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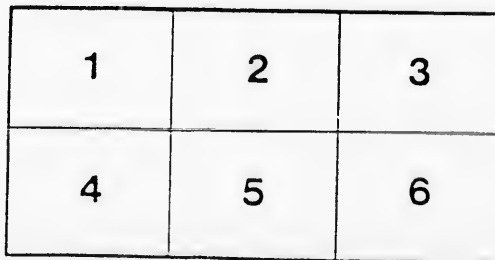
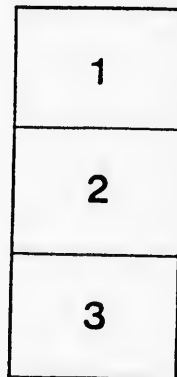
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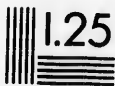
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DOMESTIC ECONOMY
AND
PLAIN SEWING AND KNITTING.

A Manual for Teachers and Housekeepers.

COMPILED BY
M. ALICE CLARK,
Instructor in the Provincial Normal School of New Brunswick.

ST. JOHN, N. B.
J. & A. McMILLAN, 98 PRINCE WILLIAM STREET.
1889.

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1889

[Approved by the Board of Education for New Brunswick.]

EDUCATION OFFICE,
PROVINCE OF NEW BRUNSWICK, }
Fredericton, July 2, 1889.

The Board of Education has been pleased to recommend this edition of DOMESTIC ECONOMY as a Manual for the Teachers of the Public Schools of the Province.

WILLIAM CROCKET,
Chief Superintendent of Education.

Entered according to the Act of Parliament of Canada, in the year 1889, by

J. & A. McMILLAN,

In the Office of the Minister of Agriculture, at Ottawa.

PREFACE.

By a recent regulation of the Board of Education of New Brunswick, the subjects of Domestic Economy, Plain Sewing, and Knitting, have been added to the syllabus of examination for female candidates for school license.

It has been thought desirable that a manual on these subjects should be prepared for the use of student-teachers in the Provincial Normal School, and for others qualifying themselves to pass the examination for license. The book is thoroughly practical, containing no unnecessary technical terms. It is hoped that it may be found useful also to others than teachers and students, and that it may be profitably put into the hands of persons already engaged in domestic work, whether daughters or mothers, mistresses or maids.

This little manual is compiled largely from an excellent work included in the Royal School Series of T. Nelson & Sons, entitled *Domestic Economy: A Class Book for Girls*. Other parts will be found credited to their respective sources.

The compiler is greatly indebted, for advice and assistance in preparing the book, to her colleague, Mr. H. C. Creed, A. M.

The manuscript has been examined and approved by Lady Tilley and other experienced housekeepers.

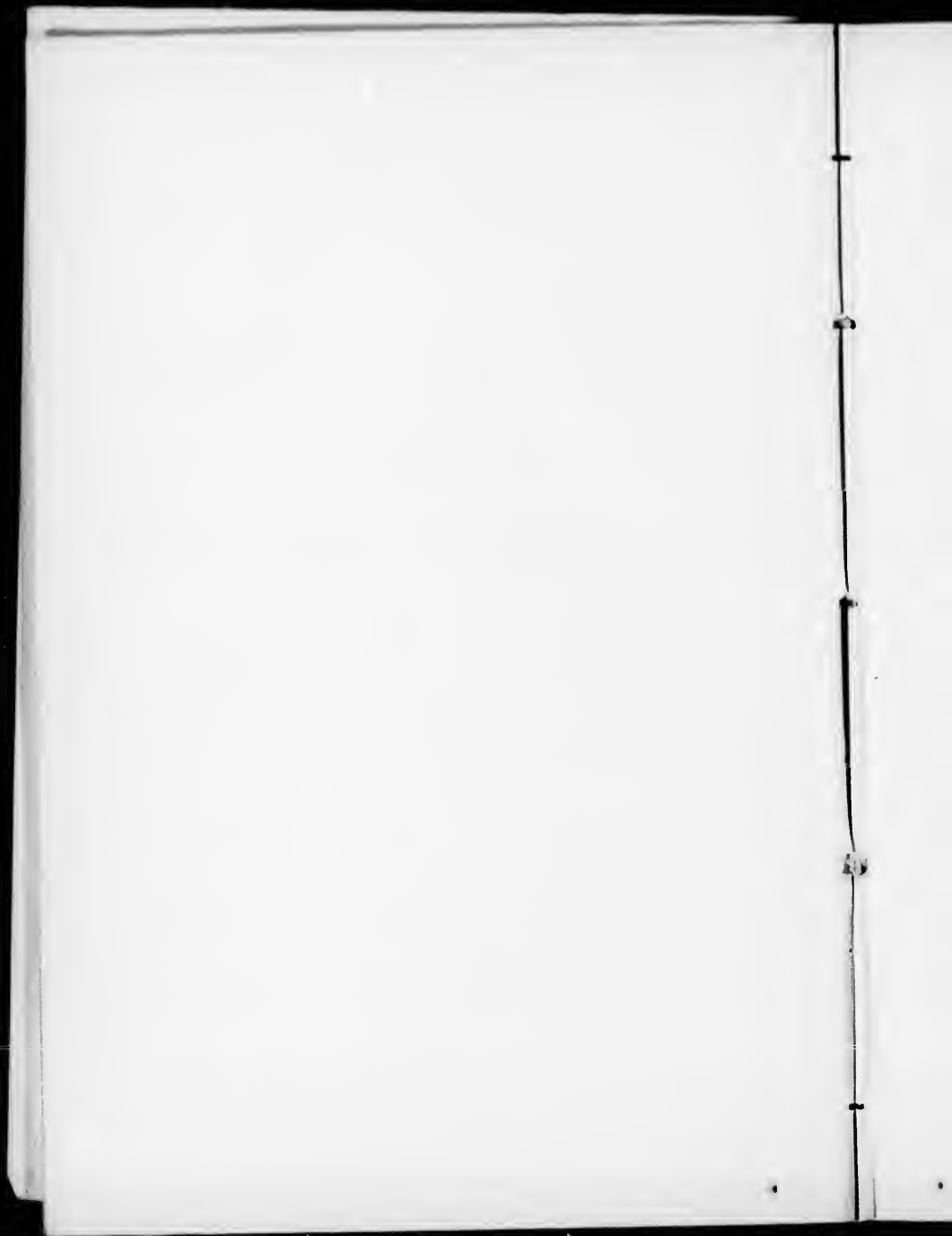
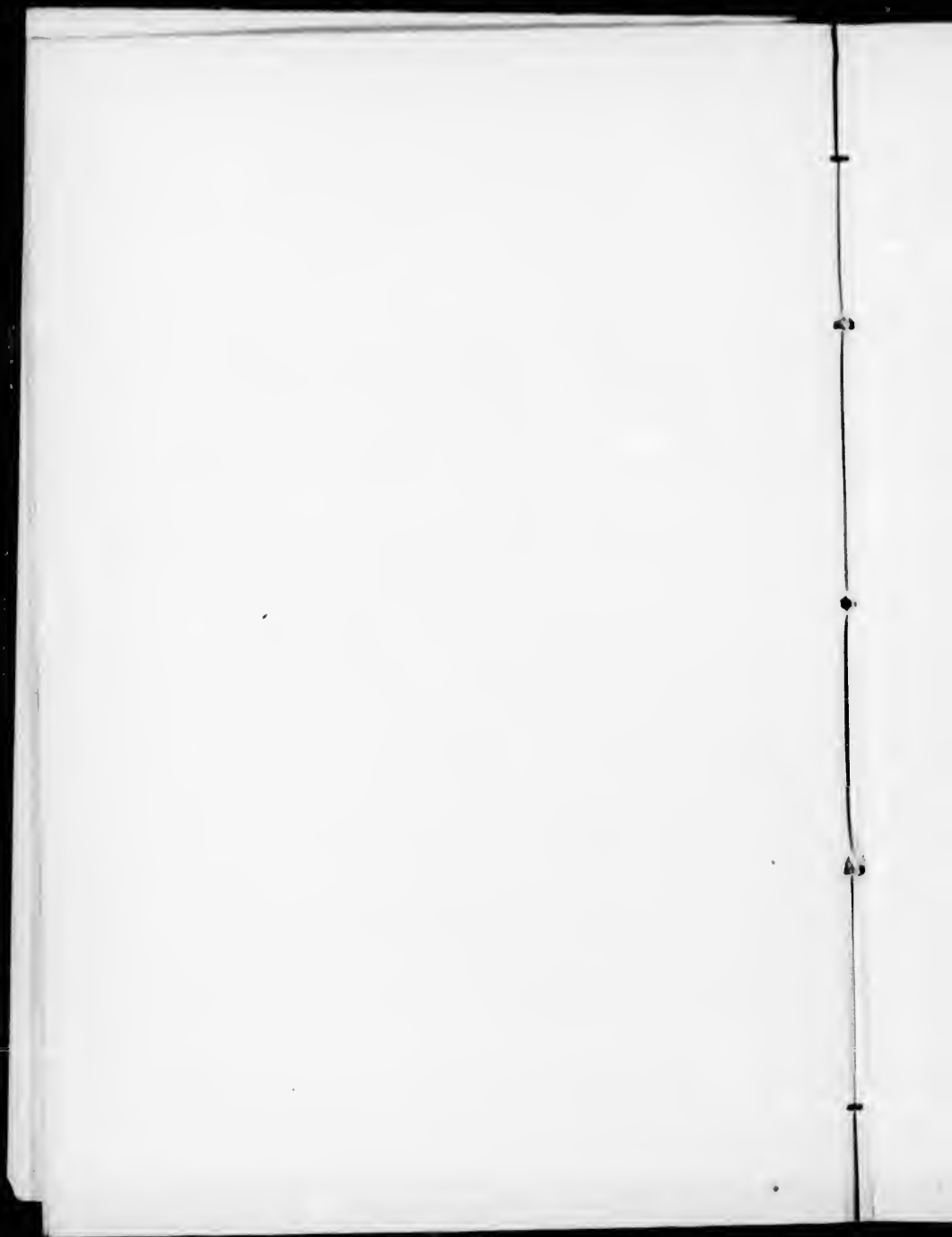


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DOMESTIC ECONOMY.

INTRODUCTION.

First, let us understand what DOMESTIC ECONOMY means. "Domestic" comes from *domus*, a home or family. "Economy" comes from *oikos*, a house; and *nomos*, law or management. These words together mean "the management of the family house or home."

Domestic Economy is the science which teaches the right management of the family home.

The rightful home-manager is a woman. On her the family depend for the food, clothing, cleanliness, and comfort necessary to health; and for the good nursing necessary in sickness. This science, which belongs specially to the education of girls, is of more importance in the household than all other arts and sciences together. From well-managed homes go forth happy, healthy, wise, and good men and women, to fill every position in the world.

If a country were made up of such homes, it would be a nation healthy and happy, noble and good, wise and prosperous. The influence and

power of girls are, therefore, enormous. They have to do with success or failure, with happiness or misery, quite as much as statesmen and philanthropists, though in different ways.

The object of this book is to help them in the acquirement of this, their own most important science. Every girl who wishes to do her part towards making the world healthier, happier, wiser, and better, must study this science with a thankful sense of her own high mission.

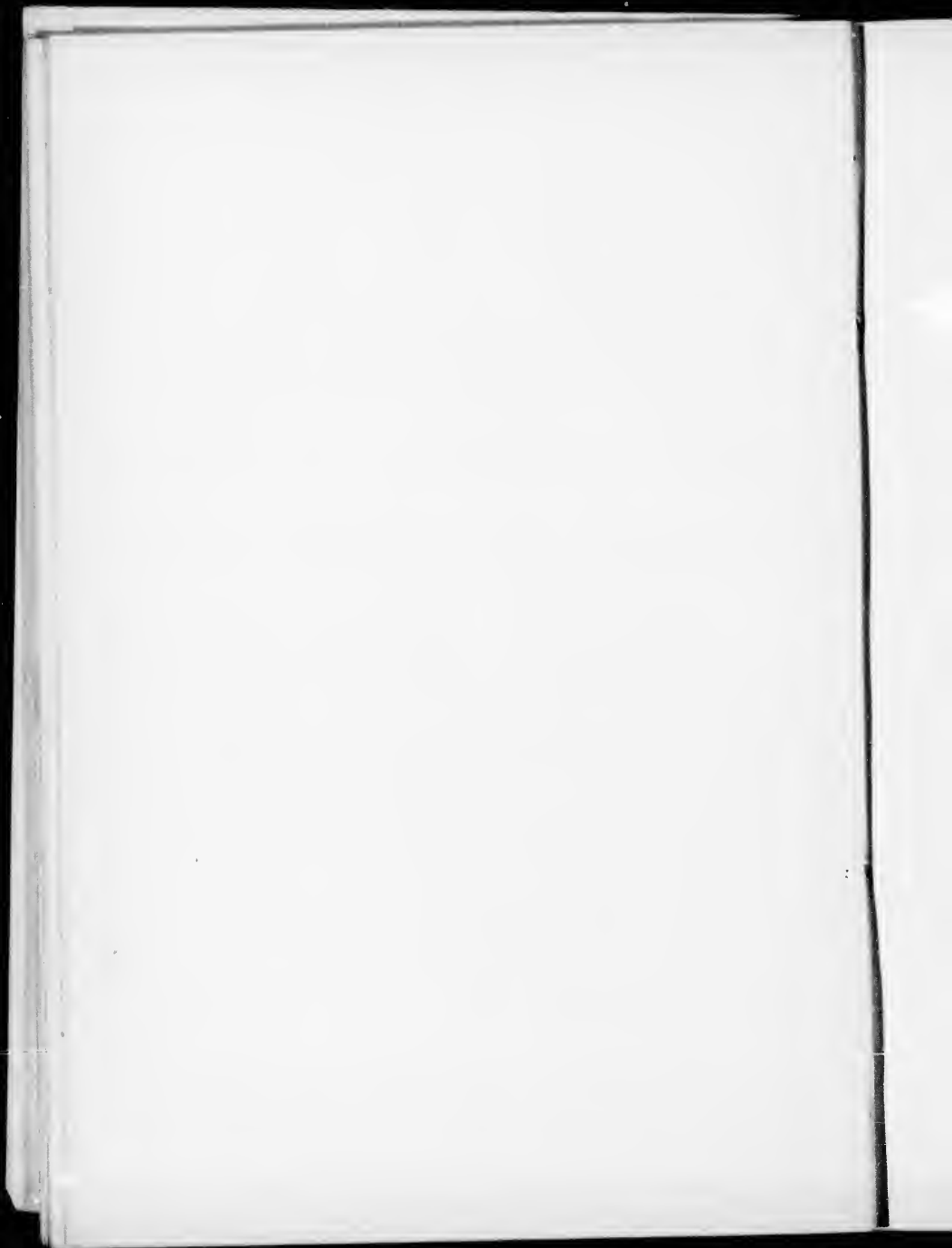
The wisest man thus speaks of a good homemaker: "She bringeth food from afar; she giveth meat to her household: she seeketh wool and flax, and worketh willingly with her hands; she is not afraid of snow, for her household they are clothed: she looketh well to their ways: her children rise up and call her blessed; her husband praiseth her: she will do him good, and not evil, all the days of his life."

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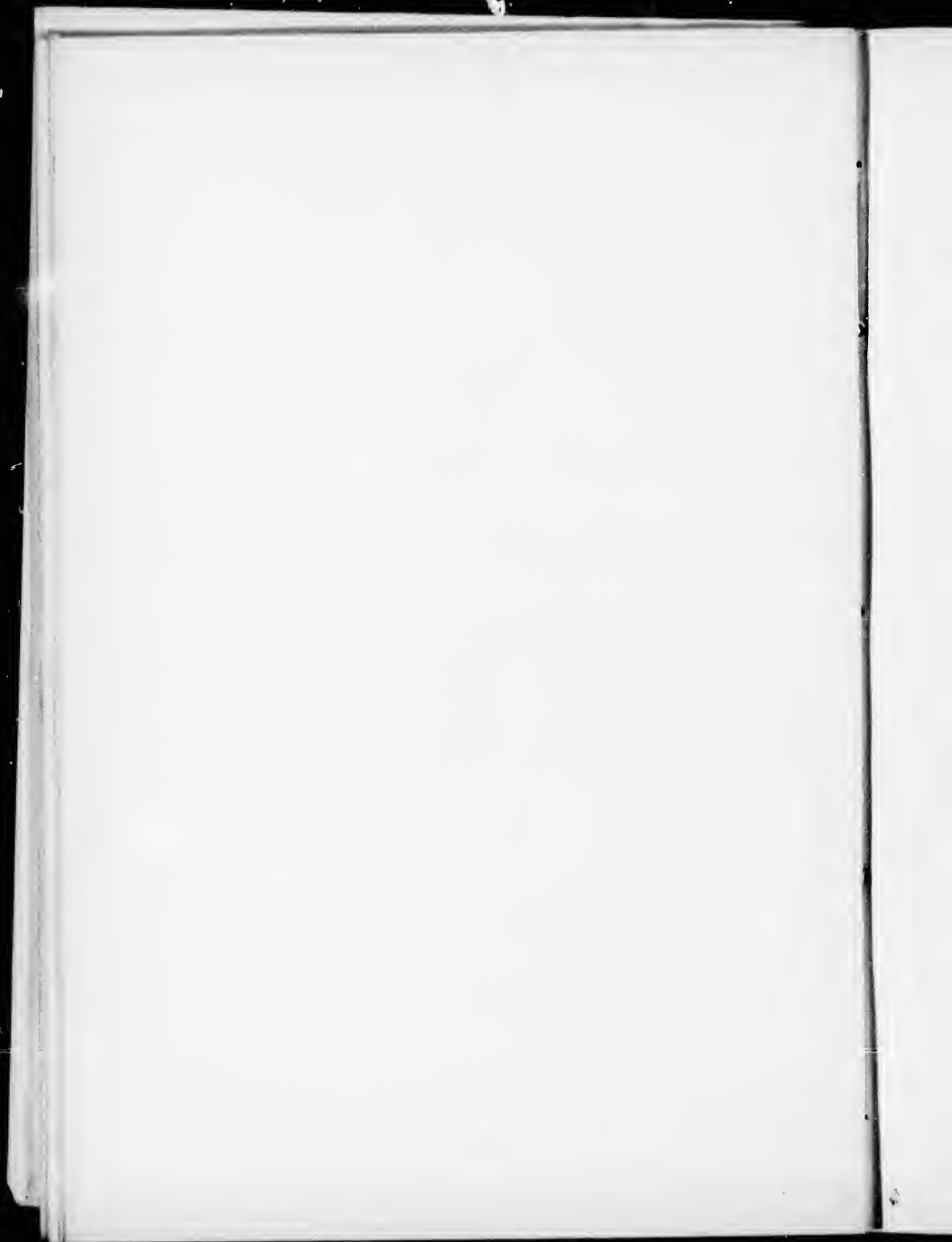
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DOMESTIC ECONOMY
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PLAIN SEWING AND KNITTING.



PART I.



PART I.

FOOD.

I. — WHAT FOOD HAS TO DO.

The work of those who manage the home has to do with food and clothing ; with pure air and cleanliness ; with health and sickness ; with earning, and spending, and saving.

First, The Body must be kept warm with a warmth that comes from within. — When this inside warmth fails the strength of the body fails too : no fire and no clothing can supply its place. There is bitter cold in Lapland, and sultry heat in India ; but the body must be kept at the same temperature in both places. When the internal heat becomes too great, fever ensues ; when it is deficient, the vital energy becomes enfeebled.

