**Eating for strength : a book comprising 1.-The science of eating. 2.-Receipts for wholesome cookery. 3.-Receipts for wholesome drinks. 4.-Answers to ever recurring questions / by M.L. Holbrook.**

# Eating for Strength

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1.—THE SCIENCE OF EATING.
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3.—RECEIPTS FOR WHOLESOME DRINKS.
4.—ANSWERS TO EVER RECURRING QUESTIONS.

BY

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AIDED BY

NUMEROUS COMPETENT ASSISTANTS.

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NEW YORK:
WOOD & HOLBROOK,
13 & 15 LAIGHT STREET.
1875.

Entered according to Act of Congress, in the year 1874, by
M. L. HOLBROOK, M.D.,
In the Office of the Librarian of Congress, at Washington, D. C.



LANGE, LITTLE & Co.,
PRINTERS, ELECTROTYPERS AND STEREOTYPERS,
108 TO 114 WOOSTER STREET, N. Y.

# PREFACE.

THE Author and Editor of this little work sends it on its mission with the earnest hope that in some degree it may prove useful and acceptable. He would like to acknowledge his obligations to those who have aided him in his labors in the department of Recipes, by a mention of their names, but those to whom he is most indebted do not desire thus to be brought before the public. He may say this, however, that they are one and all practical experimenters and deeply interested in the subject of preparing wholesome and palatable food for our tables. Not one of all the number is a mere theorizer, but could, if need be, themselves cook a most delicious and healthful meal.

He also begs to acknowledge his indebtedness to several Health Cookery Books, both English and American.

Many of the best Recipes, however, are those which have been tried in our own kitchen, where they have stood the test of almost constant use for years.

It will be observed that no Recipes are given for cooking meat or fancy dishes, but our apology for this is, that there is no necessity for doing so. Such Recipes are found in abundance in nearly every cookery book, and this is not intended so much to supplant these books as to supplement them.

It is suggested that in the use of Recipes, a reasonable amount of brains be mixed with them. The best will prove failures in careless hands. Food, to be well cooked, must be under the eye of a thoughtful person. It will not cook itself. It must be magnetized, so to speak, by a living force, and Recipes must often be somewhat varied to suit individual tastes and circumstances. The editor also suggests, that those who read this book experiment and invent new methods of their own. He will gladly print the results in the *Herald of Health.*

As to the other departments, it is hoped that they will furnish numerous and acceptable hints for correct eating and drinking. Should they not, the Author's hopes will not be realized.

M. L. H.

NEW YORK, October 1, 1874.

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## CHAPTER I.

### FUNCTIONS OF FOOD.

WHY do we eat at all? Why do all animals on the globe, from the simplest worm to the highest, most civilized man, depend for life on food and drink? Why is a child hungry, and if deprived of food for an hour beyond the allotted time, ravenous for something to eat? Why does a hard-working man enjoy his food so well, and want so much of it? Why do great men and powerful thinkers need to eat so abundantly? It does seem as if a large part of the work of the world is to supply food for the people. Why so many millions of acres of land devoted to agriculture and horticulture? Why so many more farmers producing food than people of any or all other occupations? Simply because food is so important, and its functions in the body are so necessary to life and health. What then is the great office that food performs for us? Let us see. Food performs these functions:

1. It furnishes material with which to construct the body. To the child this is very necessary. It would forever remain a babe in stature, if this were not so. The food it imbibes from its mother's breast increases the child's bulk; and if properly fed till maturity, a large, powerful body is the result. Farmers increase or diminish the size of their domestic animals, within a certain limit, by increasing or diminishing the amount of food supplied to them. The size, within constitutional limits, to which a child may attain is, to a great extent, dependent on the supply of wholesome food it can digest. Abundance of food, coupled with plenty of air,

exercise and sleep, insures a far greater size and development than when the food is scanty. Farmers sometimes, by feeding, produce enormous development of the bodies of oxen, sheep, and other animals. This abnormal development, however, is not desirable in human beings, and should not be sought for; but a normal development is desirable, and is the legitimate aim of every parent for his child, and person for himself.

