In cold weather two or three pairs of socks may be added, according to the taste and circumstances of the family. Two or three dozen napkins or diapers will be indispensable; if purchased new, let them be huckaback or Russia, twice their width in length, and hemmed at each end.

Three yards of blue or scarlet flannel, or all-wool de-laines, lined with the same amount of white flannel, will make a cloak, which may have a little hood of the same material fastened into the band around

the neck, in the shape of a red riding-hood. This will allow the child to be taken out into the open air.

With an outfit such as has been described a child may be kept perfectly clean and comfortable. Cleanliness and sweetness in a baby should always be placed higher than embroideries. Let the flannel be washed frequently, if need be, and the dresses snowy. One of the first difficulties that an inexperienced house-keeper meets with is in the discoloration and shrinking of her baby flannels; indeed, it is true of most flannels that they are seldom washed in the best manner. The following mode of cleansing them has been tested, and found eminently successful. For convenience, I have arranged the directions in three rules:—

1st. Never apply soap *directly* to any woollen fabric. Make a strong hot suds and plunge the garment in it.

2d. Never dip a flannel in cold, or even cool water, but always in hot. Wash first in hot suds, and rinse in hot water made very blue.

3d. Dry flannels as quickly as possible. Wring dry from the second water, and hang either in the hot sun or before a brisk fire. When nearly dry, press with hot iron. It may also be remarked that none but soft water should be used upon flan-

nels, and resin soap is much inferior to common soft soap, as it hardens the fibres of woollen.

RULE FOR KNITTING A BABY'S SHIRT.

Cast eighty-one stitches on small bone needles, — lamb's wool is preferred, — and to enlarge add ten stitches for every scallop. At the beginning of every row knit two together and three plain. Then from this point, which we mark R, knit the rest of the needle. Make one, knit one, make one, knit three plain, narrow twice, knit two plain. Repeat from R to the end of the needle, always ending with a narrowed stitch. Repeat these rows, or knit across in this manner thirteen times, then rib two and two for forty-three rows. Knit one row plain; next row knit one stitch; put the thread over twice and narrow the next two stitches; put thread over twice, and so on through; knit two plain rows and finish off.

This makes one side; knit the other in the same manner, and sew them together.

For the sleeve, cast on forty-one stitches; knit one row plain, one seam, another seam; then begin the pattern as in the shirt, knit four rows without narrowing at the ends, a plain row, then holes as in the shirt, and bind off. When the shirt is made up

a white ribbon may be run through the holes round the top of the shirt and tied in front.

The mother will find it very convenient to be supplied with a basket, especially devoted to the infantile toilet. Any common basket, of a pleasant size, may be covered with muslin ; have a little paste-board box fastened to one side and contain a pin-cushion, a sponge, a cake of fine soap, a starch bag, and a soft brush. In the basket may be laid at night the clothes as they are taken from the baby, so that at the morning bath the mother will have only to get the basket to be all ready to make the infant's toilet for the day.

Above everything, and of vastly more importance than all the herbs and all the embroideries, let the spirit of the mother be perpetually joyous and serene ; her temper unclouded sunshine, — perennial June. Thus will the starry calmness of her soul find a perfect mirror in those wells of fathomless joy and love, the all-sunny eyes of her happy child.

Accepted in this spirit, motherhood becomes, not a burden to be unstrapped, like a soldier's knapsack, at the first halting-place ; not a thing for commiseration and sufferance and protest ; but the sweetest, the tenderest, the holiest of earthly ties.

CHAPTER XX.

DOMESTIC HYGIENE.

IN these latter days of science and the general diffusion of all useful knowledge, it may be presumed that every housewife will be acquainted with those primary and fundamental laws of health which relate to food, clothing, ventilation, and cleanliness. Ignorance of the laws of nature on these subjects is a radical defect, for which she may suffer the loss of health herself, or the loss of lives dearer than her own. It is not proposed in this chapter to set forth anything new or original, but simply to give, in a compact and practical form, the results of the best wisdom of modern times on these subjects. In previous chapters the whole question of food and of clothing has been so fully treated that in this connection these topics may be dismissed with a few summary directions.

As regards food, it may be said that hygiene requires that it should be suited to the age and employment of the different members of the family, carefully selected and skilfully prepared; that, as all food is divided into muscle-making and heat-producing constituents, the proportions of the food

of each kind should be blended according to the necessities of the family and the season of the year; a larger proportion of oily substances being furnished in winter, and the vegetable and farinaceous viands predominating in summer.

In regard to clothing, we have seen that for the immediate covering of the skin no material is so wholesome as flannel; and that other parts of the dress should be carefully varied, to correspond with changes of temperature and moisture.

The proper *ventilation* of the rooms in constant family use is a matter of the most vital importance. Carelessness and failure here will inevitably result in the slow but certain and fatal undermining of the health of the family, and especially of its younger and more delicate members, who, during the most of the cold season, are within doors. Let it be constantly borne in mind that an adult person consumes air at the average rate of three hundred cubic feet per hour. As an illustration, confine a man to an apartment of the usual dimensions of a bedroom, — say twelve by fifteen, and eight feet high, — and suppose the external air perfectly excluded. In about five hours he would breathe over all the air of the room, and the whole would be infected with carbonic acid gas, evolved in the process of respiration. If he still continues to breathe this noxious

air, he will be constantly taking back into his lungs the poisonous gas which it is the office of these organs to separate from the blood and throw off. The first effect of this slow poisoning will be drowsiness, followed by headache, utter prostration of the strength and spirits, and finally by death. The reason why results so appalling seldom or never occur in ordinary life is because our rooms are never air-tight, and, by the opening of doors and the infiltration of pure air through the crevices, the noxious atmosphere is to a greater or less extent purified.

A few evenings since the writer called upon a neighbor, and found a family of five assembled in a sitting-room of moderate proportions and low ceiling. As the night was somewhat cool, a fire had been made in an air-tight, cast-iron stove, the damper of which was closed, as well as all the doors and windows of the room. One member of the family was suffering from a very violent cold. The immediate effect upon entering this apartment was a feeling of suffocation, and though I had gone with the intention of passing the evening, I had not been seated ten minutes before I began to cast about in my mind for some excuse for leaving. In fifteen minutes I began to have all the symptoms of a violent cold, and the friend who

went with me was similarly affected. In short, the room to us, who came from well-ventilated apartments and the open air, was simply intolerable, and we improved the first opportunity to make our escape from an atmosphere so loaded with carbonic acid gas as to be really poisonous.

This is by no means an exceptional case. In a small room, heated by a close stove, the tendency to this noxious condition of the atmosphere is so great as to require vigilant attention.

Suppose a child living constantly in a room as close as the one described above, of an age so tender as not to be trusted away from the eye of its mother. What now must be the physiological effect? Breathing always a vitiated air, its blood never becomes really purified by the contact of a proper amount of oxygen in the air-cells of the lungs. Thus circulating, even with the vital fluid, is the poison which the lungs would throw off in a purer air and the poison which the child constantly inhales from the noxious air in which it lives. All the functions of the body must suffer. The child will become "delicate," which is only another name for sickly. Should an acute disease attack it, as croup, scarlet fever, or diphtheria, which maladies are invited by such a course of treatment, the physician finds no constitutional vigor upon which to

operate with his remedies, and all the probabilities are against recovery. Every intelligent physician can cite cases that occur in his daily practice, where the fatal result can be directly traced to the causes above described. Many a heart-broken mother mourns over what she calls the mysterious and, inscrutable dispensations of Divine Providence, when, in fact, it was mistaken tenderness and ignorance of the fundamental laws of health which have left her childless.

I have a friend, of much more than ordinary intelligence and knowledge of books, whose maternal anxiety for her offspring seemed to be summed up in a fear of exposing them to fresh air, lest they should take cold. Though well formed at birth, and inheriting no distemper, none of her three children reached the age of five. No doubt exists in the minds of her friends that their lives were prematurely shortened by confinement in ill-ventilated apartments, and rigorous exclusion from the open air.

Some thirty years ago a physician in the eastern part of Massachusetts, after losing his wife and several children by consumption, determined to rear the remaining daughter in a manner totally different from the fatal regime to which her elder sisters had been sacrificed. She had constitutional defects, and

hereditary tendency to weakness of the lungs. He put her in a costume favorable to the utmost freedom of movement, and encouraged her to engage in all kinds of out-door sports. While the girls of her age were bending over their tasks of algebra and French in a close school-room, she was romping in the woods hunting squirrels, rowing on the lake, or swimming in its waters, riding horseback, entering with zest into every species of athletic amusement.

Let us look, now, at the splendid result of this truly sensible mode of educating a delicate child.

The tendency to consumption was quite eradicated. She grew to splendid and vigorous young womanhood, her mind and her spirits alike free, elastic, and joyous. The beautiful world of art attracted her; she entered the lists of competition for the highest prizes of genius, and to-day America has not among her daughters a brighter name than that of Harriette Hosmer.

There is no likelihood that the civilized world will ever return to the general use of the old open fireplace. The economy and convenience of stoves and furnaces more than compensate, in the minds of most people, for the cheerful glow and free ventilation of the fireplace; but it should be borne in mind that far greater care is now requisite to secure

the purity and wholesomeness of rooms heated by stoves or hot-air furnaces, than our ancestors were called upon to observe.

The problem in ventilation is how to introduce a sufficient amount of fresh air, and yet avoid sudden changes of temperature and the deleterious effect of exposure to draughts. Most colds are taken by the unequal exposure of different parts of the body to currents or jets of cold air. A column of air that can pass through the key-hole of a door, or through the crevices of a window, upon a person sitting in a warm room, will often lay the foundation of a disease which may result in death.

Full exposure of the whole person in a cold atmosphere seldom produces mischief; but any variation of temperature which does not affect all parts of the body alike should be carefully guarded against. No question in architecture is more important, and yet more troublesome, than how to secure a simple, inexpensive, and effective system of ventilation. This subject is more fully treated in the chapter on domestic architecture.

Almost the whole business of the housewife may be said to consist in providing for and disposing of the waste of the body. When, for instance, she ventilates a room, she is merely getting rid of the effete particles of the blood thrown from the lungs

in the process of respiration. This waste takes place constantly day and night. Worn-out particles are all the time being removed and replaced. The frequent and thorough removal of these particles of dead matter constitutes cleanliness, — a virtue which ranks in the Bible next to godliness.

The housewife should bear in mind that any article of clothing, and many pieces of furniture, such as carpets and curtains, are continually absorbing either sensible or insensible perspiration from human bodies, carbonic acid gas from the lungs, as well as odors produced by cooking and other household offices. No system of house-keeping can be pronounced thorough and complete, which does not provide for the removal of all these impurities.

A department of household cleanliness which is very much neglected, even by those who in other respects are good house-keepers, is the proper airing of bed-chambers and bed-clothing. The desire of a thrifty and energetic house-keeper, to have her rooms in order and the family work done up at an early hour in the day, causes her, through mistaken notions of order and neatness, to allow far too little time for the effectual purifying of her beds and bed-clothing.

When a bed-chamber is left in the morning, its windows and doors should be thrown open, the

blankets, coverlids, and counterpane so placed as to allow the freest access of pure air to every part, so that the atoms of insensible perspiration, which have been absorbed during sleep, may be entirely purged and blown away. They should be left to this process for two or three hours.

Then, as often as once in a week, bedding which is in constant use should be carried into the open air and exposed for half a day to the sun and the wind. Where a bedroom has southern or eastern exposure, which is very desirable, this may be done by laying them over a chair near the window. Unless bed-clothing is thus frequently and thoroughly aired, it becomes loaded with animal exhalations, unpleasant alike to the touch and the smell, rendering sleep beneath them far less wholesome and refreshing.

In like manner the rugs and carpeting of chambers, when of woollen materials, should be frequently shaken and laid out for airing.

As the carbonated matter exhaled from the lungs is a little heavier than the air, it settles in a sleeping room, and is retained by any woollen substance with which it comes in contact. In this circumstance we see the reason why it is better to sleep on beds that are raised some distance from the floor. The most perfect race of men, physically, that ever lived upon

the planet, seem to have understood this matter, as well as the importance of frequent bathing; for Homer, whenever he refers to the sleep of his Greek heroes, describes them as "ascending the perforated couch."

Closely connected with cleanliness of the clothing and the bedding is the matter of personal cleanliness, which involves the subject of bathing. Bathing may be resorted to for the purpose of cleanliness alone, or for the tonic effect resulting from cold-water applications. When used for the former purpose, the frequency of washings must depend on the character of the daily employment, and the season of the year. As a general rule for cool weather, a full bath twice in a week will be found sufficient to secure the highest degree of health and comfort. As to whether cold or moderately warm water is the most conducive to health, no general rule can be indicated. The degree of animal warmth, and the power of reacting from the shock that cold water produces, as well as the natural fondness for water, are very different in persons of unbroken health. It may be said, in general, that we should never violate the instincts of nature in this respect; that is, if a child or a grown person habitually shrinks from the application of cold water, they should be in-

dulged in the use of water of an agreeable temperature.

Since the remarkable degree of attention that has been of late years devoted to this subject, there is danger of the too frequent use of cold water, especially with young children. In washing babies and children under three, I am satisfied that nothing is gained by the use of cold water, unless it is particularly prescribed by a judicious doctor. In the period of highest vigor, — between the years of, say, fifteen and thirty, — with most people there is a prompt reaction after cold bathing, and a delightful glow succeeds. With such persons, the pleasurable sensation is such that the daily bath is not likely to be omitted. But where, for any reason, this agreeable animation and increased activity of the circulation does not follow cold bathing, tepid water should be used.

After uncommon fatigue, or stress of mental activity, it will be found that a rapid bath with a rough towel, followed by brisk friction, is very soothing, and conduces to deep and refreshing sleep in the early part of the night. It may be added that the beneficial effects of bathing will always be much enhanced by wiping the surface perfectly dry and subjecting it to vigorous friction.

With regard to daily exercise, which is, on all

hands, agreed to be necessary to health, the great difficulty with American women is that they are not sufficiently in the open air.

The daily routine of the household may be sufficient to produce muscular fatigue, yet it does not afford that relaxation of mind and that brisk circulation of the blood which are the soul of all salutary exercise. Every woman should spend, if possible, an hour or two daily in the open air, — walking, riding, cultivating a garden, playing croquet, or throwing grace-hoops. She will thus forget the annoyances of servants, and rise above the fatigue and ennui of the needle.

The hygienical effects of a rapid and cheerful walk cannot be overstated. The most convenient of all kinds of exercise, it is, at the same time, the best. One of the most eminent of the physicians of New York, who for a long professional career has enjoyed a remarkable immunity from every species of illness, was asked for a practical rule for the preservation of such unbroken health. "I can give none better," was his reply, "than that which I have observed for the last thirty years, — to let no day pass without walking from four to six miles."

Professor Draper, in his admirable work on Physiology, has stated the truth as the result of many

experiments, that the average strength of woman is to that of man as two to three. The above rule of the New York physician, as applied to woman, would then be, to let no day pass without walking from two to four miles.

With regard to sleep, the rules of modern physiologists differ from those advanced twenty years ago. Then the amount of sleep supposed to be necessary was two or three hours less than is now deemed indispensable. The late doctrine is no doubt the true one. Abundant sleep is the best of all restorers after severe mental activity; and those whose nervous waste is great, whether occasioned by pressing anxieties or by hard study, require far more sleep than persons whose weariness is simply that of the muscles.

Ever since the days of Poor Richard, the maxim of "Early to bed, and early to rise, will make a man healthy, wealthy, and wise," has been the best possible summary of the laws relating to sleep.

The perfect housewife will see to it that her meals are so regulated as to permit all the members of her family to retire at an early hour, and yet place a sufficient interval between the last meal of the day and the hour of sleep.

One-third of our lives, or eight hours in twenty-four, for sleep, is doubtless the period required by

the greatest number of persons. Some constitutions are better suited by nine hours of sleep, while others find six and seven sufficient. In general, all nervous, anxious, and active-minded people should take all the sleep they can. With such there is no danger of excess. Servants, laborers, and others who lead an irresponsible and mechanical life, require less than those whose business it is to plan and direct labor.

The refreshing power of sleep does not depend upon the number of hours passed in bed, so much as upon several other circumstances, such as the pleasantness of the bed, the completeness of digestion, the purity of the air in the dormitory, and the portion of the night given to sleep.

As to the agreeableness of the couch, despite the eloquence that has been lavished on hard beds, the experience of the great majority of people is that a bed that is thoroughly comfortable is by far the most refreshing.

The objections urged against feather beds, except in midwinter, are doubtless valid; but it stands to reason that a couch which will yield to the pressure of the body, and conform in some measure to its shape, is vastly more agreeable and healthful than the soft side of a pine plank, even though covered with a common straw mattress. A very perfect

and delightful resting-place is made by placing upon a good set of steel or copper springs a shuck mattress, over which, at least in cool weather, a thinner bed of wool, hair, or feathers is laid.

When a person eats a moderate supper, at six in the evening, by nine or ten o'clock the digestive process is so far advanced as to permit of sound and refreshing sleep, where the conscience is clear and the mind at ease. The practice of eating just before going to bed, and indulgence in late and rich suppers, cannot be too severely reprobated.

It is very desirable that sleeping-rooms should be of large size, with high ceilings, furnishing an abundance of pure air of uniform temperature. But as this is generally impracticable, on account of the moderate dimensions of most houses, it becomes a matter of some difficulty to give a proper and wholesome ventilation to bedrooms. Where it can be done, the windows should be lowered from three to twelve inches, according to the season of the year and the direction of the wind.

A still better plan, where children are asleep, is to open the door of an adjoining room in which a window has been raised.

In all cases, care should be taken that no draught or current of cold air passes across the bed. At all hours, this is a perpetual source of that most uni-

versal of all maladies, a cold; yet the exclusion of fresh air from a small sleeping-room will render a person very susceptible to contract a cold upon the first exposure, and sleep under such circumstances can never prove refreshing.

It cannot be too often repeated, or too earnestly pressed upon the attention of every thoughtful person, that the habitual breathing of bad air is as fatal to fine health as any catarrh or consumption; the chief difference being that one is slow and insidious in its operations, while the other manifests itself promptly. The habit once formed of sleeping in a well-ventilated room is one which cannot with impunity be encroached upon. The lungs will cry out for their accustomed supply of oxygen, and a dull headache, upon waking, is only the protest of the blood against the slow poisoning process of the night.

As to the portion of the hours of darkness which is best devoted to sleep, the universal testimony of wise observers, in all time, is, that the half before midnight is by far the best.

The familiar maxim, "one hour before midnight better than two after," does not overstate the importance of securing the early part of the night for the pillow.

For two or three hours before the usual time for

sleep, the mind should be entirely relaxed, and all studies or trains of thought of an animating or exciting nature should be carefully avoided. Mothers, and all persons who have the young in charge, will find the observance of this rule of the utmost importance, in securing health and the normal development of the mental as well as the physical organization of those whose habits they are assisting to form. The most healthful as well as the most successful mental labor is always accomplished in the morning. Midnight, indeed, has its excitement; but it is hot and morbid. Don Juan, Manfred, Festus, and all those great labors of misguided genius, whose function it is to harrow the sensibilities, without either informing the mind or purifying the heart, are the product of late hours, — of false and wasteful excitement. But all the writings that we love to call immortal, — whose blessed office it has been to inspire successive generations of poets and thinkers, to elevate and instruct mankind or “charm their pained steps over the burnt soil of the world,” — were composed while the shadows of the trees all pointed westward, and the dew still sparkled in the meadow. In Homer and Virgil, in Shakespeare and Milton, we seem ever to breathe the fragrance of the early morning, and catch a re-

frain from the inimitable trill of the heaven-soaring lark.

Let us suppose, now, that a child has been reared in conformity with the well-established hygienic laws referred to in this chapter.

He has, from the cradle, breathed pure and wholesome air; he has been protected from the vicissitudes of climate by clothing of material the most suitable and always sufficient in amount; his food has been wholesome, and skilfully adapted to his age and condition; his muscles and entire physique have been developed by vigorous and varied exercise; an abundance of refreshing sleep has succeeded the moderate fatigue of one day, and strengthened him for the labors of the morning which followed. If we presume that, in addition to this, his mind has been disciplined by liberal culture, and his heart imbued with the love of virtue; what better gift can a mother make to her race than such a son? — capable of enjoying all that is worth enjoying in this life, and fitted to achieve whatever degree of success is worth striving for in the arena of the world.

CHAPTER XXI.

DOMESTIC REMEDIES.

EVERY housewife is necessarily, to a greater or less extent, a physician, in her own family, and, if her knowledge is good upon these subjects, she will frequently have it in her power to be of great benefit to her neighbors and others in distress. The maladies to which the wife and mother will most frequently be called upon to administer may be considered under two heads: first, such as, from their moderate and simple character, admit of domestic cure; and, second, alarming injuries and acute attacks of disease which demand prompt treatment before a physician may have time to arrive.

Those slight disturbances of health, which a well-informed house-keeper can, if taken in time, treat successfully without calling in medical advice, may nearly all be embraced under two divisions: those which result from a derangement of the alimentary canal, or digestive process, and those which result from taking cold. It may be remarked, here, that as the general duties of the housewife relate to the food and clothing of her family, so the maladies for which she is called to prescribe arise, in most cases,

from the effects of unwholesome or ill-digested food, and insufficient or unsuitable clothing.

Pain in the stomach and bowels generally proceeds either from having eaten some crude fruit or unwholesome food, or from a disease of some part of the alimentary tract more or less acute.

In the former case, nature can, for the most part, be left to her own process of relief. The pain thus occasioned is sometimes quite sharp, and, though no medicine may be required, the sympathies of the friend or the mother may urge the application of something that will assuage the suffering.

The first thing to be done is to give the person thus in suffering some hot and moderately stimulating drink. Ginger is an article almost always at hand. Pour a half-pint of boiling water upon two teaspoonfuls of ground ginger; add sugar and milk, if desired, and let the patient drink it as hot as can be swallowed. Of the spirituous liquors, none perhaps is better in such cases than gin, which should be diluted with hot water, and sweetened. External applications may be made at the same time. A flannel wrung out from hot water, and laid upon the seat of the pain, will, in connection with hot drinks, generally afford relief. If the pain continues, and some irritation of the stomach appears, a mild emetic may be ventured upon, consisting of,

say, a teaspoonful of the syrup of ipecac, for a child half-grown, the dose to be repeated in half an hour. If the case is still refractory, and the pain increases, such potent remedies as camphor, opium, and calomel may be necessary; these, however, should be administered only by a medical man, except in cases where a certain dose of medicine has been found a specific in former attacks very similar to that from which the patient is now suffering.

Domestic remedies, in an attack of colic, unless effective in two or three hours, may be regarded as inadequate, and the physician should be called.

After such an attack the patient of course needs a regulated diet. This subject is fully treated of under the head of "Food for the Sick," in a preceding chapter; but a few articles may very properly be alluded to here, as they are proper in all derangements of the bowels: home-made yeast bread, browned to a crisp; rice parched and made into a drink like coffee; boiled milk, thickened to a porridge with scorched flour; soft-boiled eggs, cooked by breaking into a shallow dish of hot water.

Diarrhœa and dysentery, into which it passes, are the results of irritations, more or less acute, of the lining membrane of the bowels. Taken in its earlier stages it will generally yield to simple remedies;

neglected and suffered to run on, it reaches a stage at which the utmost medical skill is baffled. The object of the treatment in general should be to remove from the system whatever acrid matters there may be in the bowels, to heal the corrosion they may have produced, and to incite to normal action all parts of the digestive apparatus.

When the diarrhœa arises from acidity of the contents of the stomach and bowels (and this is generally the difficulty with children), there is no remedy so simple or effective as the preparation sold by all the druggists, known as "chalk mixture." It is a cheap, harmless medicine, and will seldom or never aggravate when it fails to relieve a patient. A teaspoonful will generally give relief in slight cases, which, if allowed to run, would become serious. The presence of acrid matter in the stomach and bowels will at length bring on an inflammation of the lining membrane, which it may be found very difficult to allay.

I have found it an excellent plan to have always in my closet a syrup of home manufacture, of which the following is the recipe :

One-quarter of a pound each of hemlock, bayberry, and black poplar bark ; boil for two or three hours, and have a gallon when done. Then add, while hot, an ounce of pulverized bitter almonds

or peach-meats, one and a half pounds of loaf-sugar ; scald them together without boiling. When cold, add one quart of pure brandy, and put it away in a tightly corked demijohn. Dose for a child from two to four years old, half a gill three times a day. Repeat the dose more frequently if the case is stubborn. An adult should take a wineglassful before each meal.

Another very excellent syrup for diarrhœa or weak digestion is made in the following manner : Take two teaspoonfuls of powdered cinnamon, two of allspice, one of cloves, one large nutmeg, one-half pound of nice raisins, chopped fine, with the seeds, one-half pound of white sugar, one pint of the best brandy, one-half pint of water. Put all the ingredients in a bottle, and set it in a warm place near the stove, or in the sun for a day, when it will be ready for use. Dose, a tablespoonful for an adult and a teaspoonful for a child, half an hour before each meal.

Both these preparations have the merit of being easily obtained, agreeable to the taste, and they contain nothing that can damage the most delicate organs or impair the constitution.

By the use of chalk mixture and these syrups, and particularly the former, I have been able to

manage all diseases of this character without calling in the physician.

The most frequent of all the complaints which the housewife or mother is called on to relieve, is that universal and protean malady, A COLD.

This affection, if taken in time, can be cured with very little trouble and the most simple medicines; neglected, and allowed to fasten upon an important organ or part of the body, results the most disastrous to health and fatal to life ensue. A malady so slight that medical skill ought not to be required in treating it, a cold is, in a fearful number of cases, allowed to become aggravated till it passes the skill of the most accomplished doctor.

It is necessary to remember, that as colds are generally produced by a check to the insensible perspiration, or the sudatory function of the skin, so the first thing to be done in treating a cold is to restore the proper functional activity of the surface. This is best done by confining the body to a strictly uniform temperature, and drinking a hot infusion of sage, pennyroyal, pepper, mallows, or other shrub whose effect is to produce perspiration. Why is this way of doctoring a cold, which is familiar to everybody, and almost universally practised in this country, unsuccessful in so many cases? Mainly for two reasons. The process is not commenced

soon enough, or it is not sufficiently persevered in. The great difficulty with the strenuous, restless, health-sacrificing people of America is that they can never find time to be cured of a cold; they prefer to run the risk of contracting a slow, painful, and maybe fatal disease rather than to devote thirty-six or forty-eight hours to getting well.

After the employment of these remedies, the pores, having been excited to unusual activity by the action of sudorifics, are more susceptible than before, and the person is more liable than ever to suffer from their sudden closing.

Hence the imperative necessity of remaining in the same temperature as that in which the remedies were employed, until the surface has returned to its normal condition. A boy, for instance, has contracted a severe cold in winter. At nightfall his mother commences to treat him. He is seated by a warm fire, drinks one or two cups of sage or pennyroyal tea, and has his feet plunged in a hot bath. By bedtime the symptoms are very much abated, the irritation of the lining membranes has subsided, and the surface is warm and moist. In a warm bed, with a hot soap-stone at his feet, he falls into a pleasant sleep, and wakes in the morning feeling and appearing quite well. Now comes the critical period of the treatment. If the mother yields to the natural

restlessness of the lad, and lets him go out with his skates and sled, his pores all open with the treatment of the night before, his susceptibility to the disease thus doubled, his body warmly clad, but his feet damp and cold, and his hands in the snow; the probabilities are that at nightfall all the symptoms of the day previous will reappear greatly aggravated, the cough hard and unyielding, the skin feverish, the face flushed, with some complaint, perhaps, of pain in the chest. The remedies of the evening before are now unavailing. Sage tea and a hot brick fail to restore the skin to a proper condition.

After some anxious hours of unavailing experiment, a physician is summoned, who finds what he calls a fairly developed case of pneumonia.

It may seem superfluous to add that a confinement of a day or two to the sitting-room would have given the little sufferer back to his delightful sports, in a condition to defy the rigors of the winter. For want of a little precaution, he is now condemned to weeks of pain and pallor, and his parents to many anxious hours and wearisome vigils. With some children, the first notice the mother receives that a cold has been contracted is in the peculiar and appalling cough coming from the child's sleeping-

room, which announces the presence of that terror of the nursery, — THE CROUP.

Like the alarm of the rattlesnake, the sound of the croup cough once heard can never be forgotten or mistaken. The croup cough is sharp, dry, and ringing, coming apparently from a narrower tube than the windpipe in its ordinary condition, and the inspiration that follows is constricted and painful in sound.

The little patient's voice is frequently thin, and of an ominous hoarseness. The very first note of this character that reaches the ear of the mother or nurse is a summons to the utmost promptness in the application of remedies.

The enemy that she has now to battle with is, essentially, an acute and rapidly progressive inflammation of the windpipe. This inflammation, if not arrested, is speedily followed by the formation of a tough mucus or membranous clog which, if not removed, will soon fill the throat, and death by suffocation is the terrible result.

There are three modes of contending with this fearful malady of children, which may be employed successfully by the domestic practitioner. One is by the application of counter-irritants to the surface; another is by relaxing the whole system with emetics; and the third consists in the use of remedies

which are supposed to act directly upon the lining of the windpipe. In severe and advanced attacks, all three may be necessary to afford relief; but in the great majority of cases, prompt application of counter-irritants will suffice.

At the moment this peculiar cough assails the ear of the mother, she should prepare three napkins, wring them out of cold water, laying one upon the chest, another at the back, pin together on each shoulder, and wrap the third about the throat. Then cover them in thoroughly with flannel, so that no external air will prevent them from becoming rapidly warmed by the heat of the body. Those who believe in the hydropathic treatment of the disease contend that the most obstinate cases can be controlled in this manner.

Another similar and excellent remedy, which is a very good one to begin with, is to apply flannel cloths, wrung out of hot saleratus-water, to the breast and throat, changing them as often as they get cold. Instead of changing the flannel cloths, it is an excellent plan to have two or three cotton cloths kept hot and applied, one after the other, above the flannel, thus keeping the air from ever coming in contact with and cooling the skin.

A much severer application, which must be resorted to if the above fail, is mustard in the form of

plasters upon the chest and throat, and also upon the soles of the feet, and around the wrists. A mustard plaster, suitable for children, is made by taking flour and mustard in equal quantities, mixing them with water so as to make a thin paste, then spreading it upon a piece of light muslin; a layer of delicate linen or cambric should intervene between the skin of the child and the paste.

The last resort, among this class of remedies, is to a mustard bath, which is made by adding a table-spoonful of mustard to every gallon of water, heated to as high a temperature as the patient can bear. He should be kept immersed in this for a few minutes, and then wrapped in a warm woollen sheet, and placed in bed.

At the same time internal remedies should be administered, as the croup is an enemy so deadly and powerful that he should be fought both on land and by sea. The simplest relaxing remedy is probably a dose of ipecac; a favorite syrup for the croup consists of a mixture of the syrup of ipecac with the syrup of squills. Vomiting is almost certain to afford relief, and many begin by giving an emetic at once. An old-fashioned remedy, that relieved the suffering of our grandparents, was goose-grease mixed with snuff, spread upon a piece of flannel and pinned around the neck. The oil was supposed

to produce a relaxing effect upon the throat, and the snuff was employed as a counter-irritant. Another old-fashioned dose, and often very effectual, is ten drops of spirits of turpentine in a teaspoonful of molasses, for a child six or seven years old. Pepper-tea, with lobelia, is also employed; but it is with difficulty administered to young children.

The most formidable variety of croup is that known as membranous, in which a tough white membrane forms in the upper part of the windpipe; but a malady so fearful as this is beyond the reach of domestic remedies. Summon a physician as soon as possible.

A peculiarity of the croup is that the paroxysm, though relieved the first night, may be expected to return on the two following nights. Unless the patient has been carefully guarded in the interval, the second attack is likely to prove more severe than the first. On the third night it is comparatively mild. The cough which succeeds is seldom obstinate, and yields to ordinary remedies.

When a cold is very severe, or has been neglected for some time, it may be accompanied by pain in the chest or under the shoulder-blades. This symptom should be considered alarming, for a few hours of neglect will suffice to bring on pleurisy or pneumonia. The proper remedy is by the em-

ployment of counter-irritants more or less powerful. The patient should be placed in bed, covered warmly, and hot flannels applied to the seat of the pain. Woollen cloths, wrung from hot whiskey and water, are very effectual. These, if not relieving the pain, should be followed by mustard plasters. Dry cupping is an excellent remedy, and as this operation gives great relief in many forms of internal inflammation, it may be well to describe it particularly. Take two or three common glass tumblers, with perfectly smooth edges, and prepare a half dozen or more tapers of thin and highly inflammable paper. Light one end of the paper, place the lighted end in the bottom of the glass, and invert the whole quickly upon the skin, pressing the glass down and fitting it snugly. The taper will exhaust nearly all the air in the glass and go out. To fill the vacuum thus produced the skin and flesh rise in a convex form within the glass, and there is a flow of blood to that part of the surface, which very frequently relieves the pain within. For pain in the chest, this application is generally made upon the shoulders and upper part of the back, and continued five or six times.

The following recipe for a cough syrup is confidently recommended as one of the best that can be compounded. It is particularly effective in that

hacking cough that often comes on just after retiring at night : —

Take One ounce of slippery elm,
 One ounce of liquorice root,
 One ounce of thoroughwort, or boneset,
 And one ounce of flax-seed.

Put the herbs in a quart of water and steep for several hours, not allowing the decoction to boil. Then strain the liquor, and add a pint of good molasses and a pound of loaf-sugar; return to the fire, and boil slowly for half an hour. When cool, bottle, and take a swallow every hour, or oftener, if the cough does not abate.

The proper treatment of whooping cough, and also of measles, is given in the chapter on Infancy.

The housewife will frequently have complaints brought to her of simple local pains, such as headache, toothache, and earache. Though not alarming symptoms, or indicating the presence of any disease, she will feel inclined to make an application of some remedy, as physicians are not generally called to such cases, unless the pain is very acute and of long duration.

Headache proceeds from various causes, among which may be enumerated excessive heat of the sun, close air, indigestion, or disordered stomach, want of exercise in the open air, extreme fatigue,

or mental excitement and exhaustion. By removing the cause, the suffering will generally be relieved. For sun-headache, nothing is better than cloths wet in cold water, frequently changed and laid upon the brow and head, a recumbent posture in a darkened room, and perfect quiet. *Sick-headache* commonly results from great fatigue and the loss of a customary meal, especially when the cup of tea or coffee, to the use of which one may be accustomed, is missing. When the illness is coming on, it may often be arrested by a cup of coffee and a little dry toast. When it has lasted several hours, the stomach will reject food, and the only cure is *sleep*. The sufferer should have stillness and a dark, but not close, room as soon as possible. Placing the feet upon a stone, or bottle of water, as hot as can be endured without pain, will aid in relieving the head.

The only sovereign and effective remedy for *toothache* is the forceps. But it generally occurs that considerable pain is endured before the sufferer makes up his mind to have the tooth extracted; and there are tens of thousands of our people who never employ a dentist.

Alum and salt, in equal parts, pressed firmly into the cavity, will often give relief. If that fails, moisten a small lock of cotton, dip it in morphine, and press into the cavity, taking care not to swallow

the saliva. Laudanum, applied in the same way, generally stops the pain; so, also, does a drop of chloroform, or a drop of creosote, applied on cotton-wool. The oil of cloves is another remedy often used, and a little sack filled with red pepper and crowded into the cavity, is frequently effectual. Counter-irritation often relieves toothache. Apply a brick, or stone, or a smoothing-iron, as hot as the sufferer can bear, to the cheek; or, rest that side of the face on a bag of hops just taken from hot water.

Earache, when not produced by tumors in the head, may generally be relieved in the following manner: Take warm soap-suds and a syringe, and inject the water for some time, — the ear being held down so the water can run out. When the inner surface of the ear is quite dry, mix two drops of sweet oil with one of chloroform, and of this mixture apply one or two drops, allowing it to run down into the ear, and tie up the head with warm flannel.

When this does not relieve, apply a small blister, or a strong mustard plaster, say an inch square, just back of the ear.

Domestic surgery is principally confined to the treatment of slight cuts, bruises, scalds, and burns; but, during the life of every housewife, she may be

called several times to act with promptness and judgment, in cases of severe injuries, before a surgeon can reach the patient. In the case of a broken limb, a woman can do comparatively nothing. She may place the sufferer upon a lounge or bed, and administer some stimulating drink in case of great prostration. While awaiting the arrival of the surgeon, she may prepare bandages by sewing together strips of cotton to the length of several yards. Bandages for the lower limbs should be about three inches wide; for the arm or head, an inch narrower.

In cuts or lacerations of the flesh, where the bleeding is profuse, the character and color of the blood will determine whether an important blood-vessel has been severed. If the color is bright scarlet, and comes leaping in jets from the wound, it proceeds from an artery, and the promptest action may be required to save life. Fold a strong silk or linen handkerchief crosswise; tie it tightly around the limb between the wound and the heart, to check the flow of blood to the extremity. The knot of the ligature should be placed on the line of the severed artery and pressed firmly down. When the flow is somewhat checked, press a tent of lint or raw cotton into the wound, lay a cloth over it, and keep the parts constantly wet with cold water.

Where there is any probability that an artery has

been severed, none but a skilful surgeon should undertake the first dressing.

In severe *burns* and *scalds*, it is important to know what application is safe and will afford the most immediate relief. If the skin has been destroyed, the first thing is to exclude the air from the exposed surface. Several substances are used for this purpose, some one of which is almost certain to be at hand. Tar gives immediate relief. Molasses is not quite as good as tar, because it often contains a little of the acid of the cane-juice.

In cases that occurred in our own family, we have used, with the best results, raw linseed oil. A thin muslin is laid over the burn, and the oil applied upon the cloth with a feather. When the smarting is allayed, a little white lead should be mixed with the oil, and applied. This prevents the formation of "proud flesh." The sore that follows should be washed two or three times a day with castile soap. A camel's-hair brush, a soft shaving brush, a bit of fine old sponge, or a piece of worn linen damask, are best for this purpose. The parts affected should be perfectly dried before the application of oil is again made. When inflammation sets in, a poultice of mush, bread and milk, or mashed potato moistened with milk, is the most

suitable. If "proud flesh" appears, sprinkle a little burnt alum on the poultice.