A cold climate tends to lower the natural heat of the body ; a hot climate tends to raise it. Food enables man to counteract the effects of climate in both cases. It supplies solid fuel to make warmth inside the body, and moisture to keep down superfluous heat outside. By the evaporation of moisture from the skin, the body is cooled, and its temperature is kept equal.

Depending on this warmth in the body are its **power and force**. A steam engine cannot move of itself: the power must be put into it; and this power is stored up in the black coal with which we feed it. Stop its food, put out its fire, and no machine will work. Just so with the body. Stop your food and the fire will go out; and when you become cold you are powerless. All your force and power are stored up in the food you eat.

Food keeps up a regular heat in the body, and at the same time supplies force.

Second, The Body must be kept in repair.—The strength and actual material of all substances become lessened by use. The strongest building wears away in time, even by the action of the air upon it. The body is always in wear, yet it does not wear out, in ordinary circumstances, till old age. When it is torn or cut, the repairs are done from within. The repair of the bodily frame-work, rendered necessary by daily waste, is effected in a natural way by the food we eat. It furnishes the proper flesh-making and strength-giving material to keep every part, even damaged places, in proper repair.

Food makes and repairs flesh.

Third, The Bones and Joints of the Body must be renewed and made strong.—An iron

joint will wear away both itself and the socket in which it is fixed. The joints of the body do not wear away. Why is this? It is because the waste is repaired by natural growth, and that is the work of the food we eat. Food supplies the body with exactly the materials the bones want, to keep them strong and to help them grow.

Food supplies material for bones.

Food, then, has three chief matters or duties to attend to in the body, each one entirely different from the others. It has to give warmth and force, to form flesh, and to make bone. There is one natural food which can do all these things by itself. That food is **milk**; and as it contains all the elements needed for keeping up the body, it can of itself support life. But as no one would care to live always on milk and nothing else, we use different kinds of food, and thus mix the elements for ourselves.

Physiologists, who study the uses of every part of the body, have found that one kind of food alone will not support life except for a short time. It has also been ascertained that each particular kind of work in the body can be done best by a particular kind of food. As, therefore, there are three chief duties to be attended to in the body, so there are

three principal kinds of food, each named according to the work it has to do. These are:

First, Warmth-giving Foods.—The foods best adapted to create warmth are those which contain starch, fat, and sugar, named respectively *farinaceous*, *oleaginous* and *saccharine* foods. They have been called carbonaceous compounds, “heat-givers” and “force-producers.”

Second, Flesh-forming Foods.—The foods which make flesh and give strength are those which contain albumen, fibrine, gluten and casein. They have been called nitrogenous compounds, and “flesh-formers.”

Third, Bone-making Foods.—The bone-making materials are found in the mineral properties of water, in common salt, in certain soda-like ashes found in vegetables, and in fresh fruits.

The proportions of model food for a day have been thus given:

			Ounces.
1. Carbonaceous food	{	Starch,	12
		Fat,	1
2. Nitrogenous food,			2¼
3. Mineral matter,			¼
Combined with water,			22
Total,			37½

Any kind of food taken in excess does mischief. It cannot be used by the body, and either remains to cause pain and disease, or is thrown off by sickness and various eruptions of the skin.

II.—THE SOURCES OF FOOD.

We shall now consider the sources whence food is obtained.

1. Animal Food.—The chief kinds of animal food are mutton, beef, veal, lamb, venison, pork, game and poultry, and fish.

Mutton, the flesh of the sheep, has a delicate flavour; and being very easily digested, it is good meat for children and invalids.

Beef, the flesh of the ox, has a stronger flavour than mutton. It is full of nourishment; but when the flesh is mixed with layers of fat, the food is more easily digested than when it consists of lean fibre.

Veal and *lamb*, like all young meats, are not so nourishing as the flesh of full-grown animals; but they are delicately flavoured and sweet. Veal is not easily digested by many stomachs; perhaps because it contains in excess a gelatinous sort of flesh.

Venison, the flesh of the deer, contains the same good qualities as mutton; it is tender and easily digested.

Pork and *bacon* are the flesh of the pig. Both contain a large amount of fat, and are therefore valuable heat-producers. They are much used by those engaged in out-door labour, but should be mixed with vegetable diet.

Game consists of wild animals, principally hares, rabbits, partridges, snipe, woodcock, wild ducks, etc.

Poultry.—The commonest kinds of poultry are fowls, ducks, geese, turkeys, and pigeons. Eggs are light and nourishing, when properly cooked.

Fish.—The fish foods consist chiefly of salmon, cod, mackerel, herring, alewives, and halibut; besides these, there are many kinds of fresh-water fish. Fishes with scales are more wholesome than those which have none. The fresher fish is when eaten, the more nourishing it is.

The commoner sorts of fish contain more real nourishment than the more expensive. A person must eat more fish than meat to get the same amount of nourishment, because a larger proportion of the bulk consists only of water.

2. Starch Food.—The chief starch foods are wheat, barley, oats, rye, rice, maize, sago, tapioca, arrowroot.

Wheat.—From wheat we obtain flour for bread. The finest and whitest flour does not contain so much nourishment as the "seconds" or "thirds"; for these retain the husk, in which the gluten is found. Macaroni and vermicelli are made from wheaten dough. These foods are very nutritious, especially when taken with milk,—not with cheese, as is usually done in this country. In Italy they form one of the chief articles of diet with all classes of the people.

Barley, Oats, Rye.—All these grains may be used for bread. Oatmeal is used for porridge and for gruel.

Rice is obtained from a grass-like plant which grows in India, China and America.

Maize yields Indian corn-flour, hominy, and other kinds of flour, now used in all parts of the world. It grows abundantly in the United States and Mexico, and also in the south-east of Europe.

Buckwheat is largely raised in this country, and much used in making griddle-cakes, as well as for bread, etc. Authorities say it is neither very wholesome nor nutritious.

Sago is the pith got from the inside of the trunk of a palm tree which grows in all parts of the tropics and especially in the East Indies.

Tapioca is a preparation of the flour obtained from the cassava plant, which grows abundantly in South America.

Arrowroot is procured from the root of a tropical plant. We get it chiefly from the West Indies. It is more nourishing than either sago or tapioca, and is a very common diet for invalids.

3. Saccharine Food.—*Sugar* is a substance obtained by the evaporation of the sap or juice of certain plants. It is found in the sugar-cane, in a species of maple-tree, in beet-root, in milk, and in smaller proportions in cereals, as in wheat.

4. Oleaginous Food.—*Milk* is the most important of these. It yields us cream and butter, as well as cheese, which contain a large amount of fatty matter in addition to casein.

We get fat both from animal and from vegetable food. It is the most readily consumed of all the heat-givers. A large proportion of the animal fat in the body is derived from milk, either in the natural state as it comes from the cow, or in cream, butter, and cheese. Cream is milk concentrated.

It forms on the surface of the milk because it is lighter than milk. Milk from which the cream has been skimmed is thin and poor. Butter and cheese are also concentrated compounds of milk. Butter is made by churning, or rapid motion. Cheese is made by using rennet (a preparation of the stomach of the calf) to separate the curd from the whey or watery part of the milk. The curd is then pressed and allowed to harden.

5. Vegetables and Fruits. — Our principal vegetables are the tubers or roots, and green succulent vegetables. Among the tubers are the potato, turnip, carrot, beet, parsnip and radish. Of these the potato is the most important. It was introduced into Europe from America about three hundred years ago, though it did not at once become a favourite food. The principal green vegetables are cabbage, lettuce, pease, beans, cauliflower, and asparagus. Thoroughly ripe fruits are wholesome and beneficial.

III.—THE SELECTION OF FOOD.

People have learned to mix the different kinds of foods without exactly knowing why they do so.

The following are common mixtures which are perfectly right in the substances chosen :

Bread and cheese.—Bread, the starch; warmth-giving. Cheese, casein; flesh-forming.

Bread and meat.—Bread, the starch; warmth-giving. Meat, the fibrine; flesh-forming.

Rice and other starch puddings.—Rice or sago, the starch; warmth-giving. Milk and eggs, the casein and albumen; flesh-forming.

Bacon and pork with pease or beans.—Bacon and pork, the fat; warmth-giving. Pease and beans, the legumin; flesh-forming.

Bacon and eggs.—Bacon, the fat; warmth-giving. Eggs, the albumen; flesh-forming.

Liver and bacon.—Bacon, the fat; warmth-giving. Liver, the albumen; flesh-forming.

It is necessary that all good managers should know how to select the best sorts of meat, fish, and vegetables.

Meat.—This is none the worse for being a day or two old, according to the time of the year: it keeps good longest in cold weather. The flesh of newly killed healthy animals adheres firmly to the bones, is of a deep red colour, and contains a mixture of fat and lean, which gives it a mottled appearance. The juice of the flesh should be of a

dark claret colour; and the flesh should be firm, not flabby. It should be springy under the pressure of the finger.

Fish.—In the inland counties it is often difficult to obtain fish that are perfectly fresh, as they should be eaten as soon as possible after they have been caught. In choosing fish, see that the gills are a bright red, and the scales fresh-looking. The surest test is the smell; for dealers have been known to colour the gills of stale fish, in order to deceive. If a fish smells pure and sweet, it cannot be stale.

Vegetables.—The tubers, as potatoes and turnips, will keep good many months after they have been removed from the earth. Green vegetables should, if possible, grow till you have the water boiling in which to put them. It is easy to discover when they are faded and withered, by their colour; for instead of being greens they become browns.

IV.—PREPARATION OF FOOD.

Any clever girl can make herself acquainted with the way to prepare particular dishes, now that good cookery books are so cheap. A few hints

are all we can give here, besides noticing the various ways of cooking.

A good cook should have skill enough to present every article of food in a tender and palatable form, without having caused an atom of waste in its nutritive properties; and that form of preparation is most desirable which best accomplishes this end.

Albumen, as it exists in flesh, has the same property under the influence of heat that it is so well known to have in an egg. The heat hardens it. Thus by quickly heating the outside of a piece of meat, a case or coating of hardened albumen will be formed, which will prevent the juices from escaping.

Good cooks subject the joint at once to the strong heat of a good fire, or plunge it into boiling water, for about five minutes. That is time enough to harden the albumen. The old principle of slow cooking to insure tenderness is still in force, but it is not acted on until the retention of the nutriment has been secured in the manner described.

We shall now notice some of the different ways in which food is prepared:

MEATS AND FISH.

Roasting.— Meat to be roasted, especially beef, should be put into a very hot oven, so that it will

cook quickly upon the outside. The juices are thus retained, which would simmer out into the pan if the oven were only moderately warm. Roasting meat should be thoroughly dredged with flour before being put into the oven, but should not be salted till partly cooked, as salt extracts the juices from raw meat.

Beef should be cooked about ten minutes for every pound, if it is to be eaten rare, which is the most healthful way to eat it.

Mutton requires about fifteen minutes to the pound; lamb, a little more, as the latter should never be served rare.

Veal and venison require long roasting—four or five hours is not too much; and a few slices of salt pork should be skewered over the top. Venison may be wrapped in a crust of pastry, which keeps the juices from escaping. If pork is ever fit to be eaten, it is only when thoroughly done, and it should be roasted from three to five hours.

Boiling.—This is cooking in water. Meat should be put into boiling water at first; but after the outside case of hardened albumen is formed, you cannot let it cook too slowly. If it *gallop*, the albumen will harden all through, and the joint will be tough and hard in spite of its former excel-

lence. The liquor of boiled meats should be frequently skimmed. If the scum is allowed to boil down, it sticks to and discolours the meat. Allow as much time in boiling as in roasting a joint, and be careful that in preventing the meat from boiling too fast you do not allow it to cool. The liquor of all boiled meats makes excellent "stock."

Broiling is cooking meat over the fire. Chops, steaks, and fish are nicer when prepared in this way. Two things are requisite to nice broiling: a clear fire, and a perfectly clean gridiron. Before putting the meat on the gridiron make it quite hot, and rub the bars with suet to prevent the meat from sticking. If your dripping fat makes too much flare, remove the gridiron a minute or two, and sprinkle the fire with a little salt. The meat must not be blackened. It should be turned twice or thrice.

Stewing.—Stewing is the most economical kind of cooking; the flavour and nourishment of all the materials are secured without loss, and the meat is made tender, savoury, and easy of digestion. The perfection of stewing depends on the slowness with which the cooking is accomplished. The meat, just covered with water, should be kept at boiling heat, and yet not allowed to boil. The lid should

not be moved: the pan should be shaken instead of the meat being stirred.

The coarser pieces of meat, which are too rough or unshapely to be prepared in any other way, make a delicious dish after stewing; and these rough pieces have the advantage of cheapness, while, when well cooked, they are as nice and as nutritive as the best joints.

The best method of stewing is to procure a stone jar with a close-fitting lid, and a sauce-pan into which the jar fits loosely. In the jar you place the meat, vegetables, and seasoning, with just enough water to cover them; put the lid on the jar, and do not remove it till you need to dish up the meal.

Pour some water into the sauce-pan and place the jar inside. The water in the sauce-pan may boil away merrily if you like, but the supply must be kept up, else your jar will crack. The boiling water cooks the provisions inside the jar. There is no waste, however long you keep it there. Tough and rough pieces of meat will come out beautifully tender, with every drop of nourishment inside or in the gravy. Bad managers object to stewing—it takes a longer time; they would rather put the meat in a frying-pan and cook it in that way.

Frying. — Meats prepared in the frying-pan are hard and indigestible. The best use of the frying-pan is to warm up vegetables and to fry fish, or to brown vegetables which are to go into the stock-pot or into stews. In frying, a little dripping should be used; but it should not be allowed to burn brown before the frying begins. All things fried should look a nice crisp brown. If too much fat be used, they will look white and sodden. If the fire be too fierce, they will be black and charred.

Fish. — Great care is needed when boiling fish that it be removed from the fire as soon as it is done. This is known by trying if the flesh easily separates from the bones, and watching when the eyes begin to start out.

Soups. — The French peasantry almost live on what the English know very little about — soups. The French are the best cooks. They can make a dainty dish out of almost anything. Very many of them live entirely on such things as we throw away. They use and make the most of everything that comes to hand.

The great advantage of soups and stews is that any part of meat may be used in making them. That which is too tough or rough-looking to be

prepared in any other way, will come in nicely for this method of cooking; and it is very cheap.

The basis of all good soups is the broth of meat. This may be made by boiling the cracked joints of beef, veal or mutton, and is best when cooked the day before it is to be eaten. After putting the meat into the pot, cover it well with cold water and let it come to a boil, when it should be well skimmed. Set the pot where it will simmer slowly until it is thoroughly done, keeping the pot closely covered all the while. The next day, when the soup is cold, remove the fat, which will harden on the top of the soup. After this add the vegetables and the herbs you use for seasoning, cooking all well together. Before sending to the table the soup should be strained.

In all families the manager should learn to watch most carefully against doing away with any refuse of food, till every particle of goodness has been extracted from it. She should keep a stock-pot for this purpose. At least once a week she should place by the fire a sauce-pan half full of water, and in that she should deposit her savings — pieces of bacon rind, bones from meat (and if she has none it will pay her to purchase a few), crusts of bread, and vegetables. The stock-pot must stand

by the fire simmering for many hours, then a little salt may be added to it, and it should be strained through a colander and set aside to cool, when the fat should be taken off and set aside for frying or to be clarified.

This liquor will form the foundation of her soups, stews and gravies. One who has not tried it would hardly believe how much nicer these dishes are when made from "stock" instead of from water. Of course it involves a little extra thought and trouble, but no good manager will grudge these so as to procure greater comfort for her household.

Hashes. — Pieces of cold meat and fish may be utilized in the form of hash, either separately or in combination with potatoes or other vegetables.

VEGETABLES.

Vegetables are usually cooked by boiling; potatoes, however, are often prepared by baking; and when it is carefully done the result is very satisfactory. When vegetables are boiled, care must be taken that the process be not carried too far. As soon as the vegetable is soft it should be removed at once from the boiling water. If the cooking be continued beyond this point, the structure will be

broken down, and much of the vegetable will be dissolved in the water and lost.

Potatoes, especially, should not be suffered to remain in the water a moment after boiling has ceased. While boiling, the pores of the vegetable are filled with steam, but as soon as the temperature falls below the boiling point, the steam begins to condense, and the surrounding water is drawn in to fill the vacuum, and the potato is water-soaked and indigestible. To a less extent the same is true of beets, carrots, and parsnips.

To Bake Potatoes.—Choose smooth ones; wash, dry, and bake them in a quick oven till they are done through, but not baked a minute too long. They will not be really nice unless served as soon as they are done.

To Boil Potatoes.—Select all of the same size, or nearly so; thoroughly wash, and put them in a pot or sauce-pan; place it on the fire, and add enough boiling water to cover them. Cover closely and boil until their skin begins to open; then pour off every drop of water; replace the cover and set on the top of the stove to dry for five or more minutes before serving. A little salt, put in the water ten minutes before draining, improves the

flavour and prevents the skin from opening until the potato is cooked throughout.

When potatoes are old peel them, and let them lie an hour or two in cold water before boiling.

BREAD.

In civilized countries, bread is a constant diet, a part of every meal. It is called "the staff of life." A man's trade or occupation is said to be that by which he "earns his bread," and nothing gives us a more affecting idea of misery and destitution than to say of a family, they are in want of bread. If bread be badly made, unwholesome, and indigestible, the mischief will be in proportion to its universal use.

Very white bread and new bread should be avoided in every house: "seconds" or household flour is best, and when wheat flour was dear it was common to mix it with one-third barley-meal. This made an excellent loaf, which kept moist and was very nourishing. Barley bread was the common bread of the people in many places at the commencement of the present century, and it is a great pity there is such a craze for white bread; but as girls are better educated, this craze, like many other absurdities, will fade away. You must

not think dark or coarse bread not good enough; it was good enough for our grandfathers and grandmothers, who were neither drunkards nor paupers: and persons who have little money to spend ought to consider how it can be spent to the best advantage. The quality and kind of food in a house must depend on the income. There is no degradation or injury to health in taking porridge for breakfast, or eating bread made of dark or coarse flour. A laborer with a dollar a day cannot live on the same things as a person with a thousand a year; and if the money often spent on tea, tobacco, and strong drink were spent on food, many a family would be healthier and happier. Every woman ought to know how to make bread.

Stale bread makes excellent cream or water toast, and good puddings. When not wanted for immediate use, it may be dried in a slow oven, and rolled or pounded into crumbs. It may then be used for puddings, or for stuffing for fowl, or for breading meat or oysters, or for scalloped oysters. In making hash, at least one-third chopped bread crumbs is exceedingly palatable.

Receipt for Making Bread.—Sift ten pounds of flour into a large earthen pan. Making a hollow in the centre, put into it one tablespoonful of salt,

and one heaped tablespoonful of white sugar. Then pour in gradually three pints of warm water, working in flour from the sides of the hole till you have a smooth batter in the midst of the flour. Stir in one small cup of yeast, cover with a large plate resting on the dry flour, and set it in a warm place to rise.