2. Still another function of food is to supply the waste that goes on in the body from its daily wear and tear. This varies greatly with different persons, and with the amount of work done. Great workers wear out and use up every day several pounds of the blood and tissues of the body. New food is demanded to take its place, to make good this loss. Those who work but little require less food. A month of sickness sometimes wastes away a third of the weight of the body. The patient becomes thin, emaciated and bony. But a hearty appetite and plenty to eat soon restore it to its full size. There are some men of powerful frames who, if they do a hard day's work, waste many pounds of their avoirdupois, and must eat as much to make it up. Small workers, and lazy, idle people eat less; and there are a few, mainly corseted and inactive young women, and foppish, idle young men, who waste very little of the tissue of the body by effort, and consequently eat but little. It is, then, no bad sign to see healthy people eat heartily—they must do it to work and live.

3. Still another function of food is to maintain animal heat. So important a function is this, that it has been computed that four-fifths of the food of the body is used to maintain its temperature of nearly one hundred degrees. If any one would appreciate the heat-producing power of his food, let him in cold weather go without eating for a day and still continue exposing himself to the weather, and he will learn that a good meal will do more to warm his body

than clothing or fire. It furnishes the fuel which, consumed or burnt in the body, maintains a comfortable temperature.

4. The last and most wonderful property of food is to furnish to the body strength. Strength comes in no other way. When plants grow they store up the energy of the sunshine, and when we consume these plants, that energy is transferred to our bodies. It manifests itself in many ways. First, in the form of motion, the ability to move from place to place, or to move other things from one place to another. Then in the form of sensation, feeling, seeing, hearing, and thinking. The ability to do any or all of these things is conferred by our food. Thought, motion, heat, as manifested in the body, are all conferred by food. The body has the peculiar power of abstracting these things from bread and meat. Go without food, and all these functions of the body gradually die away, and life becomes extinct. Perhaps this point may be made more clear by an illustration. You give your child a good hickory bow and arrow. He bends the bow on its string, adjusts the arrow and pulls the string back a few inches. Now what has he done? Why simply stored up in the bow a part of the strength of his arm. But how did he get that strength? The sunshine of last summer stored it up in the bread, meat, and potatoes he ate for breakfast. His body has the power to unfasten this force and apply it to bending the bow. When he lets go the string the arrow flies away, and the force is, so far as he is concerned, lost. The food we eat does for us what the coal does for the engine on the railroad train, it furnishes the motive power, only the body is a living machine and can think and feel, which the engine cannot do.

Now we see why we eat. It is, first, to increase the size of the body; second, to supply the waste or loss by the daily wear and tear; third, to maintain a proper degree of warmth for the body, and fourth, to supply the energy by which we move, think and feel.

## CHAPTER II.

### CLASSIFICATION OF ALIMENTS.

THE classification of foods now accepted by men of science is perfectly simple and easy. All the substances used come under one of four heads. These are:

1. Proteids.
2. Fats.
3. Amyloids.
4. Minerals.

*The proteids* are generally known as albuminous, or nitrogenous substances. They take first rank in the material for building up the fleshy part of the body. They include the gluten of wheat, the albumen of white of egg, the muscle of flesh, the casein of cheese, and a few other unimportant substances.

*The fats* include all oils and fats, whether animal or vegetable. They are called the non-nitrogenous articles of diet, because they contain no nitrogen. Butter, fat meat, vegetable and animal oils, oily nuts, etc., etc., are of this class. They are also called hydro-carbons.

*The amyloids* include starch, dextrine, sugar and gums. They are also non-nitrogenous and hydro-carbons; but the hydrogen and oxygen are in the form of water, while in the fats the oxygen is not in sufficient quantity to satisfy the affinity of the hydrogen.

*The minerals* are water and certain salts of alkalies, and other substances, such as go to make up the bones and teeth, They act as regulators of nutrition.

None, however, of these substances alone will perfectly

nourish the body. All of them must be present. The food which Nature has provided for the newborn babe is the only one which perfectly illustrates a combination of them all.

1. The curd of milk is a *proteid*.
2. The cream or butter of milk is a *fat*.
3. The sugar of milk is an *amyloid*.
4. The water, magnesium, potassium, iron, sodium, lime, phosphorus, etc., are the *minerals*.

Is this not simple and beautiful? How perfectly good milk nourishes the young. If in after years, when we eat and drink what we please, we were to choose food so wisely adapted to our wants as the Creator does for the child, it would save much suffering.