To burn alum, lay it on a shovel or other iron plate, and hold it over the fire till it ceases to bubble. When cool it will crush to a powder between the fingers.

An excellent liniment for burns and scalds is made by filling a two-ounce phial a third full of strong lime-water and the remaining two-thirds with sweet oil. Shake well before applying.

Beside tar and linseed oil, above mentioned, other substances have been found of great value as first applications to a burn or scald.

Finely carded wool, laid thick upon the wound, is an excellent remedy. Cotton-wool may be used; but it is not quite as good as sheep's wool. It would be advisable to have on hand a few ounces of soft wool, and the moment any one suffers a burn or scald, if the injury is deep, so that the skin will be removed, the arnica tincture should be diluted with water, and the parts at once covered in with wool. A deep burn is liable to putrescence. The best remedy for this is vinegar; but when used it must be largely diluted with water if the sore is raw.

In slight burns, where the skin is not removed, as well as for all manner of small cuts, bruises,

bumps, and contusions, which constitute the afflictions of childhood, and evermore demand relief from the mother, nothing will compare, as a universal panacea, with *arnica*. The tincture can be obtained of a druggist, or it can be made at home by putting five cents' worth of arnica flowers into half a pint of whiskey. In a family of children, the arnica phial should no more be permitted to stand empty than the sugar bowl.

Its effect is magical, not only in allaying pain, but in preventing soreness and discoloration. Where the flesh is not much bruised, or the cut is a clean one, the gash or rent should be drawn together and the parts held in place by strips of sticking-plaster. A firm bandage will check the bleeding. Care should be taken that no dirt or other foreign substance enters the wound, as the healing is much delayed by this means, and inflammation is sometimes produced. If there is no adhesive plaster at hand, the skin of the inside of an egg-shell, moistened with the white, is an excellent substitute. In case of a cut not very deep, nothing else need be done.

For poisonous stings of all kinds, and even for the bites of venomous snakes, a liniment made of hartshorn and sweet oil, in equal proportions, is a necessity in every family. A drop rubbed upon a

mosquito bite allays the itching, and the sting of a wasp or bee is greatly soothed and soon entirely cured by repeated applications. With a phial of this mixture, and the arnica bottle, a housewife may feel herself armed against all the minor disasters of the nursery. The sting of poisonous insects may be greatly allayed and the poison nearly all extracted by sucking the part immediately after the sting has been inflicted.

When a person has been bitten by a deadly serpent, like the rattlesnake, the adder, or the copperhead, the first thing to be done is to procure and swallow a pint or more of ardent spirits, as brandy or strong whiskey. Alcohol neutralizes the poison. At the same time rub the bite constantly with harts-horn and sweet oil. No poisonous bite is deadly when these remedies can be promptly used.

When by a fearful mistake, or from the impulse of suicidal mania, poison has been swallowed, the first question is to know the general character of the substance taken into the stomach, whether it is vegetable or mineral. For the vegetable poisons, as opium, prussic acid, hemlock, or henbane, produce vomiting if possible, and administer strong coffee as quickly as it can be made.

Children quite often are given an over-dose of laudanum. Give a teaspoonful of black coffee every

five minutes to a child of two or three years, less in proportion to a babe.

If lunar caustic has been swallowed, or poured on the surface so as to make a deep burn, *salt* is the antidote. For corrosive sublimate, the whites of eggs should be swallowed. For the salts of tin, milk is the best antidote. In lead poisoning, give Epsom salts dissolved in water, in the proportion of a tablespoonful to a quart.

When any of the concentrated mineral acids has been taken into the stomach, such as vitriol, aquafortis, muriatic or oxalic acid, give water in which calcined magnesia has been dissolved; if this is not at hand, the best domestic substitute is strong soap-suds.

If the alkalies have been taken, such as potash, soda, or hartshorn, let the sufferer take vinegar or lemon-juice diluted with water. If olive oil can be obtained and swallowed, it would form a soap in the stomach and be thrown off by vomiting. The suggestion may seem superfluous that in all cases of poisoning the utmost haste is necessary in securing the presence of a physician and a stomach-pump.

In alcoholic intoxication, salt and strong coffee and tea are useful in restoring the lost equilibrium of the faculties.

A quick emetic in all cases of poisoning is pre-

pared by mixing two tablespoonfuls of ground mustard with a pint of tepid water.

It is not to be expected, nor perhaps desirable, that a family should keep an assortment of medicines, but it is safe, as well as prudent, to have a medicine-shelf in one of the family closets, where one may be certain to find the following articles : —

A bottle of tincture of arnica.

A vial of hartshorn and sweet oil.

Ground mustard.

Syrup of ipecac.

Raw linseed oil.

A good cough mixture.

A diarrhœa syrup.

Salve and sticking plaster.

A syringe.

Some disinfecting powder or fluid.

Lime-water.

If after sickness powerful medicines, such as opium, ergot, calomel, nitrate of silver, remain in the house, they should be distinctly labelled and put away quite beyond the reach of children or servants. It would be safe to write the word POISON in large letters on phials containing such substances, and never use them at all except in obedience to the

prescription of a medical man. Nor should they by any means be allowed to stand on the medicine-shelf with the family remedies enumerated above.

The following have been gleaned from various sources. Many of them we know by frequent use to be good; all of them are harmless, and quite a number are invaluable:—

A healing salve for sores.—Sweet oil and white wax in about equal proportions melted together.

Another.—Rosin, mutton tallow, and linseed oil in equal parts.

A salve for burns.—Two ounces of sage, two of mutton tallow, two of rosin, two of beeswax. Boil the sage half an hour and strain it. Into this strong sage tea put the other ingredients; put over a moderate fire, and stir till all is dissolved. While hot add a little old rum.

Liniment for sprains and bruises.—To the whites of two eggs, well beaten, add a wineglass of vinegar, another of spirits of turpentine, another of alcohol, in this order, beating all the time.

Liniment for weak back.—Half a pint of beef gall, with half a pint of alcohol. Shake together, and apply with much friction before retiring.

For a thorn or splinter.—Make a plaster by mixing equal parts of pitch and tallow; spread upon leather, and apply. The flesh soon becomes soft,

and the substance can be removed with little or no pain.

To remove fetid smells from sores. — Equal quantities of powdered logwood and suet applied as a plaster.

For a carbuncle. — Oatmeal and hop yeast, to be followed by a slippery-elm poultice.

To treat a boil. — While the inflammation is high, and before the boil approaches suppuration, keep it covered with a towel wrung out of cold water, and covered with a flannel wrapping. Then apply a poultice or plaster made of honey and the white of an egg, stiffened to a paste with flour. Continue this till it ceases to discharge.

Equal parts of brown sugar and rosin soap make a plaster that is very drawing.

DISINFECTING FLUIDS AND HOW TO USE THEM.

In the early part of the summer, buy five pounds of the chloride of lime, and put it into a tub containing four common-sized pails of soft water, — rain-water is best. Stir for five minutes, and then allow it to settle; when clear draw off into some tight vessel or into bottles. In case of sickness, and especially infectious diseases, make free use of this fluid upon all vessels, and place shallow dishes filled with it under the bed and in the corners of the

room. If there is a bad-smelling drain, or place where a drain discharges, or a spot where slops have been thrown, that has an offensive smell, mix a quart with a pail of water and pour it upon the offensive grounds. Every few days pour such a pail into the privy. In case of cholera, the addition of a quart of sulphuric acid will make the fluid much more effectual as a disinfectant; but this must not come in contact with clothing. Meat dipped in the fluid solution of chloride of lime will keep for many days. Foul clothes may be dipped in it and then into fresh water. Sprinkle a little of it upon the bed-clothing of a sick-chamber, and make frequent use of it around the premises while the warm weather continues. A little added to whitewash makes it more useful for sweetening as well as whitening the walls of a room.

A powerful disinfecting liquid is made by taking two ounces of sugar of lead and two ounces of nitric acid, — the old name of which was *aqua fortis*, — put them in a glass bottle, fill with water and shake. A spoonful of this fluid will quench or absorb the offensive gases of a drain, a privy, or an infected vessel. Largely diluted with water, it may be used in the same way as the solution of chloride of lime.

A very good disinfecting fluid is made by dis-

solving half a pound of copperas in a gallon of water.

HOW TO ACT IN CASE OF SUDDEN AND SEVERE BURNING.

The falling of a lighted match upon a muslin dress, the bursting of a lamp, or sudden contact with a gas-burner, and many other similar casualties, are likely to occur in every family, and it is important at such times to have presence of mind, and also to know the best thing to be done. When the dress of a lady or a child is seen to be on fire, snatch a woollen cloth or garment of any kind, a shawl, an overcoat, a woollen table-cloth, a piano cover, a blanket from the bed, the hearth-rug, the crumb-cloth, or even heavy woollen curtains that may be hanging by the window,—anything that can be seized instantaneously,—envelop the sufferer at once and lay her upon the floor. If the fire is not immediately extinguished, throw on water. Make ready a bed as soon as possible, and from the pantry or from the nearest grocery obtain a quantity of flour,—a pailful may be necessary. If the burning has been quite extensive, so that the suffering is very great, the clothing should be removed very carefully, and wholly removed. Sprinkle a quart or two of flour upon the under sheet, and lay the pa-

tient very gently upon it, then with the fingers or with a sieve sprinkle the flour freely upon every part that gives pain. Unless the burning or scalding has been very deep, this coating of flour will assuage and often entirely remove the distress. Let the patient be kept as quiet as possible. Give neither opium nor chloroform unless a doctor is present.

FROST BITES

May occur to the nose and ears more particularly without the sufferers being aware of the fact. The first visible effect witnessed, is, the parts become of a dull red color, if the cold continues they gradually assume a tallow paleness, perfectly insensible and diminished in bulk. The first remedy to be employed is to rub the parts well with snow, for which after a while cold water may be substituted, in a cold room where the patient must be confined for some time.

Should any ulceration result from these causes, an ointment composed of the following is a good application :

Oil of turpentine, 1 oz.

Basilicon ointment, 3 oz.

Spread on a cloth and apply.

DROWNING.

Remove from the mouth and nostrils all obstructions to the free passage of air to the lungs; loosening the clothing about the chest.

Extend the arms in the direction of the body above the head, bringing them as near together as possible. When the capacity of the chest is thus enlarged, throw fresh air into the lungs by the best available means, by a flexible tube passed into the "wind-pipe," or by blowing into the mouth, pressing gently at the same time on the projection called Adam's apple, then replace the arms, at the same time pressing firmly on the sides and chest, repeat these motions 14 times a minute. While extending the arms let an assistant pass a strong solution of ammonia close under the nose, keeping the lips closed.

While acting thus upon the lungs let assistants remove the clothing, wipe the body by vigorous friction of the skin with dry hot cloths, and endeavor to restore warmth and vitality or place bottles of hot water around the patient, but religiously avoid the warm bath. If the weather be cold the patient should be carried on a board to the nearest house.

CONVULSIONS IN CHILDREN.

Immediately place the child in a warm bath up to the hips, and apply cold water to the head. The child's head should be raised, and the water poured on it in a gentle continuous stream, out of a jug, from a small height. If the child is teething, examine the mouth, and if the gums are swollen and inflamed, they should be lanced immediately.

If food has been taken but a short time before the spasm, give an emetic, and then a purgative enema of a teaspoonful of spirits of turpentine in half a tumbler of warm gruel. The latter application may be used in all cases, from whatever cause the convulsions may arise.

CHAPTER XXII.

DOMESTIC ARCHITECTURE AND ORNAMENTATION.

WHILE the technical details of the house-builder's art are quite remote from woman's province, it intimately concerns her interest and convenience to have correct and well defined views as to the best arrangement of the living-rooms of a house. If she has just and clear conceptions on the subject, it will be likely to occur several times in the course of her life that she will have opportunities of realizing them. Such is the migratory character of the American people, as well as the thrift of our population, that a house-keeper rarely occupies for any great number of years the same dwelling, and her changes are, in the majority of cases, for the better. When these moves occur, and especially when, in the course of an advancing fortune, she may anticipate the possession of a permanent family residence of her own, how nearly it concerns her interests, and those of her family, to know which rooms should enjoy the southern and eastern exposure, which should be devoted to daily household uses, and which to the entertainment of friends; how the kitchen, the pantry, the nursery, and drawing-room

may be mutually adjusted so as to secure for her the utmost facility of execution, and admit the greatest economy of time and labor.

It may be said, in general, that, in grouping the different rooms of a house-plan, the person mainly interested in the result should proceed from within outwardly, rather than the reverse, which is the natural method of the carpenter. For instance, the house-keeper who is so fortunate as to have it in her power to prescribe the internal arrangement of a house, should begin with her sitting-room and kitchen, as these are practically the nucleus of a dwelling. Let her determine in her own mind of what size she would like to have her kitchen; where she would have her windows; where the fireplace or flue for stove-pipe; where the pump (if this is practicable) and sink; on which side she would like her pantry and her closet. Around this let her arrange those rooms which she would have opening into it, as bedroom, sitting-room, wood-house, and the doors leading to the chambers and the cellar.

From these rooms of absolute necessity she may proceed to the parlor, dining-room, library, and drawing-room, according to the degree of elegance in which she proposes to live. It will be the business of the architect to cover in these various apartments, securing for them proper lights and

architectural effects; and it will be found in this, as in many other instances, that the law of utility coincides with the law of beauty; for, other things being equal, that dwelling-house will look the handsomest which is most skilfully adapted to the convenience of the family which occupies it.

The first thing to be considered in a plan for a kitchen is the saving of steps. Three times every day, and three hundred and sixty-five days each year, a house-keeper has meals to prepare, to arrange upon a table, and to clear away. Suppose, now, that in a well-arranged room, three hundred steps will, on an average, suffice to carry one through the routine of a dinner. If, as often happens, she is compelled to take six hundred, nearly one-half of her fatigue and consumption of time will be the direct consequence of unskilful and ill-advised planning. Thus, in the course of the year, a cause apparently so slight as the awkward collocation of the stove, pantry, closet, and sink may work an enormous difference in the amount of leisure and strength she may have to bestow on something better than mere household drudgery. When the carpenter, the cabinet-maker, and the shoemaker, or the type-setter, whose skill consists in the rapid combination of materials, arrange their shops, they place their tools and their assortments of wood,

metal, and leather, so as to be used with the fewest possible movements ; the difference between a slow and a fast workman being not in the rate of movement so much as in the superior ability of one to make every motion tell on the rapid completion of the job in hand. Just so it is with the house-keeper. Her kitchen is her workshop. Water, fuel, the stove, the dishes, the raw materials of food, are the tools and the stock with which it is her business to concoct the family sustenance.

The absolute amount of movement unavoidable in the domestic routine is about the same in families of the average size ; but the rapidity and ease with which this is performed in different households vary enormously. In many a house the whole time from breakfast to dinner is regularly consumed in doing up the morning work. In others, where the family is no smaller, the same will be accomplished in three hours from the time of rising.

The time thus rescued from the demands of the kitchen may be so much more pleasantly and profitably employed in little arts of household adornments, in personal accomplishments, or in agreeable conversation, that the result of the two systems, as contrasted, is the wide interval which separates the home of refinement, order, and taste from the house where there is heard the perpetual clatter of dishes ;

where the table seems a fixture in the middle of the floor; and the cooking-stove never grows cold.

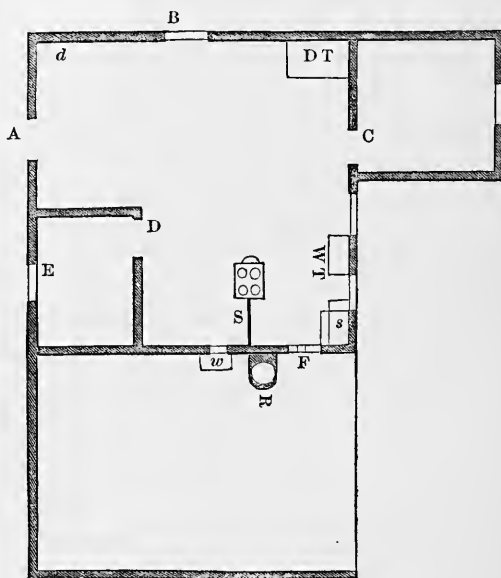
To effect a difference so great, is it not worth the while for every house-keeper to plan her work as well as the facilities by which it is done, in the best possible manner? For instance, to have her stove, fuel, and water in the closest juxtaposition that circumstances will allow; to set her table so that dishes can be placed upon it from the closet and the stove, removed to the sink, the cleansing accomplished, and they returned to the closet, with the fewest movements and in the shortest time.

The following house-plans, and details of the construction of kitchens and store-rooms, are all taken from buildings actually in existence; and they have in each case been found to be in a high degree convenient, and economical of both time and labor. They are given as examples of the thoughtful combination of all the essential requisites for the most perfect house-keeping.

Plan No. I. represents a kitchen and pantry, bedroom and wood-house, built as an L, or addition, to an old-fashioned, square, two-story house, constructed after the model in vogue fifty years ago.

B indicates a door leading into the old part of the house. C leads into a small bedroom, of which the window looks to the south. F leads into the

wood-house; D into the pantry. A opens into the yard, on the north side of the house. S is the cooking-stove, and s a sink, with pump and waste-pipe leading from it. W T is the work-table, between the two south windows, upon which there are shelves



PLAN No. I.

for flowers. D T is the dining-table, and *d* the desk where the farmer or mechanic keeps his papers and accounts. *w* is a small door, or opening, two feet in height and a foot wide, just back of the stove, and giving access to a wood-box, built of stout

plank, and situated in the wood-house. By this contrivance, the trouble of bringing wood in by the door, in the arms or a basket, is entirely obviated, and a great saving is thus very easily effected in labor, time, and the avoidance of all unnecessary litter around the stove.

When the morning chores are done, a few moments will suffice to split and toss into this box wood enough to last through the day; and the opening is so near the stove door that the fire may be fed by a single movement of the hand.

In winter, the superfluous warmth of the kitchen may pass into the bedroom; and in summer, the openings are such that a current of fresh air may be made to pass through the room, keeping the ventilation perfect, yet not crossing the bed.

It will be seen that the stove, fuel, water, pantry, and work-table are all at the same end of the kitchen, and within a few steps of each other. Let us now note the practical advantages of this collocation, in the preparation and removal of the dishes of a meal, a work which recurs three times a day in most farm-houses. Let us suppose that the house-keeper steps from her bedroom into this kitchen at five o'clock of a summer morning. She lifts the little sliding door that opens into the wood-box, and finds wood and kindling ready at hand. In less than five

minutes the stove is beginning to grow hot, and in ten minutes the teakettle, which she filled by a few strokes of the pump-handle, is boiling. Within the next fifteen minutes she may have her table spread, the coffee made, her bread cut and laid upon the table, and the food warmed for breakfast. The pantry is so near the stove and table that all her supplies can be reached by the fewest steps; and when the meal is concluded, one movement takes the soiled dishes into the sink, and another transfers to the pantry whatever belongs there.

Suppose it is baking day. In winter, by opening the door, it will be warm enough to enable the house-keeper to mould her bread and make her pies and cakes in the pantry. This has a broad shelf running the entire length of the room, under the window E, which serves at once for shelf and table. Beneath it she keeps her barrels of flour, sugar, and meal, the casks of lard and molasses, and just above are all her spices arranged, as they should be, in a spice-box, or in separate vessels with close-fitting lids.

The shelf is broad enough to hold her moulding-board, and everything she needs can be reached by taking one or two steps to the right or the left. If she has a place for everything, and everything in its place, as every good house-keeper should, she will be able to put her hands at once upon the baking-

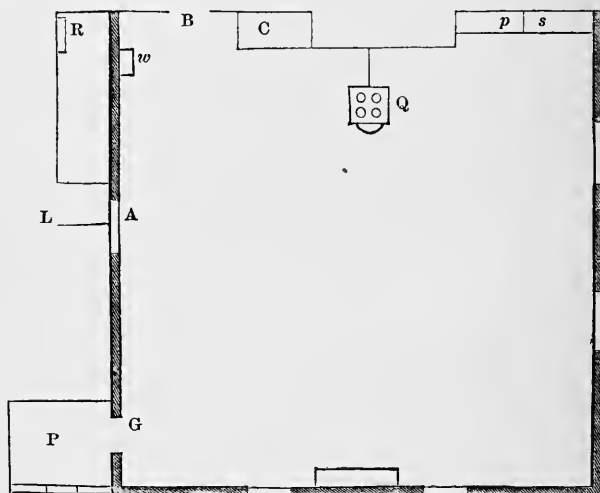
pans, the rolling-pin, the nutmeg-grater, the soda-box, without the loss of a moment in unnecessary and vexatious search. As soon as her pans are ready for the stove, the interval she has to pass in reaching the oven door is very short; and thus saving steps and time and annoyance, at every stage of the work, she may do a large baking in two hours, which, under circumstances less favorable, would consume half a day.

On washing-day the working-table can be removed, and the tubs or washing-machine set in its place by the window. The pump in the sink is set *a foot higher than in the ordinary arrangement*, and a piece of india-rubber or canvas tubing, several feet in length, is kept coiled on a nail in that corner, so that it can be attached, by an elastic band, to the spout of the pump, and water conveyed to the boiler on the stove, and to the machine or the tubs, without the toil of lifting heavy weights, and the annoyance of drenched floors. The work of washing is all confined to this corner of the room; so that, if desirable, baking and ironing can be carried on at the same time, and the operations not interfere with each other.

If that end of the room extending from the corner of the pantry to the window opposite is covered with oil-cloth, the rest of the room may be well car-

peted, without danger from soiling by the usual work of a kitchen.

R, in the wood-house, represents a piece of masonry, in which a large caldron is set. It is near the pump, so that the tube described will fill it by simply operating on the pump-handle. It is designed as a place where water may be heated for butchering, soap-boiling, and where other heavy jobs can be done.



PLAN NO. II.

Plan No. II. represents a kitchen awkwardly constructed, and very inconvenient, as the author knows from experience, having lived in it; and yet it con-

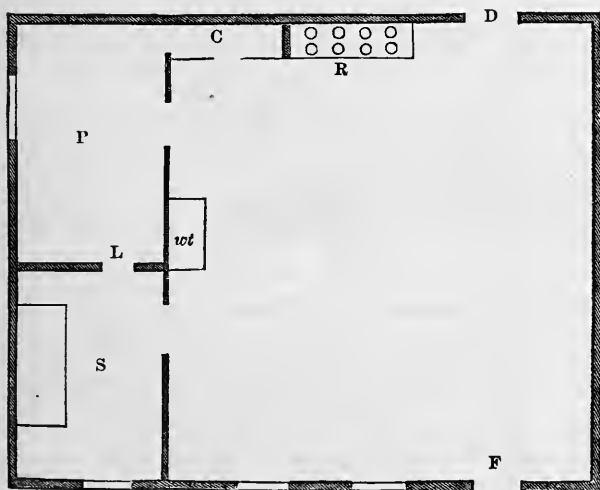
tains everything desirable in a kitchen, though badly arranged. *s* is a sink, with a pump and waste-pipe in it, and a closet under it for pots, spiders, etc. ; also a small closet, *p*, adjoining. *Q* is the stove, *C* the china-closet, *B* a door entering the sitting-room ; *A*, a door leading into the back hall, with stairs going to the second story, and under them a door, *R*, opening down cellar. *L* is the door leading out into the open air. *G* opens into *P*, the pantry, lighted by a window, and well fitted up with shelves and drawers. The stove is on the north side of the room, consequently the windows open on the east and south, making the room always cheerful and a delightful winter kitchen.

Pleasantly carpeted, and with pictures on the walls, to a stranger this little cosey kitchen seems just the thing ; but suppose, now, you have visitors, or a half-dozen children, to occupy the space while baking is going on, or while dinner is being prepared. If your dining-table is out in the floor, it is in the way every time you go from the pantry to the sink ; and there is no room for a person to sit in quiet, undisturbed and out of the way, but in the corner between the two windows. When a meal is prepared or cleared away, in this room, the house-keeper must continually pass from one end of the room to its opposite corner, from the sink to the

pantry, from the stove to the pantry, and back to the sink, thus taking three or four times as many steps as are really necessary. All this might have been obviated when the house was built, if the pantry and stairs had been made to change places. Let a door at *w* open into the pantry, and *G* be closed up, and how different would the room appear as a place for work! Pantry, china-closet, stove, and sink would then all be in one end of the room, and the other could be occupied pleasantly by the family, without interfering with the culinary operations, or being interfered with in the least.

Plan No. III. is another kitchen-plan where work may be easily and pleasantly done without taking unnecessary steps or having the room in disorder. *R* is the range; *P* a pantry, with a window in it, and a closet, *C*, opening from it by a glass door. Here, in winter, provisions that would be spoiled by frost may be kept, since it is kept warm by the range. *S* is a sink and pump-room opening from the kitchen, with a closet above and below the sink, one for tins, and the other for iron ware. *w t* is the work-table, which may be placed between the windows if desirable. *F* is a door leading into the wood-house, and *D* another opening into the sitting-room. This is an excellent plan in a family where only one fire is kept, and where it is desirable that

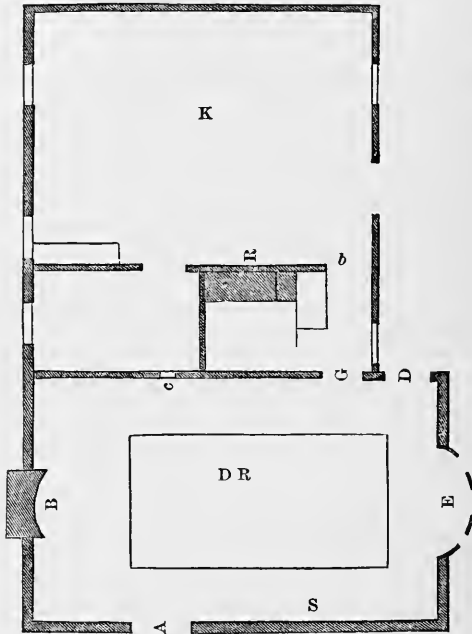
the clatter and disorder of dish-washing be removed to another room. It permits a good house-keeper to have her kitchen in first-rate order all the time. When the dishes are washed, they can be removed at once to the pantry, through the door L.



PLAN No. III.

The sink-room is provided with hooks or pegs, on which may be hung the rag-bag, the herb-bag, the patch-bag, and garments in daily use, which, if suspended on the kitchen walls, give it an untidy appearance. Here the tool-box may be kept, the children's playthings, their caps, and cloaks.

Plan No. IV. is taken from an elegant residence in one of our cities, and is an excellent arrangement for a family that has two or more servants, and en-



PLAN NO. IV.

tertains a good deal. A is a half glass door, the glass handsomely stained and with beautiful designs, leading from the hall into D R, the dining-room. At B is a grate; D is a door, half glass,

leading into the yard. E is a large bay-window. G is a door leading through a small sink-room into K, the kitchen. Here, in the sink, are two faucets, one for hot water from the range, R; the other for cold water. In this sink the dishes may be washed and returned to the table, or placed in the side-board, S. From this sink-room a door opens into a small warm closet, suitable for winter storage, lighted by a window over the door. *c* is a small opening from the kitchen closet or pantry, through which dishes may be passed to the dining-table. *b* is a small sliding panel, through which orders may be given to the cook, without permitting the odors or the noises of the kitchen to penetrate to the dining-room. In such an arrangement as the above, the cook and dining-room servant cannot possibly interfere with each other. In setting and clearing away the table, the dining-room servant need not enter the kitchen at all. The dishes containing food may be passed to and from the table through the opening *c*, so that the cook need never enter the dining-room. In this way the china, glasses, and silver, which belong in the china-closet and in the plate-safe, never go to the kitchen, but remain entirely in the charge of a trusty dining-room servant.

In deciding upon the site of a house, much depends upon the surface. When the building spot

is level, the principal question is as to the direction in which the house is to face, and which rooms shall be favored with the sunny-side exposure, and which shall be indulged with the fairest prospect that the landscape affords. When your situation admits of a choice of slopes, it will be found much more convenient to have the rear of the house on the fall of the slope. In the first place, you get a deep cellar, without a great amount of excavation, and there is afforded in the rear of the cellar a basement or half-basement, which will serve as a place where washing, and similar heavy household tasks, may be performed. This plan also gives the greatest facility for drainage, and facilitates the removal of all rubbish, leaves, and substances of that sort, from about the house. It also furnishes an easy entrance to all such stores as are kept in the cellar, besides affording to that important portion of a dwelling, and particularly of a farm-house, easy ventilation and a good access of light.

A serious inconvenience, in a large number of houses built twenty or thirty years ago, is the arrangement of the floor, some of the rooms being from four to twelve inches lower than others. Though apparently a small matter, it is a fault which causes a great amount of fatigue and annoyance,

beside the accidents and breakages of which they are the occasion.

Probably in no one circumstance is there so great a contrast of economical arrangement as in the facility with which a supply of water is obtained by different households.

The saving of time, strength, patience, life itself, by having an abundant and unfailing supply of water brought into the house, is incalculable. In the usual culinary operations of a family of average size, from six to ten pailfuls of water are consumed daily; on washing days twenty and twenty-five extra pailfuls are needed. Thus, in the course of a week, from seventy-five to one hundred pailfuls are required for family supply. Suppose the well to be outside the house, at the nearest practicable distance, and that the facilities for drawing are good. Two minutes will be consumed for each pailful. This labor, during the week, will consume about three hours, which, if continuous, would be of the most exhausting character. In a twelve-month it would be found that the water drawing had cost fifteen days of toil as severe as sawing wood, or spading the earth; all, or nearly all of which could be avoided by having a pump, a hydrant, or a tank, in a corner of the kitchen.

Another desirable end to be attained is the warm-

ing of a house at the least expense. As our native forests are being swept away before the axe of the stalwart pioneer, and manufacturing industry keeps up so vast a demand upon our coal mines, thus holding its price at a high figure, economy of fuel becomes a matter of ever-increasing importance.

Neither we nor our children may enjoy those heroic old fires of colonial and revolutionary times, when the butt-log of an aboriginal oak or maple was rolled into the huge fireplace, and mated with a fore-stick of corresponding size, the split wood piled above them, the whole ablaze till the ruddy glow burnished the heads of the quaint old fire-dogs, flamed athwart the kitchen dresser, transmuting its long row of polished tins into silver, and shot beams of hospitable light far into frozen wastes without.

The first and greatest of our practical philosophers invented stoves; and since Franklin's day what a multitude of curious cast-iron contrivances have we seen, the object of which is to make three little sticks of wood, or half a peck of coal, cook for a whole family, and at the same time warm them all!

Surely we seem to have reached the ultimatum in economizing fuel in cooking-stoves; but the problem of the house-keeper is often how to distribute the

warmth of one room through one, two, or three others.

In building a house, particularly in a northern climate, the rooms may easily be so placed as to admit of this. For instance, a bedroom may be made comfortable by the superfluous warmth of the kitchen.

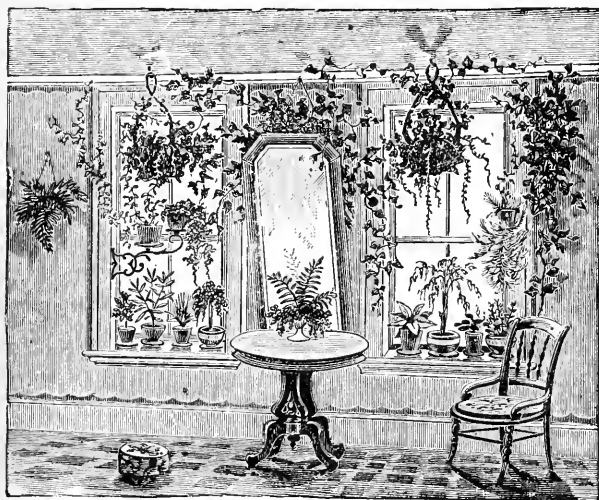
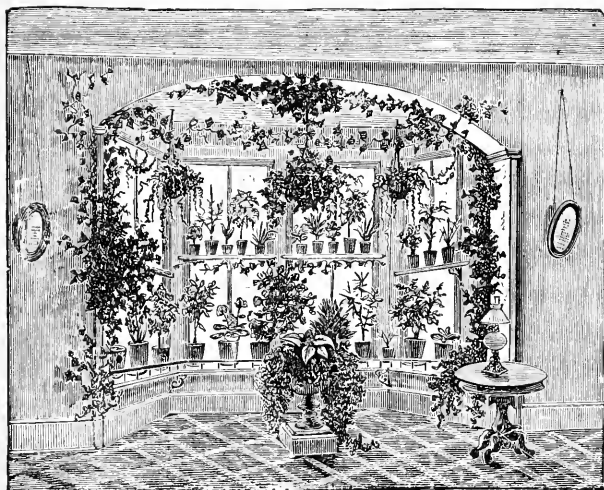
By means of a drum or register, or even a continuation of the stove-pipe through the floor into the chamber above, the apartment immediately over the kitchen or sitting-room may be kept quite comfortable without increasing the amount of fuel consumed. Except in sickness, it is not desirable to raise the temperature of a sleeping-room above 50° . The register or circular hole cut in the chamber floor over the kitchen has this advantage, that it may be used in summer as a ventilator by keeping the chamber windows open. The hot air and the odors will rise through the orifice, giving a cool, sweet atmosphere in the lower apartment.

In the old New England house, the almost universal plan was to group four rooms around either one large chimney in the middle, or around two that rose near each other, and not far from the centre. Almost the sole advantage of this style is a small saving in brick and mortar. The comfort, cheerfulness, and adaptation of a room to the va-

rious fireside operations of a home, depend very much on the relation of the windows to the chimney. The most delightful winter sitting-room we ever occupied was an L with an eastern, southern, and western exposure, the chimney between the two end windows that looked south. This permitted one to sit near the stove, and yet have a strong light from a window close by. The recesses thus afforded between the walls and the chimney made cosy and delightful places for reading and sewing, which, being but a step from the stove, were perfectly comfortable in the severest weather. One of these recesses was devoted to children, who could have their playthings there and enjoy them to the full, without disarranging the other parts of the room, or molesting the reader on the opposite side of the masonry.

This arrangement possesses all the advantages of a bay-window, without its expensiveness, and without that remoteness from the fire which makes a bay-window almost useless in cold weather, unless the whole room is kept at a very high temperature.

A very tasteful and sensible practice has become quite common in modern buildings, of discarding paint for the interior of houses, and finishing with native woods which have a handsome grain. The expensiveness of this plan is but little greater than



WINDOW GARDENING.

the usual way of using soft wood, as pine or bass, and covering it with thick coats of paint, and it has the advantage of being much more easily cleaned. Oak, chestnut, and hard-pine, are all used in this way, but chestnut most frequently. If a house-keeper can have no control of such matters, she may very often dictate what shall be the color of the paints applied to different rooms. For a kitchen, no color is more unsuitable than white. To look well, it needs renewing almost yearly, and should be wiped down, with a cloth dipped in strong soap-suds, as often as once in two weeks, and in summer every week. In this way, the paint is fast washed off, and soon looks dull. Hence, any room that is constantly used, is best painted a buff color, and grained in imitation of oak. This does not soil easily, and continues bright for many years.

If any rooms are painted white, it should be the parlor and halls, and then nothing is saved by the use of cheap materials. Let the wood be well covered in by three or four successive coats of oil and white lead, and the final coat Florence or zinc white mixed with varnish. This gives a beautiful glossy finish, snowy white, and not easily soiled.

A coat of paint like this can be washed without damaging, and remains good for ten or twelve years if carefully used. Very happy effects are produced

by a slight varying of the shade or tint of white used. This is done on parlors, and in handsome chambers. The panels of a door, for instance, may be of a very pale lilac, and the other parts white. In the same way the mouldings of a door, or window frame, may be of a pale, reddish blue, and the smooth surfaces white. When managed with taste and delicacy, this mode of varying the tints adds greatly to the beauty of the walls of a room.

Barns and small out-houses can be painted a buff or yellow color. This is cheaper than white, and preserves the wood equally well when put on with good oil. Out-houses, as for pigs and hens, can be erected at a very moderate expense. They may be covered with thin boards, thoroughly seasoned. These are sheathed with common sheathing-paper, well tacked on and covered with a cheap paint, for which the following is a recipe :

Four gallons of coal-oil or common tar, one gallon of Roman cement, three pounds of rosin, one of tallow. Melt together and apply warm with a broad brush.

But in the fitting up of a home the province of woman is rather to decorate than to invent ground plans. While her wishes and ideas with respect to the interior arrangements of her house ought at all

times to be consulted, her special and more appropriate labors may be said to begin where those of the joiner, the plasterer, and the painter end. The exterior expression of a house is almost wholly a matter of architectural effect; but the tone of family rooms, the interior expression of the apartments of a house which are in constant use, is given by the spirit and taste of the woman who presides over them, and who is the soul of that home. The effect that is produced by the arts of the decorative painter, the ornamental plasterer, and the upholsterer is almost wholly in proportion to the expense lavished in securing it; but results quite as happy may be attained by a moderate outlay, and often by a simple exercise of skill and taste in the arts of decoration. A geranium blooming in the window, a rosebud in a wineglass on the mantel-piece, a bouquet of dried flowers on the wall, a bracket in the corner, a coronal of pressed forest-leaves in a frame, will, at little or no expense, impart a tone of cheerfulness, comfort, and taste to a room, the furniture of which is inexpensive, its ceiling low, and its walls unadorned. The art of domestic decoration requires no antecedent study, and but a trifling outlay for materials. The time which it consumes is only a recreation from the less agreeable and more wearisome duties of the housewife. Let her collect dur-

ing her rambles various kinds of cones, acorns, and particularly all specimens that are perfect, and keep them in a little box by themselves. In another she may put away all bits of bright-colored ribbon, or fancy de-laines, to be used in ornamental work. Pieces of pasteboard will come in requisition, and odd bits of thin board. With these stores, and such as will inevitably accumulate in a family, she may from time to time place upon the walls of her room a variety of graceful ornaments, which strengthen the nameless spell which fascinates us in the word home. One of the prettiest and most effective ornaments, in completing the furniture of a room, is a handsomely finished bracket, to be fastened in a corner of the room, or in the space between two windows. Design No. I. represents the various parts of such a bracket, together with the vase which stands upon it, and which is to be filled with artificial flowers and grasses, or with any bouquet which does not require water. Figure 1 represents



FIGURE 1.

the top of the bracket upon which the vase is to stand. It is made of stiff pasteboard, and covered on the top with cloth of some kind ; black or brown cambric will answer very well for the purpose. Figure 2 is also a piece of stiff pasteboard,



FIG. 2.

covered with cambric like the first piece, to which it is strongly sewed ; the sides $g h$ and $d c$ fitting each other nicely. These form the top and back of the bracket. Figure 3 is the front piece. To make this,

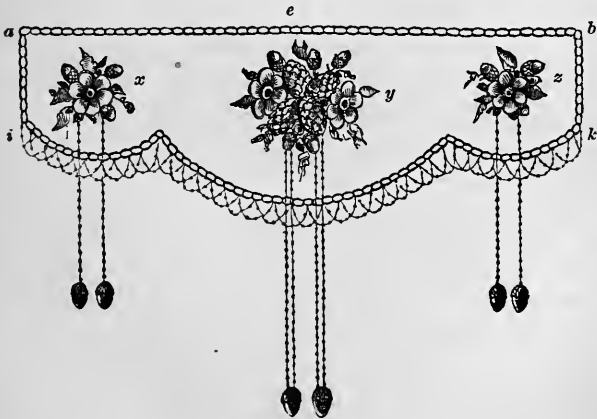


FIG. 3.

the materials required are pasteboard, some pretty broadcloth to cover it, cones and acorns for the ornamental work, and allspice for the fringe. Cut the patterns with exactness, first in paper, then in pasteboard. Let the length $a e b$ exactly correspond with $d f c$. After covering the pasteboard, sew all around the edge cone leaves, lapping them one over the other, so as to hide the stitches. Then sew on the cones and acorns, to form the bouquets $x y z$. Then string the allspice on a strong black linen thread, festooning as in the cut, and attach the acorns.