As the rising takes from eight to twelve hours, the mixing is usually done in the evening. Next morning the batter will be found quite foamy. With a knife, cut the flour into the batter until the whole becomes a dough, which turn out on the bread-board, scraping the pan out clean. Now "mould" the dough well into a good round lump, which must be returned to the pan, covered with the plate and with a clean towel, and stood in a warm place again, to rise a second time, for an hour or two. The "moulding" consists in working the dough over and over, from the outside inward, with the hands, and should be continued until the mass begins to have a rough, broken appearance. If the dough is at first too soft, add a little more flour, until it can be handled without sticking to the board.

If you can without difficulty keep the moulded dough sufficiently warm through the night, you

may prepare and mould it in the evening, instead of letting the batter stand all night to rise. Then the rising of the dough during the night will be the first rising, not the second.

When the dough has risen, place it on the board again, and with a sharp table-knife or chopping-knife cut it thoroughly in every direction. This lets out the gases and makes the bread whiter and more tender. Cut off portions of suitable size, and shape them into loaves, working the dough well, in order to render it fine-grained and free from holes.

Place the loaves in well-buttered baking pans, cover with a cloth, and set to rise once more. As soon as the dough begins to rise and appears spongy when touched with your finger, score each loaf from end to end with a sharp knife, and then place the pans in a hot oven to bake. After an hour or more, the bread may be tried with a knitting needle. If it is "done" there will be no dough adhering to the needle when drawn out. Then remove from the oven, turn out the loaves upon a clean towel, and let them stand until thoroughly cold before putting away in the bread box.

V.—HINTS AND HELPS.

Once or twice we have mentioned the word *simmering*. It means keeping things near the boiling point without letting them boil. Boiling too fast wastes the food by boiling out the nourishment and evaporating it—sending it up the chimney, which can do without it—and it makes everything tough. Even vegetables are nicer when cooked gently.

A great deal of pains is taken by many good people to teach how to cook by the proper heat measurer—a thermometer. We *guess* now how hot our water for boiling, our dripping for frying, and our ovens for baking ought to be, and we very often fail to guess right. By-and-by we shall doubtless have given to us with every receipt exactly how many degrees of heat are necessary to cook properly every article we prepare for food. Then it will be only the careless who make any blunder.

A good cook will endeavour to provide herself with the *proper implements* for her cooking. Like other workers, she cannot make a good job of anything without the proper tools. And she cannot be too delicate and refined in everything belonging to

her work, — her hands, her sauce-pans, her spoons and knives, dishes, dish-cloths and towels should be perfectly *clean*. Nothing connected with cooking should be used twice without washing — not a dripping-pan or a sauce-pan lid, any more than a dish or a glass. A good manager will spare no pains in washing in cold water all pieces of meat where the blood has settled, and in scraping with a knife every part of a joint likely to be “soiled.” And it will get soiled. Those who have to do with its killing and cutting up are not too careful, and it sometimes receives rough usage. This should be remedied at home.

It is necessary in making soups and other dishes to taste the food from time to time, in order to judge as to its flavour; and not unfrequently the same spoon which conveyed the food to the mouth is put back into the dish or sauce-pan, and used again and again. This is a dirty habit, and it is better to take out a small quantity of the soup with one spoon, and taste of it with another.

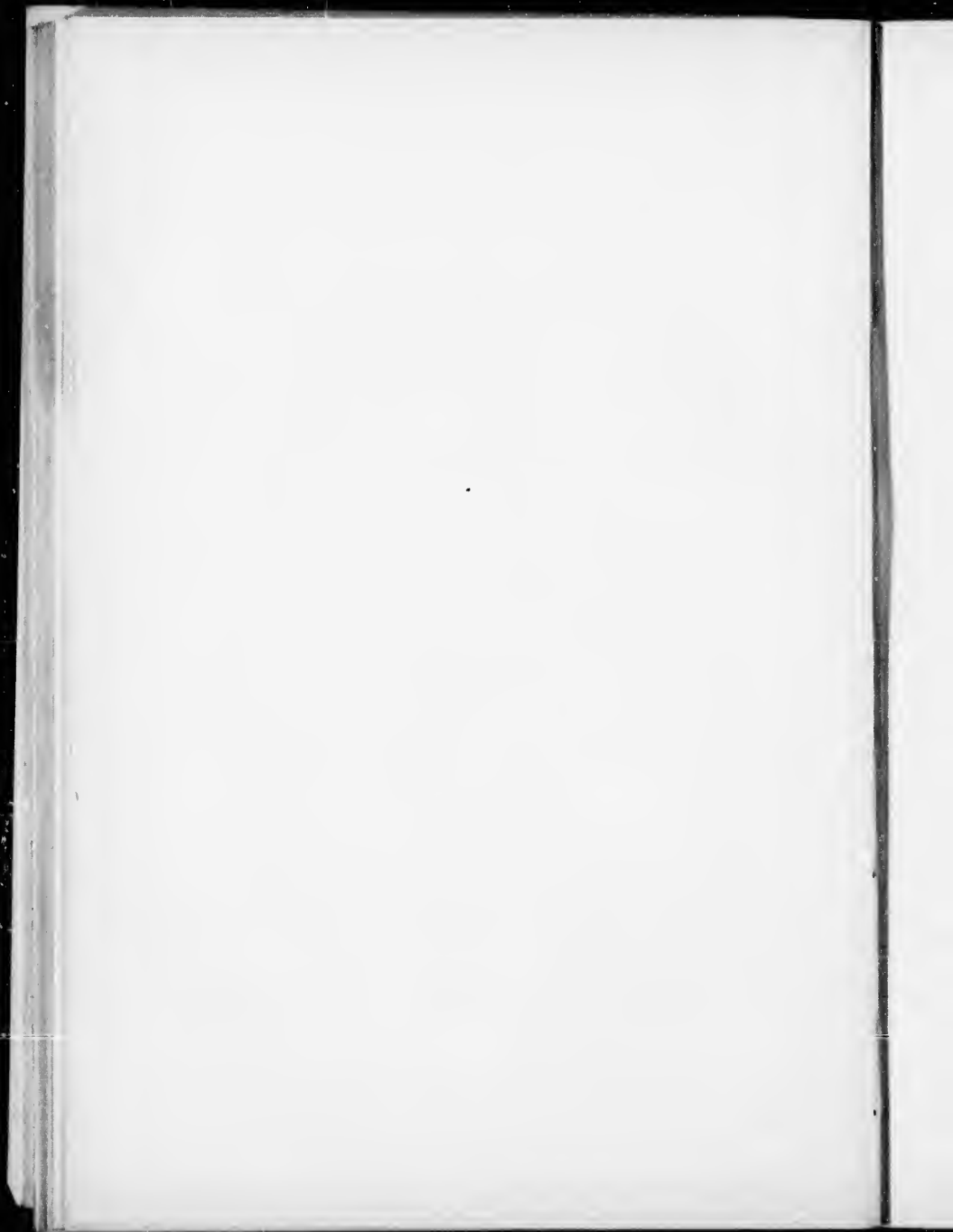
Cooked food of every kind should be placed where there is fresh, pure, and cool air, and where insects cannot deposit their eggs upon it. The power of absorption of gases and liquids, which is possessed by both cooked and uncooked food is in-

sufficiently appreciated, or better larders would be provided in good houses. In the country nearly all the better class of houses have cellars which are cool, but most city houses are very defective in this respect. The air should, moreover, be dry and in motion. Moist and stagnant air is most conducive to putrefaction and particularly in hot and close weather; whilst air which is in motion is generally cool and comparatively dry. Take care, therefore, that there is a good pantry or cellar, that it is well drained, and has a strong current of air passing through it. Do not place the food near any drain, water-closet, or any other source of offensive smells, nor in a close cupboard containing a variety of things and near a fire. Cover it in warm weather in such a manner that flies may be excluded whilst air is admitted, and watch it from time to time.

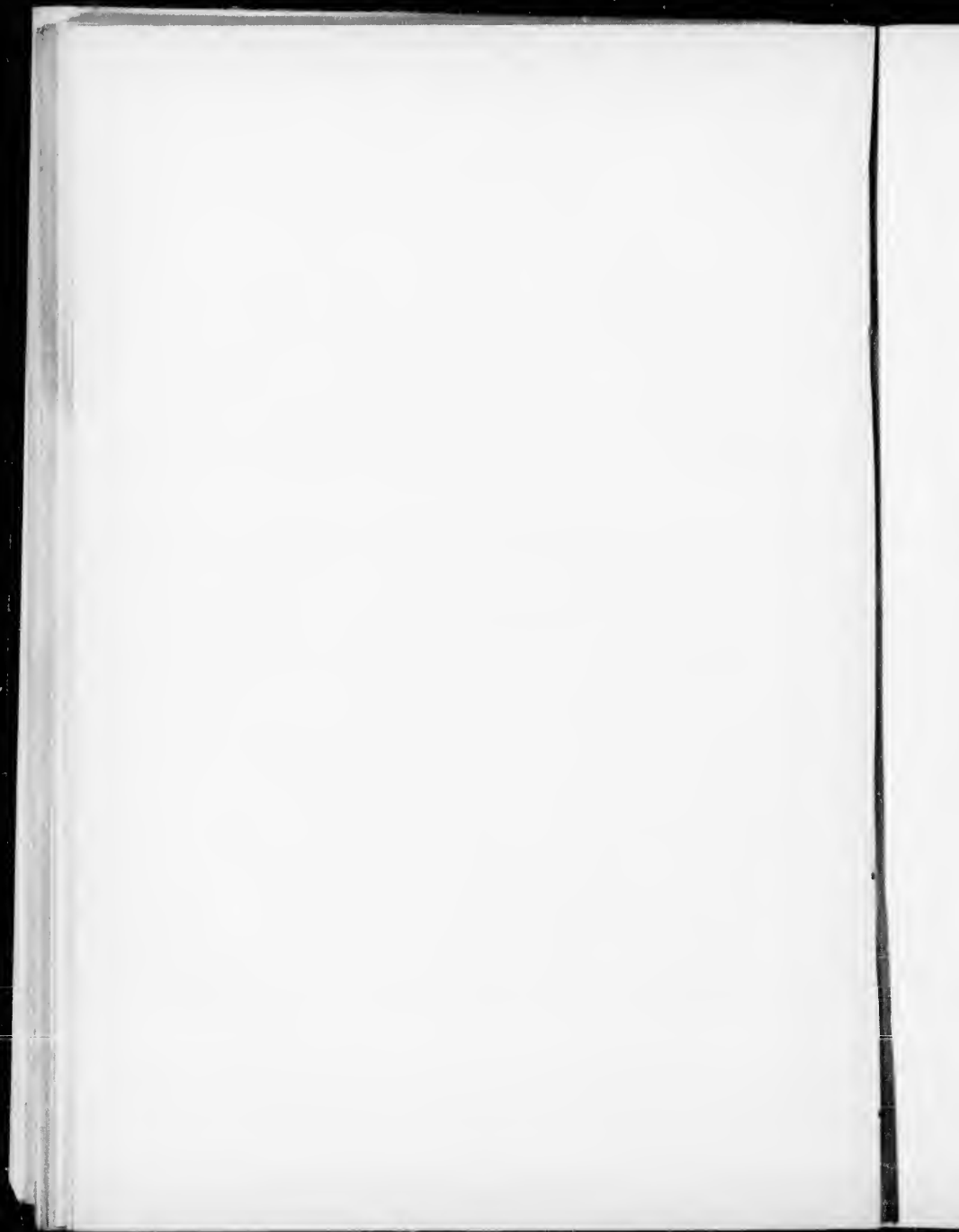
It will be the housekeeper's chief business to provide sound, nourishing, and enjoyable food, not only because it is a requisite to good health, but because it is a promoter of home happiness. The thought of the daintily spread table at home, with all its brightness and comfortable belongings, will quicken the homeward steps of those who are abroad, when their work is done.

The table should be neatly spread with a white or colored cloth; and great pains should be taken to avoid making slops, grease spots, or creases upon it. Every article needed should be placed upon it with nicety and care, in the most convenient position. We should carefully regard the wants of every one around us, and be so attentive to them, in passing all they need, that they will not require to ask for or reach after anything.

We should be careful to handle our knives, forks, and spoons properly, and never to carry the food to the mouth with the knife. We should eat tidily, not scattering our crumbs; cleanly, not soiling our clothes; quietly, not making any unseemly noise; and slowly, not hurrying over or bolting our food. We should not put too much into the mouth at once, nor speak when our mouths are full. If we find it necessary to cough or sneeze at the table, we should quickly turn away and place the hand before the mouth, to prevent unpleasantness to others. It is a good thing to eat with a cheerful, quiet mind; noise and rough behaviour should be banished at meal-times, but pleasant chat renders the food a greater refreshment.



PART II.



PART II.
CLOTHING.

I. — PURPOSES AND ADAPTATION OF CLOTHING.

The use of clothing is to enable the body to keep its inside warmth at the same regular temperature in all climates and seasons.

If two substances be placed close together, the one being hotter than the other, the colder one will keep drawing heat from the hotter one till their heat is the same. If the hand be placed on a cold substance, the warmth will be drawn from the hand into the substance touched. And if the cold substance be constantly changed, more and more warmth will be drawn from the hand. When a mother wishes to cool a baby's food she pours it from one vessel to another; and as each vessel draws off some of the warmth, the food becomes cooler. In like manner, if the body were naked, the cold shifting air would carry off the inside warmth faster than the carbon and oxygen could create it. The body needs the power of keeping off all excess of cold. It does this by the use of additional clothing.

In cold countries the body requires several layers of thick clothing, so thick that the air cannot penetrate it to steal away the inside warmth: the colder the air, the thicker the clothing necessary. Those parts of the body which cannot be so protected frequently lose all their warmth, and the blood freezes. In these cases it is not uncommon for the frozen part to break off, such as the nose, the ears, the toes, and the fingers.

The heat of the body must be kept very near 98° F. A few degrees up or down make a great difference to health, and may even endanger life. Sometimes the atmosphere is much hotter than that. When this is the case, the body needs the power of cooling down all extra heat. It does this by bathing its surface with moisture. It cools down the heat just as we put out a fire by water. As soon as the inside temperature becomes too high, the body begins to bathe itself in perspiration, and by the fluid passing into a state of vapour, heat is taken up and the blood cooled. When this is prevented or driven back, many kinds of disease follow; fever is one of them. The principal use of clothing in hot countries is to shield the body from the outside heat—it is a sort of fire-screen. It should be thin, light and loose.

It seems strange to us, when we first learn the fact that colours have a great deal to do with heat and cold. Black and all dark colours have the power of absorbing or taking in the heat to themselves; whilst white and all light colours have the power of reflecting or throwing back heat. If black clothes are worn outmost, they have the power of absorbing the sun's rays or other external heat, and of forming a warm casing around the body, which is most desirable in winter. If white clothes are worn outmost, they repel the outside heat from themselves, and so keep it off the body. This is most desirable in summer.

Thin flannels should be worn next the skin in summer. Being porous, they allow the perspiration to pass through without giving such a chill to the skin as linen does. Thick flannels should take their place in winter, because wool does not carry off heat well, and it is a good protection from cold. In temperate climates the temperature is never so high as that of the blood; so in some measure the body needs protection against outside cold in all seasons. Too much clothing, by causing the skin to perspire freely, makes one more liable to take colds, whilst undue cold lessens vitality.

Clothing intended for work should be of such material that frequent washing will do it no harm.

It is of the highest importance that the feet be warm and dry. Stockings should be soft and woolly, and shoes stout and strong.

Clothing at night is also worthy of attention. A thick and heavy cotton counterpane weighs down the body without giving much warmth, so that the body is working during sleep, and is less refreshed in the morning. Except the sheets, all coverings of the bed should be of wool, which gives the greatest warmth in proportion to its weight, and the counterpane should be either equal to a blanket, or a blanket should be substituted for it at night. If there be too much warmth the body is relaxed, the skin made sensitive, and health is impaired. If too little warmth, the body is unnecessarily wasted by loss of heat. The old rule is, however, a good one; viz., to keep the feet warm and the head cool. Hence the number of blankets to be used must vary with the weather and season.

Young children and old people need more clothing at night than those of middle age; and in winter the most is required, for all ages, at about four to six o'clock in the morning, when the cold is the greatest. The sick demand great consideration in

this matter, and usually need more clothing than those who are well.

The night-dress should be of cotton covered by a woollen dress, or of cotton only. The very young and the aged should have the former, and those of middle age the latter; but if there be rheumatism about the shoulders, it is better to wear the former, and to cover the arms. With such a woollen dress fewer blankets will be required.

Clothing should be constructed of such shape and texture as shall best carry out the purpose for which it is worn—the promotion of health. Any article of clothing which in any way interferes with the free, healthy action and use of any part of the body, is to be condemned. The cruel foot-binding of Chinese girls is not so injurious to health as the corsets so generally worn by girls and women in civilized countries.

It sometimes seems as though people thought their clothing of much more importance than their bodies. The body is made to fit into and accommodate itself to the clothing, instead of the clothing being adapted to the wants and comforts of the body.

It is folly to fancy that what is most fashionable is most becoming. A style which suits one face and figure makes another simply ridiculous.

It is the duty of every one to look as nice and as pretty as she can; and each should study the things which suit her best, in order to give pleasure to those who love her. Freshness is the great charm in all female clothing.

II. — CLEANLINESS IN CLOTHING.

A great deal of the impurity brought to the surface of the skin is of an oily, greasy nature. This is absorbed by the clothing worn next the skin, and causes the dirt which settles from the outside to stick to it. Clothing thus soon becomes soiled, and should be frequently changed.

In selecting clothing for work, preference should be given to material that will wash. But a good deal of the outer clothing of men and boys will not bear washing without injury. It should be brushed carefully and often, and any spot of dirt or grease removed and all unnecessary stain avoided.

Grease spots may be removed by putting blotting or other porous paper upon them, and over that a hot iron. The heat of the iron will draw the grease from the cloth into the paper. If it is not all removed by the first trial, put another clean piece of

paper on and repeat the process. A little tailors' chalk or magnesia, scraped over a grease spot and left for awhile, may draw out the grease.

Benzine is an excellent cleansing medium, if the whole article can be saturated; but it leaves a mark the size of the application if it is rubbed or poured upon a spot. Paint may be removed from clothing by the use of turpentine.

To remove ink spots, wash immediately in cold milk. Fruit stains may be removed by washing the spots at once with boiling water; and tea or coffee stains by means of pure cold water, applied immediately with a sponge.

Washing.—Cleaning clothes by washing, though effectual and necessary, is not pleasant work. It is hard to remove what laundresses call "flesh dirt"; and if the hands are not seasoned to the soda and water by habit, the skin becomes tender, and breaks in the rubbi-

There have been many inventions to supersede this rubbing, as washing powders and other receipts. All washing powders, however, contain lime, and must injure the fabric of the linen. It is said that it does not do so more than much rubbing. This may be true where the things are very dirty, but lime makes them drop into holes all over. The

labour of washing has been greatly diminished by the invention of washing machines.

Washing Materials. — The first great necessary for washing is plenty of **soft water**; and where this cannot be had, the trials of the washing day will increase ten-fold. The best water is the rain water, caught from the pipes placed around houses, or by other means.

Hard water is that which is procured from the earth. It becomes hard by imbibing the properties of the soil through which it passes. The chief of these are lime and sulphuric acid. It may be softened in various ways by the use of **alkalies**.

The common alkalies are **soda, potash, and ammonia**. They are the salts found in the ashes of burned vegetables and sea-weed. They have the power of neutralizing acids, and of absorbing grease.