## THE PROTEIDS.

Now let us look at the functions of the different kinds of food. This subject is not so well understood as we wish it was; still what is known will help to decide somewhat as to the choice of articles of diet. First in the list come the *proteids*. What is their function in the body? One point at least seems settled, that their chief value is to construct and repair the tissues of the body. The nerves, the muscles, the glands, the secretions of the mouth, stomach and alimentary canal which help to transform our food, are all *proteids*. Parke says that every structure in the body in which any form of force is manifested, as heat, electricity, or mechanical action, is mainly built up of these proteids. This is so the world over. May we not, then, safely conclude, that the main function of the proteids is to build up and repair certain tissues of the body? It is also believed that by oxidation they develop some heat, and a small portion of the strength of the frame. If the proteids are cut off the functions of the body languish. If we wish to increase the power of the body to do work, we must invariably increase the consumption of proteids.

### THE FATS AND THEIR FUNCTION, OR USE.

The fats are, in the scientific works on food, called hydrocarbons. They contain some oxygen, but never enough to satisfy the affinities of the carbon and hydrogen. For this reason they are powerful generators of heat. An ounce of fat burned in the fire generates a large amount of heat. An equal weight of it when burned will produce two and a half times as much heat as dry starch, or sugar. Some idea of its wonderful heating properties may be gained by the fact that ten grains of fat burned so as to save all its heat, will raise the temperature of twenty-three pounds of water one degree. This is sufficient to raise 18,000 pounds weight one foot high. Their two great uses, then, are first, to maintain animal heat; and second, to generate force. It is very easy to see how it does the former, by burning in the body; but how heat becomes force is not so easy to see. That it does in the steam-engine is evident, and the same is true in the body. The man who does a hard day's work, does so by virtue of the fact that he is, so far as his labor is concerned, an engine. The muscles do not furnish the strength, they only transmit it. The wheels of the engine do not furnish the strength, that is the power behind them. Not only the heat of the body, but the working power of it, is largely due to the consumption of fat. (The reader must not confound fat with fat meat alone, butter is a fat, and so are oils and oily nuts.)

Still another use of fats is that, like the proteids, when taken into the body, they enter into its structure, forming in all cases an essential part of muscle, nerve, brain, and other organs; and also entering largely into the adipose tissue.

Besides these important and principal functions of fat, it has minor uses in the processes of digestion, assimilation, and nutrition, and, it is believed, in the formation of bile. Food digests more readily if fat is mixed with it. It also

plays an important part in the formation of cells, blood corpuscles, and even the generation of blood. It is present in large quantities in the tubules of the nerves; and in all the nervous centers serves some highly important function in nervous action.

Indeed the distribution of it in every tissue and its accumulation around certain organs, serves to fill up the cavities of the body and give roundness to the form, equalizes the external pressure, and diminishes friction; and, by its bad conducting property, retains animal heat. Fat, therefore, must ever be regarded as highly important to the physical development of the body, and any system of diet that excludes it is faulty and to be condemned.

An interesting case of the evil effects of the non-use of fats was recently brought to our notice. A gentleman of education and refinement, in rather feeble health, put himself under the care of a physician who ordered him to abstain from all butter, sugar, salt, milk and meat, and to live exclusively on farinaceous articles and fruits. The result was that he lost rapidly in flesh and strength, and soon took to his bed. The physician insisting that he would in the end be better for this course, advised him to continue it. The patient thinking that hickory nuts were not forbidden, purchased a quantity and ate freely of them. Being very rich in fatty matter, they supplied the place of butter and fat meat perfectly, and he soon became much better and believed he had made a great discovery in the dietetic value of this nut. We may add, this nut is excellent food for those who can digest it and for those who abstain from animal fats it will often prove to be very valuable. Where oily foods are not used, the proteids exist in excess in the blood, and furnish more nitrogen than can be used. The result is that the system is poisoned and seriously suffers.

## CHAPTER III.

### THE AMYLOIDS.

THE word "amyloid" is from two Greek words, which, taken together, signify "resembling starch." The principal amyloids are starch in its various forms, as arrow-root, corn-starch, potato-starch, etc.; sugar in the form of grape-sugar, milk-sugar, cane-sugar; honey and cellulose. Cellulose is the woody substance of plants, after all other matter in their composition is dissolved and washed away.