The front piece is now done, and must be sewed firmly on to the other two sides. $a e b$ will fit perfectly $d f c$, $g l$ will fit $a i$, and $h m$, $b k$. The bracket is now completed. This style is designed for the middle of a wall, or the space between two windows, or a window and a door. If it is desired to fit the bracket into a corner, then Fig. 5 must be used for the shape of the top piece or shelf. The front or curved edge of Fig. 5 projects into the room. If this shape is chosen, a thin board is preferable to pasteboard, and the front piece may be fastened to it by tacks.

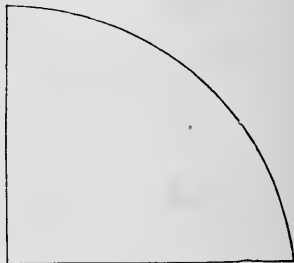


FIG. 5.

To make the vase, Fig. 4, the first thing to be considered is to have it proportioned to the size of the bracket. If the line *dc* is fifteen inches long, let the vase be from six to eight inches in height. Cut out a paper pattern, like Fig. 4, and from this cut four pasteboard shapes exactly like the pattern, sew them together, and fit in a square piece of pasteboard at the bottom. The vase is now ready to receive its covering, which is

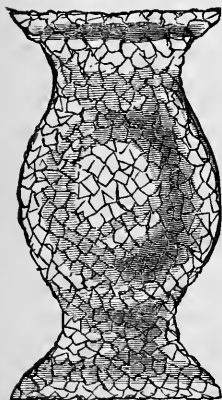


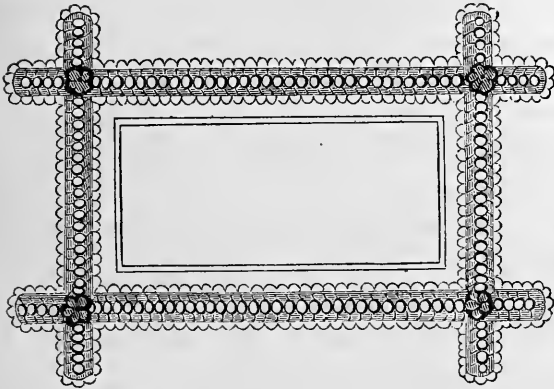
FIG. 4.

prepared in the following manner: Take a quantity of small white quartz pebbles. In some parts of the country, as in Arkansas and Missouri, agate pebbles can be obtained, and are far more beautiful for this purpose than quartz. With a strong hammer break these pebbles, and select from the mass fragments where the fracture is smooth and handsome. When you have obtained a sufficient quantity, melt in a tin dish, placed in hot water, an ounce or two of white glue, spread it thickly over one face of the pasteboard, and immediately before it has time to cool dash upon it a handful of the pebbles, and continue to do so until every part is covered. The effects produced by this purely acci-

dental arrangement of the stones are finer than could be obtained by the most careful setting. Proceed in the same way with the other three sides, and the vase will be done. Little interstices may be filled by touching them with the glue and throwing upon them small fragments of the crushed pebble. This vase, filled and placed on the bracket, gives a beautiful finish to the corner or side of a room. The size of this bracket must be proportioned to that of the room. In a parlor or sitting-room of the ordinary size, say fifteen feet by eighteen, let the line $d c$ be about fifteen inches long and the rest of the bracket in proportion to this length. Upon a bracket made in this way, for the corner of the room, a clock may be placed, or a statuette. In this decoration it would be seen that the only outlay of money required is for the allspice and glue. All the other materials need cost nothing but the trouble of collecting them.

If handsome pebbles are not to be had make a collection of small shells, wash them very clean, and mix so as to have a great variety of hues, but the same size.

Attach with glue, in the same manner as the stones. In some cases, where the colors are in strong contrast, a sort of rude Mosaic may thus be produced.



DESIGN NO. II.

Design No. II. represents a picture-frame made of cone leaves and acorns. It is very simple in its construction, and can be made by almost any one. For a small-sized frame, cut out two strips of pasteboard fourteen inches long by two wide, and two other strips nine inches long and two inches wide. Have a large number of cone-leaves, and select those of the same size and shape, and sew on all around the edge of the pasteboard, taking care that the line of projection be the same in each. Then put on the second row, all around, lapping the leaves over the first row so as to cover the stitches. Then along the middle of the board sew on the acorns, and they will cover the stitches of the second row. Finish these four strips in the same way,

and then fasten the pieces together, allowing the ends to project as in the figure. Where the strips join each other sew on cones and acorns. Then have a wooden frame, made of thin strips of board, a little smaller than the pasteboard strips, and on this frame nail with small-headed tacks the cone frame. Of course the cone leaves will not be sewed on to that part of the under strip which lies at the crossing. The frame is now ready to be varnished. When that is done it is ready for the glass and picture.

A very pretty frame, resembling fine carved work, may be made from butternuts. The only implements necessary will be a vice to hold the nuts firmly and a very small panel saw. Having procured a quantity of the nuts, place them one by one in the vice and saw them off about an eighth of an inch in thickness. Then, on a frame of stained pine of the size and shape required, fasten these pieces with glue, and in the corners of the frame glue cones and acorns. There is room for the display of a just taste in selecting proper pictures for these rustic designs. An engraving of severe classical beauty, such, for instance, as Dante and Beatrice, is out of place in rustic surroundings. Flower and fruit pieces, and pictures of country scenes, and objects look best in home-made frames.



DESIGN NO. III.

Design No. III. represents a card-receiver, and is made thus: Cut out two pieces of pasteboard, one the shape of $a d c e$, and the other $a b c e$. Cover the first with silk or satin of any tint you prefer. Sew around the edge $a d c$ a row of cone-leaves. The piece $a b c e$ may be covered with satin, like the other, and the ornaments $t v$ put on to it with an edge of cone-leaves all around it, or it may be covered with solid cone-work. Fasten the two sides together, sew on the ornaments at a and c . The pendent acorns are attached by strings of all-

spice, and the festoons from *a* and *c* to *d* are made of the same material. Sew on a handsome loop firmly at *d* and the cornucopia is complete.



DESIGN NO. IV.

Design No. IV. represents a very pretty parlor ornament, and is easily made. The cross is of black walnut, or some other dark wood, fastened on to a sheet of white Bristol-board. Let the pieces

be about the thickness of veneering, and glued together neatly before being placed on the board. At the foot of the cross, delicate mosses are fastened with thread or gum-arabic. The flowers may be found in our pastures, and are commonly known as "Live-forever," or "Poverty-weed." They can be colored red, pink, yellow, and Irish moss and delicate grasses formed into a graceful wreath and fastened upon the cross. The whole, when finished, should be set in a deep frame and covered with a glass, swelling in the middle, like the crystal of a watch.

A pretty match-piece for this may be made by weaving a delicate half-basket of straw, filling it with flowers and mosses, and fastening it on cardboard. This is to be framed in the same manner as Design No. IV., and is represented in Design No. V.

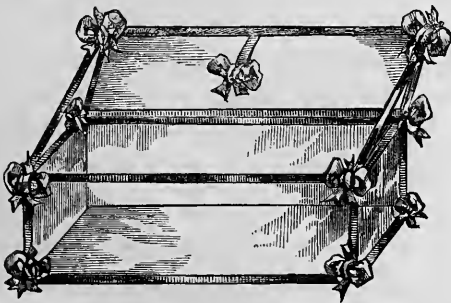


DESIGN NO. V.

Very ornamental and tasteful boxes may be made for the toilet in many ways. Some of the prettiest styles, though a little old-fashioned, are made of ground-glass. Any glazier or carpenter can cut the glass for you, and the rest is easily done. Procure the following pieces: Four of an oblong form, precisely the same in length and breadth, — these will form the top and bottom, back and front; and two others equal in depth to the back and front, and in breadth to the top and bottom, for the ends. To insure accuracy, it will be best to cut and fit the patterns in pasteboard, and have the glass cut precisely like the patterns. The next step is to bind the edges of each of the pieces with narrow ribbon. This is easily done. Begin at one corner of the glass, and carry the ribbon round the edge of the glass until it is brought to the corner where you commenced, and sew the two ends neatly and firmly together. Then press the ribbon down on each side of the glass, and plait it at each of the corners. The plaits must be fastened by several stitches, and when they are all fastened, the ribbon will be so stretched on both sides as to lie close to the surface of the glass, which will thus be completely and securely bound. Silk of the same color as the ribbon should be used in sewing the corners, and the ribbon should be kept tight and stitched securely at the

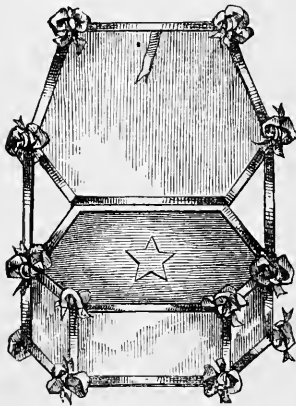
plaits, or the box will not be firm enough to retain its shape.

When all the pieces are bound, they may be firmly stitched together at the corners, upon which little bows of ribbon should be placed to conceal the stitches. The box must then be mounted on small knobs. These may be large beads or buttons, fastened to the binding of the four corners, at the bottom. The cover, after being bound, should be stitched at the corners to those of the back; thus having hinges of sewing-silk. To lift the cover, a bit of ribbon, terminating in a bow, must be tacked to the centre of the front binding, and the cover may be prevented from falling back by two pieces of ribbon, of equal length, being tacked to the corners of the front and the front corners of the lid. Such a box is represented in Design No. VI.



DESIGN NO. VI.

In like manner, a great variety of boxes of different shape may be made and ornamented with beads, bugles, or shells; the trimmings, in all cases, being fastened to the ribbon-binding. Looking-glass may be employed, instead of ground-glass, for the sides, front, and cover of the box, and the edges ornamented with strips of figured gold paper.



DESIGN NO. VII.

Design No. VII. is a mirror and pincushion-box, of six sides, and is intended to stand open. The box is filled to the top with wool or hair, and covered with silk. In the centre is a star. The cover is made of looking-glass, and lined on the top with silk, the same in color as the binding.

Brackets of various sizes and shapes are now very fashionable and useful ornaments in parlors and sitting-rooms. They may be of domestic manufacture. The designs we give were furnished us by a lady who invented and made them with her own hands; and she was, with reason, far prouder of them than if they had been purchased at a furniture store. To make these, procure a pine board, or

one of black walnut, of the width you wish your bracket. Pine is preferred, as it is easily worked, and, when stained and varnished, looks almost as well as black walnut, or mahogany. Cedar splinters too readily, and cigar-boxes are not thick enough but for brackets of very small size. Of tools, you will need a key-hole saw, a bit of the same size as the holes you wish to bore, and a sharp jack-knife. Having procured these, take a piece of stiff paper, and mark out your pattern, and cut it out just as you wish it to look in the wood. Then lay your paper pattern down on the wood, and mark it out with a pencil. With the bit, the knife, and the saw, you will then remove all the wood that is to be taken away, and scrape the edges smooth with a piece of glass. From any painter or carpenter you can procure materials to stain it the color you wish, after you have fastened the pieces together with glue, or small headless tacks, — perhaps with both.

Most ladies, unless they have a husband or brother who is a joiner, will find it advisable to have the boards dressed and fitted by a workman. The beginner will be likely to bruise or cut away the edges and corners. This must be carefully avoided, as good effect can be produced only by sharpness and perfection of outline. In boring the holes, be care-

ful not to press upon the bit when the point is through. All the tools must be sharp and free of rust, so as to bore a hole that is perfectly smooth and clearly defined.

DESIGN NO. VIII.

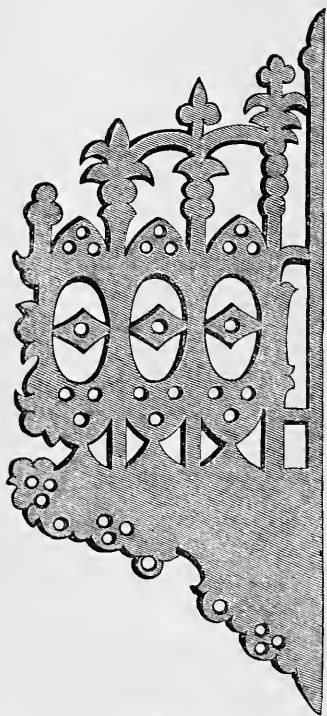


Fig. 2.

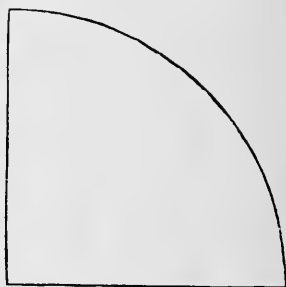


Fig. 1.

Design No. VIII., Fig. 2, represents one side of a large, hand-some, corner bracket, two feet in length, from the extreme top to the bottom, and one foot in width. The two sides are made just alike and fastened together with glue and headless tacks, or brads, and the shelf, Fig. 1, is glued in.

DESIGN NO. IX.

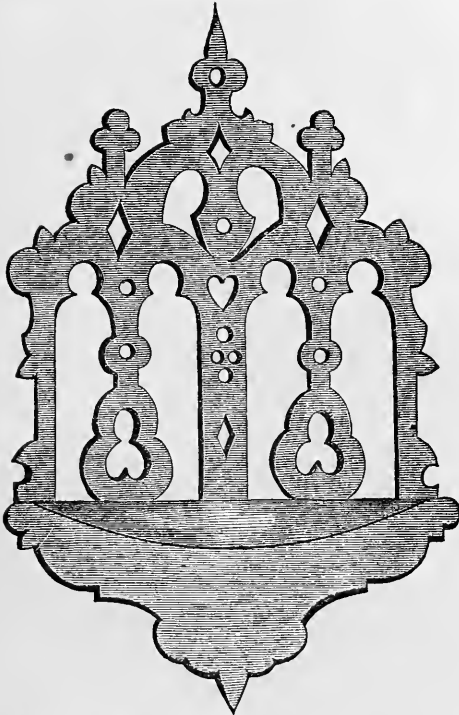


Fig. 1.



Fig. 2.

Design No. IX., Fig. 1, is a small bracket for the side of a room, a foot long, and proportionately wide. We give it as an excellent pattern for beginners. The figure is so simple that little skill

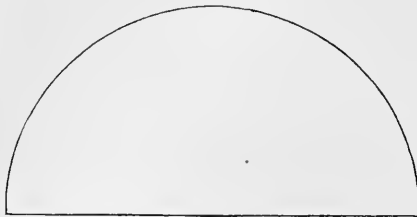


Fig. 3.

is required to follow it. Get a smooth, white-pine board, free from knots, and pitily in its grain.

Cut the figure in pasteboard, first, and then mark it by the pasteboard on the wood. See that the bracket, the support, and the shelf, fit perfectly before commencing to carve. Fig. 2 is the support for the shelf, and Fig. 3 the shelf.

DIRECTIONS FOR MAKING PHANTOM BOUQUETS.

There is no more beautiful ornament for a parlor table than a bouquet of skeleton leaves, or phantom flowers; and, with the hope that some of our lady readers may be induced to try their skill and taste in producing one of these exquisite collections, we give directions as to their mode of procedure.

Procure a large open-mouthed jar or earthen basin, of a size sufficient to contain all the leaves you wish to skeletonize; place it in a warm place, in the open air, and fill it two-thirds full with rain-water. In June, gather the most perfect leaves you can find from the various poplar-trees, the silver aspen, tulip, and Lombardy poplar, the Norway

maple, the European sycamore, the elm, the *Deutzia scalra*, the magnolia, and witch-hazel. Place them in the jar, and cover with a newspaper or some weight, to keep all the leaves under the water. Leave them there to macerate, which will require several weeks.

In July, gather leaves from the willow, the English ash, the everlasting pea, the beech, hickory, and chestnut; the dwarf-pear, the rose, the sassafras, and althea; the white-fringe tree, the wistaria, bignonia, greenbrier, and wild yam; and, the last of July, the Dutchman's pipe. As the leaves of the beech, hickory, and chestnut, the oak, walnut, and birch contain tannin, they must be put in a jar by themselves to macerate, which, in some cases, will require several months. A few drops of muriatic acid put in the water in which they are placed will hasten the process of maceration.

At any time, the leaves of the camelia, japonica, the Cape jasmin, the laurestina, the caoutchouc, the holly, the box, the wild cherry, and the ivy may be gathered. The last named must be mature, and a year old, or the framework of the leaf will not endure the process of maceration, and become a mass of pulp. It will require months of soaking to remove the cellular tissue from many of these leaves, but the patience spent in waiting will be amply

repaid by the beauty of the leaves when perfectly skeletonized.

About six weeks after the first parcel of leaves have been put to macerate, remove the cover, and, with the hand or a wooden spoon, carefully raise the leaves, and place them in warm water; then rub them gently between the fingers, to remove the cellular tissue. With some, a brush will be needed to cleanse them perfectly; but in using a brush, a soft tooth-brush is best. Lay the leaf on a smooth, flat surface.

Some of the leaves will be found perfectly clear. These should be washed in clean water, and pressed in a soft towel till quite dry, and laid carefully away in a box, to await the bleaching process when all the other leaves are macerated.

Such as are found imperfectly skeletonized must be placed in soft water again, and left in a warm, sunny place till finished. If their stems are lost, they can be replaced easily when the bouquet is made up, by stiffening a piece of coarse spool-cotton with gum-arabic, and placing it, when wet, on the end of the leaf.

No bouquet is perfect that does not contain a spray of fern leaves. These must be gathered while the flowers are on the back of the leaves, and carefully

laid away in a book until you are ready for the bleaching process.

In the fall, you will gather seed-vessels. The ground-cherry family furnish some very pretty varieties. Two or three weeks will suffice for their preparation, when they may be washed by passing them rapidly to and fro in hot water. The wild hop will macerate in two weeks, and is very beautiful. Before bleaching, make an incision in one side, and remove the seed. This side may be placed in the bouquet so as not to show where it was pierced.

The blue nicandra is indispensable in a phantom bouquet, and may be used in their natural form or to represent buds.

The lobelia, the skull-cap, the wild cucumber, the poppy, the shell-flower, the mallows, the Jerusalem cherry, the hydrangea (dried flowers), the lily of the valley (dried flowers), may all lend their beauty to complete the perfect bouquet.

When your collection is made, the next process is that of bleaching the leaves, flowers, and seed-vessels. It requires the greatest care; for on the whiteness of all its parts the perfect beauty of the bouquet depends.

Take in the proportion of five ounces of strong chloride of lime to a quart of cold soft water; press out all the lumps, and let it stand an hour or two;

then remove any scum that may be floating on the top, and pour the liquid off from the lime, which has been precipitated to the bottom. Cork tightly, and keep in a cool place.

Then take two glass jars, one for leaves and the other for seed-vessels, and arrange the specimens with the stems downward; cover with clear soft water, and add two tablespoonfuls of the bleaching solution to every pint of water. Cover the jar tightly, and set in a warm place. In from six to twelve hours, some of the leaves will be seen to be entirely white, and they must be taken out carefully with the hand, and laid in clean warm water. If they remain too long in the jar, the lime will cause them to be very tender. Wash them several times in fresh water, dry them in the folds of a towel; and lay them away between the leaves of a book.

In bleaching ferns, great care must be taken to insure success. Take them from the book, and gently curl them round the sides of the jar, rather than place them with the stems downward, as the leaves will be very dry and brittle. The smaller leaflets will occupy the centre of the jar, which may then be filled with warm soft water, and the bleaching solution added in the same proportion as above stated. Cover the jar tightly, and set in a warm place for a day; then pour off the water gently, and

put in fresh, as before. Let them lie two days in this second water, and change again. In three or four days they will begin to turn white at the edges, and as soon as they are entirely white they should be removed from the water. If part of a spray bleaches before the rest, cut off the white part, and put the other back to finish. The two pieces can be afterwards joined together with gum-arabic. The water must be changed several times while bleaching a lot of ferns, and it will require one or two weeks.

The sprays, when perfectly white, must be removed gently from the jar, holding them by the stem, and thoroughly rinsed several times in water. Unless all the chlorine is removed from them, they will, after a while, turn yellow. When they are ready to be dried, let them lie on the top of the water, and pass under them a sheet of unsized white paper, upon which they may be lifted out of the water, and laid on a dry towel. If they are not in the proper shape, use the point of a pin in straightening them. When all the water is absorbed, lay them between two sheets of unsized white paper, and put them in a book. When all the ferns are in the book, place a heavy weight on it, so they will dry smoothly, and keep them in the book till they are wanted for the bouquet.

There is a preparation for bleaching ferns and flowers, as well as leaves, made by Tilton & Co., of Boston, which is very highly recommended, and said to be superior to chloride of lime, which is quite severe, and apt to destroy the delicate tissues while bleaching them. This preparation is to be used in the proportion of half a teacupful to a pint of water.

It now remains to arrange them into a bouquet. A glass case will be found indispensable to preserve them. If a frame is used, with a convex glass, the background must be of dark velvet, to bring out the delicate tissues. Arrange the leaves, ferns, and flowers as in the ordinary bouquet. If the stems have been broken off in the process of bleaching or maceration, they may be supplied by taking spool-cotton, and making it very stiff with gum-arabic, and sticking them to the leaf, taking care to have the stem proportioned to the size of the leaf. The point where the stems meet may be concealed by a large seed-vessel. The stramoniums are liable to turn yellow, and, though very beautiful when first made, are generally discarded.

If a shade is used with a stand, first form a cushion of black or very dark velvet, and glue it on to the stand. Fasten the stems securely, with thick mucilage, into a hole made in the centre of the

cushion, and let the leaves bend down over the cushion ; then prepare a few choice sprays of leaves, flowers, and ferns, and place them in the centre. Be careful to have the larger leaves and seed-vessels at or near the bottom, and those more delicate toward the top. If it is desired to have a tall bouquet, the leaves may be tied with spool-cotton around a whitewound bonnet-wire. Conceal the upper end of the wire with white wax, and let the lower end extend down through the centre of the cushion into the wood, so as to be entirely firm.

If desired, the leaves may be wreathed around a cross of black velvet or white alum crystals, and arranged with skill and taste so as to produce very happy effects.

Let there be a groove in the stand, and a piece of chenille outside the glass, to prevent any dust from marring the beautiful phantom within. It will endanger the glass to fasten it down, as the expansion and contraction of heat and cold will cause it to break.

CHAPTER XXIII.

WAYS OF MAKING PIN-MONEY.

THERE is no form of civilization that has so great an effect on the condition of woman as ours here in America. Our public schools are open alike to both sexes; so are the high schools, and some of our colleges. The education of the boy and girl proceeds by the same steps, and over nearly the same course, until maturity approaches, and then there is "a parting of the ways."

The young man masters a trade, and soon finds himself able to earn from two-and-a-half to four dollars a day. His sister, pressed by the same necessity, enters one of the few occupations that are open to her sex, and finds that her daily wages are often less than half the sum he receives. He can generally earn three dollars with his hammer, his saw, or his trowel, while she, laboring the same number of hours, with equal patience and steadiness, is thought to be doing well if she receives a dollar and a quarter or a dollar and a half. The question — why is this? — has no doubt occurred to tens of thousands of young women in our land, and been the theme of endless discussion in village

debates and in newspaper editorials. Nor is the investigation ended. The American mind, while intensely practical in action, is prone to abstraction and radicalism on all political questions. As a nation, we are now asking ourselves, — should the color of the skin be a ground for political distinctions? One easy and natural step leads us to the next query. Why ought difference in sex to be a ground for political distinctions? But this chapter is not a discussion on the rights of women. There is one franchise that never has been and will not be denied any human being in this country, and that is the right of selecting that form of industry which is best suited to his or her strength and taste, and which pays the best.

We do not regard the heading of our chapter as altogether felicitous. It refers to an important branch of the subject of female labor, and perhaps the one which will interest the greatest number of readers.

In pointing out various ways in which pin-money can be earned, we presuppose for the young woman a home, and domestic duties which engross a portion, but not all of her time. By early rising and executive movements, she may be able to command one, two, and many days five or seven hours, which

she would very gladly devote to some form of industry which would pay directly, and in money.

The most obvious mode is by the needle. But this avenue, because obvious, is always overcrowded. A woman must have either remarkable skill and taste, or she must devote a great deal of time, — hours snatched from sleep, from recreation, from her family, and moments pilfered from the meal-time, — in order to realize anything considerable. In sewing, one comes in competition with that great and ever-growing class, for whom that little fragile rod of steel, with its slender filament, is the sole bar against hunger, the only means of securing shelter, the one thread that holds them from despair, — from infamy. The hardest earned bread in America is bought with the proceeds of the needle, and the more persons, not in necessitous circumstances, that seek this way of earning a dollar, or a fraction of a dollar a day, by working-in their spare time, the lower become the wages of sewing-women, the dryer their little loaf, the smaller their cup, the harder their bed. Hence, charitable considerations should induce the woman who is seeking for some way of earning a few dollars each month for pin-money, to look away from the needle and the sewing-machine, if she have one. The family clothing, almost every article of it, may, as we have

shown in a previous chapter, be made up at home. But beyond that, let the wife and daughter, whose male protectors are industrious and thrifty, not look. If she takes pants and vests to make, shoes to bind, whips or palm-leaf hats to braid, suspenders to trim, she adds the effect of one more needle to reduce the price of that grade of labor; she jostles the weary steps of some sister-worker less fortunate than herself. She earns, it is true, a few yards of trimming, a bunch or two of artificial flowers, a dozen of buttons, another feather; but, in so doing, she has broken the crust on some humble table, she has condemned some widow to walk the flags of a great city in shoes that do not keep out the rain and the snow.

Thus much of negative suggestion. Now, let us turn from a region of despondency and gloom, from the weary clatter of the machine that is running from morn till bedtime on "custom work," from the bent figure and the aching eyes. Let us go out of doors. What, methinks I hear some fair one say, does the author of the *Philosophy of House-keeping* wish to see the daughters of America out in the field with rake and pitchfork, with spade and hoe, their white hands blistered with the plough-handles, and stained from pulling weeds? Not that, gentle indignant. Nothing rough or dirty, or

slavish, for our women. What then? Now let us look at the subject calmly; let us reconnoitre this comparatively new country.

In the first place, what makes America the easiest, freest, best country on earth for the poor of all races and conditions? Mainly this: because *land* is cheaper here than in any other country, not the home of barbarians; because it requires so little industry, so little tact, or thrift, or patience, to enable any man to put forty acres of free soil under his feet, and secure a perfect and indefeasible title to the same. Now, when the farmer, the laborer, the clerk, the mechanic, has a few acres for his homestead, — some have found “ten acres enough;” others want only three, — what can his wife or his daughter do to avail themselves of this fact, to make the most of this advantage, to derive the fullest results from this possession? Let us see.

Turn back, now, to the chapter on “Cows, Hens, and Bees,” and read the last half of it again. It requires no strength or hard labor to take care of chickens or of bees. The attention must be quite regular and constant, but it interferes very little with other pursuits; it keeps one for an hour or more every day in the open air. The demands of these animals must be studied. Poultry must have room, air, food suitable and sufficient in amount;

but this knowledge and these conditions are readily understood, and the question of profitableness is easily settled. It takes no more food to fatten a hundred pounds' weight of poultry than to fatten the same number of pounds in pork; and poultry is worth from a third to a half more by the pound than pork. This makes no account of the eggs, which are more than an equivalent for all that the hen eats. A recent European writer on poultry-breeding says that in every hen there are the ovules, or little germs, of all the eggs it is possible for her to lay in a lifetime; these the microscope reveals, and enables us to know that under favorable conditions every hen should be good for over five hundred eggs distributed over nine years, in the following proportion: First year after birth, 15 to 20; second, 100 to 120; third, 120 to 135; fourth, 100 to 115; fifth, 60 to 80; sixth, 50 to 60; seventh, 35 to 40; eighth, 15 to 20; ninth, 1 to 10. These are the possibilities in egg-producing. Of course actual experience falls short of these high figures, mainly because few hens are as perfectly taken care of as they should be.

The same is more emphatically true of bees. As a rule, we take less than half as much honey from the hive in this country as might easily be done, and the reason is that our men are too busy with

rougher labors, and our women too much engrossed with in-door work, to give the attention to the curious and exemplary little worker which she deserves, and which she generously repays. All the successful bee-keepers will warrant us in the statement that it is practicable to take twenty pounds from a hive, on an average, and that one hive will, in three or four years, multiply so as to give fifty. Thus, a thousand pounds a year might reward a faithful devotion to this branch of small farming.

Let any woman who has made a thousand or five hundred pounds of honey a year, say whether she knows of any way in which it is possible for her to make from a hundred to two hundred and fifty dollars with so much ease, comfort, and satisfaction.

In all regions where a considerable city is within a day's ride by railroad, and that description will soon apply to every section east of the Mississippi, fruit-growing opens a wide, fertile, and fragrant field for female industry. It requires little hard work. The vines are near the house, both for convenience of access and for the application of manures.

Fruit-trees and vines do not require heavy manuring; for they are not, like corn, wheat, cabbages, and tobacco, large consumers of the fertilizing salts.

The suds and dish-water of the kitchen, if properly

applied, together with rotten leaves and weeds, form the best dressing for the vines of the raspberry and blackberry.

So of the strawberry. It does not require a fertile soil nor high manuring. A square bed, ten steps across, will yield an abundance for one family, and the eighth of an acre, well cultivated, can be made to give an income of a hundred dollars each returning June. A little rake, a light hoe, a basket to carry leaves in, and a watering-pot, are all that one needs to keep a strawberry-bed, once established, in high condition; and no labor connected with it is harder than sweeping a parlor or ironing a muslin dress.

So, also, grape culture is admirably adapted to the taste and strength of women. Some heavy labor is at first required in spading up the soil and in laying drains; but the muscle of an Irishman can be subsidized at a dollar and a half a day. The brain to direct him is the important thing. As with the fruits above mentioned, the fertilizers that grapevines require are best supplied from the offal of the house, and from the decaying vegetable matter of the door-yard and garden. The pruning of the vines; the removal of worms and noxious insects; the training of the tendrils; the picking of the dark purple or the translucent clusters, and laying them

tenderly in pasteboard boxes ; tying them on poles, or carrying them to the wine-press, — can woman be engaged in occupation more graceful, more charming, and wholesome? in work that conduces more to purity of taste, cheerfulness of temper, or serenity of mind?

But, one is very properly reminded that it is not always summer; that the season when bees can work, and young chickens are hatched, when vines are pruned or trailed, and fruits gathered, is in no part of the country over eight months, and, in most States, not fully six. How shall the winter hours of our heroine be spent? for surely she must now abandon her flowery domain to the chilling winds and the searching frosts.

Her bees require only to be kept where it is dry and moderately warm. They will consume far less honey thus than when fully exposed to the cold. The winter care of poultry is given in detail in the chapter already alluded to.

Suppose all these matters duly attended to. Still, during the long winter evenings, abundant leisure remains. How shall she employ it at the best advantage?

As an introductory remark, and one that throws a general light on the subject, let it be remembered that the display of skill and taste in any department

is certain to be appreciated by some one, and somewhere to find a remuneration. In a preceding chapter a variety of household decorations are described, such as winter bouquets and wreaths, cone-work, pebble vases, brackets of various kinds, and the making of tasteful glass boxes. Let the young lady who wishes to realize a moderate income, — a few dollars of pin-money, — select some one of these modes or styles of decoration, and attain a high degree of skill and perfection in it.

Her own sitting-room will show the extent of her accomplishment in this line; and if her wishes become known, orders will be given her from those who have more of money than of patience and skill.

There is another avenue that, to a lady who has skill with her brush, is at present as agreeable, and perhaps as remunerative as any in-door pursuit. Fans, paper-knives, glove-boxes, toilet-boxes, writing-desks, and various other articles are made of some hard, white wood, as the holly, the gum, the box, or the pear-tree, and the surface polished smooth, without oil or varnish. In this state they can be obtained at comparatively low prices, and their value greatly enhanced by being embellished with pictures of flowers, birds, fishes, beetles, butterflies, and shells, done in fine water-colors. The class of those whose wealth enables them to gratify

their taste for such elegances is rapidly increasing, and all that a lady need to be assured of is her own skill and taste in such decorations. All she requires is proficiency in water-colors. She can then obtain these articles at wholesale price by purchasing quite a number at a time, and secure a market among affluent acquaintances, or by business relations with a fancy store. The room for the display of taste is boundless, and, if she wields the pencil with facility, a dollar, and often much more than that, can be earned in an industrious sitting of two hours.

The pressing and tasteful grouping of sea-mosses on successive pages of an album is one of the most refined and graceful arts in which a lady's time can be employed. Collections of this description, well prepared, often command good prices, and readily find purchasers. The same remark applies to collections of sea-shells and sea-washed pebbles, when fastened to frames or put into glass vases in such a way as to show variegated colors and highly polished surfaces.

In pursuits and enterprises such as have been rather hinted at than set forth, the fireside hours of winter may be made a source of profit as well as interest.

In this connection should be mentioned the high prices often commanded for elegant embroideries

and knitting and crochet work in fine woollen of rich colors. Shawls, cloaks, hoods, and afghans, wrought after tasteful patterns, may occupy the fingers while the eye is running down the pages of a book, or the mind engaged in pleasant conversation. Such occupation is not work, and, when directed by an eye well educated in the effects of colors, may produce articles of great beauty and value.

But when spring opens, and the lady sees now and then an adventurous bee taking notes of the situation, and flying away for the nectarine cups of the early flowers, let her derive wisdom from the lesson, and lay aside the glue, the pencil, and the crochet-needle.

Nature is inviting her abroad, and, in the outdoor occupations here recommended, will yield her generous returns, whether of money, of happiness, or of health.

CHAPTER XXIV.

TRAINING OF SERVANTS AND CHILDREN.

As the country increases in material prosperity, and at the same time in population, the distinctions that arise from wealth are becoming wider, and a greater number of families are raised above the necessity of laboring at household tasks, while a corresponding proportion, especially of females, are willing to engage as domestic servants for moderate wages and a pleasant home.

There is now the same prejudice which has existed from early times against the employment of servants among the most thrifty and energetic house-keepers. The feeling is that it is preferable to do one's own work rather than be annoyed by the carelessness, the wastefulness, the want of forethought on the part of an unskilled and irresponsible employee, or submit to the dictation and bear with the irritability of one who may be effective enough, but is unwilling to be regarded as a servant. In this way many a woman of the finest social talents and high executive ability has unnecessarily condemned herself to a life of confinement and household drudgery, when her circumstances, and the income of her hus-

band, would with proper management have enabled her to live in exemption from daily and wearisome toil.

In addition to the advantages of leisure, and the release from laborious drudgery, which a lady may enjoy by having a servant at her command, she has it in her power to do that servant the most essential and permanent good, by teaching her and training her in the most expeditious and perfect modes of accomplishing household tasks. To do this, the house-keeper must herself understand how work should be done, or she cannot correctly estimate the excellence or the defects of her servant. She will not know when to praise or when to blame. Very few servants are so well endowed by nature as to be able to conduct in the best manner the ordinary domestic routine of a family without special instruction; but even one of feeble capacity may be so trained to work, and habituated to the most effective modes of accomplishing her tasks, as to become valuable to her mistress, and capable of herself assuming the responsibility and dignity of house-keeper in her own right. To this every servant aspires as the goal of her highest hopes, and this most natural and laudable ambition on her part may be made by a judicious mistress the most potent means of her improvement and elevation in the so-

cial scale. Almost every servant is desirous to learn some new accomplishment, and, promised this as a reward, may be induced to overcome some bad habit or undertake some additional labor. In all relations between superiors and subordinates there must be prizes and rewards as well as penalties to make these relations happy and beneficial to both parties. The skilful mistress will so blend and adapt these to the disposition and merits of her servant as to produce the most desirable results.

For instance, a young servant ten or twelve years of age is introduced to your family, with perhaps almost the sole recommendation of willingness and a desire to please. She may be able to perform menial offices in the kitchen and about the house. These of course are wearisome and monotonous, and nothing will stimulate her more, if she be at all ambitious, than the promise that if she be faithful in these tasks she shall have higher duties assigned her. If, for example, she does up her kitchen work nicely, she shall be permitted to sweep and dust the sitting-room, and, when she has achieved that, she may, as a great privilege, be trusted with the cleaning and arranging of the parlor, all under direction and superintendence of the mistress. In this way an untrained servant may in a year or two be taught how to perform the ordinary work of a

family: the plain cooking, the washing and ironing, and the daily routine of household industry.

We are not writing for that comparatively small class in the community who, as a matter of course, have their domestic labors conducted by a corps of well-trained servants, to whom they give the wages that their skill can command. The suggestions in this chapter are addressed to that far more numerous class, who either consider themselves called upon to do their own work, or must depend upon the assistance of raw or young servants.