In washing the hands in hard water, the various properties of the soap and the water do not unite. The sulphuric acid of the water destroys the power of the soda in the soap, and the lime acts upon the tallow or oil of the soap, and the whole floats about in white flakes, without uniting.

Blue, a preparation of indigo, is used by laundresses to counteract the yellow colour imparted to the linen by the use of soap and soda.

• *Starch* is used to stiffen linen and muslin. A piece of **alum** should be dissolved in starch intended for dresses and petticoats; they will not then flame if fire be applied to them, but only smoulder.

How to Manage a Washing.—The labour of the washing-day may be lessened by management and forethought. The clothes should be sorted out and soaked the day before they are to be washed. A little soap and soda should be dissolved in some warm water, and the clothes pressed into it one by one. Any especially dirty part should be rubbed with soap as it passes through the hands. No coloured things, except stockings, should be soaked.

On the day of “the wash” the fire should be lighted early, so that the water may be hot, and the work be begun betimes. This will enable the laundress to avail herself of any good drying weather during the day. Washing consists of four stages: *firsting*, *seconding*, *boiling*, and *rinsing*.

Firsting consists in soaping and rubbing the clothes till they are clean—every article *on the right side*. One piece of the garment should be rubbed against another piece, and not against the

hand or fingers. The more soda there is in the water, the sooner the hands break. When the clothes are well washed all over, they should be turned and wrung out.

Seconding is to do in fresh water, *on the wrong side* of the clothing, what was before done on the right side.

Boiling.—If the vessel in which the things are to be boiled is of iron, it should be lined lest it should iron-mould the clothes. A hoop should be provided, a little larger than the boiler lid, and a bag, made to fit the vessel, should be sewn round it. In this bag the clothes should be boiled.

The boiling water should have a little soap in it, and just a squeeze of the blue bag to give the clothes a good colour. Only white cotton things should be boiled; coloured things will fade, and woollen things and flannels shrink up in boiling.

Clothes should be carefully **rinsed** in clean hard water tinged with blue, and afterwards wrung as dry as possible, and dried in the open air. Good washing may be spoiled by bad drying. Coloured things, likely to “run,” should be rinsed in water into which a handful of salt has been thrown.

Clear soft water should always be used to wash flannels, and the different waters through which

they are washed and rinsed should be as near the same temperature as possible. If obliged to use hard water add to each gallon of water, half a tablespoonful of borax, which has the property of softening hard water without injuring any fabric. Soap should never be put directly on flannel garments, nor should they be rubbed either on a board or with the hands. Nothing thickens woollen fabrics more quickly or makes them lose their soft, fleecy feeling than rubbing, which causes the points of the small fibres to become matted and tangled together.

Prepare two tubs of strong soap-suds as hot as the hands will bear. Shake each garment to rid it of dust and wash only one at a time, for if allowed to become cold and then hot while wet the wool will certainly shrink. Souse up and down; squeeze rather than wring from one lather to another. Rinse last through clear soft water, squeeze out, shake lightly, and hang in the open air with the thickest parts up. When almost dry take down and roll up tightly and smoothly. The garments may be pressed with a moderately warm iron.

In washing black woollen hose, water must be used in which nothing else has been washed before,

else it will become covered with unsightly lint. There is a difference of opinion as to whether hot water causes the colour to change more than that which is moderately warm. General experience is in favour of the hot water, but in any case the pieces must be quickly handled.

Folding and Ironing. — When the clothes are “on the line,” the worst part of the washing business is over, unless the line or the pegs are dirty, when the clothes may need washing once again. Lines and pegs should be kept in some clean and secure place, and not left in the drying-yard longer than necessary. When taking in clothes, an apron with pockets, or a lap-bag, should be worn, into which the pegs should be dropped, instead of being thrown on the ground.

After the **drying**, the clothes should be brought to the folding-table in a basket, turned to the right side again, **damped** by gentle sprinkling, and folded closely together, that the damp may be equally absorbed by every thread. After damping, they should lie close together in the basket for some hours; for unless the damp has time to penetrate, they will not iron well.

Articles of wearing-apparel should be **ironed**. — The object of ironing is to make the surface

smooth. A smooth surface does not present so many irregularities to catch the dirt as a rough one.

Clothes not thoroughly rinsed from soap and soda will readily scorch under the iron, and also turn yellow.

To prevent starched things from sticking, a small piece of borax, or a little white sugar, should be dissolved in the starch. Some people stir the hot starch with a tallow candle for the same purpose.

Washing and ironing demand from us much pains and trouble; but the comfort of clean clothes to ourselves and those we love, more than repays us for both trouble and pains.

III.—PURE AIR.

We have said that the especial work of girls and women is connected with healthy, happy homes; and we have seen some of the ways in which that work is to be done. How can the heart be light and glad, the brain clear and clever, and the body active and strong, when they are constantly under the influence of a slow poison? For we have seen that we are exposed to the risk of poison every-

where—there is poison in improper food and drink, poison in impure air, and poison in dirt.

It is quite as necessary to health that we should have pure air to breathe as that we should have good food to eat; and yet how few people there are who really seem to believe this! They rise up early and go to bed late, in their anxious toiling to secure the one blessing, while they utterly disregard the other. How do they show this? They are indifferent about the things which spoil the air around them. Let us notice what these things are.

Everything that makes the air **smell badly** spoils it—odours from chemical, candle, and gas works, from tan-yards, from slaughter-houses, from pig-sties, and from stables. Yet people often choose to live in houses where no other air is to be got. They say it is “handy,” or “cheap”; forgetting that nothing is so dear as that which injures the health.

Then people are often indifferent about the **drainage** of their dwellings, although every imperfect drain or sewer gives out poison. Often all the drains leading from a large number of houses lead into one common cess-pool or pit, from which poison-vapours are constantly steaming back up the pipes into the dwellings.

They cannot be smelt during the day, perhaps, when the moving wind gets in through the open doors and windows, and shifts them; but in the night, when the house is shut up, the inmates, who are all helplessly sleeping, breathe the poison over and over again, and wake up with headache and other pains, feeling weak and unrefreshed, instead of bright and fit for work. These feelings often lead them to take some stimulant in the shape of ardent spirits before their labour commences; and thus they add poison to poison.

Then people often allow the poison-vapours to be sent forth close to their dwellings. All **decay-
ing matters** give out poisonous gases. Yet what heaps of such matters, reeking with poison, are often found in a dust bin or in a pool of stagnant water!

Dirt of all kinds poisons the air: even dry dust often consists of tiny atoms of decayed animal or vegetable matter floating about in the air. Miss Nightingale says: "Air can be soiled just as soon as water. It can be soiled from without, by dirty streets, sewers, smoke, and many other things; it can be soiled from within, by dirty walls, floors, carpets, curtains, and by dust."

The fine-art of *keeping the breathing air pure without causing a draught* is called **ventilation**;

and a very difficult art it is to master. Clever men have spent a good part of their lives trying to solve the problem, and have passed away leaving their work still incomplete. At one time it seemed easy enough. People said: "Make some holes in the floor for the pure air to get in, and some holes at the top for the foul air to get out;" but this did not do—it was found that the feet and legs were exposed to a continual draught, and were always cold. But what really is a draught?

A **draught** is caused by a current of fresh or cold air passing through a room—in at one opening, and out at another. As the air of this current is colder than the air in the room, all who sit or stand in its course receive a chill on those parts touched by the current. Colds, and the evils resulting from colds, are the consequences—coughs, bronchitis, neuralgia, sore throat, rheumatism, inflammation.

The greater the difference existing between the surrounding temperature and the current introduced, the greater will be the danger. If it were possible to heat the air all around us to exactly the same degree, a draught would not be felt; but even then we should suffer from contact with outside air.

It is much easier to keep a small room well ventilated which is used only by a few people, than it is to do the same thing for a large one which is used by many. For churches and large buildings, there are all sorts of complicated contrivances; but with them the home-manager has very little to do.

It is quite possible to keep a dwelling pure and sweet if the windows open at the top and bottom, unless there be something utterly wrong around us.

First, the home manager must see that there exists nothing **outside the dwelling** likely to poison the air before it gets inside—no crowded dust-bin, no stagnant pool, no decaying heap of rubbish, animal or vegetable. The best way to get rid of such refuse matter is to *burn or bury it*; it can do no harm under the ground, provided it be buried where it cannot contaminate a well or other water supply.

Next, it must be seen to that there are no drains or dirt **inside the dwelling** that will poison the air when it does come in. Keep nothing within to rob the air of its life-giving properties, except yourselves and your fires. Especial care should be taken that the cellar and pantry are kept sweet and airy, and that there are no foul smells about

them: otherwise, they will taint the air of the house and the food, and they may produce disease. Cellars should be well white-washed, and no decaying matter or rubbish allowed to remain in them. The parts of the dwelling which are not usually seen must be kept clean and wholesome, as well as the living rooms.

Then, **to get the foul air out.** Accustom yourselves to keep the upper sash of your windows open a tiny chink, night and day. You need not fear a draught: the pressure of the foul air pushing out, backed by the cold air pushing in at other openings, will prevent the outer air finding room to get through. If you think it unsafe to leave the window unfastened, then bore a row of holes with a gimlet all along the upper part of the frame, and this will answer nearly as well.

Now about **letting the pure air in.** This will cause you the least trouble; for it will come in through every crevice, chink, slit and key-hole. It must fill the place of the warm air rising up; and if every part of the house be pure and sweet, this is generally enough. You cannot get the foul air out faster than the cold air will force itself in.

But if the house be not all your own, that is not enough. You cannot make sure that the air in

other parts of the house is pure ; other people may be less particular than you are. When you fear this, open the bottom sash every now and then, and let the pure air in from the outside.

Miss Nightingale says : " Always air your room *from the outside*, if possible. Windows were made to open ; doors were made to shut. Doors open into passages and staircases, the air of which is used by every other person in the house. Very often by setting open the door of a sitting-room you only admit a rush of air more impure than that already existing : then air your rooms with outside air."

IV. — PERSONAL CLEANLINESS.

Tiny atoms of decaying matter, called **dirt**, are continually floating about in the air, and not only are drawn in with our breath, but settle all over our bodies. If dirt near the dwelling be intolerable, dirt on the body is still less to be borne.

The body has various ways of getting rid of all internal refuse matter ; the poison-vapour which is formed by the carbon in our food and the oxygen in the air is breathed out. Other impurities are washed out of the body by perspiration or sweat.

You remember that the use of **perspiration** is to enable the body to cool down the excessive heat produced either by violent exercise or by climate. When the perspiration is passing from the body it washes out before it any impurities it may find in its way; and it is said that as much as a quarter of an ounce of solid decaying matter is thus got rid of every twenty-four hours.

To enable the perspiration to pass from the body to the surface, the skin has been provided with a number of tiny openings called **pores**, which are the mouths of little glands. Some of these glands secrete or form the sweat, and others an oily matter which makes the surface of a healthy skin smooth and glistening. They are set so thickly together that on some parts of the surface as many as three thousand of them are found on a space that a shilling would cover! So numerous are these tubes, that if they could all be taken out of our body, fastened together, stretched out and measured, they would be found to be about twenty-eight miles in length!

From these millions of tiny tubes the perspiration flows. Sometimes the pores or openings are stopped up by dirt which has settled on the skin, and so the perspiration is driven back again. If

any impurity goes back with it, it does mischief inside the body; if the impurity remains near the surface of the skin, it unites with the dirt which blocks the mouth of the pore.

The matters which thus stop up the pores may excite inflammation, pimples and blotches are formed, and the skin does not heal till the poisonous stuff has discharged itself in the shape of matter. When the perspiration is not interrupted, it evaporates outside the skin, and leaves the impurity on the surface, to be removed by the hands.

The impurity to be got rid of on the body either comes *from within*, washed to the surface by perspiration; or *from without*, having settled on us in dust, or been imparted to us by something which soils. These impurities are not to be got rid of without some pains and trouble; but if we once bring ourselves to see that the body will suffer from lack of cleanliness as much as from lack of good food, the trouble and pains will be given without grudging.

The only effective way of cleansing the skin is by the *free use of water*. A daily bath is an inexpensive luxury, and wherever it can be enjoyed the comfort and health derived from its use will more

than repay any amount of trouble or self-denial it occasions.

Where there is a proper sense of delicacy and self-respect it need be made no difficulty, even in a house where every room is occupied; and the giving up of a selfish pleasure or hurtful gratification by one member will provide the necessary vessels and towels for a whole family.

Where the difficulty cannot be overcome, each person can yet thoroughly wash the body every day with a piece of coarse flannel and a little water. One part should be washed at a time, and the skin briskly rubbed with a coarse towel, and then the part that has been operated upon should be covered with its clothing. The skin must be cleansed, unless you wish to coat yourselves over with a filthy varnish.

The hair should receive a good share of attention. It is a beautiful ornament, when beautifully clean. It should be frequently washed with a little borax in the water, and the daily combing and brushing should never be neglected.

The *nails* and *teeth* should be cleansed with a brush. If the nails were kept nicely cut, the ugly black rim of dirt so often seen round pretty little fingers and thumbs would be done away with.

To Clean Hair Brushes.—Put a tablespoonful of ammonia into tepid water, and dip the brush up and down until it is clean; then dry with the bristles down. A teaspoonful of soda dissolved in the water will do instead of ammonia.

V.—CLEANING THE HOUSE.

It is a very difficult matter indeed to be only a little clean. A great deal of pains is expended and trouble is taken, and after all one is in much the same state as those who are very dirty. People who are a little clean have a grand turn out every week—generally on Saturday—and leave all such business to that one day. People who are altogether and thoroughly clean, are those whose habit consists in keeping things clean when they are clean.

These people go through their work regularly, dividing it so that some portion of it falls to each day of the week. No matter where they may be working, the other part of the house is sure to be in neatness and order.

They remove the dirt and dust of each day; they know it will not be so easy to do that when

it has been allowed to accumulate two or three days. They are careful to avoid all slops, splashes and dirty foot-marks; to remove all stains or soils as soon as they are made; and to remedy all little upsets or accidents as soon as they occur.

There are two kinds of dirt in a household — *wet dirt* and *dry dirt*. The first does the most mischief. Dry dirt can be picked up and carried away; wet dirt soaks into boards, carpets and furniture.

Sweeping and Dusting.— Floors are swept to get rid of the dust that has been brought in by the feet or blown in by the air, and which only settles on the surface. As all such dust consists of particles of decaying matter, which will render the air impure, it must be got rid of. The object of sweeping is to turn such visitors out of the house altogether, and not merely to drive them from one place to another.

Some people's sweeping and dusting only shifts the dust from one place to another; they jerk and twitch the broom or duster here and there, compelling the greater part of the dust to fly up in the air, and either to come down again after the hurricane-maker has finished, or else to settle in peace and quiet on the walls, ledges, shelves and pictures.

The dust should be removed with as little of the bustle-and-bang principle as possible. Good managers save all their tea leaves, and after they have been well drained scatter them while damp over their floors and carpets before beginning to sweep. The dust clings to the tea leaves instead of rising in the air. Many persons prefer to use salt.

Dusting is removing the dust from furniture and ledges. It should be done with a dry duster, frequently shaken in the open air. Dust sticks to a wet cloth, and so is carried from one article to another, smearing as it goes. At the same time if the dry duster be not often shaken in the open air, the dust scratches all polished surfaces in passing over them.

The following description of a good housekeeper's method of sweeping and dusting is taken from Morrow's "*Practical Guide to Housekeeping*" (St. John, N. B., 1882):

"I begin by opening as many windows as the weather will permit. Next, I dust all chairs, stools and small furniture, and set them out in an entry or in the next room. Then I remove all books and small ornaments, dusting them as I do so, and generally putting them on some light stand which has been carried out. Then, I

shake the table-covers and take them away, shake the curtain folds and pin them up, and with a soft cloth wipe loose dust from mantels and heavy furniture. Next, I look after cob-webs, and with a short hand-broom I brush out the dust from the corners and edges of the carpet. If there is large furniture, as bed, bureau, piano or sofa, left in the room, I cover those pieces with covers kept for the purpose, or with sheets. I pick up all large scraps, as of paper or cloth, all straws, broom-wisps, or long threads, for you may sweep a carpet half to pieces trying to get these up with a broom. After this, I sweep from the sides toward the centre of the room: if you sweep toward a door, or the side of the room, there are cracks, and angles, and seams in which the dust lodges. After the dust is all swept together I use the hand-broom to collect it upon the dust-pan. Before sweeping I dip my broom in a pail of thin, warm suds, and then beat out all the water from it: this is good to keep the broom from wearing, good to keep the dust from rising, and good to brighten the carpet. If a carpet is very dusty, so that the broom becomes dirty during the sweeping, it is well to wash it out when the room is half done; but a room properly cleansed every week does not become so dirty. When the sweeping is finished I dust all the wood-work with a feather-brush or a wing. Then I wipe the window-sills and around the door-handles with a sponge squeezed out of ammonia water. I dust the pictures with a feather-brush; rub the windows with a newspaper, sometimes damping it in ammonia

water; then I shake out the curtain: remove the covers from the standing furniture and dust it; sometimes I take a very light broom tied into a cotton bag, and with it lightly wipe off the wall-paper; then I bring back the paper and ornaments which were carried out. With such a cleaning once a week, a room only needs a little setting in order each morning to keep it nice; the curtains, carpets, and furniture last at their best for a long while. If furniture is left in a room and uncovered while sweeping is going on, it gets loaded with dust; in wiping this off, much is rubbed into the furniture, giving it a dull, grimy look, and it soon fades. It is not any more trouble to clean things and set them into an adjacent room, than it is to keep moving them out of your way and then having a thick coat of dust to wipe off. If our carpets get stained or spotted, we wash the spots carefully with a flannel and ammonia water."

The sweeping, dusting, and general care of bedrooms should receive great attention. How the bed should be aired each day, and how this is often done are well described in the following extract:

"The style in which it is usually accomplished is known to every one. The coverings are thrown back over the foot of the bed, permitting then, to drag on the dusty floor, and the window is left open five or ten minutes, a length of time popularly considered quite sufficient, to air the room. The bed maker may possibly

turn the mattress, but in seven cases out of ten the bed-clothes are spread up without going through this form, and tucked in snugly at the sides and foot, to prevent the fresh air getting in or the stale air escaping.

The right way of performing this work is not so difficult that one need shrink from it. The coverings should first be stripped back over two chairs set at the foot of the bed, or should be placed over chairs set near the open window. The mattress should then be doubled so that the air may get to all parts of it, and left so for from half an hour to an hour. In very severe winter weather the time may be lessened. Each piece of bed-clothing should be well shaken before it is restored to its place, and the pillows beaten and patted into shape. The white spread, that should have been removed at bedtime the night before, and neatly folded, is now fresh and smooth. If pillow shams are not used, the creased night slips may be exchanged for fresh day cases, and the former laid aside until the evening."

The receptacles for waste water should be washed out every day and scalded three times a week. In hot weather the scalding should take place every day, and the utensils sunned if possible. Wash-cloths should be wrung out in boiling water every other day. Without this they soon become offensive. Shoes and other articles of apparel should not be left lying about the room to gather dust and look untidy. Soiled clothes should never be left

in a sleeping-room. They contaminate the atmosphere.

When all these precautions are closely followed there will be no trouble with the close, unpleasant odor that one finds often in even handsome and apparently well kept bedrooms. Such malodors are not only disagreeable, but positively unwholesome, especially for delicate persons and children.