The amyloids, like the fats, discussed in the last chapter, are destitute of nitrogen, and are composed of only oxygen, hydrogen, and carbon. They are the true hydro-carbons. (A hydro-carbon is a substance in which the hydrogen and oxygen are in the proportion to form water; and, to make the matter perfectly simple, we might call them water-carbons—*hydro* meaning water.) Liebig divided foods into two great classes, nitrogenous and non-nitrogenous, and fats and amyloids come under the latter head; but as they are very different in their chemical composition, and in their uses, they have more recently been subdivided. Liebig thought their use was to support animal heat, and this they do to a certain extent; but, as before remarked, they do not equal the fats in this respect. The reason of this is, that the fats contain a great deal of hydrogen in excess of what, with its oxygen, forms water, and this excess, when burned, helps to maintain heat. The following table will make this clear:

CALORIFIC POWER OF TEN GRAINS OF THE SUBSTANCE IN ITS NATURAL STATE.

| | Lbs. of water raised 1° F. |
|---|---|
| Grape sugar | 8.42 |
| Lump sugar | 8.61 |
| Arrow-root | 10.06 |
| Butter | 18.60 |
| Beef fat | 20.91 |

From the above instructive table it will be seen that fat is over twice as valuable a heat-producing agent as starch. This might be inferred by throwing an ounce of each into the fire, and noticing the difference in the amount of blaze they produce.

There is also the same difference in the amount of work these substances will do when burned, as the following table will show:

MOTIVE POWER OF TEN GRAINS OF THE SUBSTANCE IN ITS NATURAL STATE.

| | Lbs. lifted one foot high. |
|---|---|
| Grape sugar | 6,500 |
| Lump sugar | 6,647 |
| Arrow-root | 7,766 |
| Butter | 14,441 |
| Beef fat | 16,142 |

That the above may be made perfectly clear, it must be understood that any substance which, when burned, will heat a pound of water one degree, will, by another mode of action, raise 772 pounds one foot high. This seems marvelous at first sight; but the marvel will disappear when we consider the wonderful power that a little coal generates in the engine of an ocean steamer, and in this case much of the power is lost, as no engine has yet been made perfect enough to save all the force generated by the fire under the boiler.

But the amyloids have other important uses in the system besides the generation of heat. In the first place, they may be converted into fat, and stored up in the system for future use. This has been abundantly proved by numerous experiments. Perhaps as good an illustration of its truth is the one familiar to most, that the negroes of the South always become fat from the sweets they eat during the season for gathering the cane and manufacturing its juice into sugar. Indeed, it is generally thought that most, if not all, of the fat of the system is produced from the amyloids of the food we consume. Other uses still remain for the amyloids. In the processes of digestion and circulation, they are converted into lactic acid, found both in the stomach and in the flesh, and into butyric, formic, and acetic acids, found in the sweat. These acids have their uses in the various reactions of the fluids of the system—the blood being alkaline, while most of the secretions are acid. They also assist in the solution of effete matter in the system, and render it more easy of removal.

## MINERAL MATTER.

The bodies of men and animals contain a very considerable amount of mineral matter, and this comes from the food we eat. Minerals constitute one of the important divisions of food as now divided. The bones and teeth are largely composed of mineral matter. They also constitute an important element of the blood, and of many of the secretions. Nearly every tissue contains a small amount of mineral matter. The principal minerals of the body are calcium (the base of lime), magnesium, potassium (base of potash), sodium (base of soda), iron, chlorine, phosphorus, and sulphur; water is also included in this list. The minerals are equally important with the proteids, fats, and amyloids. Lime, chiefly in the form of phosphate, is absent from no

tissue. No cell growth can go on without it. Lime and magnesia are necessary to bone growth.

Potash and soda, combined in the form of phosphates and chlorides, are important. They are thought to be concerned in the molecular currents. They form parts of nearly all tissues. Potash seems to constitute an important part of the formed tissues, while soda is contained in the fluids that bathe them.