One of the first and most valuable lessons that the mistress can impress upon the mind of her servant is the extreme advantage it will be to herself to become familiar with every department of household labor. She may have a German or Irish girl who, accustomed to the routine of European families, may be an excellent laundress or chambermaid, but know nothing at all of cooking; who may be very effective in the kitchen, but awkward around the table. Let such a girl be instructed in the necessities of American life, requiring as they do familiar acquaintance with the round of domestic industry, and let her feel that she is advancing every month in essential capability and in skill. No feeling will make her more cheerful and earnest in her daily tasks than this consciousness of im-

provement. Here, as in other relations between the employer and the employee, the true interests of mistress and maid are inseparable. Every advantage which the girl enjoys, if judiciously managed, will make her services more grateful and invaluable. If she finds that the lady with whom she has her home takes real interest in her welfare and improvement, she will be lifted above the mere sordid consideration of earning her wages, and render with cheerfulness services which money cannot buy and which money cannot reward. Only thus can a house-keeper secure for herself that rare prize, "an invaluable servant."

The radical cause of the difficulty from which ten thousand housewives suffer, and of which they so loudly complain, is that they consider the pittance usually paid a servant as an ample return for their services. In one sense this is true. If a girl is unwilling to have charge of your kitchen at two dollars a week, and leaves for that reason, her place can readily be supplied. But in the great majority of cases a servant will not leave a kind and thoughtful mistress for a trifling pecuniary consideration. The girl should be made to feel that her moral well-being and her essential good, in every respect, are subjects of thought and care on the part of her employer. Here, as in all other relations between

man and man, the law of benevolence or love is efficacious in securing the most beneficial and lasting results.

No one obstacle in the way of assuring a genuine interest in the welfare of her servants will be found greater than the practice, which is far too prevalent, of making the faults, vices, and annoyances of servants the subject of gossiping complaint with her female acquaintances. The breath thus worse than wasted, if spent in kindly and judicious endeavors to correct the faults of which she complains, would have the double effect of making her a better mistress and the girl a better servant.

After reciting a long chapter of grievances of this sort to a friend, the lady feels that in self-justification she is bound to confirm her strictures by continuing to see all the failings she has enumerated; thus remaining unfit to commence the work of improvement; and the girl, soon finding all efforts to please in vain, either asks a dismissal or relapses into the attitude of mechanical and brainless servitude.

On the other hand, where a mistress sets herself earnestly at work to correct the errors and improve the understanding of a servant, she will feel far less disposition to expose those faults to others and increase tenfold the likelihood of removing them.

She comes to regard the girl more as she would a child, and such a feeling, she may be sure, will create reciprocal confidence, affection, and devotion on the part of the employee.

In training young servants, I have met with the greatest success by the use of household catechisms, where, in a series of questions and answers plainly written out in simple language, the requirements of a servant are stated, and the best manner of executing various household tasks is explicitly described.

For instance, in training a young dining-room servant, a list of all the articles commonly placed on a table, written in a clear, strong hand, in the order in which a table is set, and pasted on the inside of the china-closet door, will be committed to memory, and the house-keeper soon feels a certainty that everything required will be found on the table or on the sideboard.

When it is expected of a servant to rise in time to prepare a seasonable breakfast, I have found a series of questions and answers like the following of the most essential service:—

Q. What is the last thing to be seen to before going to bed?

A. That my wood, kindling, and shavings or paper are laid ready for the morning, and such dry fuel selected as will be sure to make a quick fire;

that the teakettle is filled, and the food to be cooked for breakfast is as much prepared as possible.

Q. What is the first thing to do in the morning?

A. Rise early, dress as quickly as possible, light the fire, and, while the stove is heating, wash my face and hands, and comb my hair.

Q. What next?

A. Get the coffee ready to make as soon as the teakettle boils, and commence the cooking, and at odd moments, as I can leave the stove, set the table.

A manual for washing and ironing may be written out as follows:—

Q. What is the first step in washing?

A. Have a good fire, and put on water in the boiler to heat.

Q. What then?

A. While the water is heating, sort over the clothes, putting the best articles by themselves, the second best in another pile, the calicoes, flannels, and stockings by themselves.

Q. What is your next step?

A. Get out the tubs, soap, and washboard, and, as soon as the water is hot enough, dip it into the tub, and wash out the best clothes first.

As a suggestion is all that is intended, these questions and answers need not be carried out. They

may be varied to reach every department of house-keeping, and to suit the routine of every family. The time and pains taken in writing them out, and teaching them, will be abundantly remunerated in the greatly increased facility and zest with which the girl will perform her tasks, and the fact of the rules being thus prescribed will make her far more careful and efficient.

She will have the added satisfaction of knowing exactly how her mistress is to be pleased by the manner in which the work is done, and she will recognize the justice of a correction when, by carelessness or neglect of some of the written rules, the work is badly done.

The time spent in doing over the ill-performed work of a young servant would be again and again saved by preparing such catechisms, and in the end a great amount of vexation spared both to the girl and her mistress.

Except in households where economy is not of necessity a study, the mistress of the house must work, either with her muscles in actual performance of the labor, or with her brains in regulating and superintending the unskilled labor of others; and there is for a vast number an election as to whether they will pass a considerable part of each day in bondage to the dish-pan, the broom, and the wash-

tub, or undertake the training, and bear with the inexperience of raw help.

A conscientious and benevolent woman will easily see, that by choosing the latter she may very much enlarge the boundaries of her usefulness by sending out from her doors, every few years, a skilful, faithful, and thorough house-keeper; able to command the highest wages if she remains in service, fitted to enter upon the true and appropriate sphere of woman as the mistress of her own household, the centre of her own home.

The suggestions here made with regard to the employment and discipline of servants proceed upon the supposition that every lady who consults these pages for practical aid in her duties has at least some knowledge of the best manner of doing all ordinary household work.

This knowledge she may have acquired after marriage only by a series of annoying mistakes and mortifying blunders on her part, resulting in discomfort and disappointment to her husband; or she may have gained it far more pleasantly, as well as thoroughly, from the instructions and example of a mother who took pride in seeing her daughters accomplished in every department of domestic economy. In either case, how natural will be her wish to see her own daughters, if she has them, enter

upon these duties fully prepared, — fitted to superintend in the best manner the labors of servants, or to put her own hands to the wheel and navigate the family ship in all waters.

Such are the mutations of fortune, in this country, that it is impossible to foresee the station in life that any young lady may be called upon to fill. Born in a cabin, she may live to preside in a palace ; and, on the other hand, nursed in affluence, she may be so overtaken by social disasters as to be compelled herself to discharge the duties she formerly exacted of servants. Vicissitudes, such as these, are illustrated in ten thousand families throughout the southern portion of our Union, who have been overwhelmed in the wide-spread desolations and radical changes of our great civil conflict.

At a very early age a girl may commence to learn how a family is kept in comfort and order, by waiting on her mother, and helping her in the routine of domestic duties. As she grows older, she may be held responsible for certain tasks, or for a special department in the house-keeping. As she reaches the years of womanhood, she may assume charge of the round of household duties in turn. For instance, during one week she may have entire control of the laundry department ; the next week be at the head of the cooking ; and the next be respon-

sible for the order and cleanliness of the entire house.

If there are more young ladies than one in a family, it is an excellent plan to have them alternate in these responsibilities.

There are three or four simple rules of universal application, whether to servants, children of both sexes, or the house-keeper herself, which, if strictly observed, will greatly facilitate all the labors of the household.

I. A TIME FOR EVERYTHING, AND EVERYTHING IN ITS TIME.

II. A PLACE FOR EVERYTHING, AND EVERYTHING IN ITS PLACE.

III. ONCE WELL DONE IS TWICE DONE.

IV. WHATEVER IS WORTH DOING AT ALL IS WORTH DOING WELL.

An adherence to these four maxims will create system and order in every family, and fix habits which are invaluable to either men or women, in every station in life.

Much has been and will continue to be written on the duty of training daughters to be good wives, while we hear nothing of the reciprocal and equally important duty of training boys to be good husbands.

Whatever accomplishments the wife may possess,

the success and happiness of the family, as such, depend, to a great degree, upon the domestic ideas and fireside habits of its head. If a boy has been raised where he saw the water lugged, the wood brought in, the cows milked, by the females of a house; if he has not been in the habit of putting away his own clothing, or of bearing a ready and apt hand to whatever tasks he sees going on within doors; however good his intentions, or however strong his affections, no matter how admirable his character as a man, he will make, in many respects, a poor husband.

A boy should, from the nursery, be required to have a place for his toys, his cap, and his clothing generally, and to keep them in it. If he is habituated to rendering assistance, according to his ability, in the setting of tables, bringing in of wood and water, and everything of like nature, he grows up a far more agreeable and useful inmate of any family, and capable of becoming, in time, an excellent and exemplary husband, fitted, by his domestic antecedents, if he cannot raise his wife above the necessity of daily household work, to materially lighten her tasks, prevent her from lapsing into a family drudge, and keep her industry always confined to woman's legitimate and appropriate sphere.

CHAPTER XXV.

HOW TO MAKE HOME HAPPY.

THE foundation for a happy home is a perfect marriage. The true basis of marriage is love; love which "hath its seat in reason, and is judicious," no less than warm and passionate; love which embraces the entire being of its object,—physical, intellectual, moral, and spiritual. On this foundation rests the perfect home. Built on any other, no matter what resources of wealth or culture may be expended, the soul will be wanting, and the structure, however adorned with whatever of costly and rare, will be as "sounding brass and tinkling cymbal." Having love as the foundation of the home edifice, the "fruits of the spirit" follow in their order,—"joy, peace, long-suffering, gentleness, goodness, faith, meekness, temperance,"—for Bible truth applies not alone to so-called spiritual things, but to all the underlying principles of social, domestic, and civil life.

Among the secondary requisites in the building of a happy home may be named industry, order, cleanliness, economy, and taste.

Labor and rest are inseparably associated in this

world, and evading the one we lose the other. There is no sauce for food like hunger; there is no provocative of hunger and sleep like labor. Riches have little to do with happiness at home, as many find to their sorrow, for only that which makes home happy in poverty, makes it happy in wealth. Yet the resources of happiness at home may be greatly enlarged by the culture wealth can bring when it does not relax the sinews of industry and purpose. Order and cleanliness are inseparably connected with our ideals of the perfect home. They are ministers of grace to the household, not tyrants imposing severe and impracticable laws. The best good of each member and of the whole is the law of the family life, and this can sometimes be most perfectly secured by infringing upon the stated order of the household and by wholesome laxity in respect to Pharisaical cleanliness. There are housekeepers with whom it is a pain to live, they are so rigidly scrupulous with respect to cleanliness, so terribly severe in their regularity and system. There are housekeepers with whom it is a pain to live, they are so negligent and untidy, so irregular and unsystematic. Happy are they so fortunate as to attain the golden mean!

Those families where the children are from early years accustomed to bear a part in the household

duties and to busy themselves daily with some useful occupation are far happier than those in which the children are required to do nothing. There are a great many ways in which childish fingers and childish skill may contribute to the adornments of home. Little girls and boys at an early age may be taught the arts of worsted embroidery, card-board work, tidy-making, and the like. Boys of ten and twelve may learn to manage a scroll saw and do beautiful work with it; to cultivate small fruits and flowers, and thus contribute to the common fund of enjoyment.

There is a great deal of what is called drudgery to be done in this world, and it is good for a child to learn to bear this yoke in his youth; but the yoke should be proportioned to his strength. While regular work may be allotted him in the nature of drudgery, he should also have what may with propriety be termed play-work. The wise parent may contrive that this play-work shall be tasks a little above the capacity of the child to perform; 'as, for instance, allowing a little girl, as a reward for doing plain sewing neatly, to try a bit of fancy work; or for washing dishes quickly and well, to make a loaf of cake. In this way boys and girls may be instructed at their own motion in almost all the arts of household industry. It is an excellent plan to make the

tasks of boys and girls to some extent interchangeable; to teach the boys how to cook, wash dishes, wash and iron; to have the girls split the wood, work in the garden, take care of the cow and horse. This mutual acquaintance with each other's duties makes both parties appreciative, forbearing, and patient with each other, both when they are young and when they are grown to maturity. If the wife knew just how worn and tired the husband is at the close of a day of toil, she would more readily forget her own fatigue in trying to soothe his. If the husband knew what it is to be all day over the ironing table or the cook-stove, with babies to care for and constant calls here and there interrupting the tasks in hand, he would be sympathetic and tender rather than fault-finding and morose. Perfect mutual understanding is the grand preservative of peace in every home.

Then again, in these days of mutation, enterprise, and progress, it is not possible to foresee what variety of accomplishment may be demanded by the exigencies of life. Many a delicately nurtured woman is called on to assume all the labor and responsibilities of both father and mother to her family. Many a man is thrown into circumstances where the knowledge of what are considered feminine tasks may prove his salvation. So far as may be, we would have the

sexes educated together, both in schools and families, so that each may be well fitted to supplement and aid the other in all the labors of life; so that each may bear the other's burden, and thus make life one long, happy day of mutual ministrations and mutual helpfulness.

It is not possible for too close an intimacy to exist between parents and children. From very early years children may be so taken into the counsels of their parents and feel themselves so identified with all the family interests, that they will be ready to sacrifice their personal desires for the family good, and that the good of the whole family shall be dearer to each than any mere personal gratification. The text of family life is given us by St. John: "Little children, love one another," but more specifically by St. Paul: "That the members should have the same care one for another. And whether one member suffer, all the members suffer with it, or one member be honored, all the members rejoice in it." This is a high ideal of family life, but is it an impossible one? It implies, in the first place, that the husband and wife are dearer than self to each other, that children are received with thanksgiving as the most precious gifts of God, and that they are loved, not blindly, but with due regard to their best temporal and eternal interests.

The questions connected with family government require of every parent serious and careful consideration. The enforcement of the fifth commandment and of the precepts of the New Testament with respect to the submission of children to their parents are essential to the happiness of home; yet this may be accomplished, and should be accomplished, in the spirit of love. The parent is to the child in the place of God, and the child is taught love to God and obedience to God first by being taught love and obedience to his parents. By the time a child is five years old its moral nature should be so developed by instruction in the Scriptures and parental training that no physical punishment for disobedience or misdemeanor should be necessary.

Children of all ages love recreation, and ample means of enjoyment should be provided to gratify this natural love. Play is as necessary as labor, as necessary as food for the harmonious development and sustenance of the physical and intellectual nature. Men and women who do nothing but work break down or grow wooden and lifeless; children who have no plays grow up dull and stolid. Far from repressing the spirit of fun-making and merriment in our families, we need to cultivate it as an antidote to the intense

practicalism and laboriousness of the generation now living.

The intelligent love and use of books is essential to the ideally happy home. As a safeguard against the allurements of vice, there is none more effectual than a love for the writings of noble and learned men. He who has this need never want for the best society. No mother who has carefully formed in her son a taste for wholesome, nutritious, skillfully-cooked and daintily-served food, fears that when away from her he will voluntarily eat that which is unhealthful and unclean. No mother who has carefully formed in her son a taste for pure, elevating, and noble literature, need fear that he will find pleasure in society that is debasing, either of men, women, or books. Knowledge is the food and clothing of the mind, and as we lay in stores of food and clothing for the body, so should we provide for the demands of that part of our nature which is not physical; to which the physical is but a minister.

A happy home comes not by accident or chance. It must be built with care and skill at every stage, and being built, it needs constant care and renewal to keep it in perfect condition. Whatever openings there may be in the future, in art, in politics, in the professions and trades, for woman, the time will never come

when it will not be her highest and holiest function to preside at the home circle, and to be the center from which all that is dearest to the heart of humanity radiates. "No office can compare in importance with that of training the child," and she who "undertakes so to mingle the earthly and celestial elements of instruction for that child's soul that he shall be fitted to discharge all duties below and to enjoy all blessings above"—herself needs preparation for the work. Therefore, in the training of boys and girls, direct and constant reference should be continually had to preparing them for becoming good husbands, good wives, good fathers, good mothers, so that each may in turn become the centers of ideal homes, and whether they marry or remain single, their presence in the domestic circle may bring sunshine and gladness.

CHAPTER XXVI.

TABLE SETTING AND SERVING.

THE dinner-table is the test of refinement in every family. Here skill, taste, and culture combine to produce the flower of domestic and social refinement. We have volumes of "Table Talk" by the learned, the literary, the wise ones, who are never so brilliant, so interesting, so overflowing with wit and wisdom, as when every sense is stimulated and gratified by the delights of the festive board. The culmination of physical, domestic, and social enjoyment is found in the daily reunions at the table.

The dining-room should be cheerful, cool in summer, with a bright carpet, walls of a warm, cheerful tint, hung with pictures, and with flowers in the windows. An oval table gives the finest effects when tastefully set, and it should be so adjusted that the folds of the table-cloth will be exactly parallel with the sides of the room. A table out of line is a great offense to all persons who have a correct eye for parallel lines. The cloth should be clean, white, and nicely ironed. For daily use, and to prevent stray crumbs and drops of tea and coffee from soiling the cloth, scarlet and white napkins may be laid under

each plate. These give a warm and bright appearance to the table, and by their use much laundry work may be saved. Whether the napery is coarse or fine, the tableware of silver and china or of delf, is of far less consequence than that both be scrupulously clean and arranged in set order. In most American families, the dinner consists of two courses: the first comprising meats and vegetables, the second, puddings or some other kind of dessert. In setting the table for such a dinner, the plates are usually put in one pile at the head of the table. At the place of each diner is a napkin, a glass, a small plate for butter, two knives and forks, and if soup is served, a spoon. The napkin, which should be unstarched, may have a roll laid upon it, but it is more usual to serve the bread upon one plate and pass it round. Queen Victoria set the fashion of putting the whole loaf on the table with a bread-knife beside it, and having each guest served according to his request. Between every third plate there should be a small saltcellar, and at opposite sides of the table, butter, pepper, and sauces. In the center of the table should stand a vase of flowers or fruit, and if there is room on the table, the dessert may be arranged around it. If there is not room, the dessert will set on the sideboard or a side table until it is served. Soup is always given out by the hostess,

fish by the host, unless there are two kinds, when he serves the boiled fish, and she the fried. At the top of the table is placed the roast, at the bottom the stew. When there is one principal dish, it is served by the host. If there are three, one is placed before him, the others opposite each other near the bottom of the table. Vegetables and other dishes occupy positions between the principal dishes.

When dessert is served, every dish holding food is removed from the table, except those containing bread and butter, and the crumbs are brushed from the cloth. Glass dishes for fruit should be used if possible. Puddings and pies are generally served by the hostess.

When coffee and tea are served, they are placed in a waiter at the end of the table occupied by the hostess, the coffee cups and saucers at her right, those for tea at her left. The slop-basin and milk-pitcher are at her right, the cream and sugar at her left. In front of her are the tea and coffee, in urns or pots, where they are not likely to burn the hands of those sitting near.

The very look of a well-set table is appetizing, and when, in addition to this, the food is skillfully prepared, the air of the dining-room is sweet, the walls are decorated with pictures, the chairs are comfortable, the

hostess is lovely, sweet-voiced, and hospitable, the most languid appetite is stimulated, and every sense is gratified.

In some of the best families in the South, breakfast and tea are always served without a cloth, on a handsomely-polished mahogany or black-walnut table. Under each plate is a napkin, fringed and worked in cross-stitch with scarlet cotton where the fringe ends. Mats of white crochet with scarlet edges receive the dishes and contrast handsomely with the dark brightness beneath them.

A great deal depends on the mistress of the house as to whether refinement and propriety shall give the law to the table, or grossness and vulgarity prevail at meal-time. If she is exact in the observance of table punctilio, if the most scrupulous cleanliness, order, and punctuality is insisted on by her in the preparation and serving of the meals, a law of politeness and style will be imposed on those who partake of the viands before them.

At a dinner-party, it is said that the number of persons should never be less than that of the Graces or more than that of the Muses. Brillat Savarin fixes the limit at twelve, and these "should be so selected that their *occupations shall be varied*, their tastes analogous, and with such points of contact that there shall be no necessity for the odious formality of pre-

sentations.” Invitations to dinner-parties are sent a week or ten days beforehand, and designate the day and hour on which the party is to take place. They should be answered immediately, so that the dinner-giver may be able to count upon her guests. Full evening costume is worn at dinner-parties, and the host and hostess are careful not to outshine their guests in the matter of dress. Etiquette requires strict punctuality to the dinner-hour. The guests are received in the drawing-room by the host and hostess, and address the latter first; introductions are made if any present are strangers to each other, but if this is not done there should be no hesitation on the part of any one guest about conversing with all the others as occasion offers.

When dinner is announced, the host gives his *right* arm to the chief lady guest and leads her to a place at the table on his right, the hostess takes the arm of the chief gentleman guest and gives him the place on her right, she being opposite her husband at the table. The rest follow according to age, and are so seated that each gentleman has a lady on either side.

At wedding and formal breakfasts, the bride and bridegroom lead the procession to the breakfast-table, and are followed by the rest, according to rank and age.

CHAPTER XXVII.

WASHING—IRONING—HOUSE-CLEANING.

THE weekly cleansing of the family linen brings the hardest day's work of the week to the house-keeper. Monday is the American wash-day, but in many respects there is no doubt that Tuesday would be a much better day, especially for those women who do their own work. On Monday the supply of food cooked on Saturday is well-nigh used up, and the house-mother must either stop her work long enough to prepare a comfortable breakfast and dinner, or set before herself and her family the scraps that may be left over from Sunday. The latter, as is well known, is the usual alternative adopted, for Monday dinners are proverbial. Yet there is no day in the week when the housekeeper needs to take more comfort in eating than on washing day.

Some ambitious women pride themselves on getting their clothes all out by "sun-up;" but long observation convinces us that this practice is unwise. To rise at three or four o'clock in the morning, when the electrical conditions of the air are most depressing, to work on an empty stomach three or four hours, or upon a full meal taken at that hour of the night, por-

duces far more fatigue and exhaustion than results from conducting the process after an early breakfast has been taken.

The facilities for washing, in the form of washing-machines, wringers, deterative soaps, and bleaching fluids, have robbed washing-day of many of its terrors. Not only so, they save their own cost many times over in preventing the wear of fabric that was inevitable under the old system of rubbing clothes on the wash-board, and thus make the labor of the seamstress indefinitely less; for clothes washed by the best machines are not worn out while passing through the cleansing process.

The ease with which the labors of washing-day may be performed depends largely upon the skill with which the campaign is planned. As white flannels require special treatment to keep them white, soft, and unshrunk, it is well to wash them first, and have them drying upon the line before any other of the clothes are wet. They should be put into strong boiling-hot suds, washed till clean, then passed quickly through the wringer, plunged into scalding water till thoroughly rinsed and scalded, then passed again through the wringer and hung at once upon the line to dry. If two tablespoonfuls or more of spirits of ammonia are added to the suds in which they are

washed, the cleansing will be quicker and more perfect, and if bluing is added to the water in which they are scalded, their whiteness will be preserved. Cleansed in this way, all-wool flannels will retain their whiteness and their texture until they are quite worn out. The soap used in washing flannels should not have a particle of rosin in it, as rosin hardens the fibres of wool.

The white clothes, if convenient, should be put to soak in warm water over-night, the nicer portion by themselves, and those coarser and dirtier by themselves. If the water they are put to soak in is hard, borax should be added to soften it, and a few drops of ammonia to dissolve the dirt in the clothes and make it come out easily. So soon as the flannels are on the line the fine white clothes should be washed and put over the fire to scald, then the coarser clothes; afterward, the colored clothes may be washed. It is a good plan to put to soak all clothes that will not fade or shrink, as this saves much time and labor in cleansing them. A great deal of the clearness and whiteness of linen and muslin depends upon the rinsing. The last water should be entirely clear, and free from all soapiness, as this will inevitably turn clothes yellow. We have found, too, that the dryer clothes are wrung when hung upon the line the clearer they are.

In warm weather, the white clothes, instead of being scalded, may be laid in the sun on the grass and bleached clean. Many families in the South use no hot water in washing from May to October, yet keep their linen snow-white by bleaching. We have tried this method for years together, both South and North, with unvarying success.

It is an excellent plan to have a drying-room for use in Winter and in stormy weather. More women take cold in Winter while hanging out clothes, than at any other one time. They leave the hot, steamy wash-tub, and often with sleeves rolled to the elbow, and only partially protected from the cold, go out to hang up clothes, and by this exposure lay the foundation of diseases,—coughs, rheumatisms, and the like,—that last them all their lives. Then, a drying-room makes it possible for washing to be done on a regular day without regard to the weather; and during Spring and Fall, when the winds are high, it saves great wear and tear to the clothes. When the clothes are dry, if the person who takes them from the line will put the starched clothes together, fold the sheets, towels, and such plain articles smoothly, instead of cramming them heterogeneously into the clothes-basket, the ironing will be made much easier.

It is customary with most housekeepers to starch

clothes when they come from the last rinse water. The starch is made by dissolving a half cupful, more or less, of starch in cold water, pouring boiling water on the mixture until it is of the proper consistency, boiling it for a minute, adding a little soap, or white wax, or butter, or gum arabic, or a lump of white sugar, to keep it from sticking. If shirt-bosoms are starched on the right side, they will not blister when ironing. A few hours before they are ironed, they should be dipped in thin cold starch, and rolled tightly. If they are to be polished, they should be ironed in the usual way, then laid on a piece of smooth board, with a single cover of old muslin over it, a moist cloth passed over them, and then rubbed with the polishing iron. This may be bought at almost any hardware store for a dollar, or less.

In ironing, much labor may be saved by the following process. Spread down on the ironing sheet the sheets, pillow-cases, towels, and all goods that can be folded smoothly, the largest at the bottom. Then begin and iron the top piece, fold it and lay it by, iron the next one, and so on. While ironing each piece, the one below is partially smoothed, and all below are, in effect, "mangled." At first, the depth of cloth is a little embarrassing, but it becomes less and less so, and those who are accustomed to this method of

smoothing clothes cannot be induced to try any other. There is scarcely any work more fatiguing than ironing, as it requires one to stand in the same position for hours together. A high, broad-seated chair may be used to great advantage by the ironer, and if a child can fetch and carry the flatirons to and from the stove, much weariness will be saved the housekeeper.

Twice a year, in Spring and Fall, the task of housecleaning claims attention. By skillful management on the part of the mistress of the house, very much of the confusion and disorder incident to this semi-annual labor may be avoided. There should always be one room kept free from invasion, where the family may rest in peace. "From the top down, from the front back," is the rule among good housekeepers. Begin first and put all the trunks, bureaus, and chests in the house in order. Then commence in the attic, clean and arrange that; in each room begin with the closets. Then take down the pictures, wipe them clean and lay them away, all ready to go up again. Move out the furniture, take up the carpet, sweep the floor. Then wipe down the walls with a broom wrapped in a soft cloth. Hard-finished walls may be washed; spots can be removed from them by rubbing with pumice stone. Clean the paint, tack the carpet down, wipe the furniture, or, if necessary, wash it in

soapsuds, wipe dry and rub with a cloth wet with kerosene. This evaporates very quickly, and the odor soon passes away. Ammonia-water cleans paint very nicely, or a soft cloth dipped in whiting will answer. Cold tea is the best thing for washing grained and varnished doors and casings. Bedsteads should be taken apart, washed in hot soapsuds, and their crevices filled with insect-powder, pulverized alum, salt, or washed with corrosive sublimate, or with salt and kerosene. A dirty bedstead is one of the native breeding-places of the bed insect, and though by accident this pest may get into one's house, it can stay there only when the housekeeper is careless as to its extermination. It is well to clean one room at a time, and put it all to rights, before beginning on another. When kalsomining and painting are to be done, the room should be first emptied, then cleaned, then kalsomined, then painted. If the walls are inclined to be damp, a solution of two-thirds of a pound of Castile soap to a gallon of water laid on as a wash, and next day followed by another wash of alum-water—two ounces dissolved in a gallon—will cure the inconvenience and prevent any recurrence of it.

Various recipes for cleansing, kalsomining, etc., will be found at the end of this volume.

CHAPTER XXIX.

MISCELLANEOUS.

THE wife and mother may properly be considered as the custodian of the happiness and physical well-being of her family. Ignorance of or inattention to the fundamental laws of life, health, and harmless pleasure, results in the positive discomfort and sometimes the serious illness of those dearest to her, and most dependent on her care.

Inattention, for example, to the prime necessity of furnishing to every person in the house an abundance of fresh air, at all times in the day and night, — in how many thousand instances has it been the means of undermining the constitutions of young children, and inflicting upon an entire household serious inconvenience and discomfort! The same may be said of indifference to the diet and clothing of children. So, also, with respect to beds and bedding. As by an imperative law of nature, one-third of an existence is passed in a state of unconsciousness or semi-consciousness, how important is it that everything which can conduce to our comfort and well-being, and make the hours of sleep answer

their original end, should be thoughtfully anticipated and carefully secured !

In a former chapter, the importance of ventilating all parts of a house, and especially the sleeping-rooms, has been fully discussed.

Much has been urged by a certain class of hygienical writers on the superior advantages of a hard bed.

It is said by those authors that half the ills that flesh is heir to may be averted by refusing meat, eating coarse bread, and sleeping on a straw pallet.

While strenuously advocating strict obedience to the laws of health, we beg leave to withhold our admiration from a system that so much resembles prison discipline.

In advocating the use of a comfortable bed, we are sure that health not less than mere enjoyment is as effectually secured as by a diet which is at once palatable and wholesome. Here, as elsewhere, the true philosophy of life consists in securing, conjointly with the highest degree of health, the largest amount of happiness, and the greatest number of pleasurable sensations. The happiest regulation of the table is that where conformity with sound rules of health is united with well-flavored cookery, and a tasteful arrangement of all the appointments and surroundings of a dining-room. So,

also, with respect to beds and sleeping apartments. An arrangement which secures compliance with the rules of hygiene, and at the same time restores the wearied frame, soothes the distracted nerves, repairing all the wastes of life, and knitting up "the ravelled sleeve of care," is not one of the luxuries which wealth only can furnish. Modest means, employed with judgment, taste, and skill, may secure these results as perfectly beneath the lowly cottage roof as under the shining cupola of the palace.

In primitive times, our grandmothers considered a bed comfortable when upon a network of cords was placed a straw tick, and upon that a thick feather bed, spread with coverings appropriate to the season. Upon a cold winter's night this arrangement was certainly not uncomfortable; but for any temperature above the freezing-point such a couch is decidedly objectionable. The difficulty with a corded bedstead is, that it will always settle more or less in the middle, and form a valley, or hollow, into which the sleeper rolls. Feathers are the softest, though not the most elastic, of any of the materials in common use for beds. The objection to their use is, that the person sinks into a downy and yielding mass which promotes and at the same time absorbs perspiration till it becomes

loaded with effete animal matter not easily removed. An indolent and languid habit of body is thus induced which counteracts to a great degree the refreshment sought in sleep. To such an extent have feathers been, of late years, discarded, that they cannot be said to be in general use, except for pillows and bolsters, for which purpose no pleasant substitute can be found. Yet such have been the resources of modern invention that our couches are fully as comfortable as they were a century ago, and far more healthful. The network of cords has been to a great extent abandoned, and springs substituted in its place.

Straw is still used ; but feathers have given place to mattresses filled with wool, hair, cotton, husks, palm-leaf, oak splits, and Spanish moss.

The order in which these materials are named is that of expensiveness and comfort, a good wool mattress being at once the most costly and the most desirable for all seasons. Hair ranks next to wool, and is the substance of which most first-class beds are composed. Husks, palm-leaf, and oak splits make beds which are about alike in softness, and all equally wholesome and durable. Probably there is no material which makes so economical and at the same time so comfortable a bed as husks, or shucks, as they are called in some parts of the coun-

try. They have also the advantage of being very easily obtained ; so that almost every house-keeper in the country can prepare and make her own beds, at a very small expense. The labor of children may be successfully employed in sorting and splitting the shucks, and removing all ends and fragments of the stalk that are found adhering. A mattress-needle may be purchased for twenty-five cents. The cost of ten yards of ticking is from three to five dollars, according to the quality ; so that, by labor that would otherwise be unproductive, or nearly so, and an expenditure of about four dollars, almost any house-keeper can readily produce a mattress comfortable, durable, new, fresh, and wholesome.

It must be admitted, however, that only wool and hair mattresses make an entirely comfortable bed without either springs beneath them or a softer substance above.

The ordinary spiral coils, which make the best springs, may be obtained at any upholstery establishment, at about seventy-five cents per dozen, and five dozen are sufficient for the longest bed. A person moderately skilled in the use of tools can bore the holes, and fasten them to the slats of an ordinary bedstead. With proper usage, they will last a lifetime.

Thus it may be seen that, by the exercise of a little skill and thrift, a family may, at a very trifling expense, be provided with beds in the last degree pleasant, refreshing, and healthful. In cold weather, a thin feather bed or a light cotton or wool mattress spread upon the shuck mattress, upon springs, will conduce to the warmth and agreeableness of the couch.

With regard to the bolster of a bed, it is as frequent, perhaps, to err on the side of fulness as in the opposite direction. The design of a bolster is to raise the head so as to be on a line with the spine, as it is when a person is standing. If the support of the head is so thick as to turn the head up, when lying on one's side, the effect is as painful as sleeping without a pillow or bolster. Men with broad and high shoulders require fuller bolstering under their heads than a lady or child. One large pillow will generally be found sufficient to secure the most comfortable attitude. A bolster of moderate thickness, and a pillow of the usual size, will secure the same result. If feathers cannot be obtained for the stuffing of bolsters and pillows, hair is found to be a very good substitute for one, and cotton or wool for the other. The soldier, fatigued by a long march, may find a knapsack, a pair of boots, or even a brickbat soft enough to secure for

him sound sleep; but in the ordinary walks of life the experience of the majority of mankind is, that, the conscience being clear, and other circumstances propitious, the softer the pillow the sweeter the sleep.

As to the covering of beds, vastly more depends on the quality than the quantity of the clothing used. The object to be attained is a sufficient degree of warmth with the least possible weight of bed-clothes. In cold weather it is difficult and often impossible to enjoy the most comfortable and the most refreshing sleep under a pile of common thin quilts; and if a great number are used, their weight will be oppressive.

A double rose-blanket, thick and warm, is the most perfect covering for a bed in cold weather. No other substance will compare with fine wool in the property of retaining warmth, and yet feeling light and agreeable.

If a double blanket is too expensive, a single one will be found less charming, indeed, but far better than to allow a quilt or comfort to come next the upper sheet. But if a lady is ambitious to fit up a nice bed, where the conditions of the most comfortable and refreshing sleep may be secured for regular members of her family, or for her guests, let

her not rest content with any arrangement short of a set of spiral springs under a good mattress, and a double rose blanket for covering.

As, however, the great majority of people sleep under what are known as "comforts," or two sheets of calico with a layer of cotton matting between, it may be well to remark, that one of these articles that is thick is better than two thin comforts or quilts.

The preference that so many house-keepers show for linen sheets, rather than cotton, is not supported by sound rules of health. In the chapter on materials of clothing, the advantages of cotton over linen are fully discussed. Sheets of fine bleached cotton, costing not more than half as much as linen, are more comfortable in cool weather, nearly as much so in warm, are washed and ironed with greater facility, and are wholly unobjectionable on grounds of health. Linen retains its whiteness longer than cotton, is somewhat more durable, and in the hottest weather is cool and soothing to the touch. But for pillow-slips, linen is decidedly, and at all times preferable, being whiter, pleasanter to the touch, smoother, and more lasting. The more perfectly free of absorbed animal matters all the articles of bed-clothing are kept, the more comfortable and luxurious, as well as wholesome, will be the couch.

This is especially true of blankets, which cannot be too frequently or thoroughly exposed to fresh air. Even those made of the finest wool, if constantly used without careful airing, will cease to afford that delicious warmth, and to be the luxurious covering that they are when new. When washed, they should be dried as rapidly as possible, and the nap raised by going over them with a fine and short-toothed wool-card. By this means, the newness of feeling may be retained in blankets and other woollens as long as they are worn, and their warmth greatly increased.

When sheets are perfectly dried and laid away from the ironing table, if sprigs of lavender, or some other pleasant perfume, as little perfume bags of powdered orris-root, are laid between their folds, the luxury of the bed will be very much increased. If they are commonly kept in a deep drawer, a few drops of the oil of lavender poured on the wood will penetrate the linen and perfume it sufficiently.

By such inexpensive and tasteful arts, the happiness and refinement of a home, and the enjoyment of all its inmates, are greatly enhanced.

Another important respect in which the lady of the house finds the cheerfulness and comfort of her home, especially under her control, is in the selection and management of stoves and fuel.

In all parts of the country, where fuel is abundant, and of moderate price, there is no reason why the luxury of an open fire in the sitting-room of a family should not be indulged in. On many a flourishing farm, where from twenty to fifty cords of wood are sold yearly, the wife and daughters will be found for six months in close companionship with a small, square cast-iron box, stamped with strange patterns, and filling the room with a volume of close, scorched air, the sole recommendation of which is that it keeps the atmosphere at a high temperature. The allowance of an extra cord of oak or hickory would have afforded this family a cheerful, open fire, in a grate or a Franklin stove, casting a ruddy glow to every corner of the room, maintaining a constant supply of fresh air, and changing entirely the tone and the comfort of the apartment.

It is impossible for any close stove, no matter how ornate its pattern or how perfectly it may utilize the gases of wood or coal, and apply them to heating the apartment, to rival an open fire in cheerfulness, comfort and health. The economy of consuming a cord of wood less in a season by the use of cheap and fuel-saving stoves is not true thrift. It is penny wise and pound foolish.

The cooking-stove has been brought, in America, to a wonderful degree of perfection. But for warm-

ing apartments, where cooking is not carried on, it is doubtful whether, in the hundred and twenty years since Franklin gave his drawings to his friend, the iron founder, we have made any true advance.

In families where a strict and searching parsimony is necessary in every department of expense, it may be fortunate that ten dollars will set up, in the spare room, an arrangement for heating the air; but if a generous spirit can be indulged anywhere, let it be in making the fireside a place of brightness and cheer, where a ruddy flame is reflected from polished brass, where, of a winter's night, the oak back-log hisses, and the hickory fore-stick glows till an infectious warmth pervades the family circle, and January seems no less joyful than June.