Scouring or Scrubbing Floors.—A room must not be wetted till all the dirt and dust have been removed and *carried away*. If boards are allowed to get very dirty, they are very hard to clean. Soda makes boards yellow; soap makes them black. Neither should be used unless to remove grease spots. A little clean sand is of use when the floors have been neglected. Nothing stains or discolours boards sooner than dirty water. As soon as water gets too dirty for the hand to be plainly seen in it, it is unfit for cleaning; change it. The boards should be first swilled with water, then scoured briskly with a hard brush the way of the grain. After the scouring, wash over again with water, and dry thoroughly with flannel and house-cloth.

Cleaning Furniture.—Plain deal or white-wood furniture can be best cleaned as boards are

cleaned. Wherever there is paint, soap and flannel should be used, but no brush. Most furniture now has a polished surface, and needs to be rubbed that the polish may be kept up. The best things for cleaning and polishing furniture are bees-wax and turpentine, linseed oil, and "elbow grease." The bees-wax should be pared into very fine shavings, put into a jar, and covered with *turpentine* and left to stand some hours before being used. It should be well stirred, until it is as soft and smooth as butter in summer weather. If it be too thick, or improperly dissolved, it sticks in little lumps all over the furniture, and is very hard to remove. Both the linseed oil and the bees-wax preparations should be applied with a piece of coarse flannel, and the polishing done with a dry cloth.

Cleaning Metals.—All the metals used for household utensils are cleaned by polishing; they are *tin, copper, brass, and iron.*

All *tins* may be cleaned with *whiting* wetted with water into a paste, and polished off with a dry powder of the same. *Rottenstone* and *oil* are also used in the same manner.

Brass and *copper* articles should be cleaned with *brick dust*, or *rottenstone* and *oil*. It was once common to use vitriol for cleaning copper, but it

is a dangerous liquid, and the vessels cleaned with it soon tarnish again.

Polished *steel* articles are best cleaned with *soft soap* and *emery powder*, or fine emery cloth. Brick dust may also be used.

All *iron* vessels and grates are kept polished by means of *black lead* and brushes. As little as possible of the black lead should be used, with only enough water to mix it. If too much black lead be used, it is wasted; if too much water, it increases the labour and wears out the brushes.

Washing Dishes. — “Nothing saves labour so much as thoroughness and doing things in the right way. It is much less trouble to scour pans and pots and griddles well than it is to half wash them; and if they are not well washed they will burn, and the next thing cooked in them is likely to stick, and cause increased labour. Some people spend three times as much time as they should on cleaning off the tables and washing dishes. Mother taught us very carefully how to do those things, and I never saw any house where both tasks were performed more speedily and neatly. Some people pick up their dishes and carry them off promiscuously to the sink or kitchen-table — knives, silver, glass, unscraped plates, cold meats, set down together, just as it happens; cups, platters, plates, tumblers, knives, spoons, go into the dish-pan as they are picked up; the confusion embarrasses the work, and a long time is required to get it

very poorly done. We were taught, as soon as the meal was over to put away bread, meat, butter, milk — all the eatables which were left, in their proper places and on proper dishes. Next the salts were refilled, the *castor* was wiped, and these were removed. Then the knives were gathered into a tray, the forks and spoons into a deep dish, and they were carried off; then the cups and saucers were drained, piled up together, carried to the sink or where they were to be washed, and set in order there. Next the glass-ware was drained and removed, then the plates and sauce-dishes were scraped and piled up. The refuse was at once carried off; the cloth shaken and folded into a box, then all our work was at the sink. We did not make ourselves work by sparing hot water; first the glass-ware was washed, wiped and put away; then the silver was well rubbed in clean, hot suds, polished with a clean towel kept for it, and put by. The knives were washed after the silver; were at once scoured, and laid, when rubbed with paper, in the sunshine. A fresh pan of dish-water and a pan of hot rinsing-water were provided, and cups and saucers were invariably washed *first*; next followed the sauce-plates and vegetable-dishes; then the plates, and then the meat-platters — if needful, we change the dish-suds when we came to plates and platters. The dishes were rinsed through the clear water, and put to drain, and when all were washed, we began at those which had drained the longest, wiped them and put them in their places. The tins were washed alone, and then the cooking utensils in clean suds. Next the dish-cloth and

towels were washed in clean water, and laid in the sun, or hung up on a table frame behind the stove. The dishes, pans and sink were well cleaned and the table wiped; and really it seems as if we have done the work nicely in the time which I have used in describing its order."—
From Morrow's *"Practical Guide to Housekeeping."*

Care of China and Glassware.— One of the most important things is to season glass and china to sudden changes of temperature, so that they will remain sound after exposure to sudden heat or cold. This is best done by placing the articles in cold water, which must gradually be brought to the boiling point, and then allowed to cool very slowly, taking several hours to do it. The commoner the materials, the more care in this respect is required, as the best glass and china is always well seasoned and annealed, before it is sold. If the wares are properly seasoned in this way, they may be washed in boiling water without fear of fracture, except in frosty weather, when, even with the best annealed wares, care must be taken not to place them suddenly in too hot water. The gilding on china should not be rubbed with a cloth of any kind, but the articles should be merely rinsed first in hot and afterward in cold water, and then left to drain till dry. If the gilding is very dull and requires

polishing, it may once or twice a year be rubbed with a soft wash leather and a little dry whiting. When the plates, etc., are put away in the china closet, pieces of paper should be placed between them to prevent scratches on the glaze or painting, as the bottom of all ware has little particles of sand adhering to it, picked up from the oven wherein it was glazed. The china closet should be in a dry situation, as a damp closet will soon tarnish the gilding of the best crockery.

In a common dinner service, it is a great evil to make the plates too hot, as it invariably cracks the glaze on the surface, if not the plate itself. We all know the result—it comes apart; “nobody broke it,” “it was cracked before,” or “cracked a long time ago.” The fact is, when the glaze is injured, every time the “things” are washed the water gets to the interior, swells the porous clay and makes the whole fabric rotten. In this condition they will also absorb the grease, and when exposed to further heat the grease makes the dishes brown and discoloured. If an old, ill-used dish be made very hot indeed, fat will be seen to exude from the minute fissures upon its surface. These latter remarks apply more particularly to common wares.

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PART III.



PART III.

HEALTH AND SICKNESS.

I.—CAUSES OF SICKNESS.

There is scarcely any sickness or suffering which could not have been prevented, though we are quite unable in many cases to trace it right back to its beginning. There have been given to us certain *laws of health*—unalterable laws—laws with regard to our work, our food, our drink, our exercise, our recreation, our everything. We cannot infringe one of these laws without injuring ourselves; and if we attempt to do so, we must suffer.

It is very sad that so few people take the trouble even to find out what these laws are. They take far more pains in learning to manage their tools, their plants, their animals, and their journeys, than they do in learning the laws of health.

Very much of the household health depends on the mothers and sisters, but Dr. Lankester says this of them: "Information as to the laws of health should be given to girls. It is the girl that becomes the mother. Half the children born in

England die before they reach the age of five; and I have no hesitation in saying that this large mortality is due, not to cruelty and vice, but to ignorance. One of the great causes of the prevalence of preventable disease and death is the *utter ignorance of females* of the laws which govern healthy life."

We do not mean to say that it is always our own fault if we are sick and suffering; but it is almost always *somebody's fault*. There are life-long sufferers from injured spines, diseased bones, and lameness. These ailments have most likely been caused *by accident*, and I have never heard of an accident of any kind that could not be traced to something wrong in somebody.

There are sufferers from various fevers and infectious diseases. All these diseases *began* where there were foul air and bad drainage; and no matter how far or widely they may spread, if they had not been allowed to begin, they could have done no mischief. Those who neglect ventilation and drainage have much to answer for.

There are those who are laid early in the grave by consumption, those who suffer from rheumatism, from neuralgia, from inflammatory attacks in the chest, throat, and lungs; yet all these diseases

probably began in a cold, perhaps imprudently caught and then neglected.

Again: there are those who suffer from internal diseases, complaints of the stomach and liver; and most of these may be traced to an improper use of the good things God has given us for our food,—taking in excess that which is only needed in moderation, which is really gluttony.

Then there are those who suffer in almost all other ways because they cannot get the necessities the body requires. They cannot get them in infancy and childhood, and so they grow up weakly and ailing, and are thus hindered from procuring them for themselves after their childhood is over. And surely this is *somebody's fault* too—somebody is selfish, or ignorant, or careless, else in this well-stored world of ours there would be more than plenty for all. We are all apt to forget that our doings have an influence upon the well-being of others.

Of all imprudences there is none so culpable as that which brings suffering on ourselves and others. This *imprudence* is generally the result of carelessness and forgetfulness of the following facts.

The body is less capable of resisting disease in any form when it is *exhausted*. A person who is

hungry or weary is much more likely to take an infectious disorder, or to suffer from cold, than one who is satisfied and refreshed. No one should enter a sick-room with an empty stomach, or after violent exercise.

The most common of all ailments amongst us are those which are caused by "*catching cold.*" These evils arise from chills on the surface checking the perspiration or the circulation of the blood; and such chills are generally received in a draught.

The warmer the body is, the greater is the danger likely to arise from draughts; yet it is when people are hottest, especially young people and children, that they are most anxious so to expose themselves. Drinking cold water when heated is a very common way of bringing on suffering, by chilling the blood.

Thin shoes, and therefore cold and damp feet, are faithful servants of colds. All damp clothes should be changed as soon as possible. *Getting wet does not do us half the harm that getting dry does.* We may get wet, and if we keep in exercise till we can put off the wet garments, we take no hurt. If we stand or sit in wet clothes, then we suffer for it.

II.—KINDS OF SICKNESS.

We have seen that the care of the family health falls almost entirely on the females of the household. They have to see to it that there is everything to promote health, and nothing to injure it. It is a mistake to suppose that every one ought to have certain diseases. "Children are bound to have the measles," said a mother. Why are they bound to have the measles? There is nothing gained thereby. We shall notice a few of the ways in which disease shows itself.

(a) **In cases of blood poisoning.**—Blood may be poisoned by improper food and drink, as well as by foul air. Air that is fouled by bad drainage, imperfect ventilation, decaying matters, or by emanations from infected persons, is sure to bring disease of some kind. The principal of these diseases are the *cruptive fevers*—as small-pox, measles, scarlet fever, chicken-pox, nettle-rash and rose-rash; and the *inflammatory fevers*—as typhus and typhoid fever.

(b) **The diseases which spring from catching cold**—as influenza, sore throat, cough, whooping cough, bronchitis; inflammation of the lungs,

the side, the bowels; consumption, neuralgia, and rheumatic affections.

(c) **The diseases which arise from derangements of the bowels.**—These may be traced to the habit we have of eating without any regard to the demands of nature—taking too much of one thing, and too little of another, overloading one day, and stinting the next. This causes indigestion, spasms, bilious attacks, constipation and diarrhœa.

If the health is impaired from either of the latter causes, it will more readily fall a prey to the first. Persons who are careless about catching cold, and about their eating and drinking, are the first to suffer when placed in the way of contagion. No matter in what way the health is impaired, a weakened or reduced body will readily fall a prey to any disease which a healthy one would have power to resist.

III.—WHAT HURTS THE BRAIN.

So essential is it that the *health* of her household should form the chief study of the good home manager, that we shall further notice a few of the most important parts of the body, and the things likely to injure them. The mind uses the brain to

govern and rule. If any injury is done to the mechanism of the brain, the body lies inactive and senseless. When there is a cessation of this governing, we are said to be *mad*.

What, then, is likely to do even a little hurt to this delicate organ?

First, Overwork.—A man may choose an occupation which keeps his brain constantly at work and allows him no relaxation. He may keep on till he is laid aside by brain-fever, with the danger of his mind never again recovering its right balance. A child may acquire such an inordinate love of reading that she may be nearly always poring over books, and thinking of nothing else. In both cases the brain has too much to do. If the man keeps tolerably well, he becomes irritable and nervous, while the child gets peevish and selfish, and both lose their appetite and energy. There is no organ in the body which sooner becomes exhausted from overwork than the brain.

Second, Excitement.—The brain may be unduly excited by various causes: by bad temper, by pleasure, by fright or sudden shocks, and by trouble. In some the organ is much more sensitive than in others: many things which one man

could witness or hear without annoyance or horror would blanch the cheek of another man, and set every nerve quivering. Any sensation of the brain affects the whole body: nerves go from it to the heart, and make it palpitate; to the lungs, and quicken the breathing; to the eye, and it is flooded with tears; to the stomach, and its juices dry up; to the tongue, and it cleaves to the roof of the mouth.

Third, Stimulants.— Nothing acts more directly on the brain than the beverages in common use. Tea and coffee contain each a small quantity of a white powder, called severally theine and caffeine. Used moderately, they soothe and refresh; used in excess, they excite and weaken the brain, by forcing it to greater exertion than it is capable of. All alcoholic liquors act upon the brain, and, when taken to intoxication, produce temporary, often permanent madness. A wise man becomes a fool, a kind and loving man a brute, under their influence. The more temperately, quietly and evenly we live, the better it is for our body and our mind.

IV.—WHAT HURTS THE LUNGS.

First, Overwork.—Constant speaking, teaching or preaching, especially when the lungs are weakened and reduced from any other cause.

Second, Bad air.—We have spoken of this before, in the forms of sleeping in a tainted atmosphere, working in ill-ventilated work-shops, or in crowded work-rooms. We should hear little of "consumption" if all the breathing air were pure.

Third, Dust.—Dust floats in the air, and is passed with it into the lungs; and the tiny, delicate organs, which are formed to imbibe nothing but gases, have forced into them solid substances. Many trades are most injurious to the lungs because of this. The grinders in the cutlery trade die of diseased lungs, most of them before they are forty, because of the dust imbibed in their work. Factory hands in the cotton and woollen manufactories suffer from the same cause. Poison is also passed into the lungs in the shape of dust. Makers of wall papers, and artificial flower-makers, when arsenic is used to brighten the colours, suffer in this way; and straw-workers suffer, because the straws are bleached with a preparation of lead poison.

Fourth, Contracted position. — Persons whose occupation keeps them constantly stooping over their work, as clerks and needlewomen. The bending and the drawing the shoulders forward contract the chest and *shut up* part of the lungs, giving the other part double work to do. A habit of stooping in children should be instantly corrected.

Fifth, Taking cold. — The most common diseases of the lungs from the effect of colds are inflammation, congestion, and the various bronchial affections. Undue exposure of the throat or chest, damp feet or clothing, bring on these colds, which should never be neglected. A *cough* is the voice of the lungs and bronchial tubes speaking of inward irritation: it should always be listened to. A neglected cold on the lungs may lead to speedy consumption.

V.—WHAT HURTS THE DIGESTIVE ORGANS.

It is important that we should remember that when one part of the body is suffering, all the others suffer with it. This is especially the case with the stomach and the other digestive organs. What injures these?

First, Improper food.—By improper food we mean chiefly food which is rendered indigestible by its hardness, caused by bad cooking or otherwise.

Second, Excess of food.—We may take too much of one kind of food, or we may take too much food altogether; in both cases we overwork the stomach, and therefore we make it weak.

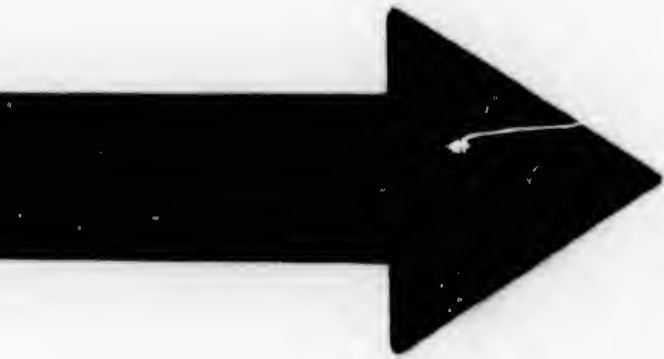
Third, Haste in eating.—Food eaten in a hurry is not properly masticated; it passes into the stomach to the gastric juice unprepared, which is unfair to the glands containing that juice.

Fourth, Anxiety and Debility.—Such is the influence of the brain, that the secretions will not flow under pressure of anxiety. No appetite is felt; and if persons force themselves to eat, the food remains in the stomach worse than useless; and if medicines be taken to compel the organs to act, they become still more reduced.

Fifth, Stimulants.—The constant use of stimulants has often been known to destroy altogether the delicate membrane of the stomach. Even the condiments, mustard, pepper, spices, etc., used immoderately, are injurious.

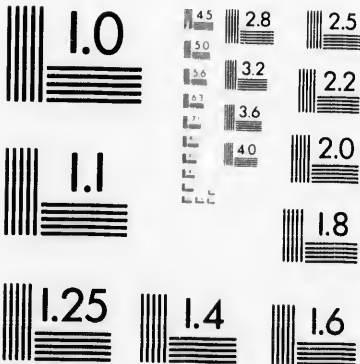
Spirits and all alcoholic drinks inflame and ulcerate the coating of the stomach, and harden and





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thicken the membranous tissue of which the blood-vessels are made, and so partially close them up. Spirits also act upon, and in time dry up, the liver, so that it does not act at all. This disease is called "the drunkard's liver." Spirits are sometimes useful as a medicine, to stimulate in a fainting, exhausted condition, for they act quickly and surely; but persons in health only suffer and do not benefit from their use.

VI.—WHAT HURTS THE EYE AND THE EAR.

There are other parts of the body which need to be guarded against injury. The beautiful mechanisms of the eye and the ear are too complicated to be touched on here, but their preservation should be carefully studied.

When the eye is overworked, in common with all our other organs, it suffers weakness. Needlewomen, engravers, printers, and all persons who are compelled to pore over their work, should resolutely rest their eyes when they are not required in their business. If the eye be previously weakened, a slight attack of cold will cause inflammation. We all find out soon enough what tries the eyes, and, if possible, we should avoid it. Chil-

dren who have been deprived of pure air, cleanliness, and good food, often suffer from permanent diseases of the eyes and eyelids.

Deafness, whole or partial, is more common than affections of the sight; and this, probably, because a good deal of carelessness is displayed in the management of the ear, which is of most delicate workmanship.

It is highly improper to thrust anything into the ear. Stretched across the internal passage is a beautiful membrane, whose use is to convey sound. So delicate is it that it is liable to injury even from a slight concussion. A box on the ear, or any foreign substance introduced into it, is capable of bursting this membrane, and then permanent deafness is caused.

When the ear aches, roast onion or fig should not be inserted, but applications of wet flannel should be made on the outside.

Great care should be exercised in washing, not to wet the inside of the ear, especially in washing children. The outer ear should be washed and dried, but no water should be allowed to enter the passage.

An insect sometimes finds its way into the ear. It is best to pour in a little warm oil, which will either suffocate it or bring it to the outside.

There is no part of the body which is not subject to its own special ailment; and when, from overwork, ill-feeding, or impure air, that part is weakened, then it is at once predisposed to any such disease. It is like ground well prepared—any seed of evil sown in it will thrive and flourish.

VII.—HOME REMEDIES.

When people are ill that is no time to try to trace the cause of their ailments; we shall want to nurse them, and make them well again as soon as possible. We must not, in any case, be too confident in our own knowledge or resources.

Generally, when sickness breaks out where every care has been exercised, it is something which needs more than home treatment, and no time should be lost in putting the case under proper medical care—the sooner any ailment is taken in hand the better.

But there are some ailments which may be successfully treated at home, especially those which are caused by slight accidents, and which would really suffer by the delay caused by first sending for a doctor. The following are simple remedies for such cases.