Chlorine and phosphoric acid exist in considerable quantities. Chlorine is found combined with sodium, and also in a most important acid, the hydrochloric; and has a special action on the proteids. The phosphoric acid produces important actions with the alkalies. Nearly all food contains them.

Iron is found in all foods, and is an important constituent of red blood corpuscles, and in the coloring matter of red flesh. A small amount of iron is found in nearly every tissue.

Sulphur and phosphorus exist in the tissues as important constituents of the proteids, or albuminates.

Silica is present in the integuments, the hair, nails, etc., and in the lower animals is more important than in man.

It has been one of the most difficult problems of physiologists to discover the uses of some of the minerals of the blood. It was easy enough to discover the uses of lime to build up the bones and teeth; but the other minerals had uses more difficult to find out. Even yet there is doubt and uncertainty about it. Still much is known, and it is pretty certain that the mineral constituents of blood are largely concerned in the constant changes going on in the body. In the first place, the food, as it goes into the stomach for digestion, could never be digested or absorbed through the microscopic absorbing vessels if not rendered perfectly fluid, and this is done by the minerals contained

in the gastric and pancreatic juices. They give a soluble form to those substances which would otherwise be semi-fluid, like glue or jelly. They maintain this fluidity in the blood that it may circulate through the arteries and veins and capillaries. It is very curious, but probably true, that as the nutrient material leaves the blood and is converted into tissue, this too is done by means of the help of the mineral constituents of the blood. In the blood, which is alkaline, the proteids remain fluid; but in the flesh, which is acid, they lose their fluidity and become solid.

Then, again, when any tissue is worn out and must be removed from the system, it needs become fluid again, and this is accomplished by the action of mineral substances.

Letheby says: "As to the special functions of each of the saline (or mineral) constituents of food, little can be said; but it is a remarkable fact that the alkaline (or basic) phosphate of soda is invariably found in the blood, while the acid phosphate of potash is the chief constituent of the juice of flesh; and," he continues, "most likely the former is concerned in preserving the liquid condition of albumen and fibrin, and so keeping them from being lost by secretion, while the latter is engaged in an opposite duty."

The following table will show the relative amounts of different minerals in human blood:

| | |
|---|---|
| Phosphoric acid | 31.79 |
| Alkalies | 55.66 |
| Alkaline earths | 3.33 |
| Mineral acids and oxide of iron | 9.22 |
| | 100.00 |

Just how much of each mineral our food should contain for each day is not so easy to answer; but Dr. Edward Smith says that a full-grown man requires daily from 32 to 79 grains of phosphoric acid, 51 to 175 of chlorine (equal to

from 85 to 291 of common salt), 27 to 107 of potash, from 80 to 171 of soda, and from 3 to 6 of lime, and 2 to 3 of magnesia.

According to Lawes, these minerals are not stored up in the system to any extent. He found that of every 11 lbs. taken into the body, but 12 oz. remained, the rest being unabsorbed, or used in the work of secretion and excretion.

From what has been said, the reader must feel that the subject of food, and eating, and drinking, is a very elaborate one. The system, to do the best work, requires each day a certain amount of a great variety of substances. Excess of one and deficiency of another may cause serious disease, or prevent the full play of all the faculties. Too much of the proteids poison by an excess of nitrogenous matter. Too little of the fats and amyloids prevents the generation of heat and force, and reduces the heat and vigor of the body, while their excess produces corpulency, and other diseases—it may be fevers, colds, etc.; while an excess of the minerals produces gout, gravel, rheumatism, and their deficiency prevents the full play of secretion and excretion.

## CHAPTER IV.

### MINERAL MATTER CONTINUED.

IN our last chapter the function of mineral matter was discussed; before closing this subject we desire to add a few words concerning common salt. The value of this mineral has been stoutly denied by a few modern hygienists, and there will be no doubt many readers of this book inclined to take this view of the question, and perhaps many of them never use it. It is not our intention to enter into any discussion on this subject, but to present briefly the points in its favor put forward by those who maintain that it has a normal relation to the healthy action of the body. Salt does not enter into the composition of the tissues, but it is a large constituent of every one of the secretions, the saliva, gastric juice, bile and sweat, and exists in the blood in larger amounts than any other mineral matter. Indeed, about one-half of the mineral matter of the blood is salt. This amount in the blood cannot be much increased. If one should use a very large amount of it with his food, any excess beyond a certain amount is immediately thrown out in the excretions. Letheby says: "It is a curious fact that common salt has the faculty of forming crystallizable compounds with most of the organized and effete constituents of the body;" and inquires, "May it not therefore be an important agent of diffusion; and be thus concerned in the phenomena of absorption and secretion? for albumen and fibrin cannot pass through the walls of the intestines, or the blood-vessels. It may well be that through the agency of common salt and the free acid of the gastric juice, they

temporarily assume a condition in which they can be absorbed and secreted."