The question of the kind of fuel to be purchased is one that varies with every locality, and with changes in the means of transportation. At moderate distances from the mines, nothing will compare with hard coal for yielding the largest amount of heat from a given weight of fuel. There is no great difference between a cord of seasoned hard wood, and a ton of anthracite, for family use.

The heat of anthracite is more concentrated, and often greater than the comfort of an apartment, or the necessities of cooking, require. If used with

care and skill, a ton of hard coal can be made to go much farther than any cord of wood. An almost universal error, in the use of this kind of coal, consists in the practice of filling a stove full, and allowing it to consume slowly for several hours. In this way, a large amount of heat-producing gas is driven off, and passes up the flue without being ignited. Where the draft is checked, and coal-gas thrown into the room, the result is, in the highest degree, deleterious. The most wholesome mode of using coal to heat an apartment is by the common grate. But this consumes about twice as much as a good stove, and will not make a large room comfortable in all parts. Where the draft is strong, and the weather cold, a grate exhausts the air in a room, and an incontrollable heaviness and drowsiness is felt. .

In localities where soft or sea coal can be readily obtained, no arrangement is so agreeable as a Franklin stove, or large grate, arranged for either wood or coal. In the extreme north, where the ground is frozen for four or five months, no warming appliance is so effective as a hot-air furnace in the cellar. In a house adapted for the purpose, it is an excellent plan to have a small furnace that heats the hall and moderates the coldness of all the chambers; the living-rooms being also warmed by open fires. To

keep all the rooms of a large house warm by a hot-air furnace, requires a very liberal consumption of fuel.

In the purchase of, as well as in using, wood, a knowledge of the characteristics of the different species of timber is of much use to every lover of a good fire.

The best wood ever laid on a grate is hickory. Even when but a few weeks cut, it will light with but little reluctance, and give a steady, equable heat, uniform, and entirely reliable for cooking purposes.

Black birch is very much like it, and, on account of its agreeable fragrance, is the pleasantest of all fuels. Both these varieties are worth a dollar or two more by the cord than common wood, and the satisfaction they give is more than an equivalent for this difference in price. White oak, ash, and maple are next to hickory and black birch in value for fuel. There is little or no preference between these varieties when seasoned; but the peculiarity of ash is that it burns almost as well when green as when dry. It will often occur in moving, and in the settlement of new countries, that dry wood cannot be obtained at first. When subjected to this annoyance, it is well to remember that ash and hickory,

though green, if split fine and baked in the stove-oven, will make a hot and lasting fire.

When green, pine and chestnut are almost worthless for fuel; when dry, they burn for a little while with a lively flame, but never radiate heat like the harder varieties. Dry chestnut mixed with oak makes a very good winter fuel, but consumes more rapidly than hard wood alone. Persons who purchase wood for fuel, or who use different varieties, will find it greatly to their advantage to make themselves acquainted with the various kinds of wood, and their qualities. By such knowledge a cord of mixed wood can be burnt in such a manner as always to afford the degree and kind of heat needed, — the hickory and birch, or choice cuts of white oak and ash being reserved for baking, and other operations demanding a strong and lasting fire; the inferior grades of oak, chestnut, bass, and hemlock being consumed when only a moderate heat is required. On the other hand, how many a breakfast has been vexatiously delayed, how many a promising batch of bread half spoiled by a stick of green, or soft, or half-decayed wood put into the stove at just the wrong time!

The proper domain of the house-keeper is not bounded by the living-rooms of the family abode. The husband and father is, by the demands of our

urgent business habits, forced to become engrossed in matters important, absorbing, and often remote from his fireside. His home is often for weeks together no more than a boarding-house, where he sleeps and obtains some of his meals; his whole time and all his zeal and energy being consumed by the farm, the store, the office, the factory, or the speculations out of which he is laboring to build his fortune. The affairs of the yard, the garden, and the stables will in such cases be neglected and go to waste, if remitted entirely to the care of servants and children. General instructions can of course be expected from the head of the household, but the daily care and the executive details fall upon the housewife. She will not find the task at all difficult if she simply carries the system and the order which she has prescribed for the kitchen, the pantry, the laundry, and the chamber into the yard and out-houses of her establishment.

Nothing contributes more to the air of comfort, snugness, and thrift around a place than the practice of making small repairs with promptness. Where a picket is found missing or loose, let it be repaired at once, before pigs and chickens have learned to take unwarrantable liberties. If a hinge is out of order, the driving of a nail or the sinking of a single screw will prevent the calling in a carpenter.

In families where sons are growing up, it is of great advantage to them, as well as good policy for considerations of thrift, to provide an assortment of common tools, and let everybody on the place be trained to use them in making all small repairs and trifling improvements and conveniences.

There should be two hammers, a large and a small; two saws, one fine and the other coarse; a cheap iron bitstock and set of bits, with screw-driver and reamer; a draw-knife, a square, a tape measure, two or three augers, a pair of pincers and pliers, a monkey-wrench, a large screw-driver, a hatchet, a jack-plane, and a pot of glue. The entire cost of this assortment need not be more than five dollars. With them all jobs on a place that do not require the skill of a joiner can be executed. The convenience of having such tools is hardly greater than the satisfaction of finding them always in place. Some suitable place should be selected, as a back entry, a store or lumber room, a dry basement, or a shop, if not too remote from the rooms constantly in use, and nails driven at a proper height so that children can be sent for anything required. The most effective plan to secure order is to draw with a pencil or a small brush dipped in black paint, an outline of each tool around the spot where it hangs. By this system the place of each

is permanently fixed, so that the hammer is never hung on the saw nail nor the draw-knife where the pincers should be found. If any instrument has been loaned, misplaced, or lost, a glance at the wall tells the story. Children can in this way be trained to form that invaluable habit, which is of equal importance in the workshop, the office, the counting-room, or the library, *to have a place for everything, and everything in its place.*

On a farm this system should be extended so as to take in farm tools, especially such as are of a size to be hung on nails or pegs, and care should be exercised in keeping them free of rust and dirt. When a tool, as a hoe or garden rake, is new, it is an excellent plan to smear it over two or three times with linseed oil in which a little beeswax has been melted. The wood is thus kept from decay and the steel from rusting.

No thorough housewife will conceive that her province terminates at the threshold. She may have a husband or grown son who shows taste and order in the care of the yard. If otherwise (and men are commonly engrossed with outside matters), the wife and mother almost always has under her control young and unskilled persons, whose labor she has only to direct in piling wood, raking leaves, repairing fences, trimming bushes, and whitewash-

ing out-houses, in order to change entirely the look of the premises, and produce a most refreshing look of regularity, neatness, and thrift.

MISCELLANEOUS RECIPES.

A cheap paint or whitewash suitable for fences, gate-posts, and roughly covered houses and walls. — Slack half a bushel of lime with cold water, and after much stirring strain through a wire sieve. Add ten pounds of Spanish whiting, eight of salt, and six of sugar. If a straw color is desired, use yellow ochre instead of Spanish whiting.

Whitewash for inside walls. — To a peck of slacked lime add a pound and a half of white vitriol, a pound of salt, and half a pound of dissolved glue. The effect of the salt and glue is to prevent rubbing off.

To clean paint that is not varnished, put on a plate a quarter or half a pound of the best whiting. Take a vessel of clean warm water, dip in it a piece of flannel, and wring nearly dry, and take up as much of the whiting as will adhere to the damp cloth. A little rubbing will remove the dirt and grease. Wash off with clean water, and rub dry with soft flannel. Paint cleaned in this way looks almost as fresh as new, and the process does not

consume half as much time as the ordinary way of scrubbing with soap-suds.

An excellent furniture polish. — Into one pint of linseed oil put half a pint of treacle and a glass of gin. Apply lightly with a linen rag, and rub dry with linen cloths till a fine gloss appears.

To remove grease spots from floors. — Cover at once with hot ashes, moisten with hot water, and repeat the application three or four times.

To remove ink stains from linen or cotton. — Soak in sweet milk and salt for a day, then wash in warm water.

To remove grease from books. — Cover with pounded chalk or magnesia, and set on it a warm flat-iron.

To remove grease from silk or woollen. — Moisten some fine starch and spread it in a thick paste over the spot. When dry, rub off, and repeat the application till the grease disappears.

To remove tallow or sperm from clothing and carpets. — Cover with blotting-paper, or with any soft paper, folded several times, and place a hot iron upon it. The heat melts the grease, and the paper absorbs it. Spots of this sort on pantaloons and coats can be entirely removed with a newspaper and a hot poker.

To remove paint and putty from window-glass. — Make a strong solution of pearlash with hot water. Apply with a brush to the paint or putty. When nearly dry rub hard with a woollen cloth.

To extract ink from floors. — Scrub with sand wet in oil of vitriol and water mixed. Then rinse with strong saleratus water.

To extract paint from cotton, silk, and woollen. — Saturate the spot with spirits of turpentine, let it remain several hours, then rub it between the hands.

To take rust from steel. — Cover the steel with sweet oil, and rub it well in. Let it lie forty-eight hours, then polish with unslacked lime till the rust disappears.

To clean plate. — Wash it first in warm soap and water. Then rub the tarnish off with whiting wet in water, using a soft brush for the intricate parts. Then with a piece of leather rub with rouge powder mixed with water to about the thickness of cream. This will produce a beautiful polish.

Another way. — Rub with a soft flannel wet in soapy soft water, and wipe dry with a piece of soft leather.

Polishing paste for Britannia metal, tins, brasses, and coppers is made in the following manner: Powder a quantity of rotten-stone, and mix with it soft soap till it is about as stiff as putty; to a half pound

of this add two ounces of oil of turpentine. Make up in balls and dry. They will keep any length of time. To use : moisten the paste with water, smear it over the metal, and rub briskly with a dry rag or wash-leather, and you will have a beautiful polish.

To clean door-plates. — Cut the size of the plate out of a large piece of pasteboard, place it against the door and rub the plate with rotten-stone, or crocus and sweet oil, on leather. This will keep the paint about the door-plate uninjured.

To refasten the handles of knives and forks. — Make a cement of common brick-dust and rosin.

To clean decanters. — Pour the refuse of the teapot, leaves and all, into the decanter and shake it well. The *taunin* of the tea has a chemical affinity for the *crust* on the glass.

To destroy the smell of fresh paint. — Mix chloride of lime with water, with which damp some hay and strew it upon the floor.

To prevent the ill effects of charcoal. — Set over the burning charcoal a vessel of boiling water, the steam of which will prevent danger from the fumes.

To purify river, or muddy water. — Dissolve half an ounce of alum in a pint of warm water, and stir it into a hogshead of muddy water. The impurities will settle to the bottom and in a day or two it will be clear.

To prevent moulding in books, ink, paste, and leather. — One drop of lavender will keep a pint of ink from moulding, and, applied to books or leather, will prevent this pest entirely.

To prevent whitewash from rubbing off. — Stir into a pailful of whitewash a quart of thick flour-starch, while hot.

To prevent hinges creaking. — Rub them with soft soap or a feather dipped in oil.

Liquid blacking. — Half an ounce of brown sugar, half a tablespoonful of sweet oil, and two ounces of ivory-black. Mix well, and add slowly half a pint of small beer and a teaspoonful of gum-arabic. Shake it well, and when it is all dissolved it is ready for use.

Ink powder. — Five ounces powdered nutgalls, an ounce and a half of green copperas, one ounce of powdered gum-arabic. Mix with white wine, and it is ready for use.

To separate beeswax from the comb. — Tie it up in a linen or woollen bag with a pebble in it, to keep it at the bottom of a kettle of cold water. Place over the fire. The wax will rise to the top as it melts, and the impurities remain in the bag.

To sew on glazed cloth. — Pass a cake of soap over the stiffened material, and the needle will penetrate the cloth without difficulty. This is important

for all persons to know who operate sewing-machines.

Cheap carpeting. — Sew together strips of the cheapest cotton cloth to the size of the room, and tack the sides to the floor; then paper the cloth, as you would the sides of a room, with any sort of wall-paper. When it is thoroughly dry, cover with two coats of varnish. This carpet can be washed without injury, and, where it does not meet with rough usage, it will retain its gloss and last for two years as good as new.

Cheap beds. — The leaves of the beech-tree, collected in the fall, in dry weather, make very pleasant beds. The smell is agreeable and wholesome; they are free from vermin, quite elastic, and soft.

For the sting of a nettle. — Rub the part with any aromatic herb, such as mint, balm, or rosemary.

To cure sheep poisoned by eating laurel. — Pour a gill of melted lard down their throats, and it is said to be a certain cure.

To remove proud flesh. — Apply pulverized loaf-sugar to the part affected.

Another remedy. — Sprinkle burnt alum, pulverized, on a poultice, and apply it.

For convulsions in children. — Put the feet in warm water, and apply a cold cloth to the back of the neck. Keep the head cool, the feet warm.

Chilblains. — Bathe the part affected in strong alum-water. Continue a week or two, and it will cure.

To stop bleeding at the nose. — Chew a piece of paper; or take two or three pinches of dried salt beef, grated fine, and use as snuff; or raise the left arm, and keep it up some time; or bathe the back of the head and neck in cold water.

Rickets. — Keep the bowels regular, and bathe the body in tepid salt and water. Friction, air, exercise, and nutritious diet are of the first importance.

Mortification. — Apply poultices made of warm yeast and powdered slippery-elm; renew them when cold, and give internally a glass of yeast three or four times a day, and tonic bitters.

To cure black tongue. — Rub a handful of fine salt upon the tongue, and it will cure after two or three applications.

For nursing sore mouth, or sore mouth in infants. — Put in a teacup one teaspoonful pulverized alum, the same of borax, half a saltspoonful of powdered nutgalls, a tablespoonful of honey. Pour over it boiling water till the cup is two-thirds full. When it settles, wash the mouth with a clean linen rag, and repeat the application three or four times a day, using a fresh rag every time. This is a safe and

effectual remedy for this most annoying complaint.

To cure erysipelas. — Dissolve a bit of copperas in a cup of water, and apply frequently, using a clean rag every time.

An excellent salve for cuts and sores. — One ounce and a half of olive oil, two ounces of white diachylon, two ounces of beeswax, melted together.

To cure itch. — Dissolve in water half an ounce of carbonate of potassa, and rub the parts affected; then rub on a little ointment made of three or four grains of white precipitate mixed with sweet oil. This is a harmless and certain remedy, and far more agreeable than sulphur. It should be kept on hand, and applied at once.

To remove lice. — Lard melted and applied hot to the hair will kill lice, and prevent nits from hatching.

A hop-pillow will frequently produce sleep, when everything else fails.

For sprains and bruises in horses. — Dissolve an ounce of camphor in eight ounces of spirits of wine, and then add one ounce of turpentine, one ounce spirit of sal-ammonia, half an ounce of oil of origanum, one large tablespoonful of laudanum. Rub in, for fifteen minutes, four or five times a day.

To remove warts. — Wet them with tobacco juice

and rub with chalk; or, rub them with fresh beef every day till they disappear.

Wounds on cattle. — Bathe them with yolks of eggs mixed with spirits of turpentine. A speedy cure.

To prevent dogs from going mad. — (*European recipe*). — Mix a small portion of flour of sulphur in their food or drink.

Hens' eggs. — Round eggs produce females; pointed, males.

To take out fruit spots. — Moisten the stain, and hold the stained part over a lighted brimstone match. The sulphurous acid gas will bleach it out.

To take grease out of silk. — Apply magnesia to the wrong side.

To remove grease spots from carpets. — Pulverize fine new pipes or pipe-stems; put the powder on the spot; lay a brown paper under it and over the powder; place on this a warm iron, and if it stays long enough the grease will disappear.

To remove ink spots from linen. — Dip the spotted part in pure melted tallow; then wash.

To take out mildew. — Rub on soap; then scrape fine chalk on it; rub it in well; lay it on the grass; as it dries, wet it a little; repeat the process, and the mildew will disappear.

To prevent polished hardware and cutlery from

rust. — Wipe carefully after using, and wrap in coarse brown paper.

To prevent bruises from turning blue or black. — Apply at once a cloth wrung out in very hot water, and repeat several times; or, make a plaster of salt and tallow to cover the wound; or, wash in tincture of arnica, which is the best remedy of the three.

POISONS AND THEIR ANTIDOTES.

Acids. — Remedies, — Magnesia, soda, pearlash, or soap, dissolved in water; then use stomach-pump or emetics.

Snake bites. — Apply immediately strong harts-horn, and take it internally. Or, drink a pint and a half of raw whiskey, French brandy, or other spirit.

Prussic acid. — Chloride of soda or chloride of lime. Hot brandy and water. Hartshorn and turpentine.

Lead. *White lead and sugar of lead.* — Alum, castor-oil, Epsom salts, or some other cathartic.

Opium. — Strong mustard and water till vomiting is produced, then strong coffee and acid drinks. Dash cold water on the head.

Laudanum. — Same as opium.

Mushrooms. — Give an emetic first, then plenty of vinegar and water.

Nitrate of silver or lunar caustic. — Give strong salt water, then emetics.

Creosote. — White of eggs, then emetics.

Charcoal. — Put the patient in the open air, dash cold water on the head and body; put hartshorn to the nose and mouth, and rub the chest briskly.

Oxalic acid. — Chalk, magnesia, or soap and water, then emetics.

Arsenic. — First give an emetic, then whites of eggs, lime-water, chalk and water, charcoal, and the preparations of iron.

Ammonia. — Lemon-juice or vinegar; then milk and water or flaxseed tea.

Alkalies. — Vinegar.

Alcohol. — Give an emetic, dash cold water on the head, and give ammonia.

Belladonna or henbane. — Emetics, then acid drinks.

Corrosive sublimate. — Whites of eggs freshly mixed with water, or wheat flour and water, or soap and water.

Saltpetre. — Give emetics, then plenty of flaxseed tea, milk and water, or other soothing drinks.

Tartar emetic. — Give tea in large doses, made of galls, Peruvian bark, or white-oak bark.

Tobacco. — Give an emetic, then astringent tea, then stimulants.

Verdigris. — Plenty of white of egg and water.

Mercury or poison vine. — Wash the skin affected with poison, in vinegar and salt, or salt and water, or solution of sugar of lead, or buttermilk. Frequent washing in strong suds made of rosin soap will often cure it.

White vitriol. — Milk and water.

To produce vomiting in case of poisoning, mix a tablespoonful of common ground mustard in warm water, and administer every five or ten minutes till the desired effect is produced. Then give warm and soothing drinks, such as flaxseed tea, slippery-elm tea, milk and water, or chalk water.

To stop the itching of insect bites. Rub the part stung with strong hartshorn, mingled with a little sweet oil.

APPENDIX.

COOKING RECIPES.

Sponge Cake. Three eggs, half a cup of milk, one cup of sugar, one cup and a half of flour, one teaspoonful cream tartar, one-half a teaspoonful soda, flavor to taste.

Sponge Cake. One pound of sugar, one-half pound of flour, eight eggs, the grated rind and one-half the juice of a lemon and a pinch of soda.

Honeymoon Cake. Two and a half cups of flour, one and a half of sugar, half a cup of milk, three-quarters of a cup of butter, two eggs, one teaspoonful of cream tartar, half a teaspoonful of soda; spice to taste. Sift the cream tartar and soda with your flour; then work in the butter with your hand into the flour; then the sugar; then add the milk and eggs and beat with a spoon; then the flavoring; and beat a while, and bake immediately in an oven not too hot.

Pound Cake. Beat to a cream three quarters of a pound of butter, and work into it thoroughly one pound of crushed and sifted sugar and eight eggs well beaten; mix in lightly one pound of flour; beat half an hour, and bake in a quick oven. The cake may be made richer by adding candied lemon peel, cut thin, or blanched almonds, or half a pound of currants. This will make a large sized cake.

Raised Cake. Five cups of flour, one of butter, one-half of yeast, two eggs, one-half pint of milk, two cups of sugar; raisins and nutmeg. Rub the butter into the flour, add milk and yeast, and set it to rise. When risen, work in the sugar and eggs; add nutmeg and a little cinnamon. When raised, put in the raisins with a fork, after drying and flouring them.

Composition Cake. One and three-quarters pounds of flour, one and one-quarter of sugar, three-quarters of a pound of butter, four eggs, one pint of good milk, or half a pint of cream, one pound of fruit, half a nutmeg, one-half teaspoonful of cinnamon. Dissolve one teaspoonful of soda in a small part of the milk; rub the butter

and sugar together ; then break in the eggs, and work them in well ; then add the flour, a little at a time, till it is well stirred in ; then the spices ; then the fruit ; and, last of all, the soda. Stir it fifteen minutes ; pour in pans, and bake immediately.

Sugar Cakes. One pint of dry flour, one-half a pint of butter, one half a pint of sugar ; mix the flour and sugar ; rub in the butter ; add an egg well beaten, and enough milk to moisten the whole. Roll out thin, cut in forms, and bake quickly.

Fruit Cakes. (1). One pound of butter, one and one half pounds of sugar, one and three-quarters of flour, three pounds of raisins stoned and chopped ; two pounds washed and dried currants, one-quarter of a pound of citron, one pint of milk, four eggs, two nutmegs, two teaspoonfuls of saleratus. Cream the butter, and mix in the sugar smoothly ; then, by degrees, add the eggs, beaten separately ; then the milk ; then add the flour by degrees ; then the raisins, currants, citron, and spice ; last of all, the saleratus, dissolved in a little of the milk. Butter two tin pans ; put in the cake, and bake it in a moderate oven three or four hours.

Plum Cake, or Wedding Cake (1). One pound of dry flour, one pound of sweet butter, one pound of sugar, twelve eggs, two pounds of raisins, stoned ; two pounds of currants well washed, dried, and floured ; as much spice as you please ; a glass of wine, one of brandy, and a pound of citron ; mix the butter and sugar as for pound cake ; sift the spice, and beat the eggs very light ; put in the fruit last, stirring it in gradually. It should be well floured. If necessary, add more flour after the fruit is in. Butter sheets of paper, and line the inside of one large pan or two smaller ones ; lay in some slices of citron ; then a layer of the mixture, then of the citron ; then a layer of the mixture, then of citron ; and so on, till the pan is full. This cake requires a tolerably hot and steady oven, and will need baking four or five hours, according to its thickness. It will be better to let it cool gradually in the oven. Ice it when thoroughly cold.

Bride Cake. Wash two pounds and a half of fresh butter in plain water first, and then in *rosewater* ; beat the butter to a cream ; beat twenty eggs, yolks and whites separately, half an hour each. Have ready two pounds and a half of the finest flour, well dried and kept hot ; likewise one pound and a half of sugar, pounded and sifted ; one ounce of spice, in fine powder ; three pounds of currants, nicely cleaned and dry ; half a pound of almonds, blanched, and three-fourths of a pound of sweetmeats, cut not too thin. Let all be kept

by the fire ; mix all the ingredients ; pour the eggs strained, to the butter, but beat the whites of the eggs to a strong froth ; mix half a pint of sweet wine with the same quantity of brandy ; pour it to the butter and eggs ; mix well ; then have all the dry things put in by degrees ; beat them very thoroughly,—you can hardly do it too much. Have half a pound of stoned jar raisins chopped as fine as possible ; mix them carefully, so that there should be no lump, and add a tea-cupful of orange-flower water ; beat the ingredients together a full hour at least. Have a hoop well buttered ; take a white paper, doubled and buttered, and put in the pan, round the edge ; do not fill it more than three parts with batter, as space should be allowed for rising. Bake in a quick oven. It will require full three hours. In making cakes of a larger size, put at the rate of eight eggs to every pound of flour, and other ingredients in the same proportion. The cake must be covered with an icing.

Railroad Cake. One cup of sugar, one of flour, two tablespoonfuls of melted butter, two tablespoonfuls of milk, three eggs, one teaspoonful of cream tartar, one-half a teaspoonful of soda ; flavor with lemon.

Republican Cake. One pound of sugar, one pound of flour, one-half pound of butter, four eggs, one pound of fruit, one cup of milk, one teaspoonful of cream tartar, one-half teaspoonful of soda ; spice to your taste.

Scotch Cake. Stir to a cream two cups of sugar and a cup and a half of butter ; add the juice and grated rind of a lemon ; beat nine eggs to a froth, and stir in ; add flour enough to make it a stiff batter ; then add a quarter of a pound of citron, cut in pieces, and the same of almonds, blanched and pounded fine in rosewater. Bake in pans, or drop on tins two inches apart, with white sugar grated over them.

Lady Cake. One cup of butter, three cups of sugar, five cups of sifted flour, the whites of ten eggs, one-half teaspoonful of soda in a cup of milk, cream tartar mixed with flour, flavor with bitter almond.

Cup Cake. Four eggs, four cups of flour, one cup of milk, two cups of sugar, one cup of butter, one teaspoonful of soda, a little nutmeg. Beat sugar and eggs together well, before you put in the flour.

Tip-Top Cake. One cup of milk, one-half cup of sugar, two cups of flour, a heaped tablespoonful of butter, one egg, one teaspoonful of cream tartar, half a teaspoonful of soda, one cup of raisins.

Washington Cake. Beat six eggs very light ; add one pound of butter, a pound of sugar, a pint of rich milk or cream a little sour, a

glass of wine, a powdered nutmeg, a spoonful of cinnamon, and lastly, a small teaspoonful of saleratus. Bake in tins or small pans, in a brisk oven.

Chocolate Cake. One half cup butter, two cups of sugar, four eggs, one cup of milk, three and one-half cups of flour, two teaspoonfuls cream tartar, one teaspoonful of soda and one teaspoonful of vanilla.

Paste. One-half cake of Baker's chocolate, two cups of white sugar, two teaspoonfuls cinnamon, three-quarters of a teaspoonful of cloves, a pinch of ginger, three teaspoonfuls of vanilla. Keep the chocolate in the oven ten minutes, then add sugar and boil it, then flavor.

Marble Cake. White. One cup of white sugar, one-half a cup of butter, one-half a cup of sweet milk, two cups of flour, one teaspoonful of cream tartar, one-half a teaspoonful of soda, whites of four eggs. Black. One cup of brown sugar, one-half a cup of molasses, one-half a cup of butter, one-half a cup of sour cream, yolks of four eggs, two and one-half cups of flour, one-half teaspoonful of saleratus, one tablespoonful of cinnamon, one-half a tablespoonful of nutmeg, one teaspoonful of allspice, two teaspoonfuls of cloves.

Lemon Cake. One teacupful of butter, and three of sugar; rub them to a cream, and stir into them the yolks of five eggs, well beaten; one cup of milk, the juice and grated peel of one lemon, the whites of five eggs, and sift in as lightly as possible four cups of flour. Baked in shallow pans about half an hour.

Coffee Cake. One cup of sugar, one of molasses, two-thirds of a cup of butter, one cup of raisins, one egg, one teaspoonful of soda, in one cup of coffee, to be added the last thing; flour enough to keep the fruit from sinking; one teaspoonful of every kind of spice; add citron and currants.

Custards for the above. Take a pint of rich cream, and add to it three eggs, well beaten, and a little flour; sweeten and flavor to taste, and put it on to boil. When the cakes are baked open the crusts at the sides, and fill with the custard.

Cocoanut Cake. One pound of cocoanut, grated fine and dried, one pound of white sugar, and the whites of two eggs, well beaten; mix this together with a spoon; make up the cake in pear form; lay a sheet of white paper on a tin; set the cakes about two inches apart, and bake them about fifteen minutes. Watch them very closely, as they are apt to scorch.

Honey Cake. One pound and a half of sifted flour, three-quarters of a pound of honey, half a pound of finely pounded sugar, a quarter of a pound of citron, and half an ounce of orange-peel, cut small, of pounded ginger and cinnamon three-quarters of an ounce. Melt the sugar with the honey, and mix in the other ingredients. Roll out the paste, and cut it into small cakes of any form.

Rice Cake. Take eight yolks and four whites of eggs, and beat to a foam; add six ounces of powdered sugar, and the peel of one lemon grated. Then stir in half a pound of ground rice, and beat all together for half an hour. Put it into a buttered dish, and bake twenty minutes. This cake is recommended as very easy of digestion.

Currant Cake. Take half a pound of cleaned and dried currants, the same quantity of dried and sifted flour, a quarter of a pound of pounded sugar, a quarter of a pound of fresh butter, four yolks, and three whites of eggs, both well beaten, and a little grated nutmeg or pounded cinnamon. Then beat the butter to a cream; add the sugar, and then the eggs, and the flour. Beat these well for twenty minutes; mix in the currants and the grated nutmeg. Drop the cakes in a round form upon buttered paper, or bake them in small tins in a quick oven.

Sally Lunn Cakes. Take one pint of milk quite warm, a quarter of a pint of thick, small beer yeast; put them into a pan with flour sufficient to make it as thick as batter. Cover it over and let it stand till it has risen as high as it will; that is, about two hours; add two ounces of lump sugar, dissolved in a gill of warm milk; a quarter of a pound of butter, rubbed into your flour very fine; then make your dough, and let it stand half an hour; then make up your cakes, and put them on tins; when they have stood to rise, bake them in a quick oven. Care should be taken never to put your yeast to water or milk too hot or too cold, as either extreme will destroy the fermentation. In summer, it should be lukewarm; in winter a little warmer; and in very cold weather, warmer still. When it has first risen, if you are not prepared, it will not hurt to stand an hour.

To make waffles. Six eggs, a pint of milk, a quarter of a pound of butter, same of white sugar, a pound and a half of sifted flour, a teaspoonful of cinnamon; warm the milk, and cut up the butter in it; beat the eggs well, and pour them in; sprinkle in half the flour, stir in the sugar and spice gradually; add by degrees the remainder of the flour; heat the waffle-iron, grease it well, and pour in the batter. When the waffles are baked, spread each one separately on a

clean napkin, till a plateful is ready. They are very nice with grape jelly spread on them.

White Cake. Take of dried and sifted flour, of fresh butter, and of finely pounded loaf-sugar one pound each; five well beaten eggs, a quarter of a pint of cream; of candied orange and lemon peel, cut small, three-quarters of an ounce each; one ounce of caraway seeds, half a grated nutmeg, a glass of brandy, and a little rose-water; then beat the butter to a cream, and add all the other ingredients to it; and, at last, mix in one tablespoonful of fresh yeast; let the cake rise before the fire for half an hour. Bake it in a buttered tin. Instantly upon taking it out of the oven, with a feather brush the top all over with the beaten white of an egg, and sift loaf-sugar upon it. Let it stand at the mouth of the oven to harden.

Caraway Cakes. Rub half a pound of butter into one pound of flour, and mix with it half a pound of sifted loaf-sugar, and half a teacupful of caraway seeds; make them into a stiff paste, with a little cold water; roll it out two or three times; cut it into round cakes; prick them, and bake them upon floured tins, in a slow oven. Currants may be used instead of caraway seeds, if preferred.

Jackson Jumbles. Three cups of sugar, one cup of butter, five cups of flour, two eggs, one teaspoonful of salcratus in a cup of cream, bake in a quick oven.

Cocoanut Jumbles. Cut the meat of a large cocoanut in slices, and grate them; beat up the whites of five eggs and the yolks of three, and mix with them a few drops of the essence of lemon; mix the grated cocoanut with a small portion of flour; roll it light on a floured paste-board; cut it into rings with a tumbler, the edge of which is floured. Butter the pans into which the cakes are to be laid, and, after sifting a little loaf-sugar over the cakes, bake them in a quick oven. When they begin to brown they are done.

Doughnuts. One cup of butter, two cups of flour, one pint of milk, one pint of yeast, three eggs, spice; take out with a spoon instead of kneading when light and make round.

Crullers. One cup and a half of sugar, one of sweet milk, two eggs, one tablespoonful of butter, one of cream tartar, one-half a teaspoonful of soda; flour till it is almost as stiff as pie-crust; roll much and thin; cut into figures, and fry.

Currant Cake. Take half a pound of cleaned and dried currants, the same quantity of dried and sifted flour, a quarter of a pound of pounded sugar, a quarter of a pound of fresh butter, four yolks, and

three whites of eggs, both well beaten, and a little grated nutmeg or pounded cinnamon. Then beat the butter to a cream; add the sugar, and then the eggs, and the flour. Beat these well for twenty minutes; mix in the currants and the grated nutmeg. Drop the cakes in a round form upon buttered paper, or bake them in small tins in a quick oven.

Queen Cake. Beat one pound of butter to a cream, with some rose-water, one pound of flour, dried, one pound of sifted sugar, twelve eggs; beat all together. Add a few currants, washed and dried. Butter small pans of a size for the purpose, grate sugar over them; they are soon baked. They may be done in a Dutch oven.

Seed Cake. Six cups of flour, three cups of brown sugar, one teaspoonful of dry cream tartar, sifted together; warm one cup of milk and one of butter together. Add one cup of sour milk, one teaspoonful of saleratus beat into the milk until it froths, three eggs well beaten, and half a cup of seeds. Mix this all together with the hands, and roll it thin; cut it in rounds. Bake it fifteen minutes.

Ginger Snaps. One pint of molasses, one teacup of butter, one spoonful of ginger, one teaspoonful of saleratus; boil all together, and, when nearly cold, add as much flour as can be rolled into the mixture.

Macaroons (1). Blanch one-half a pound of almonds in hot water, and pound them fine with rose-water; beat the whites of three eggs to a froth; then stir in gradually one-half pound of fine white sugar; when well mixed, add the almonds; drop the mixture with a teaspoon on buttered plates; sift sugar over, and bake in a slow oven.

Macaroons (2). Throw in boiling water, for five minutes, ten ounces of sweet almonds, and two ounces of bitter ones; put in a mortar, and grind them to a paste, adding a few drops of the white of eggs during the process; grind well, also, a pound of white sugar, with a quarter of a rind of lemon, well grated; then mix well together almonds, sugar, and the whites of two eggs; make balls of any size with it; put the ball on a piece of paper; beat the yolk of an egg with half a gill of water, and glaze the top of the balls with it by the means of a pencil or a goose-feather. Put them in a slow oven. It will take about fifteen minutes to cook them.

Cream Puffs. One pint of water, one-third of a pound of butter, three-quarters of a pound of flour, ten eggs; boil the water and butter together, and stir in the flour while boiling; when cool, add the

eggs, well beaten, and a teaspoonful of soda; drop on tin sheets, about the size of a dollar; bake in a moderate oven fifteen minutes.

Cream for the above. One cup of flour, two cups of sugar, four eggs, one quart of milk; beat the flour, sugar, and eggs together; then stir with the milk, while boiling, until it is of the consistency of thick cream; flavor with vanilla; make a small ring in each puff, and put in a spoonful of the cream.

Hard Molasses Cake. Three cups molasses, two cups of drippings or butter, one cup of water, one tablespoonful of ginger, one tablespoonful of saleratus.

Molasses Cup Cake. Of butter, one-half cup; sugar, one cup; sweet milk, one cup; three eggs, four cups of flour, one large tablespoonful of ginger, half a teaspoonful of salt, one teaspoonful of soda dissolved in molasses; mix butter and sugar together well, first; then add the other ingredients; eggs, well beaten, being the last.

Hard Times Molasses Cake. One large cup of molasses, one cup of sugar, one cup of buttermilk, half a cup of butter, one teaspoonful of soda, one tablespoonful of ginger, four cups of flour. Good sweet dripping, or part lard and part butter, may be used. When lard is used instead of butter, it should have a little salt worked into it.

Kisses. Beat the whites of four eggs to a stiff froth; add the juice of a lemon or a little rose-water; roll and sift half a pound of the whitest loaf-sugar, and beat it with the egg; spread out white paper, and drop a tablespoonful of this mixture on the paper. The oven should be only moderately hot; and when the tops have become hard remove them. Have a solution of gum-arabic, and dip the lower side of one cake, and join it to another.

French Loaf. Three cups of light bread, two cups of white sugar, one cup of butter, three eggs, one nutmeg, one small teaspoonful of soda; rub the butter and sugar together; then work in the eggs, and, lastly, the bread and fruit. Bake, in a loaf, one hour and a half.

Gold Cake. One cup butter, four cups flour, measure before sifting, two cups sugar, one cup milk, yolks of sixteen eggs, two teaspoonfuls of soda, four teaspoonfuls of cream tartar; flavor with vanilla.

Silver Cake. One cup butter, four cups sugar, five cups of flour, one cup milk, whites of sixteen eggs, two teaspoonfuls soda, four teaspoonfuls cream tartar; flavor with lemon.

Cake without Eggs. Two-thirds of a cup of butter, two cups of sugar, two cups of milk, six cups of flour, four teaspoonfuls of cream tartar, two teaspoonfuls of soda.

Molasses Cake. One pint molasses, two thirds of a cup of butter or drippings, one cup of water, two teaspoonfuls of saleratus, one tablespoonful of ginger.

Madeira Cake. Whisk four fresh eggs until they are as light as possible; then, continuing still to whisk them, throw in, by slow degrees, the following ingredients, in the order in which they are written. Six ounces of dry, pounded, and sifted sugar; six of flour, also dried and sifted; four ounces of butter, just dissolved, but not heated; the grated rind of a fresh lemon; and, the instant before the cake is moulded, beat well in the third of a teaspoonful of carbonate of soda; bake it one hour in a moderate oven. In this, as in all compositions of the same nature, be particular that each portion of the butter be beaten into the mixture until no appearance of it remains, before the next is added; and if this be done, and the paste be kept light by constant whisking, the cake will be as good as if the butter were creamed. Candied citron can be added if desirable.

SWEET DISHES.

Wine Jelly. Dissolve one box of Cox's gelatine in a pint of cold water; after soaking for half an hour, add one quart of boiling water and one and one half pounds of sugar. For flavoring, add one-half a pint of wine and the juice and peel of two lemons, not grated or lemons to suit your taste, and no wine; stir till all is dissolved, strain through a cloth, and set it away to harden.

Table Jelly. Three good-sized lemons, cut in slices; add one-half a pound of white sugar, two quarts of cold water, two ounces of isinglass, a stick of cinnamon, and a little nutmeg. To make it transparent, add the whites of three or four eggs; stir them well with the other ingredients; boil five minutes, and strain through the jelly-bag.

Tapioca Jelly. One cup full of tapioca. Wash it two or three times and soak it in water five or six hours. Then simmer it in the same water in which it has been soaked, adding salt and bits of fresh lemon peel; until it has become transparent. Then add lemon juice, wine and loaf sugar to flavor it. Simmer all together and pour into glasses to cool.

Rice Jelly. Make a thin paste of two ounces of rice flour, and three ounces of loaf sugar, and boil them in a quart of water till transparent. Flavor with rose, orange, or cinnamon water. It can be made by boiling whole rice long and slowly. A little salt improves it.