To Cure a Cold.— A cold is caused by a chill on the surface of the body. You must endeavour to counteract the chill by warmth. Cover up the skin with warm clothing, and encourage the flow of perspiration. Do not drink any more than is absolutely necessary ; the chill has driven the blood inwards, and some of the vessels are overloaded already — you do not need to put more blood into them.

A hot linseed, linseed and mustard, or pure mustard plaster, is an excellent counter-irritant when especial pain or irritation appears to have settled in any part. By its warmth it will draw the blood from the overloaded, inflamed part to the surface again. A cold is the precursor of so many evils that it should receive immediate attention.

Burns and Scalds.— Of all accidents these are most to be dreaded, because a very great injury may be done by them in a very short space of time. Only a touch from a flame is enough to do much harm. The first thing to do is to smother out the flame with a cloth, rug, or blanket, or any woollen thing at hand.

Then remove the clothes gently from the injured parts : if they stick, do not tear them away, but

cut the rest of the garment from the sticking part. Place the sufferer in bed: dredge with flour every part where the skin is broken, and cover every injured part closely with cotton-wool, or wadding, sprinkled with linseed oil.

The great aim should be to exclude all air from the injured parts. After covering them up close, do not uncover them till ordered to do so. Never break a blister if you can avoid it. Keep the skin whole. A slight burn extending over a good deal of space is much more dangerous than a smaller though more severe one. — See *Emergencies*.

Wounds and Cuts. — The bleeding may often be stopped by applying a little of the down of the “balm-of-gilead” tree, or even a little dry earth. The common cuts made in the hands and fingers should be first wrapped up till the blood ceases, and then strapped up with sticking-plaster. More serious wounds are made with various tools used in men’s work. Some of these, if near a large vein or artery, may cause death by bleeding.

When a wound of this kind has been made, something should be tied very tightly round the limb between the wound and the heart, to cut off the flow of blood. When a large artery has been

wounded, the patient bleeds to death in a few minutes if the flow is not stopped.

Gatherings and Whitlows. — These painful formations are caused by scratches, pricks, etc., with a rusty or dirty instrument. The throbbing and inflammation are best dealt with by the use of hot bread-and-water poultices, and by administering a little cooling aperient — licine.

VIII.—NURSING THE SICK.

Every woman ought to be a good nurse. To this end she must possess not only kindness, pitifulness, and patience, but a good deal of knowledge and tact. Much has been said about the things that are needful for the healthy; now, whatever may be necessary in order to keep people well when they are well, is far more necessary in order to restore them to health when they are sick.

There is a lady who has devoted a good deal of her life to the study and practice of proper nursing, and who has been called "The Queen of Nurses." Her name is FLORENCE NIGHTINGALE. She has written a book called "Notes on Nursing," which no one who has, or may have, anything to do with a sick-room ought to be without. The following

are a few of her most valuable hints, briefly expressed:

Restoration to health depends as much on the nurse as on the physician. *Bad nursing* kills as many people as any disease. A good nurse must attend to everything that in any way affects her patient. Sooner than the sick under her care shall suffer, she will do everything for them herself.

(a) **The sick-room.**—This should be spacious and airy, with little carpet on the floor, and none at all under the bed; there should be no curtains or vallance; and the window should open both at the top and at the bottom.

(b) **The bed** should be simple, not bed piled on bed, but just a good mattress or two, easily aired and easily made. It should be placed, if possible, so that a view from the window may be obtained from it when desired, and quite out of all draughts

(c) **Quiet.**—There should be no noise in a sick-room. The nurse should wear soft dresses and list slippers; should move quietly, and speak gently. She should never whisper; whispering irritates and strains the attention. If any one comes to the door, do not whisper; let the patient hear if he likes, else he will think you are talking about him.

(d) **Pure air.**—By far the most important requisite for a sick person is a constant supply of fresh air; the ventilation should be perfect, without a draught. It is

for this purpose that so many doctors order a small fire to be kept constantly burning, day and night. The window should be kept open at the top an inch or two; and the door should be closed. Air admitted by the door is generally supplied from the other parts of the house after it has been used.

When you are obliged to open the door, you must close the window, to prevent a draught; but for ventilating purposes admit *only* the outer air. It is a mistake to suppose that night air is injurious. In large towns it is generally purer than that of the day. Draught does mischief; pure air always does good.

(*e*) **Cleanliness.**—Keep the patient and everything around him beautifully clean. Change the linen frequently, and do not be afraid of washing. Allow no slops to accumulate. Carry away at once everything that is done with—slops, dirty cups, remains of food. Do not keep within the patient's sight anything which he has to take—not even drink and medicine.

(*f*) **Rest.**—Allow nothing to disturb your patient. When he is asleep or dozing, let no sound or movement rouse him. Let him dream away the time without interruption. He will be active enough as soon as he is able.

(*g*) **Diet.**—Sick persons require nourishment at regular intervals, and in small quantities. In cases of great prostration, a teaspoonful of beef tea, or other nourishment, should be given twice or three in an hour. The patient's likes and dislikes must be studied; and the physician's orders must be carried out. All drinks

should be well strained before they are offered to the patient. A crumb in toast and water creates nausea. Everything should be prepared with the greatest nicety, and presented with the greatest delicacy.

(h) **Light and cheerfulness.**—Shade your window with a green blind, but do not make the room gloomy. Do not grudge flowers and bright pictures; not overloading or crowding, but placing one here and one there. And get something fresh every day if possible. How tired one may grow of looking always at the same picture!

IX.—NOURISHMENT FOR THE SICK.

The four following sections are taken from a valuable little book, entitled "In the Sick Room," by Elizabeth Robinson Scovil, graduate of the Boston Training School for Nurses in connection with the Massachusetts General Hospital:

Gruels.—These can be made with water or milk; the latter, of course, are more nutritious. Oatmeal, Indian meal, wheat flour, barley, rice flour, corn-starch, arrow-root and farina are used. They are all made much in the same way, and one recipe will serve as an example.

Oatmeal Gruel.—Mix one tablespoonful of oatmeal with a little cold milk, and stir it into one pint of boiling milk. Let it cook for half an hour, adding a little salt and sugar if preferred. It can be made in a similar manner with water.

Digestible Beef Tea.—Cut in pieces across the grain a quarter of a pound of juicy steak from the round, cover it with two gills of cold water, and set it over the fire. When it reaches the boiling point, set it aside to cool. It will be the colour of pale sherry; add a little salt.

Beef Juice.—This contains more nourishment than beef tea, as it is undiluted with water. In heating it for use it should never be allowed to boil. Putting it in a bowl over a boiling tea kettle is a convenient way to warm it, or setting the cup containing it in boiling water. It should be stirred, carefully watched, and removed as soon as hot, or it will curdle. Salt should always be added, and a little pepper, celery salt, or spice if desired.

Egg Broth.—Beat an egg very light, add half a teaspoonful of sugar, a little salt, and pour on it by degrees one pint of boiling water, stirring constantly to prevent its curdling. This is easily assimilated, and is valuable in cases of exhaustion.

Lemonade.—Pare a lemon and put the rind into a pitcher, squeeze the juice on it with a lemon squeezer, remove the pips, and put in the pulp. Pour over it one pint of boiling water, and add sugar to taste. No rule can be given for this, as the tastes of invalids vary. Give it hot or iced as preferred.

Toast Water.—Cut a thin slice of stale bread, and toast it carefully until it is well browned on each side and dry in the middle, put it into a pitcher, and pour over it one pint of boiling water. Let it cool, and serve iced, as it is not pleasant when tepid.

The various fruit jellies, as currant, blackberry and cranberry jelly, or jams, as gooseberry, acid plum and raspberry, may be used to make refreshing drinks. Put a spoonful of either in a glass, and fill it up with boiling water.

No beverage should be allowed to stand in a sick room uncovered. The spoon should be removed from the glass before it is offered to the invalid. The nurse should never so far forget herself as to taste it in the presence of her patient and then put the spoon back in the glass. Attention to these little points marks the difference between good nursing and the reverse.

Chicken Broth.—Cut up a chicken into small pieces and break the bones. Cover it with cold water, and put it where it will simmer for three hours. If it should boil too fast and the water boil away, add more. Season to taste. A few stalks of celery may be boiled with it, if desired, and rice added, if it is allowed.

X.—POULTICES AND PLASTERS.

Poultices are applied to check inflammation and to relieve pain. When the skin is broken and the wound has begun to discharge, they also soften the surrounding tissues, and allow the matter to come to the surface with greater ease. In this case they should be small, that the softening process may not be extended beyond the immediate

neighbourhood of the wound. When they are intended for the relief of pain, they should be large, to give as much heat as possible. As they are meant to convey heat and moisture to the part affected, they must be applied hot, and not made too dry. A poultice soon loses its extra heat and assumes the temperature of the body. The frequency with which it is changed must depend upon the end in view. If it is merely to keep the part moist and warm, once in two hours will be sufficient, but if it is desired to keep up a steady heat, it must be replaced with a fresh one much more frequently. In changing it, the new one should be brought to the bedside ready to put on before the old one is removed. It can be conveniently carried on a hot plate. The heat should always be tested by laying the cheek against it before putting it on. It should be covered with a piece of oiled cotton or with several thicknesses of flannel, to help it retain the heat. If the weight can be borne, it is an excellent plan to reinforce a poultice with a hot water bag, as it need not then be changed so often.

Many substances are used for making poultices. Rags cut fine, sewed in a bag and wrung out of boiling water, will answer if nothing better is to be had. From this to flaxseed meal, one of the best

materials for the purpose, there is a wide range, including Indian meal, oat meal, bread, carrots, wheat bran and hops. To prepare a flaxseed poultice, have ready a sufficient quantity of boiling water in a small sauce pan, — a pint will make a good sized one. Into this stir enough of the meal to make a stiff, thick paste, firm enough not to run when laid on the cotton. By putting in the meal gradually, and stirring in one direction, there will be no lumps. It need not boil after the flaxseed is in. Have ready a piece of cotton about four inches larger each way than the poultice is to be when applied, and a piece of cheese cloth, or any thin material. Dip a spoon in boiling water and spread the flaxseed evenly on the cotton, leaving at least two inches of the margin on all sides. Lay the cheese cloth on the flaxseed and fold the margin neatly over it. This prevents the possibility of its oozing out. No poultice or plaster should ever be applied directly to the skin; there should always be a layer of soft muslin, fine cambric, or some thin fabric between, to prevent the skin from being soiled, and to make it more easy to remove the application. When laid on an ulcerating surface it is well to add a teaspoonful of oil before putting it on to prevent its sticking. If applied when the

skin is not broken and there is consequently no discharge, the flaxseed can be scraped from the cotton and heated again, more water being added if it is too stiff, or meal if there is not enough. When a disinfectant poultice is required, a table-spoonful of carbolic acid solution, one part of carbolic to twenty of water, should be added in making it. Indian and oat meal are improved by the addition of one part of slippery elm to two parts of meal. They are boiled as in making porridge, and spread like flaxseed. Bread is a good material for a small poultice; it should be stale, and only the crumb used. Crumble it and pour over it enough boiling water to moisten it thoroughly. When poultices have to be frequently changed and long continued, an admirable way to make them is to take equal parts of hops and wheat bran; sew a sufficient quantity in two flannel bags, and place these in a steamer over a pot of boiling water, leaving the cover off. The steam permeates the poultice, making it hot and moist but not wet. The bag should be wrapped in flannel while carrying it to the bedside, laid on the patient, and secured in place by a flannel swathe, or broad bandage. These poultices can be used for many hours before the bags will require refilling.

When a stimulant is required, a mustard plaster is generally ordered. Equal parts of mustard and wheat flour is a good proportion : one-third mustard can be used if it is desired to leave it on for some time, or if it is to be applied to a child. They should be mixed to a smooth paste with warm water, boiling water destroys the essential oil of the mustard, and renders it less efficacious. Spread it as thinly as possible on a piece of stout cotton, cover it with muslin and apply. In ten minutes a corner should be raised, the state of the skin inspected, and if very red the plaster removed. It is not desirable to raise a blister, as one made by mustard is more painful than any other.

Flannel dipped in hot vinegar and thickly sprinkled with red pepper makes a stimulating application that is free from this objection.

XI.—DISINFECTION AND FUMIGATION.

In all cases of infectious disease a grave responsibility rests upon the person in charge of the patient. It is by her care and watchfulness that it must be prevented from spreading, carrying death in its train. Disinfection kills the germs by which disease is propagated. They are paralyzed by

means of chemical agents which render them powerless to convey contagion. If it is thoroughly performed it must prevent the spread of disease. The tainted air, although rendered harmless as a carrier of contagion, is unfit to be breathed again, and must be replaced by fresh air. The impurities which the system has succeeded in casting out through the skin and excretions, should not be permitted to be re-absorbed through the lungs, simply because the air containing them is not removed by proper ventilation. In winter sufficient artificial heat should be provided to warm the outside air that must be admitted, and keep the room at an even temperature. The air in an occupied apartment cannot be disinfected. No disinfectant powerful enough to accomplish the purpose can be used in sufficient quantity where human beings are present. Clothing, vessels, and everything used about the sick person can be disinfected, but the purification of the air must be secured by its constant renewal.

At the beginning of a case of infectious disease make the following purchases :

A one-pound bottle of carbolic acid crystals ;

One ounce of corrosive sublimate (bi-chloride of mercury) ;

Five pounds of white vitriol (sulphate of zinc);

Ten pounds of copperas (sulphate of iron).

Place the bottle of carbolic acid crystals in hot water, pour into it two tablespoonfuls of hot water and stir until the crystals are dissolved. Add twelve teaspoonfuls of this solution to each quart of water. In the room adjoining the sick room keep a tub half full of this carbolized water with a quarter of pound of white vitriol added to each gallon. Throw into it all clothing used about the patient that is to be sent to the laundry. After soaking two or three hours, wring out the clothes, and once a day or more often, if there is much soiled linen, have the water changed. The clothes must be boiled after being washed. When the door leading from the sick room into the hall is used, hang a sheet over the doorway, fill a fountain syringe with the carbolized water, and keep the sheet wet by frequently spraying it. If there is a disagreeable odour spray the floor about the bed.

In buying the corrosive sublimate have the ounce made up in eight separate powders. Ask to have one grain of aniline green added to each. Put one powder in a gallon of water and use it to disinfect the vessels. Keep a little standing in them, pour in more before emptying them. The solution is a

deadly poison; the aniline green is added that it may not be mistaken for pure water. It stains clothing yellow.

Dissolve one pound of copperas in a gallon of water and pour some of the liquid into the water closet after each discharge is emptied. Every night and morning throw in several handfuls of dry copperas, and cover the discharges with it as soon as the vessel is removed. Oxalic acid will remove the stains of copperas.

If there is no water closet, see that ashes and lime are plentifully used when the discharges are emptied. This is specially necessary in typhoid fever, cholera and dysentery, when they are the chief source of danger. Clothing stained with them should be treated with equal care. The patients need not be isolated. In small-pox, scarlet fever, diphtheria, measles, and all contagious diseases the patient should be scrupulously isolated, as no one can come near without running the risk, at least, of contracting the disease, or conveying it to some one else. Make it a rule that nothing shall leave the sick room without being disinfected, as few things as possible going farther than the next room. Cups, spoons and such articles should be washed there. A separate broom and dusters must be pro-

vided and the dust that is collected burned. If the nurse is obliged to go amongst the other members of the family, she must change her dress, brush her hair thoroughly, and wash hands and face in carbolized water. She should observe the same precautions before going into the street.

When the case is ended, open the windows, shut the door, and leave the room for a few hours. Then close the windows, and if the cracks are very wide paste strips of paper over them, open all drawers and closets, strip the bed, and carry out everything that can be disinfected by other means than fumigation. Get an old coal scuttle or iron pot, put a crumpled newspaper in the bottom, and throw in about a pound of sulphur. Light the newspaper, see that there is no danger of pieces falling on the floor, leave the room and close the door. If the room is large use two vessels and double the quantity of sulphur. Leave it for a day and night, then open the windows, and when possible proceed with the cleansing of the room. The fumes of sulphur bleach colors and discolor metals. The latter may be greased to protect them. The floor and wood work should be scrubbed with the corrosive sublimate solution: the furniture and walls washed with the same, the latter, if preferred,

scraped and freshly done again; the ceiling can be white-washed with lime. If, unfortunately, a carpet has been left down, it must be removed before the fumigation, well washed with hot carbolized water, and hung in the air for some days. Mattresses must be re-made, and upholstered furniture fumigated and re-covered. Clothing that cannot be boiled should be burned; the danger of infection is too great to permit of its being kept. The germs of small-pox and scarlet fever retain their vitality for months, and can be carried long distances in clothing.

Before the convalescent or the nurse rejoins the family, a bath of warm carbolized water should be taken, and the hair washed.

If these precautions are thoroughly observed, and none of them are beyond the power of any intelligent person, the transmission of infection from that particular case is physically impossible. Even an epidemic can be stamped out by these means. To ensure proper care, there should be two nurses to divide the day and night work, and neither should mingle with the other members of the household.

XII.—EMERGENCIES.

When an Accident Happens.—Send for the doctor.

Do what seems most immediately necessary.

If the breathing is arrested try to restore it.

If there is profuse bleeding try to check it.

If a bone is broken put it in position and keep it still.

If it is out of joint try to keep down the swelling until the surgeon comes.

If poison has been swallowed try to get it out of the stomach.

If there is loss of consciousness try to stimulate the action of the heart.

In a severe burn get the clothes off and try to allay the pain by excluding the air.

Drowning.—Two things are to be aimed at in treating a person rescued from the water:

To restore breathing if it has ceased;

To promote warmth in the chilled body.

Draw the tongue forward so that air can pass in through the wind pipe, fasten it with an elastic band passed under the chin, or thrust a pin through the tip and twist a string around it. Turn the body

on its face for a moment, placing a roll of clothing under the stomach, so that any water swallowed may run out. Lay it again on the back, kneel at the head and grasp both arms above the elbows, draw them up as far as possible above the head, this raises the chest and makes a vacuum into which the air rushes through the wind pipe; count two, then bring them down, making the elbows meet over the chest, and press them on it to help to expel the air from the lungs; count two, and repeat the movements fifteen times in a minute, to imitate the natural respiration. Work steadily and regularly; the action of the heart is very feeble, and hurried jerking movements may stop its beating. Do not relax the efforts for at least two hours. When breathing is established wrap the patient in warm blankets, apply hot water bags, or hot bottles, to the feet, the stomach, and under the arms. Rub the limbs. Give a hot drink frequently, — coffee is the best.

In all cases when breathing is suspended, whether from choking, suffocation by gas, strangling, or hanging, this method of artificial respiration should be tried. It is called after its inventor, "Sylvester's method." Never give up hope while the body is warm.