Charlotte Russe (1). One-half a pound of white sugar, four eggs, the whites and yolks beaten separately, and with the sugar; one quart of cream, whipped as for syllabub. Dissolve one-half ounce of isinglass in a cup of milk, and, while warm, mix cream and sugar and two vanilla beans, boiled in a cup of water; prepare the form; then pour it to cool.

Charlotte Russe (2). Mix with the yolks of four eggs a quarter of a pound of sugar, pounded fine, and add to this half a pint of new milk. Put it over the fire till it begins to thicken like custard, but do not let it boil; then add half a pint of very stiff calves-foot jelly. Strain it through a napkin; put in a pan, placed on ice, a pint of very rich cream, flavored or not, as you like, and whip it until it looks like float; pour the cream into another dish, and put the custard in the pan on the ice; with a paddle stir it on the ice until it becomes thick, like jelly; then add the cream very lightly. The mixture should look like light sponge cake before it is baked. A round tin pan must be prepared with sponge cake, called ladies' fingers, placed around and at the bottom very evenly and closely; pour the Charlotte in it, and place it on the ice till wanted. When wanted, put a round dish or plate on it, and turn it out. The bottom will then be at the top, and no cake at the bottom.

Apples in Charlotte Russe. Quarter, peel, and core about a quart of apples; put butter in a stew pan, and set it on the fire; when melted, put your apples in, with sugar and a little grated nutmeg; then take them from the fire, put it in an oven, and, when cooked, drain them; put them back on the fire for ten minutes, stirring all the while, and take off; butter slightly a round mould; line the bottom and sides with croutons;* fill the mould with the apples; cover with slices of the soft part of bread; put in an oven for about twenty-five minutes; the oven must not be too hot; then take off, turn over on a dish, remove the mould, and serve hot.

Meringues. Beat the whites of six eggs to a stiff froth; sift into this two large spoonfuls of white sugar; while beating, flavor it with lemon; butter a tin mould; put the egg into it; set it into the oven to bake about ten minutes; butter a tin sheet, turn the mould on to it, and slip it off carefully, so as not to break the egg; sift a little sugar over it, and set it in the oven to brown; have ready a slice of bread or cake, spread over with marmalade or preserve; slip the form on to it. This is quite a pretty dessert dish.

*Croutons are pieces of bread cut in various shapes and fried in butter.

Italian Cream. Mix one pint of rich cream with half a pint of milk; sweeten it to your taste; add two gills of Madeira wine, one gill of rosewater; beat these ingredients thoroughly; dissolve in boiling water one ounce and a half of isinglass; strain it through a napkin or sieve, and stir it into the cream; fill the moulds, and when firm turn out.

Snow Cream. Beat the whites of four eggs to a froth, and stir in two spoonfuls of white sugar; flavor with rosewater or lemon; add a pint of thick sweet cream, and beat the whole together to a froth. This is to be served with a dessert of sweetmeats.

Lemon Cream. Take a pint of cream; add the peel of a lemon rubbed in sugar; whip it well; add sugar and lemon-juice to taste; have half an ounce of isinglass dissolved and cool; when the cream is thick, which it will be when the lemon-juice is added, pour in the isinglass, and immediately mould it. A smaller quantity of isinglass may suffice, but that depends on the thickness of the cream. Other flavors may be used, as orange, almond, maraschino.

Or, Take a pint of thick cream, and put to it the yolks of two eggs, well beaten; four ounces of fine sugar, and the thin rind of a lemon; boil it up; then stir it till almost cold; put the juice of a lemon in a dish or bowl, and pour the cream upon it, stirring it till quite cold.

Raspberry and Currant Cream. Use a bottle of raspberry and the juice of a handful of currants, passed through a sieve with the raspberries; then proceed the same as before, precisely.

Velvet Cream. Half an ounce of isinglass dissolved in a cup and a half of white wine; the juice and rind of one lemon, and three-quarters of a pound of loaf sugar; simmer all together until it is quite mixed; then strain it, and set it to get cool; add a pint and a half of rich cream; stir it until it is quite cold; put it into moulds, and set it on the ice until it becomes as stiff as blanc-mange.

Almond Cream. Boil one quart of cream, with a grated nutmeg, a blade or two of mace, a bit of lemon-peel, and sugar to your taste; then blanch one-quarter of a pound of almonds, and beat them very fine, with a tablespoonful of rose-water or orange-flower water; beat well the whites of nine eggs, and strain them to the almonds; beat them together, and rub them well through a coarse hair-sieve; mix it with the cream; set it on the fire, and stir it all one way until it almost boils; pour it into a bowl, and stir it till cold. Put it into cups or glasses, and send it to table.

Crème à la Vanille. Boil one ounce of isinglass in a pint of milk for ten minutes, taking care that it does not stick to the bottom of the stewpan; put into it half a stick of vanilla; cover it down, and let it stand till nearly cold; beat up the yolks of five eggs; mix them well, and stir the custard over the fire until it thickens, but do not let it boil; strain it into a bowl; when nearly cold, add a glass of noyau or maraschino; keep stirring it, and, when on the point of setting, add three-quarters of a pint of cream, well whipped; mix it well, and pour it into a mould; set it upon ice till wanted, when dip it for a moment into warm water, wipe it dry, and turn over upon a dish. This is a very fine cream for a Charlotte Russe; but there should be a little more isinglass added, and a glass of brandy instead of the noyau.

Chocolate Cream (2). Take a pint of milk, a gill of cream, the yolks of three eggs, and five ounces of powdered sugar; mix these ingredients together; set them on the fire to boil; stir it constantly, and let it boil till reduced to a quarter; then add two ounces of grated chocolate, and, having boiled a little longer, strain it and let it cool. Serve it cold.

Apple Cream. Boil twelve large apples in water till soft; take off the peel, and press the pulp through a hair sieve, upon half a pound of pounded loaf-sugar; whip the whites of two eggs; add them to the apples, and beat all together till it becomes very stiff, and looks quite white. Serve it heaped up on a dish.

Coffee Cream. Melt four ounces of white sugar in two tablespoonfuls of strong warm coffee; let it cool; place it on ice, and finish it like chocolate cream.

Moss Blanc-Mange. Take as much moss as will fill a large coffee-cup; put it into a dish, and pour boiling water over it; let it stand about ten minutes; wash it out, and throw it into cold water, to rinse it; put it into three quarts of milk, and let it boil ten minutes; add sugar, and flavor to taste; strain it through a very fine sieve or jelly-bag into the moulds.

Floating Island. Take the white of an egg, or more, as you want; beat to a froth; add a glass of currant jelly; beat them together until a spoon will stand up in it; drop a spoonful at a time in a glass bowl of sweet cream.

Gooseberry or Apple Custard. Boil your fruit; pulp it through a sieve, and season with sugar, and flavor the apple with a grated lemon

or nutmeg. Lay in a thick layer of the fruit in a dish; mix a pint of milk, a pint of sweet cream, the yolks of two eggs, and scald it over the fire, stirring it; add sugar to the taste, and let it get cold; lay it over the fruit with a spoon, and over the whole a whip. Some prefer the whip made the day before.

Almond Custard. Blanch and pound fine, with half a gill of rose-water, six ounces of sweet and half an ounce of bitter almonds; boil a pint of milk, as in baked custard; sweeten it with two ounces and a half of sugar; rub the almonds through a fine sieve, with a pint of cream; strain the milk to the yolks of eight eggs and the whites of three, well beaten; stir it over the fire till it is of a good thickness; take it off the fire, and stir it till nearly cold, to prevent its curdling. N. B.—The above may be baked in cups, or in a dish, with a rim of puff paste put around.

Baked Custard. Boil a pint of cream with mace and cinnamon; when cold, take four eggs, leaving out two of the whites, a little rose-water, a little white wine, nutmeg and sugar to your taste; mix them well together, and bake them in china cups.

Boiled Custard. Boil in a pint of milk, five minutes, lemon-peel, coriander seed, and cinnamon, a small quantity of each, half a dozen bitter almonds, blanched and pounded, and four ounces of loaf-sugar, mix with a pint of cream, the yolks of ten eggs, and the whites of six, well beaten; pass it through a hair sieve; stir it with a whisk over a slow fire, till it begins to thicken; remove it from the fire, and continue to stir it till nearly cold; add two tablespoonfuls of brandy; fill cups or glasses, and grate nutmeg over.

Rice Custard. Mix a pint of milk, half a pint of cream, one ounce of sifted ground rice, five or six bitter almonds, blanched and pounded, with two tablespoonfuls of rose-water; sweeten with loaf-sugar, and stir it all together till it nearly boils; add the well-beaten yolks of three eggs; stir, and let it simmer for about a minute; pour it into a dish, or serve it in cups, with sifted loaf-sugar over the top.

Arrow-root Custard. In winter, when eggs are very dear, take two spoonfuls of arrow-root mixed in a teacup of cold milk; boil a quart of milk, beat up three eggs, and mix in the arrow-root. Pour in the boiling milk, stirring the eggs and arrow-root continually; put it in a pitcher, and boil as above directed.

Chocolate Cream. Beat up separately the whites and yolks of six eggs; add to the yolks a cup of fine white sugar, stir the whites into the yolks, dissolve a quarter of a pound of chocolate in half a pint

of hot water, add a pint and a half of cream, give it one boil, and turn it on the eggs, stirring it all the time. Then put it into boiling water, stirring the custard constantly until it thickens. To be served in glasses, and eaten cold.

Coffee Custard. Take a large cup of fresh ground coffee, break an egg into it; mix it up well; put it into a coffee-pot with a pint of boiling water. Boil it five minutes, add a cup of cold water, and let it stand ten minutes. Turn it off very clear into a saucepan, add a pint of cream, and give it one boil. Have ready eight eggs, well beaten, one and a half large cups of sugar; turn the coffee and cream boiling hot on the eggs, stirring all the while. Put the custard into a pitcher, set it into boiling water, and stir it all the time until it thickens. Serve in cups, to eat cold.

Strawberry Ice Cream. Pass a pint of picked strawberries through a sieve with a wooden spoon, add four ounces of powdered sugar and a pint of cream, and freeze.

Pineapple Ice Cream. Pare a ripe, juicy pineapple, chop it up fine, and pound it, to extract the juice. Cover it with sugar and let it lie awhile in a china bowl. When the sugar has entirely melted, strain the juice into a quart of good cream, and a little less than a pound of loaf-sugar. Beat up the cream and freeze it in the same way as common ice cream.

Currant Ice Cream. Put one large spoonful and a half of currant jelly into a basin with half a gill of syrup, squeeze in one lemon and a half, add a pint of cream, and a little cochineal, then pass it through a sieve and finish in the general way.

Water Ices Are made with the juice of the orange, lemon, raspberry, or any sort of fruit, sweetened and mixed with water. To make orange-water ice, mix with one pint of water the strained juice of three fine oranges, and that of one lemon. Rub some fine sugar on the peel of the orange, to give it the flavor. Make it very sweet and freeze it. Lemon ice is made in the same manner.

PUDDINGS.

Snow Pudding. One-half a box of Cox's gelatine. Pour over it one pint of boiling water. Add two cups of sugar and the juice of two lemons. When nearly cool add the whites of three eggs, beaten forty-five minutes. Pour into a mould to harden. For sauce, the yolks of three eggs, one pint of milk, sweeten to taste, set in a ves:el

of hot water to boil, stirring constantly till done. When nearly cool add a little salt and flavor with vanilla.

Queen's Pudding. Mix one pint of bread-crumbs with one quart of milk, butter of the size of an egg, the grated rind of a lemon, the yolks of four eggs and the white of one; add nearly a cup of sugar. Bake half an hour. While cooking, beat the whites of three eggs with eight tablespoonfuls of sugar and the juice of the lemon. When done, drop over the pudding lumps of jelly. Cool *perfectly*; apply the frosting and brown in the oven. To be served cold.

Aberandell Pudding. Dissolve one-half a box of Cox's gelatine in a teacup of cold water; add three pints of milk, a little salt, sweeten to taste, set in a kettle of water and stir till it boils. Beat the yolks of six eggs and stir in. Strain it through a cloth, then set it back in the kettle till the whole boils; take it off and stir in rapidly the whites of the eggs beaten to a froth. Flavor with lemon or vanilla and set it away to cool. Serve cold.

Corn Starch Pudding. One quart of boiling milk, four tablespoonfuls of corn starch wet in cold water; beat into this the yolks of four eggs and a little salt. Add one cup of sugar, put it into a mould, and set away to cool. Wet the mould with cold water. When perfectly cold, add the frosting, which is made thus: four tablespoonfuls of sugar beaten into the whites of the four eggs; set into the oven to brown. Serve cold. Farina may be used instead of corn starch.

Cottage Pudding. Sift with one cup and a half of flour one teaspoonful of cream tartar and half a teaspoonful of soda. Mix with this one cup sweet milk, one-half cup of sugar and two eggs, well beaten. Bake till done in a quick oven.

Boiled Indian Pudding. One pint sweet milk, one pint Indian meal, one-third of a pint of rye flour, one-third of a cup of molasses, one teaspoonful of soda. A little chopped suet improves it.

Sweet Potato Pudding. Grate half a pound of par-boiled sweet potatoes, and stir to a cream six ounces of sugar and six of butter, to which add the beaten yolks of eight eggs. Mix these well together, and add the grated peel and juice of a lemon and a grated nutmeg. Last of all add the whites of the eggs beaten to a stiff froth.

Boiled Flour Pudding. One quart of milk, nine eggs, nine tablespoonfuls flour, a little salt. Put in a strong bag and boil half an hour.

Boiled Batter Pudding. Take one quart of milk, eight eggs, and eight spoonfuls of flour. Beat these very smoothly together; put it

into a floured cloth or buttered mould, and boil it one hour. Serve it with wine sauce. If it is not required so rich, put in fewer eggs and more flour, and boil it longer.

Baked Apple Pudding. Stew and strain six large apples. While hot, add half a pound of butter, six eggs, beaten with half a pound of sugar; and the juice and grated peel of a good-sized lemon. Mix this all together. Pound six soft crackers. Butter a good-sized pudding-dish; strew in some of the cracker, then a layer of the apple, then some cracker, and so on, until all is in. Bake about one hour.

Birdnest Pudding. Pare and core as many apples as will set in the dish, and fill the holes in the apples with white sugar and lemon-peel. Mix as much custard as will fill the dish; allow seven eggs to a quart of milk, and season it with sugar and lemon, or peach-water. Fill the dish quite full, set it into a pan with a little water, and bake it one hour. Serve it with cold or wine sauce. It is very nice without any sauce; but in that case it should be made rather sweeter, or the apples should be scalded in a little sugar and water before it is baked.

Sago and Apple Pudding. Let half a pint of sago steep in water enough to cover it, until dissolved, or about half an hour. Peel and core nine apples, but do not cut them open. Fill the middle with sugar, and a little spice. Arrange the apples in a pudding-dish, and pour over them the sago. Bake one or two hours. Eat cold or hot.

Transparent Pudding. Beat up eight eggs very well; put them into a sauce-pan with a pint of pounded sugar, half a pint of butter, and a little nutmeg. Place over the fire, and stir constantly till it thickens, and then set it away to cool. Make a rich puff paste, put it round the dish, and put in the pudding. Citron sliced very thin improves it. Bake one hour in a not very hot oven.

Boiled English Plum Pudding. One-half pound of kidney suet, minced very fine; one-half pound of stoned raisins, one-half pound of currants, one-half pound of bread, grated fine; a quarter of a pound of citron, cut thin; half a nutmeg, six eggs, one large teacup of milk, a little salt, and a wine glass of brandy. Mix well, and boil three hours. For sauce, beat butter and sugar, a little nutmeg, with Madeira wine or brandy. Blanch two dozen sweet almonds, cut in strips, and stick in the pudding.

Baked Batter Pudding. One quart of milk, four eggs, eight table-spoonfuls of flour, one teaspoonful of salt, and one of soda. Bake forty minutes in a quick oven.

Rice Pudding. One cup of rice, one quart of milk, yolks of three eggs, three tablespoonfuls of sugar, butter size of a walnut, grated rind of one lemon, whites of the eggs beaten and spread over the pudding after it is done.

Plum Pudding. One pound of bread, one quart of milk, a large spoonful of flour, one teacup of sugar, one nutmeg, one teaspoonful of cinnamon, half a teaspoonful of pounded cloves, a piece of butter the size of an egg, the same quantity of chopped suet, one pound of raisins. Boil the milk. It is well to soak the bread in the milk over night. This pudding will keep several weeks; when to be used, loosen it from the dish by a knife passed around it, and a little hot water passed around the edge. It should then be covered close, and set for half an hour into the oven.

Cranberry Roll. Stew a quart of cranberries in just water enough to keep them from burning. Make it very sweet. Strain it through a colander, and set it away to cool. When quite cold, make a paste as for apple pudding. Spread the cranberries about an inch thick; roll it up in a floured cloth, and tie it close at the ends. Boil it two hours, and serve it with sweet sauce. Stewed apples, or any other kind of fruit, may be made in the same way.

Potato Pudding. Boil six good, mealy potatoes; mash them very fine; beat them well with the yolks of five eggs, half a pound of white sugar, quarter of a pound of butter; beat the whites to a strong froth; the rind of a lemon, grated, and the juice. Stir all together well; add a little salt, and a pint of good milk or cream. Bake about an hour and a half.

Frozen Pudding. Take stale plum and sponge cake; slightly butter a tin pudding-mould, of a melon shape; put a layer of cake at the bottom, then a layer of either strawberry or raspberry jam, then cake, then jam, and so on, until the mould is nearly full. Turn on a teacup of good, strong Madeira wine or brandy. Make and boil a soft custard; fill the mould; let it stand until the cake is soft. Place it in ice and salt; cover it all over; let it stand six or eight hours; dip the mould into boiling water, quickly, and then turn it on to the dish.

Cold Sauce. Half a pound of white sugar, and half a pound of butter rubbed together until it is very white; the juice of one lemon, and the rind grated, or essence of any kind as a flavor.

Pudding Sauce. Half a pound of fine powdered sugar, half a pound of butter, beat to a froth with the hand, half a pint of white wine, and one gill of water. Boil the wine and water; turn it boil-

ing hot on the butter and sugar, stirring it briskly all the while. Have ready, in the sauce-dish, some grated nutmeg or essence of lemon, and send it to the table immediately.

Pudding Sauce. Two cups of fine white sugar, one cup of butter, a wineglass of Madeira wine, and two eggs. Beat all this together for half an hour, and let it scald, not boil. If you wish it to look very yellow, add one more egg.

Custard Pudding. Beat up seven eggs and half a pound of sugar; stir it into one quart of milk, and season with peach-water or lemon. Butter a dish that will just hold it; pour it in; set a pan into the oven half full of water, and set the pudding-dish into it to bake. Bake it three-quarters of an hour. Some persons boil the milk, and turn it on the eggs, stirring it all the time until nearly cold, and then season and bake it.

Baked Indian Pudding. Boil a quart of milk; stir into it gradually three gills of Indian meal and half a pint of molasses, and let it cool. Butter a brown earthen pan; put into it half a pound of beef suet, chopped, and a spoonful of salt; then turn in the pudding and a quart of cold milk. Stir it up well, mixing the suet with the pudding. Add a pint of cold milk; do not stir it again. Bake it five hours. If baked in a brick oven, let it stand eight hours, over night.

Squash Pudding. Take a crooked-neck or marrow squash, weighing about four pounds; peel it, and cut it into pieces about an inch square; put them into a saucepan with a very little water, and let them stew gently three or four hours. Be careful to keep some water with it to prevent its burning. When it is very soft rub it through a sieve, and add a little salt. Beat up six eggs with a pound of sugar and a spoonful of mace or cinnamon; warm a quarter of a pound of butter, so that it will stir in; add a quart of good milk or cream, and bake it in deep plates lined with paste, and a thick rim. Cut a rim of paper to put over the crust, to prevent its burning. Bake it half an hour.

Lemon Pudding. Beat eight eggs very well; add eight ounces of white sugar, the rind of two lemons being rubbed with some lumps of sugar to take out the essence; then peel and beat them in a mortar with the juice of the lemon, and mix all with six ounces of butter, warmed. Line the dish with rich paste; turn the pudding in, and bake it about one hour.

Almond Pudding. Take half a pound of blanched almonds, and pound them in a mortar until they are quite fine. Beat up eight

eggs; mix a pound of sugar and three-quarters of a pound of butter to a cream; stir in the almonds, then the eggs, a little rose-water, and a pint of cream. Bake it in a deep plate or pudding-dish, with a rim of puff paste. Bake it three-quarters of an hour.

Bread Pudding. Take a pound of stale bread; boil a quart of milk; pour it on the bread, and let it soak one or two hours; then rub it quite fine with the hands. Beat up four or five eggs, and add them to it; also a tablespoonful of cinnamon, or any other kind of spice; two cups of sugar, and a little chopped suet, or a quarter of a pound of butter. Bake or boil it two hours.

Plum Pudding. One and a half cups chopped beef suet, one cup of milk, one of molasses, three cups of flour, four cups of raisins, half a teaspoonful of soda, a little salt, one teaspoonful of cloves, and one nutmeg. Boil four hours.

Tapioca Pudding. Put a cup of tapioca into a pint of milk; set it near the fire to swell, and stir it often. Then add a pint of cold milk, five eggs, two cups of sugar, a little salt, and spice of any kind. A cup of raisins and a cup of currants may be added. Bake it an hour and a half.

Cocoanut Pudding. Break the cocoanut, and save the milk; peel off the brown skin, and grate the cocoanut very fine. Take the same weight of cocoanut, fine white sugar, and butter; rub the butter and sugar to a cream, and add five eggs, well beaten; one cup of cream, the milk of the cocoanut, and a little grated lemon. Line a dish with a rich paste; turn the pudding in, and bake it about one hour.

Vanity Pudding. One pint of flour, a little salt, one quart of milk, four eggs. Beat the whites to a stiff froth, and put them in the last thing. Bake in cups in a quick oven.

PASTRY.

To Glaze or Ice Pastry. Beat the yolk of an egg, and lay it on with a small brush or bunch of feathers; or glaze with the whole egg beaten. To ice tarts, moisten the paste with cold water, and sift white sugar over it before sending it to the oven; or, when it is nearly baked, take it from the oven, brush it over with the white of an egg, well beaten, then well covered with sifted sugar, and sprinkled with a few drops of water. Return to the oven, and bake till done.

Fine French Puff Paste. Take an equal weight of best butter and fine, dry, and sifted flour. Allow for each pound of these the yolks

of a couple of eggs and a teaspoonful of salt. Break a few small bits of butter very lightly into the flour, put the salt into the centre, and pour on it sufficient water to dissolve it; add a little more water to the eggs, moisten the flour gradually, and make it into a *very* smooth paste, rather soft in summer, but not stiff in winter. Press the butter in a soft cloth to remove all moisture from it, and form it into a ball, but do not soften it too much. If it is too warm, place it on ice, in summer, or in a cold place in winter, for an hour before it is used. Then roll out the crust of sufficient size to cover the butter, put the butter in the middle of the crust, and fold the latter well over it, and roll out as thin and lightly as possible, dredging the board and roller with flour to prevent the paste from sticking. Then fold the paste in three; that is, fold it half over, and turn the other half over; set it in a cool place a few minutes, give it two more turns in the same way, rolling it very lightly, but of equal thickness, and taking care that the butter does not break through the paste. Set it aside again to cool, roll twice more, and fold in three; then fold once more, and it is ready for use.

Aunt Smith's Recipe. Sift into the bread-bowl a quart or more of flour; into the middle put a teaspoonful of salt; measure equal quantities of water and butter or lard. Put the butter into the flour, and work it in with the hand, gradually adding the water, and mixing the paste. Work in the flour slowly, and have the paste quite soft and well compounded. Then roll out a piece of the paste for your pies, place in the pan, fill with fruit or custard, and bake immediately in a quick oven.

Crisp Paste. Take a quarter of a pound of flour, dried and sifted, add two tablespoonfuls or powdered loaf-sugar, and the yolks of two eggs, well beaten, work it well with a horn spoon, and roll it out very thin, touching it as little as possible with the hands. The moment before putting it in the oven rub it over with the white of an egg whisked to a froth, and sift over it finely powdered sugar. Bake in a brisk oven.

Paste for Family Pies. One pound and a half of flour, half a pound of butter: wet it with cold water enough to make a stiff paste; work it well, and roll it out two or three times.

Rice Paste. Mix half a pound of sifted ground rice with quarter of a pound of fresh butter; work it into a paste with cold water; dredge the board and roller with flour, and roll out the paste. Put over it in small pieces another quarter of a pound of butter; fold it

and roll out three times, each time strewing flour over and under it. Cover the last, and glaze it before baking. To be eaten the same day it is baked.

Rich Short Paste. Take equal quantities, by weight, of flour, butter and sugar; rub the butter with the flour, mix in the sugar, and work the ingredients together till you form a paste. Put it half an inch thick over the tart, having ordinary paste under it.

Rich Puff Paste. To one pound of flour allow one pound of butter. Wash the butter in cold water; divide it into three parts, make it into thin cakes and lay them on the ice to harden. Sift the flour; take one cake of the butter, and rub it well into the flour; mix it up lightly with the hands with cold ice water, sprinkle a little flour on the paste-board, and roll the crust out very thin, rolling from you always. Be careful not to break the crust with the edge of the rolling-pin. Roll out one cake of butter as thin as possible, lay it on the paste, dredge on a little flour, roll up the paste, then roll it out thin again; roll out the other cake of butter, lay it on the paste, dredge on a little more flour, and roll it up again. Cut it into as many pieces as required. For edging, have three or four layers of paste rolled very thin, and put on the rim of the plate. The flour used in dredging is included in the weight of the flour for the paste.

Mr. Blot's Paste A. Take half a pound of butter, put in a pail of very cold water for half an hour, and take it out; work it into a pound of flour with two eggs, half a pint of very cold water, and a quarter of an ounce of salt. Knead the whole with the hand; then dredge the board with flour, and put the paste on it, roll it thin, fold it over once, and roll again thin. Repeat the same process five times in summer, and six in winter, and leave it thus half an hour in summer, and an hour in winter, before using it.

Apple Pie (1). Peel and core ten apples, and put them into a vessel to stew with very little water. When done, turn them into a dish to cool. While hot, add a small piece of butter, any kind of spice or flavoring you fancy, and sugar to taste. When cold, place them in the paste with an upper crust, and bake until the crust is done. This will make three small pies.

Apple Pie (2) Peel and halve about eight apples, take out the cores; put into a saucepan two cups of sugar, a lemon, sliced, a gill of water. When this boils, put in the apples, and let them cook slowly until tender and clear, then remove them with a spoon, so as not to break them. Boil down the syrup till just enough is left for

the pies. When cold, put the apples in the plate, around which a double rim of puff paste has been placed, brush it all with the white of an egg, and sift white sugar over it. Bake till done.

Apple Pie (3). Quarter, peel, and core as many apples as you want; put them in paste in a tin pan or plate; add sugar and spice to taste, and set into a warm oven. Twenty minutes after, make a few holes in the top crust to let the vapor out, and return to the oven till done. Some kind of apples require longer than others to cook. Dust the pie with sugar when you take it from the oven, and serve either hot or cold. Any other fruit pies are made in the same way.

Pumpkin Pie. Peel the pumpkin, and take out the seeds, then stew in as little water as possible, and strain through a colander or sieve. Allow three or four eggs to a quart of milk, or, if eggs are scarce, one egg to a pie will do. Sweeten with sugar or molasses, and season with ginger, nutmeg, cinnamon, and a little salt. Bake without an upper crust in a hot oven until the centre of the pie is raised in an arch. It will settle back when cool.

Carrot Pies are made like pumpkin pies. Peel or scrape, stew and sift through a sieve.

Squash Pies are made like pumpkin pies.

Custard Pie. Allow three well-beaten eggs to a pint of milk, in which a stick of cinnamon or a bit of lemon-peel has been boiled. Add a little salt and nutmeg, and pour the custard into a deep plate lined with thick paste. Bake one hour or till done.

Potato Pie. Peel and boil Irish or sweet potatoes, and strain them through a sieve. Add to four ounces of potato one quart of milk and four eggs, with sugar and flavoring to taste.

Cocoanut Pie. Grate the white part of the cocoanut; mix it with milk, and let it simmer ten minutes over the fire. Allow a quart of milk to a pound of cocoanut. Beat eight eggs thoroughly, and mix them with four tablespoonfuls of white sugar and a glass of wine. Then stir this into the milk; add two teaspoonfuls of melted butter, a small cracker, and half a nutmeg. Turn the whole into deep pie-plates lined with paste. Bake immediately.

Cocoanut Cheese Cakes. Stew till tender six ounces of grated cocoanut and six ounces of white sugar with two tablespoonfuls of cocoanut milk. When cool, add five eggs, beaten to a froth, and strained, and the grated rind of half a lemon. Line patty-pans with paste, put in the mixture, and bake from twelve to fifteen minutes.

Lemon Cheese Cakes. Rasp the rind of a lemon with four ounces of fine sugar, then crush and mix it with the yolks of three eggs and half the whites, well beaten. Mix these together thoroughly, and add four tablespoonfuls of cream, four ounces melted butter, the juice of the lemon, strained, and stirred in quickly by degrees; a little orange-flower brandy. Line some patty-pans with thin paste, pour on the mixture, and bake half an hour in a moderate oven.

Lemon Pie (1). Grate the rind of two lemons; peel off the white skin, and chop the lemon up fine. Add two cups of sugar, beat up two eggs, and stir it all together. Bake in a pan, with under and upper crust of thin paste, about twenty minutes.

Lemon Pie (2). Roll and cut one lemon; add one-half cup of molasses, the same of sugar, one tablespoonful of flour, and one cup of water. Mix well, and boil all together. When cold, pour into a pan lined with paste. This makes one pie, and must be baked thoroughly.

Lemon Pie (3). Grate the rind of one lemon, and mix with it one cup and a half of sugar, one cup of water, the juice of the lemon, and thicken the whole with one tablespoonful of flour. When cold, add the beaten yolks of three eggs. Line a pan with paste, put in the mixture, and bake. When nearly done, spread over it the whites of the eggs beaten to a froth, and mixed with a tablespoonful of white sugar. This makes one small pie.

Lemon Pie (4). Dissolve one tablespoonful of corn starch in a little cold water, and pour on it a cupful of boiling water; when it boils up pour it on to one cup of sugar and a teaspoonful of butter. When cool, add one egg, well beaten, and the peel and juice of one lemon. This is a very palatable and cheap pie when fruit is scarce.

Mince Pies (1). Three and a half pounds of good chopped beef, a pound of suet, three and a half pounds of raisins, half of them stoned and chopped, the other half left whole; the same quantity of currants as of raisins, seven pounds of chopped apples, one pound of candied citron cut in thin slices, two pounds of sugar, one ounce of nutmegs, one quart Madeira wine, one pint best brandy, one pint golden syrup or best molasses. These ingredients, put down in a close jar, will keep all winter. Cider may be substituted for the wine and brandy.

Mince Pies (2). Mince finely eight large apples, a pound and a half of stoned raisins, half a pound of orange-peel, a pound and a half of fresh beef. Mix with these, four ounces of sweet almonds, pounded to a paste with a little wine, half a grated nutmeg, a quarter of an ounce of pepper, a little clove and a little pounded cinnamon, one

pound of brown sugar, and a pint of wine or brandy. Mix these ingredients thoroughly, and pack down closely in stone jars, carefully covered.

Mince Pies (2). Take a neat's tongue, rub it with salt, and let it lie three or four days, then boil it till a broom straw will go through, skin, and mince fine. With this, mix two pounds of fresh sirloin beef, boiled tender and chopped fine; two pounds of raisins, stoned and chopped; half an ounce of mace, quarter of an ounce of cloves, the same of black pepper, a large nutmeg, four pounds of apples chopped fine, one pound of brown sugar, and half a pint of syrup or good molasses. Pack it in jars. When made into pies, add citron cut fine, wine or cider, and preserved orange-peel. The syrup of preserved pickles, cherries, and strawberries enriches and improves mince pies.

ADDITIONAL MISCELLANEOUS RECIPES.

To cook Macaroni. Simmer a quarter of a pound of macaroni in plenty of water, until it is tender. Strain off the water, and add a pint of milk or cream, an ounce of grated cheese, and a teaspoonful of salt. Mix well together, and strew over the top two ounces of grated cheese and crumbs of bread. Brown it well in baking, on the top. It will bake in half an hour.

Pickled Walnuts. Take a hundred nuts, an ounce each of cloves, allspice, nutmeg, whole pepper, race ginger and horseradish, half a pint of mustard seed, tied in a bag, and four cloves of garlic. Wipe the nuts, prick with a pin, and put them in a pot, sprinkling the spice over them as you lay them in. Add two tablespoonfuls of salt. Boil vinegar enough to cover them and pour it over the nuts and spice. Cover the jar close and in a year the pickles will be ready for use.

Scotch Marmalade. Take equal quantities in weight of Seville oranges and loaf sugar; cut the oranges into halves, take out the pulps, and put the rinds into cold water; boil them till tender, changing the water once or twice, and when cold remove the white from the peel; mash the orange pulps and squeeze it through a cloth, adding a little water the second time or squeezing; then shred the peel fine, add the juice and sugar, and boil twenty minutes over a slow fire.

To cook Pigeons. Stuff them like turkeys, put them in a pot breast downwards, and cover them with salted water an inch above the top,

and simmer them two hours if tender and three if tough. When nearly done, stir in a bit of butter the size of a goose egg, for every dozen pigeons. Take them up and add a little flour paste to the gravy, with salt and pepper, pour some of it over them and put the rest in a gravy dish.

Strawberry Vinegar. Put four pounds very ripe strawberries, nicely dressed, to three quarts of the best vinegar, and let them stand three or four days. Then drain the vinegar through a jelly-bag, and pour it on to the same quantity of fruit. Repeat the process in three days a third time. Then to each pound of liquor thus obtained, add one pound of white sugar. Bottle it and let it stand covered but not tight corked, a week, then cork it tightly, and set it in a dry, cool place, where it will not freeze. Raspberry vinegar can be made in the same way.

Milk Lemonade. Pour a pint of boiling water on to six ounces of loaf-sugar, add a quarter of a pint of lemon juice and half the quantity of good sherry wine. Then add three-quarters of a pint of cold milk and strain the whole to make it nice and clear.

Wine Whey. Set half a pint of milk in a pan over the fire and pour into it, when hot, port or sherry wine, stirring it all the time, until the curd separates from the whey and gathers into a ball on the side of the dish. This is a very palatable, nourishing and harmless drink for invalids.

Oyster Sauce. Take a pint of oyster juice, add a little salt and pepper, and a stick of mace, boil it five minutes, then add two teaspoonfuls of flour, wet up in half a teacup of milk. Let this boil two minutes, then put in the oysters and a bit of butter the size of an egg. In two minutes it will be done and should be taken up.

Cold Cream. With two ounces of oil of almonds mix one ounce of spermaceti, one drachm of white wax, melt them together and perfume with rose-water.

Cologne Water. One drachm each, oil of lavender, oil of lemon, oil of rosemary and oil of cinnamon. Add two drachms oil of bergamot, mix in a vial and add a pint of alcohol.

Simple Cerate. Melt together equal quantities of white wax and spermaceti, then add an equal quantity of sweet oil.

Best remedy for burns. Pound and sift wood soot, mix it with sweet lard, spread on linen rags and apply. If the skin is off, the air should be carefully excluded from the surface. If the burns are large and bad, give a mild cathartic.

Seidlitz Powders. Two drachms of Rochelle salts and two scruples of bicarbonate of soda, in a white paper, thirty-five grains of tartaric acid in a blue one. Dissolve that in the white paper in half a glass of water and add the other powder dissolved in another half glass of water. It is a gentle laxative.

SOUPS, MEATS, FISH, AND MADE DISHES.

Crab Soup. Scald the crabs to kill them. Then open them and remove the parts not edible; put the fat in a dish by itself. Place the crabs over the fire and stew about an hour, adding a little salt, pepper, rice, and two or three pods of okra cut in slices. When nearly done put in the fat, boil five or ten minutes and serve.

Mullagatawny Soup. Take four pounds of a breast of veal, cut it in pieces an inch long by two inches wide, put the trimmings into a stew pan with two quarts of water and a dozen black peppercorns, and the same number of allspice berries; skim frequently and let it boil an hour and a half; while it is boiling fry the bits of veal with onions in butter a nice brown, and when they are done pour the broth over them, and set the whole over the fire, skimming it clean as it boils for half an hour. Then mix two spoonfuls of curry and of flour smoothly in water, add this to the soup with salt as needed, simmer gently till the veal is quite tender and serve. Fowls or rabbits may be used instead of veal, and other seasonings than pepper and allspice used if preferred.

Beef Soup. Crack the joints of beef well, put them into cold water, let the water come to a boil and skim well. Let it simmer slowly till the meat is done, closely covered. About five hours is the right time. Then set it away to cool. When cold remove all the fat, and into the clear liquor put vegetables, onions, carrots, turnips, celery, cabbages, cut in dice. Thyme, sage, and pepper make good seasoning. Thicken the soup with rice, barley, or flour.

Clam Soup. Open forty or fifty clams, chop them fine, with an onion, a bunch of minced celery, and a salt-spoon each of mace and pepper. Put all, with the liquor of the clams, in a saucepan, thicken it with two tablespoonfuls of butter rolled in flour, and add a little milk. Simmer twenty minutes; stir in the beaten yolks of five eggs, put bits of toasted bread into the tureen and serve.

Bean Soup. Pick over the beans, wash them, parboil them, pour off the water and put them on in fresh water with a few slices of

ham or beef. Boil them all to rags, strain through a colander, return to the pot and add a little chopped celery, an onion, a bunch of herbs, and boil slowly half an hour. Strain and serve.

Gumbo. Take a nice fat hen or two chickens, cut up and put into a pot and fry; when it is fried brown, not scorched, put in two quarts of finely sliced okra (the white is preferable), four large tomatoes, and two onions, peeled and chopped fine. Keep covered with water, and have the kettle tightly closed. Add boiling water as it wastes, and boil without intermission, but slowly, three hours; add salt and pepper to taste. Serve with rice, boiled dry.