Wounds.—Sponge the cut with cold water, and when the blood is washed away the extent of the injury can be determined. A slight wound will sometimes bleed profusely. Bind a cloth wrung out of ice water tightly on the cut, often it will require no farther treatment. If it still bleeds raise the wounded part, when possible, so that the blood will flow back towards the body instead of to the wound, and bind a bunch of cobweb, or a handful of flour, on the place. This helps to form a clot at the mouth of the severed blood vessels, which is one of nature's ways of stopping bleeding. If after a few minutes the blood soaks through the bandage and begins to drip from it, stronger measures must be resorted to. Probably an artery has been divided and if its sides cannot be pressed together so as to completely close it, the sufferer will bleed to death. If the wound is in an arm, or leg, fold a small stone, a raw potato, or any hard, round object, in a strip of stout cotton. Place it on the inside of the limb just under the swell of the muscle, near the armpit, or groin, and tie the bandage tightly around the limb. A stick can be put through the knot and twisted to tighten the bandage, if greater compression is needed. If the position of the artery cannot be found after one

or two trials make the pressure directly on the wound. A string tied tightly around the base of the finger will check the bleeding from any part of it. When a finger is cut off it should be replaced and bound up. If even a shred of skin remains uncut there is great hope of its reuniting, and the experiment is always worth trying.

Bleeding from the Nose.—A slight flow of blood from the nose relieves oppression of the head and is not dangerous. When it does not stop in a reasonable time, press the finger and thumb on each side of the nose where it joins the face. Make the person sit with the head thrown back and hold a cloth wrung out of ice water to receive the blood, as bending over a basin encourages the flow. Place a large key, or any cold object, at the back of the neck. If these measures fail, let ice-cold salt and water be sniffed up the nose, and if the flow of blood is still alarming, send for the doctor.

Sprains.—Wring large pieces of flannel out of boiling water, wrap the injured part in them, and renew them before they get cold. Keep up the treatment for several hours, then put on dry flannel, and lay a hot water bag against it. The injured part should have perfect rest. Continue the fomentations three times a day until the pain is gone.

The part may be rubbed with liniment, or banded, after the swelling has disappeared.

Bruises. — Keep the sufferer quiet and the part covered with cloths wrung out of ice water. When there is much pain, laudanum may be added to the water.

Broken Bones. — When a limb is fractured, place it in as natural a position as possible, and bind a pillow around it, or two strips of stout cardboard or thin board. Move it very gently to avoid the skin being pierced by the ends of the bone. If this has already happened lay a cold wet cloth over the wound. When the ribs are broken, bind a broad piece of cotton around the chest, and keep the sufferer quiet. When a collar bone is fractured, lay the arm on the injured side across the chest with the hand on the opposite shoulder, and bind it in place with a bandage passed around the body. If there is reason to believe that the skull is fractured, keep the patient on the back with the head slightly raised, apply cold to it, and darken the room. Broken bones may be safely left unset for several hours, so there is no cause for anxiety if the doctor cannot be found immediately.

Dislocations. — A bone out of joint should be restored to its proper place at once. If this cannot

be done the joint should be covered with hot, moist flannel, to relax the muscles and reduce the swelling as far as possible, until the surgeon arrives.

Poisoning.—When poison has been swallowed there are three things to be done. Get it out of the stomach instantly by an emetic. Neutralize the bad effect of any poison that remains by giving an antidote. Remedy as far as possible the harm that has been already done.

Mustard and salt are to be found in every household. A tablespoonful of either stirred into a cup of warm water makes an emetic. Repeat until it acts. Tickle the back of the throat with the finger, or a straw from a broom, if the action is tardy.

The appropriate antidote for any particular poison is seldom at hand when wanted. Vinegar is an acid and baking soda an alkali that are used in almost every family. If the poison was an alkali, as ammonia, strong solutions of potash, etc., give vinegar. If an acid, as oxalic acid, oil of vitriol, etc., give baking soda. For an over dose of opium give strong black coffee. If breathing is suspended try artificial respiration. Rub the limbs briskly and try to keep the patient roused.

When the poison was a strongly irritating one, burning the mouth and throat, give some mixture

that will soothe the inflamed membrane—plenty of milk, the white of an egg beaten with a little water, starch dissolved in cold water with boiling water poured on it afterwards until thin enough to drink, wheat flour stirred into a glass of water, flaxseed tea, or common mucilage. If the sufferer is cold, and seems sinking, apply heat, and give brandy and water, or any stimulant that can be had.

Shock.—After a severe fall, or a sudden fright, a person sometimes sinks into a state of collapse. The skin is cold and there is faintness and trembling. Apply heat to the body, try brisk rubbing, and give a little stimulant until the pulse grows stronger, showing that the heart is recovering its tone. Then stop the stimulant, or excessive reaction may cause fever.

Fainting.—The heart ceases to contract for a moment, and the supply of blood to the brain being cut off, loss of consciousness follows. Lay the head lower than the body so the blood may run towards it. Loosen the dress about the neck and waist, apply smelling salts to the nostrils, give plenty of fresh air, and if necessary throw cold water in the face, first protecting the dress with several towels. If the breathing stops, as is sometimes the case in prolonged swoons, try artificial respiration.

Swallowing Foreign Bodies. — This is a fruitful source of anxiety to mothers, but it is seldom followed by bad results. Give an abundant meal of bread and milk, or some soft food, and the object will usually pass away without difficulty.

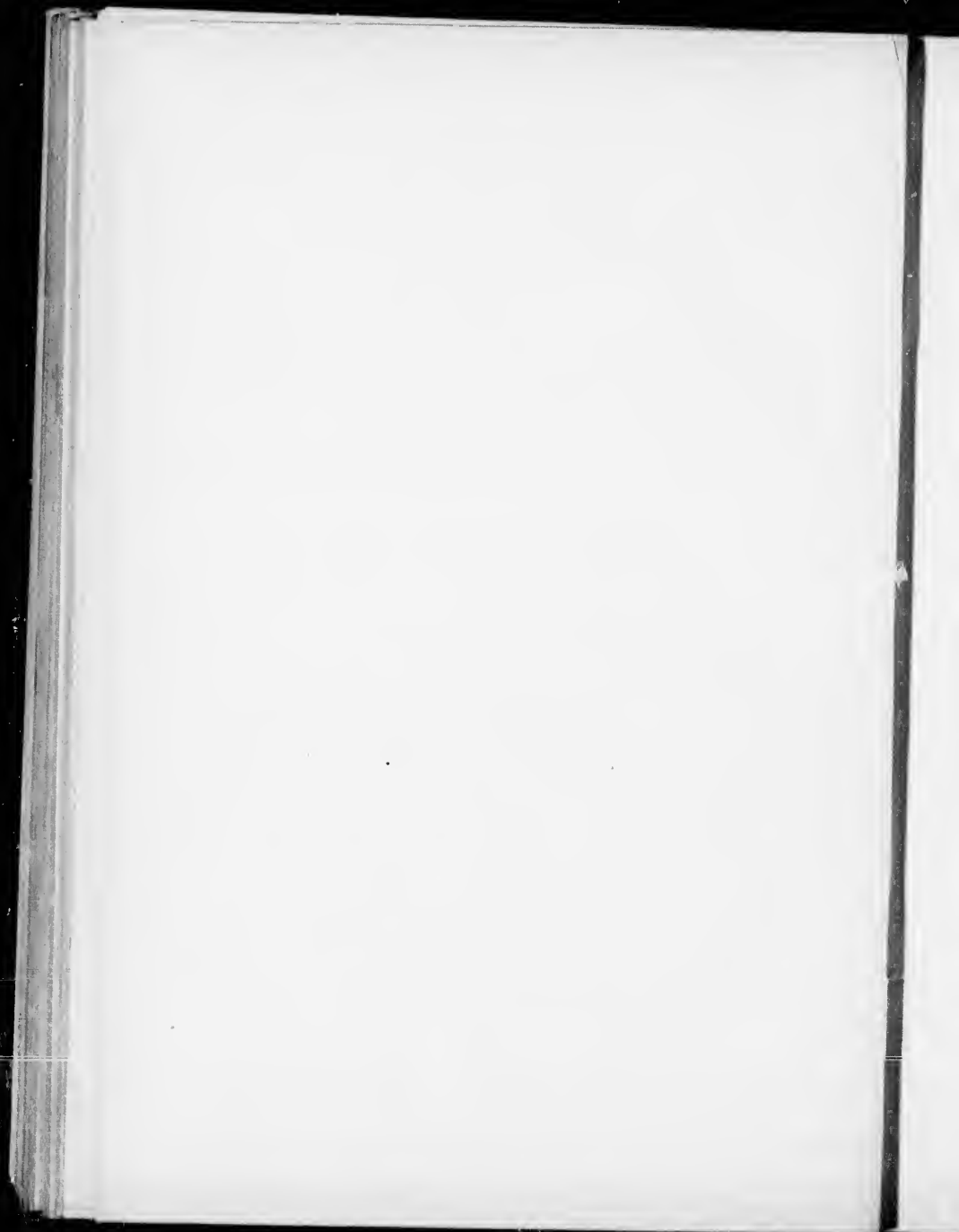
Toothache. — Mix powdered alum with spirits of nitre and bathe the tooth and gum ; if there is a cavity in the tooth, saturate a piece of cotton wool with the mixture, and put it in.

Burns. — Fire cannot burn without air. When a person's clothing is on fire, if the supply of air can be cut off the fire will go out. Seize the nearest woollen garment, mat or table-cover, and wrap the victim in it, rolling her over and over on the floor. Try to keep the flame away from the mouth, that it may not be inhaled. As soon as the fire is extinguished, if not already thoroughly wet, drench the burnt part with water and remove the clothes. Cut them. Do not pull them in the least or the skin will come too. If patches adhere, and will not drop off, they must be allowed to remain. Dip cloths in a thick solution of baking soda in water, and lay them over the burnt surface, bandaging lightly to keep them in place. As soon as a dry spot appears on this dressing, wet it with the soda and water by squeezing some on it. There will be

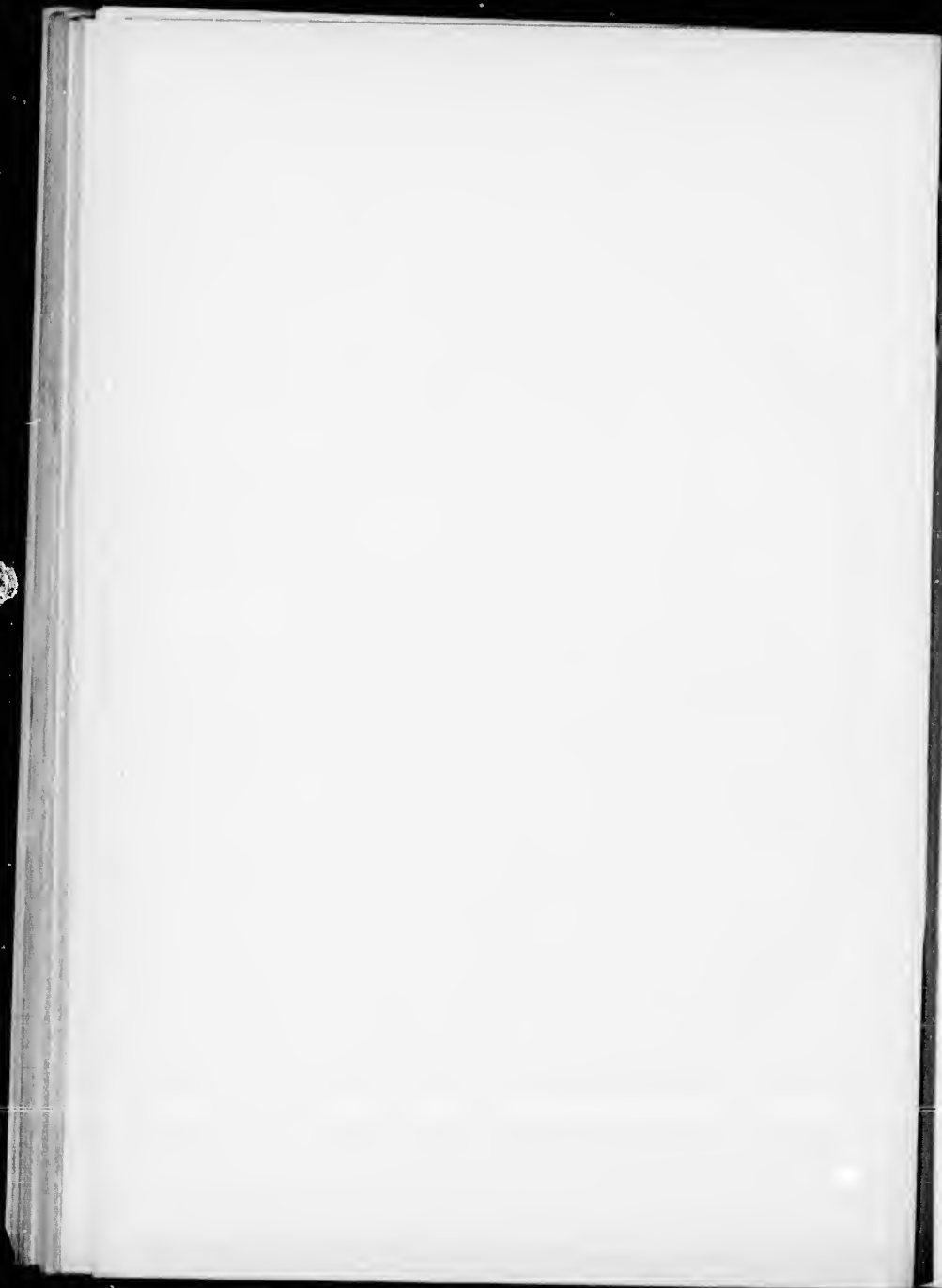
no smarting while it is saturated and excludes the air. If a rubber sheet is not at hand, a piece of oil-cloth, a gossamer cloak, or any waterproof article, can be spread on the bed with a blanket over it to receive the sufferer. If the feet are cold apply heat to them, and if the pulse is weak give a little stimulant. A doctor should be summoned as soon as possible. He will prescribe opiates, if they are required; it is not safe for an unprofessional person to meddle with them. Pain is a good sign in severe burns: it shows that there is still vitality in the parts to suffer. The gravity of a burn is in proportion to the surface involved. A deep burn is much less serious than a superficial one where a large extent of skin is injured. Persons suffering from these accidents must have concentrated nourishing food, and as much of it as they can take with ease. Nature has extensive repairs to make, and must be provided with materials to carry them on. When much tissue has been destroyed there is usually a very disagreeable odour. Disinfectants should be used, and the most exquisite cleanliness prevail in the sick room. The uninjured parts must receive a daily sponge bath, and the clothing be frequently changed. It should be cut wherever it is necessary to adapt it to the wants of the suf-

ferer, and fastened with tapes, so it can be adjusted with as little change of position as possible.

Scalds.—These can be treated in the same manner as burns. In slight cases painting the surface with thick mucilage will give relief, or pouring oil over it, and then coating it with flour. Any application that effectually excludes the air will relieve the pain.



PART IV



PART IV.
PLAIN NEEDLEWORK.
INTRODUCTORY.

This part of the book has been taken mainly from "Simple Lessons for Home Use," — published by Thomas Whittaker, New York.]

The great object of all instruction is to strengthen the mind and form the character. Even needlework, humble as the employment may appear, may be made conducive to this end. When it is intelligently taught, the mind is employed as well as the fingers; powers of calculation are drawn out, habits of neatness acquired, and the taste and judgment cultivated.

No home can be well ordered and no family can be "respectable" in the true sense of the word, unless the wife or mother not only thoroughly understands the *value* of the "stitch in time," but also knows how to do it. The object of the following practical remarks is that girls may be able to find in them those hints and directions which have proved useful, and the rules laid down at the present time for "Plain Needlework."

In the "good old days" Englishwomen were

celebrated for their learning and their needlework. But the mere fact of being a girl does not necessarily make any one clever with her needle; although the gift seems to run in some families, it will be found that much time and care have been devoted to its acquirement. Girls are apt to depend on the generally willing mother to make and mend for them, and seem to have neither time nor patience to learn for themselves, so that many a useful garment is worn to rags because the owner cannot use her needle properly. There is as much pleasure in putting on a clever patch, or making a skilful darn, as there is in doing any kind of fancy work.

Success in most things depends very much on our attention to trifles. No work can give satisfaction that is not done with very clean hands; indeed if they are dirty the task is made more difficult, as they are generally moist also, and the needle passes through the material with greater difficulty.

No one should attempt any work without a thimble—it cannot be done neatly and quickly without one, and there is a great risk of injury to the finger.

Needles should always be of the best quality; for children we should use a larger size than for older workers, whose fingers are used to the “feel” of

them. The eyes should hold the cotton so easily that there should be no "drag" to get it through the work. Needles known as "egg-eyed" are the easiest to thread.

To bite or break off the thread is a very common fault, which should be at once corrected. It is always likely to draw the thread too tight, so that the work puckers; and it sometimes leads to fatal results, for we once heard of a most estimable lady who lost her life from this very habit.

There are so many good makes of cotton thread that there should be no difficulty in getting it. It should be of an even texture, and not over-twisted. It is a good practice, before threading a needleful, to pull it gently through the left hand fore-finger and thumb nails. It slightly untwists it and prevents knots.

With every step in needlework the learner should be taught how to *prepare* it; the youngest child may learn how to fold a hem. The edges of newspapers are very easily cut by the line of the printing, and answer the purpose admirably; the paper being stiff keeps the fold better than calico. Children used to learn to work on paper; but coarse unbleached cotton is better, as in it the threads can easily be seen.

Having learnt to hold the needle in the *left hand*, to thread it, and to work with it in the *right hand*, put the thimble on the second finger of the right hand. The top of the thimble was formerly used, and we thought it a very awkward and difficult thing to do, so we are very glad that the girls use only the side now: it makes it much easier for them.

I.—SEWING.

HEMMING.

The great beauty of a hem is, that it should be perfectly straight and that the stitches should be quite regular; the first is generally attained by drawing a thread, when the raw edge of the material can be cut straight and even. If it be intended to make a narrow hem, lay down a fold perfectly even on one side and then turn it down again the same width as before; if a broad hem be required, the second fold should be wider than the first, so that it may set more smoothly. When the work is ready (“prepared,” as it is called) place it over the first finger of the left hand, and for the *first* stitch point the needle *from* you, draw it through the fold until there is only a small end of thread left, which must be neatly turned under the hem with the point

of the needle. In the succeeding stitches the needle must be pointed *towards* you: not towards your left shoulder, as it used to be, but to the chest. There should only be just space for a stitch left between the stitches, and the point of the needle should be kept rather higher than the eye, otherwise it is likely to get broken. When the thread is used up as short as possible, cut it off and turn the end under the hem, take a fresh needleful, and begin with the needle pointed *from* you, as at first.

Draw the thread rather tight when hemming anything that is cut on the cross; but draw it out very gently when it is fine work. If there is to be a hem on four sides of any article, hem the *opposite* sides first, so that the corners may be alike; but pocket handkerchiefs, etc., are now generally made with selvages on two sides, and they do not require hemming on those sides. Hems should be begun and finished by neatly sewing the ends of the fold.

SEAMING.

Sewing or seaming means joining two edges together; selvages are seldom even, and it is better to turn them in, and then pin or tack the edges evenly together. Hold the work firmly with the thumb, along the side of the first finger of the left

hand, supporting it with the second and third fingers. Hold the right elbow away from the side, pointing the needle straight towards the chest, and the stitches should only be taken deep enough to make the seam durable; if taken too deep, they make a thick ridge which can never be flattened out properly.

Never make a knot in sewing; leave out one end of the thread, and sew it over with the first few stitches.

Do not begin a seam at the point of your finger, but along the side about the beginning of the nail; and when you require a new needleful of thread leave an end of the last used and the same length of new, and sew neatly over both of them.

In good sewing the stitches are small, even, and regular, allowing space for one stitch between them, as in hemming. The usual fault in seams is, that they are *puckered*; but if the work is held properly and the needle pointed straight to the chest, it will not happen. When the sewing is finished, lay the seam open and flatten with the thumb nail. The top of the thimble, or an old tooth-brush handle may be used as a "flattener."

Double Seam, or Sew and Fell.—When the edges of the material are raw, they should be cut

quite smooth and even, and be free from loose threads; turn one edge down like the first fold of a hem; the other should be turned just double the width, so that it can be folded back again to form the "fell." Place the edges of both pieces together with the turns inside, and sew them neatly; when finished, lay the seam down very smoothly and hem the fold on the wrong side.

The sewing is always on the right, and the hem on the wrong side of the cloth.

Running.—This is used to join together breadths of materials, such as muslin, flannel, etc., where sewing would be heavy or unsuitable; it is also always used in dress-making, and many people use it for joining long-cloth.

Hold the work over the first finger of the left hand and take about three threads on the needle for a stitch, leaving the same number down. Several stitches can be taken at the same time, but the line of running should be quite even and straight.

Double seam, or run-and-fell.—The raw edges should be cut quite even, and the edge of one part should be turned down once, like the first fold of a hem; lay the other part on it a thread or two below the top of the fold, and run them together just below the raw edge of the turn. When

the running is finished, lay the seam down smoothly and hem the fold.

Sewing is always done on the right, and running on the wrong side.

Tucking.—Tucks are sometimes hemmed, but it is more usual to run them, the chief difficulty being in preparing and measuring them. When it is decided at what distance the tuck shall be run and what depth it shall be, mark the same on a piece of paper or card, and laying it on the material mark the edge, by pricking it at intervals with the point of a large needle. Then crease the spaces between the marks and run the tuck with small, even stitches. The edge of one tuck forms the guide for measuring the next.

STITCHING.

It seems strange that the only stitch an ordinary sewing-machine can do is just the one that is generally done the best by all needlewomen. Perhaps it is because, the stitch lying flat on the surface, it is easily seen; and it is so much used in finishing off garments that it is generally carefully learnt. The material must always be double for stitching, and if a straight line be required, draw out a thread a short distance from the edge on the right side of the work (using the point of the needle); then

take it firmly between the thumb and first finger of the right hand and draw it gently, whilst the thumb and first finger of the left hand move on the gathers thus formed. When a long thread is drawn out without breaking, it is considered a sign that the linen is good. Hold the work as for hemming, and pass the needle in at the wrong side between the material, and bring it out on the right, the stitch being formed by putting the needle back over two threads from that with which you work, and bringing it out two threads before it. Be particular not to leave a thread between the stitches, which would spoil the look of the work; two threads form a stitch that is always suitable for the material. In finishing off a needleful pass the needle to the wrong side and run it in and out of the stitches for about a quarter of an inch; then run in the new thread in the same way and bring out the needle to the right side, two threads before the last stitch. There must be no knots allowed in stitching.

Sometimes, as in wristbands and collars, the ends are rounded, and then it is a great help to draw the line for the stitching with a black lead pencil, as a thread cannot be drawn to keep it even all the way round.

GATHERING.

Gathering is used when a full part has to be set into a plain one, such as a sleeve into a wristband, etc. The part to be gathered should be perfectly even and loose threads cut off, then fold it in half and quarters, sewing a mark at each. Make a crease by laying down a fold about twelve or fourteen threads from the raw edge; the running must be on this line, as a thread should never be drawn for gathering. Gather always on the right side, and there should be just twice as much left between each stitch as there is taken up on the needle; two threads up and four down is the usual rule; but the fuller the gathers the longer the stitches must be. Four or five stitches may be taken on the needle at once; but the thread need not be drawn tightly except at every finger-length, and a new thread should be taken only at the quarters, or, in case of the thread breaking, it may be at the half-quarter. When the gathering is finished the thread must be carefully tightened and wound round a pin to prevent it from getting loose; place the gathers straight, side to side, and hold them down firmly and smoothly with the thumb of the left hand upon the first finger. Each gather should be taken separately and "traced" or stroked

down with the point of a long needle; then it should be gently pushed under the left thumb, and when all are done the thread should be tightened again, and the top of the gathers should also be stroked, as it makes it easier for "setting in," besides looking more even.

Setting in Gathers.—Divide the band into which the gathers are to be sewn into half and quarters; open the gathers a little and pin the corresponding parts together, placing the edge of the band just over the gathering thread, which should be drawn so as to agree in length with the band; it is then secured by twisting the thread round the pin. Hold the work with the thumb upon the first finger of the left hand, the gathers lying almost from left to right. Only one gather should be taken up at a time, and they should be fastened in with firm neat stitches. The wrong side must be set in with equal care, and the edge of the band must agree precisely with the edge upon the right side.

WHIPPING.

Frills and thin materials, instead of being gathered, are "whipped." The work is divided into half and quarters as for gathering, and the edge must be even and free from loose threads. Keep the

right side of the frill downwards and roll in about eight or ten threads of the raw edge very tightly on the wrong side, with the left thumb upon the first finger of that hand. For each stitch pass the needle from the right side, and bring it out on the wrong, just below the roll, and pointing towards the chest. Take the stitches very regularly and at such a distance that the thread (which must be strong and even) can draw easily. A new thread can only be taken at the half or quarters, and it is less likely to break if it be drawn every two or three inches, and that will also be quite sufficient to roll at a time. Draw in the fulness when the whipping is finished, and pin to the corresponding parts of the band as in setting in gathers. If there be corners to be trimmed, allow an extra quantity of frilling, so that it may sit properly. In sewing on a frill, it should be kept next to you, and every whip must be taken up; the needle should be set in rather aslant, so that the thread may lie *between* the whips; but the neatest way is to sew only the *top* of the whip instead of putting the needle under the roll.

Whatever may be the length of the band the frill should be at least two and a half or three times as long.

MAKING BUTTON-HOLES.

To work button-holes well requires care and practice, and beginners should not at first try to do fine ones. Cut the slit even to a thread, and just large enough to reach across the button; then take a needle and cotton and run it slightly round a short distance from the edge: this keeps the parts neatly together and also strengthens it. Some people prefer running the outline *before* the button-hole is cut, but it is not generally done. Hold the work straight along the forefinger of the left hand, and insert the needle, four or five threads from the raw edge at the left-hand corner; before drawing it quite through bring the cotton from the eye of the needle, over the needle, and from left to right under its point. Draw the needle out straight from the edge, keeping the hand upwards, so that the loops may lie on the edge of the button-hole which the left thumb presses close against the finger. One thread is left between the stitches, and if the cotton be a proper size this will allow room for the twist at the edge. Work as nearly to the end as possible; then take two stitches across to the other side and work these threads over in button-hole stitch. This is called "barring" button-holes, and prevents their tearing so easily. Often a button-

hole is barred at one end and worked round at the other, or it may be worked completely round. Care must be taken that the stitches are all the same depth; the beauty of a button-hole is its regularity.

There are many other sorts of button-holes, but this is the one generally used in plain needlework. Should a new thread be required whilst working a button-hole, fasten off the former one on the wrong side, and join the new one by passing it through the loop of the last stitch.

SEWING ON BUTTONS.

We wish there were any discovered way of keeping on shirt buttons, so that the laundress could be defied; linen buttons that are properly sewn on will last for years, but pearl and bone buttons will break and leave our work untouched. Mark a circle with the point of a needle in the centre of the button, and then stitch it neatly on in the mark thus made, twist the thread round under the button several times, and fasten off securely at the back.

HERRING-BONE STITCH.

This is always used in making up flannel, and it is occasionally used as an ornamental stitch on muslin or calico. The selvage of flannel should be

torn off, but it need not be wasted, for it may be used for various purposes.

Run the breadths of flannel neatly together on the wrong side about a quarter of an inch from the edge. Fold one side over as if for a "fell," but leave the raw edge; hold the flannel across the first two fingers of the left hand, keeping it firm with the thumb and third finger. Slip your needle under the fold and bring it out, about the centre of it, at the left-hand corner; then take two threads of the material on the needle, just below the raw edge of the fold, working always from left to right, and taking the stitches in parallel lines on the fold and on the material alternately. The needle should generally go in at the fourth thread from where it went in last time; but we have seen some exquisite work in which the stitches were taken closer. The edge is held down by the thread passing over it in what some one has aptly described as "a sort of cross-stitch worked backwards."

MARKING.

Although the use of marking ink has almost superseded the old style of marking with needle and cotton, every girl should know how to do it, and there is nothing better to learn on than a

square piece of canvas. It must be cut evenly, and the hem laid down by a thread, turning the opposite sides first. It can either be hemmed like linen or hem-stitched round the sides.

The marking stitch is made by taking two threads each way; pass the needle in from the wrong side, at the *left-hand lower* corner; then put it *in* at the *upper*, and bring it *out* at the *lower right-hand* corner; then put it *in* at the *upper left-hand* corner, and bring it out at the *lower left* of the *next* stitch. There should be no knot made, but the end of the thread should be worked in with the first two stitches, and each letter should be fastened off separately on the wrong side.

In marking a sampler, two or four threads should be left between the letters; but for linen there should be eight or ten. There are several other ways of marking besides this cross-stitch.

Queen-stitch is made by taking a sort of back-stitch, below, above, and on each side of a square of four threads.

In eyelet-hole marking, the stitch is worked from the centre across two threads, above, below, on each side, and to each of the four corners.

Letters are sometimes traced with a lead pencil, and then either stitched neatly or worked in chain-

stitch. In chain-stitch the same quantity must be taken on the needle at each stitch. To make the stitch, pass the needle in from the back, hold the thread under the left-hand thumb, and pass the needle back again through the same hole; take a few threads of the pencilled line upon it, keeping the loop of thread under the point. Draw it through carefully, or the material will be puckered and spoil the look of the "chain."

II.—MENDING.

PATCHING.

This is such an essential acquirement that it seems strange it has been so seldom taught in schools, especially as it requires very careful practice to do it properly. Darning, or the removal of worn parts to places where they will not be so much used, sometimes prevents the necessity of putting on a patch; but rents or jagged tears come very unexpectedly, and then a patch must be put in—taking great care, however, to match the pattern, if there be one.

Cut the piece you intend for the patch larger than the worn part, and cut it straight by a thread. Turn down about half an inch on each side; be

careful to make the corners set very neatly and to fold it down on the wrong side. Tack it slightly to keep it in its place on the right side of the material; sew it along the edges and make the seam very flat and smooth. Then cut away the old piece on the wrong side, leaving sufficient to form a nice hem; make a little slit at each corner so that it may be set square; turn in the raw edges and hem round the sides. Sometimes, instead of sewing on the right, and felling on the wrong, a patch is felled on both sides.

A flannel patch should be herring-boned, not hemmed.

Fine-Drawing Cloth.—In mending cloth, always try to fine-draw it, as it scarcely shows at all when properly done. Make the edges quite even and hold the two parts lengthways on the first finger of the left hand. Pass the needle, pointed *from* you, through half the thickness of the edge of one piece of cloth, then point it towards you, and pass it in a similar way through the edge of the other piece. Draw the stitches closely together without bringing one edge over the other, and continue in this way taking a stitch on alternate sides until the join is finished. Then slightly damp the cloth on the wrong side, soap it a little, and press the sew-

ing down with a hot iron. When it is necessary to press cloth on the right side, a piece of some thin material should be laid on it to prevent its being injured by the iron. A patch put on in this way is almost invisible

DARNING (PLAIN, ETC.)

Before beginning to darn a stocking (or indeed anything else) take a needle and fine cotton and bring the loops or threads as nearly as possible to their proper place, and draw them gently together on the right side. Then on the inside of the stocking begin the darn about half an inch beyond the hole. Stockings can be mended in three different ways: the first and most usual is the plain darn; then they can be grafted; or they can be mended by the stocking-web darn.

After the hole has been drawn together as closely as possible, without giving a puckered appearance, begin the darn on the wrong side about half an inch every way beyond the worn part. Hold the work across the first and second fingers of the left hand, point the needle from you, and take up and leave down a thread alternately; leave a loop at the end of the row, and begin to darn with the needle pointed towards you, taking up the threads

that were left down in the preceding row. When the worn part has been entirely covered in this way it will be necessary to darn it in a contrary direction, so as to cross the former threads, taking up and leaving down one alternately. If it is a large darn it will set better if the crossing be begun at the middle instead of the end of the row.

For mending stockings we prefer "twill" darning; that is, taking up one and leaving down two threads; in the succeeding rows, the next stitches either above or below must be taken. This may be varied by darning four rows with the stitches slanting upwards, and then four rows with the stitches slanting downwards; this is known as "wave" darning. When a darn is finished cut the loops at each end of the rows, but do not cut the ends off. Tightly twisted thread or merino does not wear as well in darms as the very soft kind of cotton and wool.

GRAFTING.

This is really a neat and rapid way of putting in a "patch," and is very useful in mending places where darms are undesirable. Cut the piece out of the stocking quite straight by the line on each side and ravel the lower edge, as well as the edge of the

piece that is to be put in, until the loops appear in a clear and even row. Hold the pieces between the thumb and forefinger of the left hand just as you would hold them for sewing, with the loops exactly opposite, wrong side outwards. Pass the needle, pointed from you, through the two loops of the pieces that lie opposite each other, and draw the thread through them; then point the needle towards you and pass it through the next loop of the farther piece, and pass it a second time through the loop of the piece next you. Then point the needle from you and pass it through the next loop on the same piece and the same loop on the farther piece, so that a fresh loop is taken on each side alternately until the join is finished.

Another way of working the same stitch is to work it on the right side. Prepare the work in the same way, but hold the pieces lengthways over the forefinger of the left hand. The loops must always be even and unbroken; fasten the thread on the wrong side and bring it out through a loop on the right. Put the needle into one of the loops of the upper piece, and bring it out through the next, and draw the thread through them; then pass it through the first loop on the lower piece, and bring it out through the next one. Continue in this way

to work through two loops on alternate sides until the grafting is finished. When a piece is joined in, the sides must be cut even to a thread, and turned down and neatly sewn on the wrong side. Sometimes the sides of the hole, as well as of the patch, are cut even and button-holed very closely. After the top has been grafted, sew the sides neatly together, and after ravelling the piece so that it will fit exactly, graft it in at the bottom.

STOCKING-WEB STITCH.

Prepare the stocking by cutting the sides of the hole quite even, and ravelling out the loops at the top and bottom, as for grafting. The easiest way of learning the stitch is to take a piece of *coarse* stocking-web and work on the right side over the stitches. Pass the needle in where the woven thread goes in, and pass it under two threads so that it comes out where the next stitch goes in; then put the needle in one thread to the right (but one bar below the last), and take up two threads to the left; then put it in one thread to the right in the bar above, and take two threads on the needle as before. Continue doing this until the row is finished, when a bar must be taken downwards, the work turned, and the stitch worked in

the same way again. When this stitch is learnt it is easy to fill a hole with the stocking-web stitch, and if the colours match it is the best way of mending large holes.

The hole itself must be partly filled by strands of thread formed by taking two loops at the top and bottom alternately. Two or three rows before the hole should be worked in the stitch just described, and the lines must be worked across in the same way until the hole is filled up.

It is quite worth taking the trouble to learn this stitch, although it seems rather troublesome at first.

"Ladders" in stockings, so easily formed by a dropped stitch, are best mended with a crotchet needle. Begin at the bottom and pass the needle through the loop, and draw the line of thread that is just above down through it, when it forms the loop through which the next line is drawn until the top of the ladder is reached, when it must be neatly fastened with a needle and thread.

III.—KNITTING.

Knitting is now so generally taught in schools that a book on plain needlework would hardly seem complete without any directions for doing it. It has one great advantage over other work: it can be taken up at odd minutes, and does not require much eyesight or attention. Boys and girls, young and old people can employ their spare time in making all sorts of useful articles; and to be able to knit the socks or stockings for the family is justly considered something to be proud of. Woven stockings may seem cheaper at first; but they are neither so warm nor so durable as knitted ones; and any person who can do them can always obtain work that is fairly remunerative.

There are three different ways of holding the right-hand needle. In the "English" the needle rests in the hollow between the thumb and first finger; but in passing the thread round the needle, people are apt to push the thumb forward in a very unsightly manner. This must be carefully avoided, as the thumbs should never be moved in knitting.

In the other English method the needle rests along the first joint of the second finger, and is

firmly held between it and the ball of the thumb. The top of the thumb should be about half an inch below the last knitted stitch. Twist the thread round the little finger and pass it *under* the third and second fingers, and over the first; the tips of the third and fourth fingers should almost touch the palm of the hand.

The German style of knitting is not so generally used, but sometimes it is preferred. The chief difference is, that the thread is knitted in, over the first joint of the left forefinger, and in working it the thumbs seem close together. It is a help to a learner if some one shows how the needles should be held, and then the stitch itself is soon learnt.

To cast on.—This used to be rather a formidable affair, as a strong edge was considered absolutely necessary; but experience has shown that strength that will break rather than yield is never desirable (especially for the tops of stockings); therefore a more elastic stitch is preferable. Make a slip-loop with the thread, and put it on the left-hand needle; into this stitch put the right-hand needle, pass the thread round it from the back to the front, bring it out forwards where the needle went in, and pass the loop thus formed from the right hand needle on to the left, and continue mak-

ing stitches in this manner until there are sufficient on the needle.

To knit.—Put the right-hand needle into the first stitch on the left-hand needle, keeping the thread at the back: pass the thread round the needle to the front, and bring the stitch out forwards, where the needle went in, at the same time slipping off the stitch from the left-hand needle.

To cast off.—Casting off should be done rather loosely. Knit two stitches: take the first stitch on the point of the left-hand needle, and pass it over the second, so that only one stitch is left on the needle; knit one more stitch, and pass the first over the last; and continue working in this way until there is only one stitch left, through which draw the thread and pull it tight.

To purl or turn.—This is worked with the thread *before* the needle. Put the right-hand needle into the first stitch on the left-hand needle, entering at the right, or upper side, of the thread: pass the thread round the needle from the back to the front, and bring the stitch out at the back.

Ribbed knitting.—In knitting socks and stockings the tops are generally ribbed; this makes them more elastic, and they fit more closely to the leg. The rib is formed by knitting and purling

alternately; two plain stitches and two purled form a very nice-sized rib. In working a straight piece of knitting the stitches should be reversed in the following row, the plain stitches being the purled ones, to keep the lines even. In knitting on three needles no change is necessary.

To increase or widen.—Knit twice into a stitch. This is best done by knitting one and purling one, in the same stitch. For stockings, either knit a stitch at the back of the needle and then one in the front, or knit a stitch and then knit into the one below it, so that there may be no hole.

To decrease or narrow.—This is generally done by knitting two stitches together; but it should depend on which way the decrease is intended to lie. On the *right* hand of a seam-stitch knit two together, but on the *left* hand, slip a stitch (take it off without knitting); knit the next and pass the slipped stitch over the knitted one.

In the case of the decreasing necessary to form the instep of a stocking, the decrease at the end of the right-hand foot-needle should be done by knitting two together, because it looks better, if it fall to correspond with the slope of the foot; whereas, for the same reason, the decreasing at the beginning of the left-hand foot-needle should be

done by the "slip and pull over" process. On the other hand, in decreasing for the toe, the decreasings at the beginning of the needles should be by "knitting two together," and at the end of the needles by "slip and pull over"; and this is also the case in the decreasings in the heel (Dutch pattern).



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