Duck to Roast. There is no better way to roast ducks than to follow the directions for roast goose. Green peas are the epicure's delight with hot roast duck. Celery sauce is served with cold roast duck.

Giblet Pie. Take the feet, necks, wings, gizzards, livers, and heart, and heads, if you wish, of ducks or geese, boil till tender, place them in a deep dish, season with pepper and salt, and cover with paste not too rich, and bake till the cover is done. It may be eaten cold or hot.

Roast Sucking Pig. The pig should be three or four weeks old, and baked the day or the day after it is killed; after the first day it loses, every hour it is kept, some of the flavor and firmness of the meat. For stuffing, take five ounces of grated bread, two ounces of powdered sage, and a large onion, chopped fine; season with pepper and salt, and mix them together with an egg. After having cut off the toes and wrapped the skin about the ends of the legs, put in the stuffing, sew it up and put it to bake, with a pint of water and a tablespoonful of salt. When it begins to roast, flour it well and baste with the drippings. Bake till the eyes drop out,—about three hours. For sauce, scald and skin the tongue, and boil it with the feet, liver, and heart; when done, mince fine, season, add an onion chopped fine, parsley, and sweet herbs. Boil all together, thicken with flour rubbed up with butter, and serve in a sauce boat.

Roast Lamb. For a fore-quarter of ten pounds' weight, two hours' time will be required; for a hind-quarter of the same weight, two and-a-half hours. Neither lamb nor veal is agreeable when underdone, and should not be taken from the fire until the gravy which drops from it is perfectly colorless. Prepare forcemeat by taking a quarter of a pound each of finely-minced suet and grated bread, add finely-chopped parsley, sweet marjoram, some grated lemon peel, a very small slice of onion minced very fine, a little pepper and salt, and mix

the whole together with one or two well-beaten eggs. Place the forcemeat between the bone and the flesh and all underneath the kidney. Roast slowly, baste well, and serve with green peas and mint sauce.

Sausage Meat. Six pounds of fresh pork, two of lean beef, four teaspoonfuls of black pepper, eight of salt, and six of powdered sage and summer-savory. Chop fine, and put in skins or cases made of old muslin.

Hogs' Heart Sausages. Ten pounds of hogs' hearts, five pounds of fat pork, six ounces of salt, three ounces of black pepper, sage and other aromatics to taste. Chop fine, and put in skins.

Scrapple. Take all the odd bits of lean, the faces of the porkers, a small portion of the liver, and boil them all together till the bones drop out. Pick out the bones and everything not eatable, chop the meat fine, drain all the liquor back into the pan and remove all the fat; thicken the liquor with Indian meal, and boil it till it is as thick as batter, then put in the chopped meat, sage, salt, and pepper, boil all together, and take out into pans. When cold, cut in slices and fry for breakfast.

Stuffed Eggs. Boil the eggs hard, cut them in two lengthwise, and remove the yolks, which chop, adding to them some cooked chicken, lamb, veal, or pickled tongue, chopped fine; season the mixture, and add enough gravy, or the raw yolk of an egg, to bind them; stuff the cavities, smooth them, and press the two halves together; roll them in beaten egg and bread crumbs twice. When just ready to serve, dip them, in a wire basket, into boiling lard, and when they have taken a delicate color, drain. Serve on a napkin, and garnish with parsley or any kind of leaves, or serve with a tomato sauce. 2. Boil the eggs hard and cut them in two; take out carefully the yolks, which mash well, adding a little finely-minced onion, chopped parsley, pepper, and salt. Mash also double the quantity of bread, which has been soaked in milk; mix bread, yolks, etc., together; then bind them with a little raw yolk of egg. Taste to see if they are properly seasoned. Stuff the eggs with the mixture, so that each half has the appearance of containing a whole round yolk; smooth the remainder of the mixture on the bottom of a pie pan; arrange the halves symmetrically in this bed; brown a little in the oven.

Toasted Cheese. Cut a slice of bread half an inch thick; pare off the crust, and toast it very lightly on one side, so as just to brown it. Cut a slice of good fat mellow cheese, a quarter of an inch thick,

and half an inch each way less than the bread; pare off the rim and remove all specks, lay it on the toasted bread in the cheese toaster; take care that it does not burn, and stir it with a spoon to prevent a pellicle forming on the surface. Have ready good pepper, mustard, and salt. If these directions are followed, the cheese will eat mellow, and will be uniformly done, and the bread crisp and soft, and will well deserve its ancient appellation of a "rare bit." It must be eaten as soon as it comes to the table.

Prairie Chickens. If they are young, they are delicious fried a nice brown; if old, take some fat bacon cut fine, a few cloves, two or three onions, pepper and salt to taste, and stew until the meat comes off the bones; thicken with a little flour, and you have a most excellent dish.

Roast Turkey. Do not allow turkeys to be fed for a day or two before they are killed, which in cold weather should be a week before they are cooked; this makes them much more tender than they would otherwise be. In drawing, leave all the fat in the fowl, wash and rinse well, drying inside and out with a clean towel. For the stuffing of a turkey weighing fifteen pounds, allow half a loaf of bread, fifty oysters, with their liquor, half a pound of butter, pepper, salt, summer savory and thyme to taste. Boil the oyster liquor and strain it over the bread, add the seasoning, and if more moisture is needed, add boiling water. When this mixture is cool, add the oysters, taking care not to break them. If the turkey is not to be roasted the day it is stuffed, the dressing must be entirely cold, as it will sour if served up warm. Allow four or five hours for a fowl of this size, in a slow oven, basting frequently, and salting when half done. The gizzard, liver, and heart should be boiled, chopped fine, and with their broth, added to the gravy, which is to be thickened with flour. Serve with cranberry sauce.

To Broil Shad. Remove the roes, clean and dry thoroughly, wrap in buttered paper and place over a good fire; turn over two or three times, and when done take the paper off and serve. Fish when thoroughly done feels firm and elastic under the pressure of the finger.

[NOTE.—We always succeed best in broiling shad when we sit down with one hand on the handle of the broiling-iron, and look at it every minute while it is cooking, turning it when it begins to brown too much on one side, and so adjusting it over the fire that every part shall be done alike. There is nothing that will insure perfect success

like giving one's whole mind to broiling fish or steak. If they, either of them, are served with a divided heart while over the fire, they revenge themselves on the cook by being irregularly done, or scorched, or tough, or sodden. Fish, like steak, should not be salted till it is nearly cooked. Salt hardens the fibre, and draws out the juices, which should be retained until the meat is done.]

Fried Shad. Divide the two halves into pieces two or three inches wide, and lay them in boiling fat; fry a rich brown on both sides, and serve hot. Cook the flesh side first, the skin side last. The roes may be fried in the same way.

Stewed Shad. Clean and prepare the fish, place it in a fish-kettle, with parsley, thyme, an onion chopped, a pinch of allspice, salt, and pepper; cover with water, and boil gently till cooked; then take from the kettle and place on a dish; put two ounces of butter in the kettle, and when melted and mixed with the sauce, thicken with a tablespoonful of flour; stir with a wooden spoon till of a proper thickness, strain on the fish (which has been kept warm), and serve. If there is any left for the next day, warm it, but do not allow it to boil.

Scalloped Clams. Chop the clams, fill a well-buttered dish with alternate layers of clams and powdered crackers, season with pepper, and a very little mace or nutmeg; finish with a layer of cracker crumbs. Bake a light brown.

Lobsters. Put into boiling water, and boil fifteen minutes for every pound in weight. Remove from the kettle, and when cool, crack the claws and remove the meat; open the body and take out the meat. There is a dark vein running through the body, which should be taken away. When cold cut the meat in small pieces, put it with butter, pepper, salt, and a tablespoonful of vinegar, or lemon juice, in a frying pan; heat all together thoroughly, and serve with Mayonnaise sauce.

Smelts. Draw them through the gills and wipe them with a soft cloth, but do not wash them; dip them into the yolk of an egg, then roll them in very fine bread crumbs, mingled with flour; fry them four minutes in hot fat. Lay them in the dish, head and tail alternately; serve with melted butter, and garnish with parsley.

Salt Mackerel. Put a mackerel to soak over night in plenty of water, with the flesh down and the skin up. In the morning drain and wipe it dry; broil over hot coals, and serve with melted butter. Or, soak till dinner time, then roll it in a cloth, put it in plenty of boiling water, and boil half an hour. Drain from the water and lay

it on the platter, and cover with a sauce made as follows: "Take a piece of butter the size of an egg, mix with it smoothly a tablespoonful of flour, pour over the whole a half pint of boiling water, stirring till the gravy is smooth; let it boil three or four minutes, then pour over the fish; garnish with slices of lemon. No recipe we have ever tried for cooking salt mackerel is so good as this.

Fried Oysters. Drain them well, sprinkle on them pepper and salt, and let them stand in a cold place half an hour before cooking. Then roll each oyster in bread crumbs and dip it in an egg beaten up with half a cup of milk, roll it again in bread crumbs, and fry a light-brown in boiling lard. Garnish with lemon, chopped pickles, or chow-chow.

Canned Salmon. Prepare thin slices of buttered toast; on these spread the salmon, after heating it and seasoning it with pepper and salt; place a pint of milk over the fire, and when hot thicken it with flour and butter stirred together and cooked; pour this over the salmon, and serve.

Codfish Balls. After cutting the codfish in pieces, soak it an hour in luke-warm water. Remove all the skin and bones, pull into shreds, and put over the fire in cold water. When it boils change the water; repeat this process a second time, but do not boil the fish, as boiling only toughens it. Boil potatoes tender, mash while still hot, add a little butter, and mix the two, having half as much codfish as potato, before either has had time to cool. This is the important element in having them good—that they be mixed together while hot. Form into balls and fry them in boiling lard, or *saute* them in hot butter. They may be made the night before serving, but are better if fried as soon as made. Garnish with parsley.

Soft Shell Crabs. Remove the spongy substance and the sand bag, dry them, sprinkle on pepper and salt; mix a gill of milk with one well-beaten egg; add pepper and salt, roll the crabs in flour, then dip them in the egg, then in bread or cracker crumbs, and fry in boiling lard.

Potted Mackerel. Cut off the heads, take out the roes, clean the fish thoroughly, rub them inside with a little salt, put back the roes, season them with allspice, black pepper, and salt, lay them in a pan, cover with equal quantities of vinegar and water, tie over the pan strong white paper, doubled, and bake them for an hour in a slow oven. They will keep two weeks. Other fresh fish are good prepared in the same way.

Veal Loaf. Three pounds of veal-entlet, one-quarter of a pound of fat pork, chopped fine as mince meat, add bread crumbs till it is stiff, break in two eggs, add one tablespoonful of salt, the same of black pepper, a teaspoonful of cayenne, and one nutmeg. Work it all together in loaf-shape, break an egg on top, and rub it all over the loaf, sprinkle bread crumbs over it, put it into a baking pan with water and bake three hours, basting frequently. It is not good warm, but is to be eaten cold as a supper dish. The bread crumbs are made of stale bread, browned in the oven and rolled fine. They are better than crackers for scalloped oysters, and many other culinary purposes where cracker-crumbs are generally used.

Beef Tongue. If it has been dried and smoked, soak it over night; but if only pickled, soak it five hours. Put it in a pot of cold water, and let it set over a slow fire for an hour before it comes to a boil, then simmer it gently for three or four hours till it is done. When done a broom straw will pierce it readily. Peel it, rub it over with the yolk of an egg, strew bread crumbs and finely-chopped herbs over it; baste slightly with melted butter, and brown it in the oven for a few minutes. Surround the root with a paper frill, and serve.

Round Steak Stuffed. Take a steak weighing two or three pounds, spread over it a layer of stuffing made of bread crumbs and beef suet, in equal quantities, seasoned with sweet herbs, and mixed together with a couple of eggs. Roll this up and tie it, sprinkle salt over the top, and bake it, basting often. Serve with tomato sauce around it. Make a gravy of the drippings, season well, and pour it over the meat when served. Carve by slicing neatly off the end of the roll.

Sweetbreads. Veal sweetbreads are best. They spoil very soon. As soon as they come from market they should be put into cold water for about an hour; then lard them, (that is, with a larding needle draw through them strips of fat pork or bacon,) put them into salted boiling water, or into stock, let them boil about twenty minutes, or until they are thoroughly done; throw them into cold water for only a few moments. They will now be firm and white. Remove carefully the skin and little pipes, put them in a cool place till you wish to fry them. Then cut them in even-sized pieces, sprinkle over pepper and salt, egg and bread-crumbs them, and fry them in hot lard. When done, put them on a hot dish, pour out the lard, leaving in the pan half a teaspoonful, into this stir a teaspoonful of flour, and when brown pour in a cupful of milk; stir constantly till done, season with pepper and salt, and pour over the sweetbreads. If green peas are on the table,

serve the sweetbreads without gravy, putting the peas in the center of the dish, and the sweetbreads around them. They are often served whole with cauliflower or asparagus heads, when the cream sauce is poured over both; or they are nicely piled in the centre of the dish with macaroni cooked, with cheese placed around them, or with stuffed tomatoes alternating with the sweetbreads on the dish.

- *Veal Cutlets.* Cut them into pieces equal in size, beat them with a knife into shape, dip them first into egg and then in bread crumbs, and fry them slowly in hot fat; when done lay on a dish, pour off nearly all the-fat from the frying pan, stir into what remains a little flour, add a little water, salt, pepper, and lemon juice; pour this gravy over the cutlets and serve.

Boiled Corned Beef. Into enough boiling water to cover it put the beef, and boil it very slowly, for every pound three-quarters of an hour. When done cut off what is needed for immediate use, and let the rest remain in the liquor in which it was boiled until cold. This will render it much more juicy and palatable than if it were cooled out of the liquor.

Potted Beef. Salt three pounds of lean beef with half a pound of common salt, and half an ounce of saltpetre for two or three days. Divide it into pieces of a pound each, and put it into an earthen pan just large enough to contain it; pour in half a pint of water, cover it close with paste made of flour and water, and set it in a very slow oven for four hours; then remove the paste, pour the gravy into a bowl, shred the meat fine, moisten it with gravy, pound it thoroughly in a marble mortar with fresh butter till it becomes a fine paste, season it with black pepper, allspice, cloves, and nutmeg, put a weight on it and let it stand all night; when quite cold, cover it with clarified butter and tie it over with a paper. A nice dish for travelers to carry along for lunch.

Roast on the Pot. Select a piece of the round or neck, put it with a nice piece of fat and the tough parts of steak, cover partly with hot water and simmer very slowly two or three hours, till every drop of the water is boiled away and the meat is perfectly tender. Let it brown a little in the hot fat, then take out the meat. Stir into the fat a handful of flour and let it brown, then add boiling water till the gravy is of the right thickness. Very tough meat may be rendered delicious when cooked in this way, if taken from a sound and well-flavored animal.

To Cook Steak Tender. Cut the steak on both sides with a sharp

knife in little squares a quarter of an inch in size, and two or three lines deep; then place it in the frying pan, having the latter hot, and with a bit of melted butter in it, put a cover over the frying pan to confine the steam. When cooked on one side, turn it over on the other; when nearly done, remove the cover and brown a little. Take it up on a warm platter, salt it and serve at once. Treated in this way, steak is much more juicy and tender than when pounded, and better suited for those whose teeth are not good, than when cooked by the common method.

BREAD.

Oatmeal Bread. Stir into one quart of fresh oatmeal two quarts of water, and let the mixture stand over night. In the morning add a teaspoonful of fine salt, half a cup of sugar, and one quart of Graham flour, with which two teaspoonfuls baking powder has been thoroughly mingled. Put into pans without kneading, and bake in a quick oven. If the dough is too stiff, add more water.

Gems. 1. Into a quart of Graham flour stir enough water to make a thick batter; add salt to taste; put in gem pans already hot and well oiled, and bake in a hot oven. 2. Beat an egg light; stir it into a quart of Graham flour with a teaspoonful of sugar, a teaspoonful of salt, a pint or more of buttermilk or sour milk, and a teaspoonful of soda dissolved in a little water.

Waffles. To one pint of lukewarm milk add four tablespoonfuls of baker's yeast, one teaspoonful of brown sugar, one tablespoonful of melted butter, a little salt, and flour to make a batter of the consistency of thick cream. Let it rise over night; in the morning, just before baking, add two well beaten eggs. If any flour is added after the batter is raised, the waffles will be sure to be tough. A little difference in the consistency of the batter will affect them very much. If they seem leathery, use less flour next time.

Rusks. Dissolve two ounces each of butter and sugar in half a pint of warm milk; into this stir a pound of flour, two well beaten eggs, and a tablespoonful of good yeast; sift a quart of flour into the bread bowl, make a well in the middle, pour in the batter, cover it with the flour and let it rise for an hour or longer; then knead it into a firm, smooth dough, cut in small shapes, let them rise; when light, bake fifteen minutes in a slow oven; when quite cool, put them in a cool oven and dry them for half an hour. Keep them in a tin box in a warm place.

French Rolls. Rub two ounces of butter into a pound of flour ; add milk to make a stiff dough, also the whites of three eggs beaten to a stiff froth, a tablespoonful of strong yeast and a teaspoonful of salt. Mix all well together, cover and set in a warm place till light. Then cut into small rolls and bake about ten minutes in a quick oven. Dip each roll in melted butter and it will not stick to its neighbor.

Bread. Boil three potatoes ; when soft, mash them through a sieve with one quart of boiling water ; when cool, add one cup of yeast, flour to make a batter, and a little salt. Let it rise over night, and in the morning add one tablespoonful of lard, the same quantity of sugar, and flour enough to make a dough stiff enough to knead. Knead half an hour, cutting with a knife. Let it rise again, and after dinner cut out the dough in biscuit shape, and let it rise till tea time. Bake the rest in loaves. This makes a large sheet of biscuit and two loaves of very excellent bread.

Rice Waffles. Two cups flour, three eggs, a cup and a half of soft hoiled rice, with milk sufficient to make a muffin batter ; add a little salt, beat it well, and bake in waffle irons.

Tea Biscuit. One quart of sweet milk, one small teacup of butter, one small teacup of sugar, one gill of good yeast, flour to make a sponge. Mix over night ; when light, stir in more flour till the dough is of the proper consistency ; press the knuckles firmly into the dough till they reach the bottom of the bowl, and when it rises to a uniform oval, it is ready to be worked over into biscuit. Knead twice, and when light the third time ; bake in a quick oven about twenty minutes.

Vienna Bread. For four pounds of flour, take one and three-quarter ounces of Fleischmann's yeast, one-half ounce of salt, and three pints of milk and water, in equal portions. Dissolve the yeast and salt in the liquid and make a very thin sponge in the middle of the flour. Let it stand three-quarters of an hour, then stir in the rest of the flour. Let it stand two and a half hours. Then take it upon the board, cut it into pound pieces, knead a little, then cut each pound piece into twelve pieces, form into circular balls of dough, and bake fifteen minutes in a very hot oven.

Parker-House Rolls. Take two quarts of wheat flour, make a hole in the center, put in a piece of butter the size of an egg, a little salt, a tablespoonful of white sugar ; pour over this a pint of milk previously boiled, and cold, and one-half teacup of yeast. When the sponge is light, mould for fifteen minutes. Let it rise again, and cut

in round cakes; when light, flatten each cake with the rolling-pin, put a small piece of butter on top, and fold each over on to itself. Put in pans to rise, and when light, bake in a quick oven.

VEGETABLES.

Potato Salad. Boil the potatoes with the skins on till they are just done, not till they fall to pieces. Peel off the skins while hot and slice them thin. For every quart of sliced potato allow one tablespoonful of salad oil or melted butter and two of vinegar, salt and pepper to taste, a small onion, chopped very fine, and a good-sized apple, chopped very fine.

Asparagus Salad. Boil the asparagus till done, about twenty minutes, drain, season with salt and pepper, cover with vinegar; when cool, pour off the vinegar, baste with melted butter, and serve.

Spinach. Pick it over carefully, removing all stems and withered leaves, wash well, and put into salted boiling water enough to cover it. Boil till tender, drain, and press through a colander. Then put it in a saucepan, with salt, pepper, and butter, and heat it over the fire a few minutes. Garnish with hard-boiled eggs, cut in slices, or lay it on buttered toast after the manner of asparagus, and garnish with sliced hard-boiled eggs.

Poke Weed Greens. Cut off the young shoots when ten or twelve inches long, pick over carefully, wash well, put in boiling water and boil twenty minutes; pour off the water, add boiling water enough to cover, and a handful of salt, boil forty minutes longer, and serve as spinach or dandelion greens.

Maple Pods. The pods of the soft maple, when cooked like green peas, are as palatable.

Saratoga Potatoes. Slice the raw potatoes very thin with a cabbage cutter, having first peeled them, throw the slices into ice-water for a few minutes, dry them on a towel, and throw them into boiling lard; when they are nicely browned, drain carefully from the fat, spread on a hot dish, salt at once, and set in the oven till enough are prepared for the meal. The dish must not be covered, as that would destroy their crispness.

Parsnip Cakes. To eight ounces of grated raw parsnip add eight ounces of bread crumbs, half a pint of milk, four well beaten eggs, six tablespoonfuls of flour, and a little salt; fry in butter, or nice drippings.

Rice. Wash in several waters, then to each cup of rice take four

cups of water and a little salt, put in a pan and set over the fire. Boil slowly without stirring till the rice is dry, when it will be done. Serve with rich meat gravy.

Artichokes. Take off the outer leaves, clean them nicely and put them in boiling water; when the leaves come off easily they are cooked; when done, take them from the water and turn them upside down to drain. The base of the leaf is the part eaten. It may be dipped in a mixture of pepper, salt, and melted butter.

Jerusalem Artichokes. Pare them and boil them in milk and water, being careful to take them up the moment they are done.

Cabbage with Milk. Shred the cabbage fine, put it in a saucepan, pour boiling hot water over it; cover tightly and stew for ten minutes. Then pour off the water, and for every head of cabbage pour over a pint of rich milk. When it boils, thicken with a little flour, salt to taste, and serve. Cooked in this way, cabbage is almost as good as cauliflower.

Cauliflower. Remove the outer leaves, and put the cauliflower into boiling water, well salted. As soon as it is tender, drain it from the water and serve with sauce made as follows: In two tablespoonfuls of butter, cook thoroughly a tablespoonful of flour, then add milk or cream till a gravy is made, season to taste; when the gravy is cooked, pour it over the cauliflower and serve.

Egg Plant. Boil the egg-plants whole till a straw will penetrate them, then remove from the water, cut open and take out the inside; with this mix cracker crumbs, butter, salt, and pepper, and bake till brown on the top. Serve with a bit of lemon for each plate.

String Beans. String them, and cut them in thin shavings, lengthwise, with a sharp, thin bladed knife; throw into salted boiling water, and boil fast fifteen minutes; serve as soon as they are done. The pods should be very young, freshly picked, and tender.

Cucumbers. Peel them, cut them in longitudinal slices a quarter of an inch thick, roll them in fine bread crumbs and fry them brown in nice drippings. Serve with rich beef or veal gravy. Thus prepared, this vegetable may be eaten with impunity.

Tomatoes, Scalloped. Peel nice large tomatoes and cut them in slices a quarter of an inch in thickness. Lay in a deep dish a layer of tomatoes, then one of bread or cracker crumbs, butter, salt, a litt'e sugar, then a layer of tomatoes, and so on till the dish is full, having tomatoes last. Sprinkle over bread crumbs, sugar, and butter; cover with a tin or plate, and bake half an hour; then remove the cover and brown the top.

Sliced Potato. A nice breakfast dish is made by slicing, very thin, cold boiled potatoes, and heating them to the boiling point, with milk; salt should be added, and the whole served very hot.

To Can Corn. Cut the corn from the cob, pack very closely with the potato-masher into quart tin cans, put on the covers. Have a wooden frame to fit the bottom of the wash boiler, and about five inches high, put in the cans, lay a smooth board over them, with a weight on top. Let them boil four hours, taking care that the water in the boiler does not enter the cans, and adding *boiling* water as the water in the boiler wastes. Take out one can at a time, wipe dry, and seal as other fruit.

To Dry Sweet-Corn. Select ears of corn that are just right for the table, husk them, throw them into boiling water, and let them boil hard five minutes; then cut the corn from the ear, spread it evenly and thinly on earthen or new tin dishes, and subject it at once to the heat of the morning sun; or place it in an oven of unvarying temperature, where the process of drying will begin at once and be promptly completed. The sooner it is dried after it is cut from the cob the better, and the sooner it is prepared after it is gathered the better.

CAKES, PUDDINGS, PIES, DESSERTS.

Marble Cake. (White part.) One cup of white sugar, one half cup butter, one-half cup sweet milk, two cups flour, one teaspoonful of cream tartar, half a teaspoonful of soda, whites of four eggs. (Black part.) One cup brown sugar, one-half cup molasses, one-half cup butter, one half cup sweet milk, yolks of four eggs, one teaspoonful cream tartar, one-half teaspoonful soda, two cups flour, one teaspoonful all-spice, one of nutmeg, two of cloves, one tablespoonful cinnamon.

Ice Cream Cake. One cup butter, one cup corn-starch, one of milk, two cups of sugar, two of flour, whites of eight eggs, one-half teaspoonful soda, one of cream tartar, bake as for jelly cake, and spread icing between the layers.

Raised Doughnuts. One cup of butter, one of sugar, one of yeast, three eggs, spice to taste, flour to make a stiff dough. Set to rise for several hours, and when light, do not roll out, but take out with a spoon and shape in the hand, rolling as little as possible. Fry in boiling lard.

Gold Cake. One cup butter, one of milk, two of sugar, five of flour, yolks of sixteen eggs, two teaspoonfuls soda, four of cream tartar. Flavor with vanilla.

Silver Cake. One cup butter, one of milk, four of white sugar, five of flour, whites of sixteen eggs, two teaspoonfuls soda, four of cream tartar. Flavor with lemon.

Sister Anna's Cake. One cup butter, one of milk, two of sugar, four of flour, three eggs, one teaspoonful soda, two of cream tartar. Divide the ingredients and make two loaves, putting the whites of the eggs into one, and the yolks into the other.

Cocoanut Cake. One half cup butter, one of milk, two cups powdered sugar, three of flour, three eggs, two teaspoonfuls cream tartar, one of soda. Bake in jelly-cake tins. Grate one cocoanut. To one-half of this add whites of three eggs, beaten to a froth, and one cup of powdered sugar; lay this between the layers. Mix with the other half four tablespoonfuls powdered sugar, and strew on top of the cake.

Sister Amy's Cake. Three quarters of a cup of butter, two and a half cups sugar, one cup sweet milk, three of flour, four eggs, one lemon, one small teaspoonful soda.

Chocolate Cake. Two-thirds cup of butter, one scant cup milk, two cups sugar, three cups flour, five eggs, two teaspoonfuls baking powder. Leave out the whites of two eggs for filling, which make thus: To eight tablespoonfuls grated chocolate add one and a half cups powdered sugar, two teaspoonfuls vanilla, one full tablespoonful corn-starch, one-half pint hot water, and boil till it thickens, stirring constantly.

Hickory-Nut Cake. Beat together one pound of sugar, three quarters of a pound of butter, six eggs, half a cup of sweet milk and one pound of flour, with which has been thoroughly sifted three teaspoonfuls baking powder; stir in a cupful of hickory nut meats, bake in a steady but not too quick an oven.

Johnny Cake. For twelve gem cakes take four large spoonfuls of corn meal, one of Graham flour, one of fine flour, one teaspoonful of salt, one-half cup of butter, one cup of sour milk, two eggs, one cup of sugar, one teaspoonful of soda. Bake half an hour or less. If you do not have sour milk, use sweet milk, and mix with the flour two teaspoonfuls baking powder.

Ginger Bread. Take one cup of molasses, one cup of sweet milk, one cup of shortening, one-half cup of hot water, one teaspoonful soda; stir in just enough flour to make it rollable. Bake from twenty to thirty minutes.

Sponge Cake. Six eggs, three-quarters pound of sugar, one-half

pound flour, one teaspoon baking powder, and the juice and grated peel of one lemon. Put the sugar on the fire with one gill of water to boil. Pour boiling hot over the eggs, beating very fast; when a little cool, add flour with the baking powder sifted with it and the lemon peel and juice.

Roly-Poly Pudding. Make dough as for bisenit, and roll it out about an inch in thickness. Spread over it blackberry jam, preserves, apple sauce, indeed almost any kind of fruit. Roll tightly, and tie in the pudding-bag, giving it plenty of room to swell. Boil an hour, and serve with any kind of sweet sauce. Or, bake in a quick oven thirty or forty minutes, and serve with sauce.

Pudding Sauce. Take a piece of butter the size of an egg, soften it somewhat by heat; then stir into it a tablespoonful of corn-starch or flour, then a cup of sugar, and slowly add a teacupful of hot water, stirring it all the time. Let it come to a boil, or thicken up (in the top of the tea-kettle, or in a farina kettle); then remove and add a little spice or nutmeg, or two dessertspoonfuls of vinegar.

Fruit Pudding. Butter slices of stale bread soaked in milk, and place on the bottom of the pudding-pan a layer of bread, then one of fruit, then one of bread, and so on till the dish is full, having fruit on top. Bake till the fruit is done, and serve with rich sweet sauce.

Tapioca Pudding with Apples. Soak over night, in milk and water, a cupful and a half of tapioca. Pare and core a dozen apples, fill the holes where the cores come out with sugar, grate nutmeg over them and bake till done. Then sweeten the tapioca, pour it over the apples, and bake two hours. This makes one of the most delicious of desserts.

Blackberry Ambrosia. Make a batter, as for biscuit, of sour cream and flour, or of baking powder, flour and sweet milk, spread it half an inch thick on the bottom of an earthen pudding-dish, and cover with a layer of blackberries. Place a little more of the batter on the sides of the dish, sprinkle over the berries sugar enough to sweeten them, dredge slightly with flour, and add another layer of berries. Continue till the dish is full, having the last layer of batter. Bake nearly an hour. If the juice runs out, lift the edge of the crust with a fork, and it will run back. Serve warm, with sweet sauce.

Strawberry Custard. Sprinkle upon a pint of strawberries a cupful of sugar, and spread over them a layer of maccaroons; over the yolks of eight well-beaten eggs pour a quart of scalding milk, sweetened to taste. When cold, pour this over the strawberries, and on top put

the whites of the eggs beaten to a foam. Serve in a glass dish. Currant jelly may be beaten with a part of the whites, and the dish ornamented with alternate hills of snow and rose color.

Tapioca Cream. Soak two thirds of a cup of tapioca over night in warm water; in the morning stir into it one quart of scalding milk in a farina kettle. In a few minutes add the beaten yolks of three eggs and one cup of sugar; stir thoroughly until it thickens like cream; flavor with lemon or vanilla, and when nearly cool, pour into a glass dish. Beat the whites of the eggs to a stiff foam, and stir gently into the mixture. Serve cold.

Ice Cream. One quart of rich cream, boiled and set away till cold; half a pound of powdered loaf sugar, the juice of two large lemons, or a pint of strawberries or raspberries, or an ounce of bitter almonds, blanched and pounded with rose water, or some one of the various essences. Put the cream into the freezer and set it in a tub or pail. Fill the tub with ice broken into very small pieces, and strew among the ice a large quantity of coarse salt, taking care that none of the salt gets into the cream. Scrape the cream down with a spoon as it freezes round the edges of the tin. While the cream is freezing, stir in gradually the lemon juice, or the strained juice of the berries, or other flavoring. When it is all frozen, dip the tin in lukewarm water, take out the cream and serve. If it is to be molded, as soon as it is frozen put it in the molds and set them in a tub of ice and salt. Just before the cream is needed for use take the molds out of the tub, wipe or wash the salt carefully from the outside, dip the molds in lukewarm water and turn out the cream. 2. A pint and a half of rich cream, a quart and a half a pint of fresh milk, one pound of loaf sugar, two eggs, one tablespoonful of flour or corn-starch, essence to taste. Take half the milk and boil it, stirring in gradually the sugar. Beat the eggs well, add to them two tablespoonfuls of cold milk, and pour them into the boiling milk. Let them simmer two or three minutes, stirring all the time. Then remove from the fire and strain through a hair sieve or a piece of book-muslin. Add the cream and the remainder of the milk, and freeze as above directed. 3. Make a custard in the ordinary way, strain it, and instead of baking or boiling it, put it into the freezer and freeze it. This is a very quick way of making ice-cream that will answer the purpose when there is not time for a more elaborate mode of preparation.

Chocolate Custard. Yolks of six eggs, one cup sugar, one-quarter pound of chocolate dissolved in one-half pint boiling water, one and

one-half pints boiling milk. Pour the hot milk on the eggs, stirring all the time. After baking a few minutes add meringue made of the whites of the eggs and six teaspoonfuls sugar. Serve cold.

Cocoanut Custard. Boil a quart of milk, and thicken it with three tablespoonfuls of corn-starch or farina. Remove from the fire and add four ounces of butter. When cold stir in the yolks of six eggs beaten with three-quarters of a pound of sugar, and the grated pulp of one cocoanut; add the beaten whites of the eggs; line tin pie-plates with fine paste, fill with the mixture and bake.

Pop-Corn Balls. 1. Boil molasses to a candy, and put a quantity sufficient for one ball in a shallow dish or plate, stir in the corn and mold it into shape with the hands. Then stick pure white kernels all over the outside. 2. Pop the corn, avoiding all that is not nicely done, and put a half bushel of it on a large dripping pan. In a kettle place one pound of nice sugar, with a little water, and boil till it candies; then remove from the fire, and pour into it six or seven tablespoonfuls of thick gum solution, made by pouring boiling hot water on gum arabic over night. Now dip the mixture upon various parts of the corn, putting a stick or the hands under the corn, lifting it up and mixing it until it all is saturated with the candy. Then with the hands mold it into balls, as the boys do snow-balls, being quick lest it sets before you get through. This will make about one hundred balls.

Cream Pie. One cup white coffee sugar, one cup flour, three eggs, a little salt, one half teaspoonful soda, one teaspoonful cream tartar, sifted with the flour. Bake in a tin pie pan; when done, split in two with a sharp knife, and spread custard between, made as follows: One pint of milk, one egg, one-fourth cup of flour, one-fourth cup sugar.

Christmas Mince-meat. Three pounds of rib roast beef, five pounds of apples, one pound of fresh beef suet, two pounds of raisins, stoned, one pound whole, two pounds and a half of currants, half a pound of mixed candied peel, the grated rind of three fresh lemons, the juice of two, two pounds of sugar, two nutmegs, dessertspoonful of mace, one of cinnamon, one of allspice, one of ginger, one of salt, a pint of fruit syrup, and a pint of golden syrup boiled in two quarts of cider until reduced one-fourth, and then poured over the whole. Of course, the ingredients are separately prepared, and afterward thoroughly mixed.

Lemon Pies. Two lemons, six eggs, two teacups sugar, two tablespoonfuls flour, one teacup boiling water, rich pastry for lining pans. These materials will make two pies. Grate off the yellow rind of the lemons for flavoring, throw away the thick white skin, and cut up the

remainder of the lemon very fine, being careful not to lose the juice. Add to this the sugar, the yolks of six eggs, well beaten, then the flour, and lastly the boiling water. Pour the mixture into pie-pans previously lined, and bake. Prepare an icing with the remaining whites of six eggs, and when the pies are a light brown spread it smoothly over them; return again to the oven and bake a light brown. Whoso makes this pie aright will have "food fit for the gods."

Orange Pie. Grate the rinds of two oranges, and squeeze out the juice; cream a quarter of a pound of butter, and add by degrees half a pound of sugar, the yolks of two eggs well beaten, then the rind and juice of the oranges. Beat the whites of the eggs to a stiff froth, and mix them lightly with the other ingredients. Bake in pie-tins lined with paste.

Lent Pies. Boil a dozen eggs quite hard, and chop the yolks very fine; chop a dozen medium-sized, juicy apples, peeled and cored, two pounds of stoned raisins; add two pounds of currants well washed and dried, one pound of sugar, a tablespoonful of powdered cinnamon, nutmeg, and mace; add the juice and grated peel of three lemons, with half a pound of citron cut into slips; mix these thoroughly and moisten with a pint of boiled cider and a pint of water.

A Good Dish for Tired People. Beat two or more eggs, the whites and yolks separately, add a little sugar, and if you wish, crumb crackers into the dish and eat it. This will often agree with the stomach when it rejects other food; it is easily assimilated, and can be taken without an appetite, and without hindering the organs of digestion. Excessive mental or bodily fatigue renders the stomach incapable for the time of performing its office, and this simple dish will recuperate the strength until the person is rested enough to eat heartily.

Chicken Tea. Cut an old fowl into small pieces, bruise the bones and put the whole in a vessel, cover closely and set into a kettle of boiling water and boil three hours. Then strain the liquid, season it as may be agreeable to the taste of the patient. This makes a very strengthening drink for the sick. Repeat the process a second time, and nearly the same amount of liquor may be obtained the second time as the first.

JELLIES AND PRESERVES.

Strawberry Jelly. Gather the berries when fairly ripe, crush them, and press them through woolen or cotton. To a pint of juice add a pint of sugar, and boil rapidly in porcelain or tin. If boiled briskly it will jelly in from twenty to twenty-five minutes, sometimes in less. Have the jelly glasses in hot water, that the liquid may be poured into them before it is set, and the jelly will be perfectly transparent. It should not be strained or agitated after coming from the fire.

Peach Jelly. Stone and pare the peaches, and for every four pounds of peaches allow one of sour apples. Boil separately in water enough to cover them until both are tender, and strain through a jelly bag. For every quart of juice allow one and a half pounds of white sugar; boil over a sharp fire till it jellies when dropped into cold water. The pulp may be boiled with half a pound of sugar to every pound of pulp till reduced enough to keep: it should be stirred constantly with a wooden spatula. For common use this jam will answer very well.

Orange Marmalade. Remove from bitter oranges the rind, without taking any of the white with it, boil till soft, then soak in cold water for a few minutes, drain and pound to a fine paste; for every pound of this take a pound and a half of white granulated sugar, make a strong syrup of it, put in the paste, and boil the two together, stirring constantly till the marmalade is done; when done it will draw out like a thread between the thumb and finger. Sweet oranges may be used in the same way.

Grape Preserve. Have large, fully-ripe grapes; with the fingers slip out the pulps and put the skins by themselves; then stew the pulp till it is soft and readily separates from the seeds; strain it through a coarse towel; make a thick syrup, allowing a pound of sugar to a pound of grapes, and put your skins and strained pulp into the syrup; cook thoroughly.

Spiced Wild Grapes. To five pounds of grapes and four pounds of sugar, add a pint of vinegar and two tablespoonfuls of cloves, cinnamon and allspice respectively. Boil slowly two hours.

Home-Made Cream Candy. To a coffee cup full of white sugar add two tablespoonfuls of water to dissolve it, and boil without stirring, in a bright tin pan, until it will crisp in water like molasses candy. Just before it is done put in a teaspoonful of extract of vanilla, or lemon, or peppermint essence, and a quarter of a teaspoonful of cream tartar. When done pour into a buttered pan, and when

cool enough to handle, work it as you would molasses candy until it is perfectly white, then stretch and lay on a marble slab or molding board; with a chopping knife cut into mouthfuls and lay it on to buttered paper on a plate. When children want candy, by all means let them have that made at home, and they will not eat plaster of paris, chalk, starch, and poisonous compounds which derange their stomachs, and ruin their teeth.

BEVERAGES.

Unfermented Wine. In the fall, when the grapes are ripe, select red grapes, and put them with white sugar, in a hard-burned jar in alternate layers, having the bottom layer of grapes, and the top one of sugar. Cover and let them stand two or three weeks in a cool place. Before the juice begins to work pour it off into a porcelain kettle, heat it, skim carefully, and when scalding hot put into bottles and seal tightly. It will be of a scarlet color, and will keep for years. It is good for use at the Communion Table, and also in sickness. After pouring off the first juice, if sugar and water are added to the residue, and it stands for a week and is then poured off, an inferior wine will be produced.

Blackberry Wine. Into a vessel with a faucet, put ripe blackberries, and pour enough boiling water over them to cover them; as soon as they are cool enough, bruise the berries with the hand thoroughly, cover them, and in three or four days, when the berries rise to the top, draw off the clear liquid into another vessel. To every ten quarts of liquor, add one pound of sugar, stir it well in, and let the mixture stand a week or ten days, to ferment, and then strain it through a jelly bag. For every gallon of the liquor take four ounces of isinglass, dissolve it in a pint of the liquor for twelve hours, boil it slowly till dissolved, then put it into the sweet wine, boil all together, let it stand a few days, and bottle. This is excellent in affections of the bowels.

Cherry Bounce. Fill a jug with wild cherries, and cover them with French brandy till the cork is wet. Seal tightly, and in six months it will be ready for use. Pour off the liquor, and keep it well corked. For a dose, mix a teaspoonful with two teaspoonfuls of water, and a little sugar, three times a day. This is an excellent cure for bowel complaint.

Corn Beer. One quart of dry Indian corn, one quart molasses, two large tablespoonfuls of pure ginger, tied in a thin cloth, four gallons of soft cold water; put the whole in a stout keg or stone jug, not

filling quite full, cork tight, shake well, and set in the cellar; fit for use in eight or ten days; if desirous to have a bitter flavor, steep and strain a small handful of hops, and add the liquor to the other ingredients; the corn will answer for a second brewing by adding the other materials.

PICKLES, SAUCES, SALADS, ETC.

French Pickles. Take one large head of cabbage, six green peppers, six large onions, one-half peck of green tomatoes, chop all together till very fine; put in two tablespoonfuls of black pepper, two of cloves, two of allspice, one of salt, half a pound of white mustard seed. Cover with vinegar and boil two hours.

Pickles in Alcohol. Into a clean crock or tub pour one quart of alcohol; to this add four quarts of soft water; cut from the vines small, firm cucumbers, cover with boiling water, let them stand till cool, then wash, rinse, and drain them, put them into the mixture, cover with a cloth, and put on a weight to keep them under the liquor; leave them in a warm room, and as soon as the scum begins to rise take the cloth off every day and rinse it; when through working, put into a cool place secure from dust.

To Pickle Clams. Scald the clams in their own liquor, or in water with a little salt. Take them out with a skimmer and throw them into cold water. Take whole allspice, black pepper, and mace, and boil it up in the liquor in which the clams were boiled; when it tastes enough of the spices take it off. Drain the clams on a sieve; when the liquor is cold, add vinegar to taste, and then put in the clams.

Commercial Pickles. To one gallon of cider vinegar add half a pound of salt, quarter of a pound of onions or garlic, quarter of a pound of ginger, two ounces of pepper, two of yellow mustard seed, and half an ounce of cayenne pepper; boil all together. Into a jar that will hold eight quarts put a quarter of a pound of allspice, and pour on it the hot pickle. When cold, put in freshly-gathered asparagus, cauliflower, beans, currants, gooseberries, unripe apples, radish pods, nasturtiums; and as the pickle wastes renew it with the same preparation of vinegar and spice. This recipe was obtained from a house celebrated for their pickles.

Martynias. 1. Gather them when they are rather small, and so tender that you can run the head of a pin into them. Wipe off the down and put them into a cold, weak brine. Keep them in brine nine days, changing it every other day. Make a pickle of vinegar, allspice,

cloves, mace, nutmegs, and cinnamon. Take the martynias out of the brine; wipe them and lay them into a stone jar; pour the mixture of vinegar and spice, boiling hot, over them; cover them close, let them stand one month, and they will be fit for use. 2. Pick the pods when soft enough to be penetrated by the thumb nail; put them into brine strong enough to bear an egg; they will be ready for pickling in ten days. Take them from the brine, wash in cold water, and soak in vinegar two or three days. Then add one pound of sugar to one gallon of vinegar, with cloves, allspice, and other spices to taste; tie the spices in a bag, and let them soak in the vinegar till their strength is extracted; heat the vinegar to the boiling point, pour it upon the martynias, which should previously have been removed from the vinegar in which they were soaked. Ready for use in a few days.

Fruit Pickle. For seven pounds of pears or peaches, not quite ripe, take four pounds of sugar and one pint of cider vinegar. Cook the fruit in water enough to cover it. As soon as it is tender add the sugar, the vinegar, and an ounce each of whole cinnamon and cloves. Bring all to the boiling point and remove from the fire. This will keep the year round.

Pickled-Red Cabbage. Cut up six cabbages, put them in your jar, layers of cabbage and salt alternating; let stand over night, then drain the cabbage, scald some spices in the vinegar, and pour it over the cabbage boiling hot. To six common-sized cabbages allow two ounces each of cloves, cinnamon, and allspice, and white mustard seed, if you like.

To Pickle Walnuts. Gather the nuts before the inside shell is hard, which may be known by trying them with a pin; lay them into salt and water nine days, changing the liquor every three days; then take them out and dry them in the air on a sieve or mat; they should not touch each other, and should be turned so that every side may become black alike; then put them in a jar. When half the nuts are in, put in an onion with about thirty cloves stuck into it, and add the rest of the nuts. To one hundred walnuts allow half a pint of mustard seed, one-quarter of an ounce of mace, one half an ounce of pepper-corns, and sixty bay-leaves; boil all the spice in some good common vinegar, and pour it boiling hot upon the nuts, taking care to have them covered entirely; stop the mouth of the jar with a cloth, and when cold cover it with bladder or leather. In about six weeks they will be fit for use, when they should be examined, and if they have absorbed the vinegar so as to

leave any of the nuts dry, more should be added, but it need not be boiled.

Lettuce Salad. Rub the yolks of two hard-boiled eggs to a powder, add one teaspoonful of white sugar, one of pepper, one-half teaspoonful of salt, two of salad oil, one-half teaspoonful of mustard, and mix all well together. Then beat in four tablespoonfuls of vinegar. Cut up two or three heads of white lettuce and mix with the dressing.

Chicken Salad. Boil a chicken, take the meat from the bones and chop pretty fine. Mix with it two large heads of celery or some lettuce, also chopped. Make a dressing of the yolks of five hard-boiled eggs, powdered, one and one-half tablespoonfuls dry mustard, one dessertspoonful salt, one-half bottle of oil, or one-half cup melted butter, one tablespoonful Worcestershire sauce, and vinegar enough to make it stir like cream.

Top Dressing. Beat the yolks of one or two eggs with a fork for a few moments, then drop in a teaspoonful of oil slowly, stirring all the time, add salt, then a teaspoonful of vinegar, and one half a teaspoonful of mustard. This dressing should be of the consistency of cream.

Cold Slaw. Shred fine with a cabbage-cutter half a head of white cabbage and put it in a deep dish; stir together the juice of a large lemon, or half a cup of cider vinegar, with two teaspoonfuls of cold water, and mix it with the cabbage. Then sift evenly over it four tablespoonfuls of granulated sugar. Let it stand half an hour before serving.

Tomato Catsup. Peel and stew the tomatoes, strain them through a sieve or fine colander, and to each gallon thus prepared, add three heaping tablespoonfuls of salt, three of ground mustard, half a dozen pods of red pepper, and a quart of vinegar; stew slowly till it is reduced one-third; bottle tightly.

Mushroom Catsup. Put in an earthen vessel layers of mushrooms and thin layers of salt and allow them to stand half a day, or until the salt has penetrated them somewhat. Then mash them and keep them standing another whole day, frequently stirring them up from the bottom. To each gallon of mushrooms add an ounce of peppercorns, an ounce of cloves, and one of allspice. Set the jar in cold water and let it come to a boiling heat. Simmer gently for two hours then strain, and reduce by boiling to one-half, skimming carefully. When it has settled, strain it into small bottles for use, adding a-teaspoonful of brandy to each bottle, and seal. Keep in a dry place.

Walnut Catsup. Take a peck of green walnut shells, put them in

a tub, bruise and mash them, and throw on two pounds of salt, with water enough to cover them. Let them stand six days, mashing and mixing them till they become soft and pulpy. Drain out the juice by letting the tub stand on one side a little, with the shells in the elevated part. As often as it needs, turn out the liquor and continue to do so as long as there is any; there will be five or six quarts. Then boil it in iron as long as scum rises; then add a quarter of a pound of ginger and allspice, two ounces of pepper and cloves, and let it boil slowly for half an hour. The spices should be powdered, and an equal quantity of them should go into each bottle. Cork and set away in a cool, dry place one year before it is used.

Sauce Hollandaise. Put a piece of butter the size of a pigeon's egg into a saucepan, and when it bubbles, stir in with an egg whisk an even tablespoonful of flour; let it continue to bubble until the flour is thoroughly cooked, then stir in half a pint of boiling water, or, better, of veal stock; when it boils take it from the fire and stir into it gradually the beaten yolks of four eggs; return the sauce to the fire for a minute to set the eggs, without allowing it to boil; again remove the sauce, stir in the juice of half a small lemon, and fresh butter the size of a walnut, cut into small pieces to facilitate its melting, and stir well with the whisk.

Spanish Sauce. Take four ounces of onions, slice them thin, and fry them brown in a saucepan with two ounces of marrow, suet, or beef-drippings. When brown, add one and a-half pounds of any kind of beef cut in pieces, an ounce of parsley, the same of celery, five ounces sliced carrot, a teaspoonful of powdered thyme, or half a bunch, and one leek. Lay the beef on the onions, and the other ingredients on top of the beef; cover tightly, and let it stay on one side of the fire half an hour. This will draw out the juices of the beef. Then stir in three ounces of dry flour, then pour over three pints of cold water; bring it slowly to a boil, and boil three hours. Strain, and serve with chicken and potato croquettes. This recipe is from the New York Cooking School.

Mayonnaise Sauce. Beat well the yolks of two raw eggs, add one teaspoonful of salt, one scant teaspoonful of mixed mustard, one-half pint of sweet oil, drop by drop, beating constantly. Put the vinegar in last, five or more tablespoonfuls, according to taste. A little lemon juice added before the vinegar improves it. Beat all well together, and it is ready for use. It is excellent for lobster or chicken salad, or to pour over cold chopped veal, adding lettuce or celery, if desired.

Gravy. Mince an onion finely, fry it in butter to a dark brown, then add three-quarters of a pint of good stock, pepper and salt to taste, a small piece of ham minced finely, a sprig of thyme, one of parsley, and a little Worcestershire sauce; let the whole boil five or ten minutes, put it by till wanted, then strain it into a sauce boat.

Horse-radish Sauce. To a coffee cup of grated horse radish add two tablespoonfuls of cream, a teaspoonful each of made mustard and salt; a half cup of the best vinegar, and mix the whole thoroughly. For the spring of the year this is a very fine sauce.

NOTE.—It is said that a teaspoonful of horse-radish grated, mixed with a wine glass of cider, and taken three times a day, will cure paralysis in its earlier stages. The remedy is harmless, should it prove ineffective.

Rhubarb Vinegar. Crush with a pestle thirty six stalks of rhubarb, of the usual size, in a strong keg; add fifteen gallons of soft water; let it stand a day; strain and add twenty seven pounds of brown sugar and a pint of brewer's yeast, let it stand a month where the temperature will not fall below 60°; strain, and let it stand until it becomes vinegar.

MISCELLANEOUS.

Rag Carpets. For one yard, half a pound cotton twine, and one and a half pounds of prepared rags are requisite. Twine made of hemp or jute will not wear well. Common wrapping twine of good size makes a good warp, or if a fine one is desired, tidy yarn. Better still is a yarn sometimes made at factories of twenty or more threads of fine warp, twisted into one round, strong and flexible cord. Any one of these is preferable to that commonly made for the purpose.

Rags. These should be of good material, either pieces of new cloth or the better portions of worn-out garments. Headings from woolen factories make good rags at a trifling cost. Fine soft cloth is preferable, but cottons and soft woolens answer a good purpose. The rags should be cut of uniform size, and when twisted tightly with the fingers should be four times the size of the warp twine. This will require the thin rags to be cut wider than the thick. They should be cut previous to dyeing, for if of a loose texture they will become rough by raveling, and will tangle and waste. Sewing them together should be avoided. Whatever the size or shape of a piece, cut it in a continuous length; the angles made by this method can be clipped or rounded, and are less objectionable than the irregularities by lapping

and sewing. When this is necessary lap them one-fourth of an inch, and take two or three stitches in the middle through them both. Wind them lightly into a ball, each color by itself.

Dyeing. New cotton goods, either twine or rags, should be boiled in water three or four hours previous to dyeing, to expel all the air from the minute cells of the cotton. All goods should be perfectly clean. The warp dyed half one color, and half another, and striped an inch wide, has a pretty effect. It is better to divide the rags for dyeing into three or four parts, giving one the deepest and brightest color by dipping it first into the dye and afterward introducing, one after another, the other portions, thus securing several shades of the same color for blending. *All goods dyed with spirits of any kind, or acids, should be well washed before they are dried.* Plenty of dye, allowing the goods to float freely in it, is a good security against spotting. Having them wet before being dipped in the dye also promotes evenness of color.

Arrangement of Colors. Nature abounds in lessons on this. With her, harmony is the rule, contrast the exception. Her browns and greens are mingled in endless variety, forming a sombre but pleasing ground, which is studded with bright blossoms of manifold tints. Even her ever-recurring shadows give form and beauty to every object. The surpassing loveliness of the rainbow is enhanced by the dark and heavy drab of the clouds in its background. Heeding her teaching, we make two-thirds of our carpet ground color, seeking to combine the tints of our fancy stripe in a quiet and unostentatious manner, avoiding harshness or abruptness, and securing an even and kindly effect. A bright and sunny room requires subdued colors in a carpet—grays, browns, greens, and buffs—while one on the shady side of the house should rejoice in more brilliant tints—reds, greens, blues, yellows, oranges, and wines. A very pretty carpet has a ground of wine color in a stripe six inches wide; the fancy stripe is composed of two threads dark red, two cochineal, two light red, one orange or buff, two yellow, two light green, two dark green, two dark blue, two light blue, two dark ruby, two light ruby, a stripe of the ground color an inch wide, and the stripe repeated.

Red on Wool with Lac. Four ounces of lac to one pound of wool. Steep the lac twenty-four hours in strong hydrochloric acid, stirring it from time to time; add sufficient water to cover the goods, enter them and let them remain three-quarters of an hour, handling them neatly and rapidly; wash in clear hot water thoroughly.

To Color Cotton Yellow. For every three pounds of cotton, take six ounces sugar of lead dissolved in hot water in a vessel of brass or tin. In a wooden vessel dissolve three ounces of bichromate of potassa in cold water. Dip the goods first in one vessel, and then in the other, until the color suits. For orange, dip the cotton in strong lime water.

To Dye Scarlet. For one pound of yarn use one of cochineal, one of cream tartar, and two ounces solution of tin. Warm the water, stir in the cream tartar, grind the cochineal fine, put it in the water and stir it well. Add the solution of tin, then let it come to a scalding heat. Wash the goods thoroughly in soapsuds, and rinse in clear soft water before putting them into the dye. Let them scald two or three hours, stirring occasionally as in all dyeing. Remove from the dye and rinse in clear water.

To Dye Wool Yellow. Boil it for an hour with about one-sixth of its weight of alum; then plunge it in water containing as much quercitron bark as equals the weight of alum used. Keep turning it in the water till the color grows as deep as you wish. This will be increased by stirring in of clean powdered chalk, a quantity equal to the hundredth part of the weight of the cloth, and boiling eight or ten minutes longer. If a very bright golden yellow is desired, use oxide of tin instead of alum. For a greenish yellow, add a little cream tartar, and for orange a little cochineal.

To Dye Red. Purchase twenty-five cents' worth of rose aniline, put it into a thin muslin bag and then into a tin vessel, pour a quart of boiling water on it, let it stand several hours, or over night, when it will be pretty well dissolved. Pour the dye into the shallow vessel above named, which should be of tin, brass, or wood, not of iron, adding a tablespoonful of muriate of tin. Let the goods remain in the dye from ten to fifteen minutes, according to shade desired.

To Dye Sea-green. One ounce blue vitriol, one-half ounce alum; dissolve each separately in earthen vessels in hot water; dip the goods in the alum water, drain and put them in the vitriol water; dry and wash in saleratus water. This will color a pound of rags, and makes a very pretty ground-work for rugs.

To Dye Copperas Color. One ounce of copperas, one-half ounce of saleratus dissolved in hot water; dip the goods first in the copperas water, then in saleratus, and dry, when they will be ready for use.

Chenille Rugs. Take woolen, silk, and cotton bits in bright colors and neutral tints, cut them an inch or an inch and a half square, take

a coarse needle and strong carpet thread or linen twine, double in long needles, and string these bits of rags. When the string is full, trim off the ragged edges, so as to make the roll as round as possible. When there is enough strung, take a piece of tapestry or Brussels carpeting for a center, and sew on the edge a strip of chenille, then on that another strip, and so on, as in braided mats. Children will make these strings as pastime if they have a little encouragement and instruction.

To Knit Gloves. Procure Germantown yarn; one skein of medium-sized yarn will knit a pair of gloves. Cast on eighteen stitches on a needle; widen the thumb two stitches every third and fourth time, knitting round alternately. When the thumb has been widened to twenty-four stitches take them off on a double thread or small cord. Cast on to join the gap about ten stitches, which decrease gradually as you knit around to six, having but sixty in all for the hand. Knit about half an inch, then drop off sixteen at the right place for the little finger; cast on six new ones to join the gap; knit three or four times around, then drop the new-made stitches and six on each side of them for the next finger; cast on four new stitches, knit three or four times around, and drop the same number as before for the next finger; cast on four new stitches, and you find yourself knitting on the forefinger, which must be decreased to twenty-two stitches, after finishing the index finger; take up the next in order, observing the uniform number of stitches on each, twenty-two; but the thumb must have twenty-four. In knitting the fingers knit the first round plain; in the second and all alternate rounds slip and bind at the beginning, and knit two stitches together at the end of the stitches you have looped on until you have narrowed them all off, thus making a three-cornered gusset, then knit plain till your finger is of the required length. When all the fingers are done there will be a diamond-shaped gusset between each two fingers. A similar gusset should be knit between the hand and thumb.

To Crochet a Breakfast Shawl. Make a chain corresponding in length to the desired length of the shawl around the neck. Crochet a row of double stitch on this chain, putting a stitch in each loop of the chain. Between the first and second stitches of this row attach three double stitches; between the fourth and fifth, three; between the seventh and eighth, three. Continue in the same manner till the middle of the chain is reached, where six stitches should be made. The last half of the row is to be crocheted like the first half. The work

will now appear divided into clusters of three stitches each. For the next row crochet three stitches between the first and second stitches of the first cluster, three after it and every succeeding cluster, six between the two clusters that mark the middle, and three between the last two stitches of the last cluster. Each remaining row to be worked in the same manner, taking care always to work one cluster between the two stitches at each end of the row, and two clusters exactly in the middle. Widened in this way, the bottom of the shawl will describe the two equal sides of a right-angled triangle.

To Make Mats from Sheepskins. Take a fresh skin and wash the wool in strong soap-suds only slightly warm to the hand. Pick out all the dirt from the wool and scrub it well on the wash-board. A tablespoonful of kerosene added to three gallons of warm soap-suds will greatly help the cleansing process. Wash in another suds, or until the wool looks white and clean. Then put the skin into cold water enough to cover it, and dissolve half a pound of salt and the same quantity of alum in three pints of boiling water; pour the mixture over the skin, and rinse it up and down in the water. Let it soak in this water twelve hours, then hang it over a fence or a line to drain. When nearly dry, nail it, wool side in, on a board, or the side of a barn, to dry. Rub into the skin an ounce each of pulverized alum and saltpeter, and if the skin is large, double the quantity. Rub for an hour or two. Fold the skin sides together, and hang the mat away for three days, rubbing it every day, or till perfectly dry. Then with a blunt knife clear the skin of impurities, rub it with pumice or rotten stone; trim it into shape, and you have a door-mat which will last a lifetime.

Removing Dry Ink Stains. A solution of oxalic acid crystals one part, by measure, to eight of soft water, will entirely remove dry ink stains. Samples of mixed and of woollen goods are sent by the author of this recipe from which ink stains have been removed by this acid, leaving scarce a trace behind. The goods should be thoroughly rinsed after using the acid on them.

To Clean Silk. Mix a quarter of a pound of soft soap, a teaspoonful of brandy, and a pint of gin well together and strain through cloth. With a sponge or flannel spread the mixture on each side the silk without creasing it; wash it in two or three waters; while damp, iron on the wrong side. This process will restore silks to their newness and will not injure the most delicate color.

To Renovate Wall Paper. Dip a woollen cloth in dry corn meal and

rub the wall paper with it; this will remove the dust and smoke. Pieces of stale bread have the same effect.

To Make Black Ink. Beat fine four ounces of gall nuts, and put them in a quart of warm soft water. Let them soak eight or nine days in the sun or by the fire, shaking often. Then add two ounces of copperas, one ounce of gum arabic dissolved in warm water, and a half ounce of pulverized alum. In two or three days the ink will be fit for use.

Cement for Broken China. Dissolve gum arabic in water, making a thick solution; stir in plaster-of-paris till the mixture becomes a sticky paste. Apply with a brush to the broken edges and lay away for two or three days.

For Lockjaw. It is said that if a poultice of pounded peach-leaves is placed upon a wound so soon as it is received, lockjaw need not be feared.

The Good Samaritan Liniment. Take of alcohol two quarts, and add to it the following articles: Oils of sassafras, hemlock, spirits of turpentine, tincture of cayenne, catechu, guiac, and landanum, each one ounce; tincture of myrrh, four ounces; oil of origanum, two ounces; oil of wintergreen, half an ounce; gum camphor, two ounces; chloroform, one ounce and a half. Mix all together and apply as an external remedy for all kinds of pains and corns.

Eye-Water. One tablespoonful each of table-salt and white vitriol, dissolved in half a pint of soft water; add a tablespoonful of white sugar and blue vitriol the size of a common pea; wash the eyes with this three or four times daily. If they shed much water, dissolve a little oxide of zinc in a vial of water, and use it freely on them.

For Wounds. The aching and stiffness caused by wounds can be almost entirely relieved by holding the wound over burning sugar. One of our correspondents, who gave us this information, punctured his right leg with a large awl, and the limb became, in consequence, very painful and stiff, so that he walked with great difficulty. A tablespoonful of sugar poured on some live coals in a shovel and held under the wound so relieved him that the day after he could walk as well as ever.

To Cleanse Carpets. Carpets, when washed, should first be taken up, thoroughly aired, sunned, and beaten; then tacked again securely in place. Ox-gall or ammonia may be used in scrubbing them. A pint of ox-gall to four gallons of water are the proportions to be used. If ammonia is employed, two tablespoonfuls to a gallon will be about right.

The water in which the carpet is washed should be frequently changed. When carpets cannot be taken up and shaken, they may, after being well swept, be quite thoroughly cleansed by being frequently wiped with a cloth wrung from clean water. This is a good way to clean carpets in the rooms of invalids and those who cannot bear the disturbance of dust and change.

Comforters. Use bleached cotton flannel; fill with cotton in the usual way, and quilt the cotton down before the upper side is put on. Then fasten on the upper cover with tufts of blue Berlin wool, and bind with blue cotton tape. For winter dress of spare bed use a soft flannel blanket over the cotton sheet, then this coverlid and the usual white or pink counterpane; the touch is light and soft, and it keeps one perfectly warm in a fireless room.

Brilliant Whitewash. Take one-half bushel of nice unslaked lime, slake it with boiling water; cover it during the process to keep in the steam. Strain the liquid through a fine sieve or strainer, and add to it a peck of salt, previously well^d dissolved in warm water, three pounds of ground rice, boiled to a thin paste, one-half pound of powdered Spanish whiting, and one pound of clean glue, which has been previously dissolved by soaking it well, and then hang it over a slow fire in a small kettle within a larger one filled with water. Add five gallons of hot water to the mixture, stir it well and let it stand for a few days, covered from dust. *It should be put on hot*, and for this purpose it can be kept in a kettle on a portable furnace. It is said that about a pint of this mixture will cover a square yard on the outside of a house if properly applied. Fine or coarse brushes may be used according to the neatness of the job required. It answers as well as oil paint for wood, brick, or stone, and is cheaper. It retains its brilliancy for many years. There is nothing that will compare with it, either for inside or outside walls. Buildings or fences covered with it will take a much longer time to burn than if they are painted with oil paint. Coloring matter may be put in, and made of any shade desired. Spanish brown will make a reddish pink when stirred in, more or less deep, according to the quantity. A delicate tinge of this is very pretty for inside walls. Finely pulverized common clay well mixed with Spanish brown, makes a reddish stone color; yellow ochre stirred in makes yellow wash, but chrome goes further, and makes a color generally esteemed prettier. It is difficult to make rules, because tastes are different; it would be best to try experiments on a shingle and let it dry. Green must not be mixed with lime; it destroys the

color, and the color has an effect on the whitewash which makes it crack and peel.

To Cleanse Plush Furniture. Plush- and reps covered furniture should be taken out-doors in the bright sunshine twice a year, and thoroughly whipped with switches until all the dust is out. If possible, it should be taken apart, and if while the stuffed portion is being sunned, the wood part receives a coat of varnish, there need be no fear of moths.

For Making Cloth Water proof. In ten gallons of water dissolve two pounds and four ounces of alum. Dissolve the same quantity of sugar of lead in the same quantity of water, then mix the two together. Pour off the clear liquor, immerse the cloth in it for an hour, take it out, dry it in the shade, wash in clear water, and dry again.

Cold Soap. Twenty-two pounds of potash, twenty pounds of grease, and three-fourths of a pound of rosin. This quantity will make a barrel of soap. Keep the grease tried out and strained so as to be ready for use when the requisite quantity is gained. Select the gray looking potash, put it into the soap barrel, pour on it hot soft water to facilitate dissolving; when softened put in the grease, reserving two or three pounds to melt the rosin in; keep adding hot water till it stirs readily, and when nearly to the top put in the melted rosin and fat. This soap is good and strong, will keep any length of time, and be free from insects. When wanted for use dip out a quantity and add a third of soft water to it. The dark potash is apt to stain the clothes in washing.

To Wash Lace Curtains. Lace curtains are washed like other laces, starched with thin starch or gum-arabic water, and carefully pinned over a mattress with a sheet over it until they are dry. Those who make a business of doing up lace curtains, have a fixture resembling a quilt in quilting-frames, on which the curtains are carefully laid and pinned in shape to dry.

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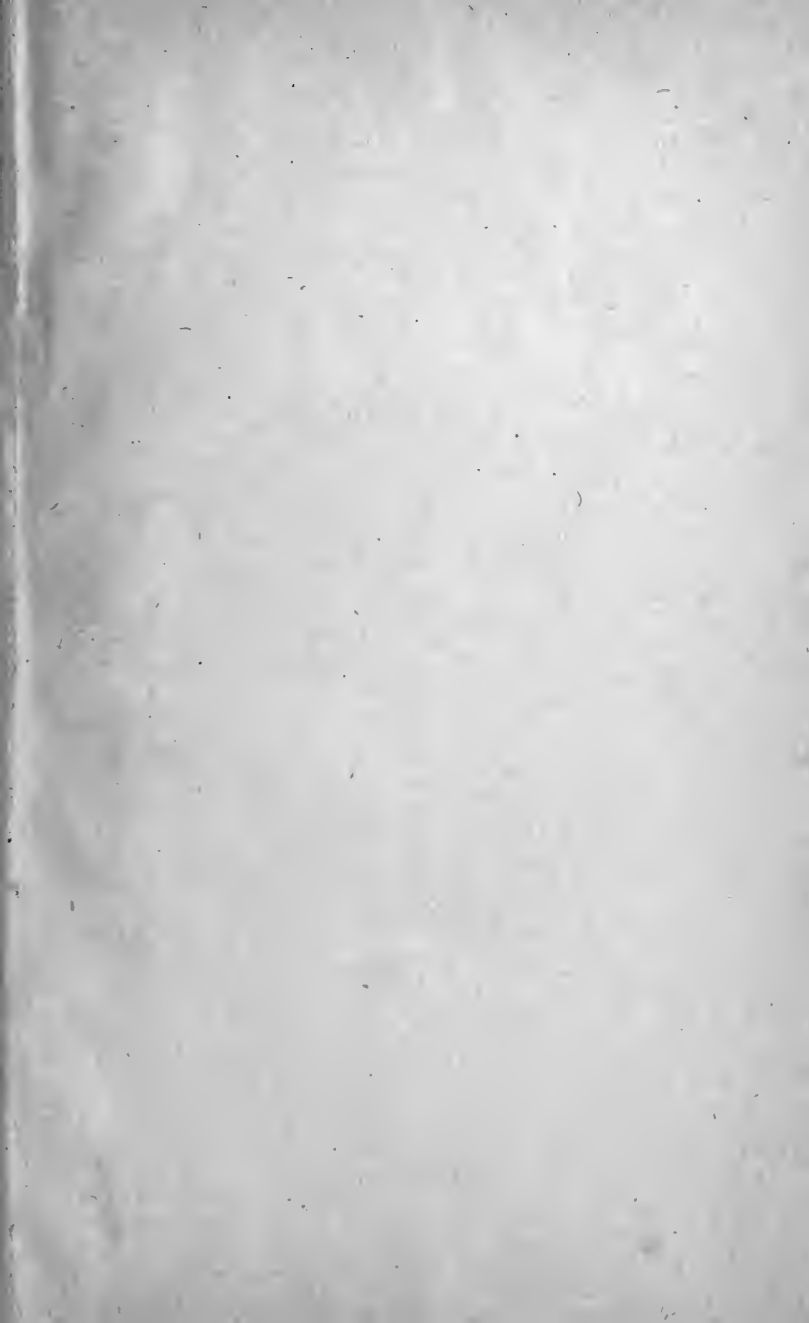
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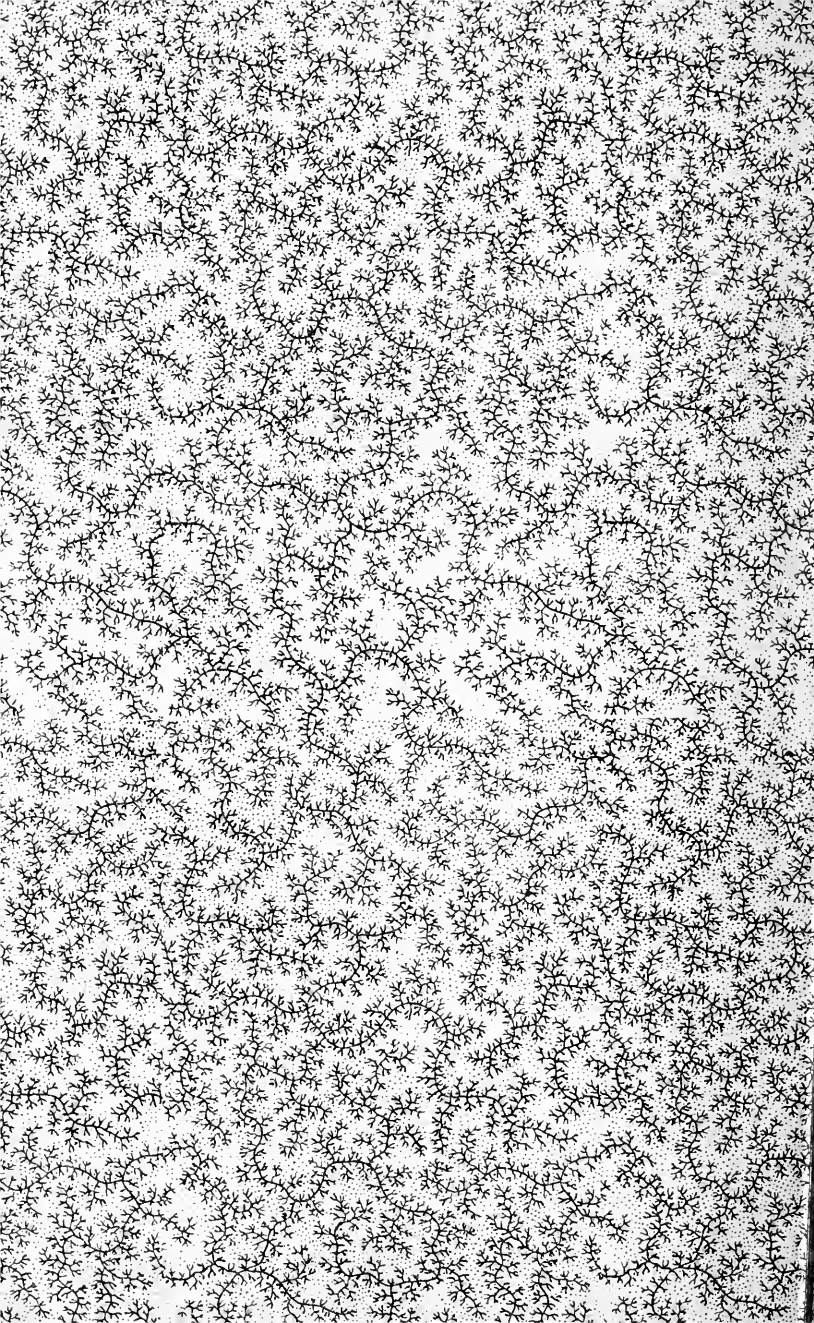
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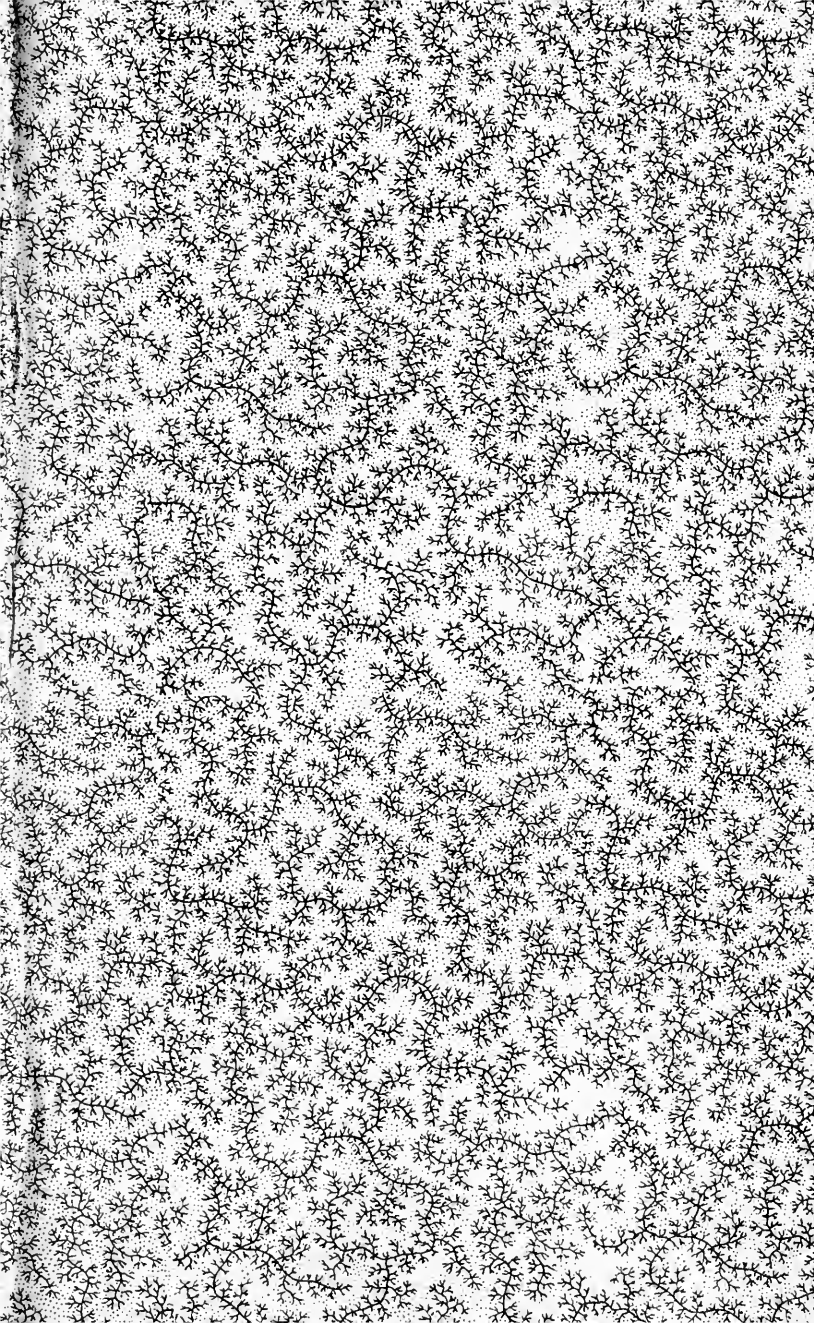
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