The same author also adds that "The experiments of Boussingault on animals have shown that, although salt mixed with the fodder does not much affect the quantity of flesh, fat, or milk obtained from them, yet it seriously affects their appearance and general condition; for animals deprived of salt other than that naturally contained in the food soon get heavy and dull in their temperament, and have a rough and staring coat."

Reulin states that animals which do not find it in their food or drink become less prolific, and the breed rapidly diminishes in number.

Dr. Le Saine says that salt increases the fertility and doubles the power of nourishing the fœtus, and renders the milk more abundant and nutritive. It also gives a finer condition to the skin, and the flesh of animals is more digestible and better flavored which partake of it. Probably one use of salt is to increase the amount of saliva and gastric juice secreted. That it does this is certain. Salty food is sure to excite the salivary glands to intense action, they throwing out large quantities of saliva. If the amount of salt in food, however, is too great, this object is partly defeated, as we are apt to swallow the food too rapidly and before it is well chewed and incorporated with the juices; and this is a serious evil.

Such are a few of the views of eminent writers on the value of salt.

The instinct for salt, seen almost everywhere, is vividly related by many writers. It is said that on the coast of Sierra Leone brothers will sell their sisters, husbands their wives, and parents their children for it. Another writer adds, that on the gold coast of Africa a handful of salt will buy one or two slaves. It is said, in barbarous times the most horrible punishment was to feed criminals on food

without salt. We are, however, inclined to believe that there is a good deal of extravagance of statement in all such stories. At any rate, what is true of savages and of animals, whose choice of food is narrow and meagre, is no rule for civilized beings who have a great variety of food, rich in mineral matter. Moreover, we have known many persons to refuse to eat salt with their food for weeks and months, and declare they were improved by abstinence from it. We are of the opinion that while a moderate use of salt may be advisable, most people eat far too much of it; in this way corrupting the appetite and taste, and taxing to far too great an extent the excretory organs in getting rid of it. Then, too, those who live on foods rich in mineral matter would naturally need less of this mineral. So, too, a constantly improving agriculture improves our foods. By using salt largely on certain crops as a fertilizer they may probably be made to contain more of it, and thus it will be introduced into our systems as a constituent of our food, and not as a condiment. That its use on almost everything, and the unsavoriness of foods without it, is a mere habit, and not an instinct, cannot be doubted.

In using salt, therefore, we advise moderation. Learn to use some articles of diet without it, and others with but little; and make up for any deficiency of this article by such foods as are rich in mineral matter, of such kinds as are important in the animal economy.

## CONDIMENTS.

A discussion of foods and drinks which should omit condiments would be very incomplete. According to Dr. Letheby, "they are merely stimulants of the digestive organs, promoting the flow of saliva, gastric juice, and other intestinal secretions, and increasing the peristaltic movement of the viscera. Thus they aid in the processes of digestion, and by giving flavor to the food they whet the appetite and

so increase the relish for it. Food is made more palatable, and digestion promoted."

Many eschew condiments entirely, and to manifest advantage. William Cullen Bryant, in a letter published a couple of years ago in THE HERALD OF HEALTH, said: "Even with my food I do not take the usual condiments, such as pepper and the like."

They contain no nutriment. Where used, they should be free from adulteration, of the best quality, and of the finest kinds. Pot herbs are used often for condiments, especially for broths and soups. The best of condiments used in moderation are doubtless useful, though not essential to high health. Flint, in his great work on physiology, says of them: "The refinements of modern cookery involve the use of articles which cannot be classed as alimentary principles. Pepper, capsicum, vinegar, mustard, spices, and articles of this class, which are so commonly used, with the various compound sauces, have no decided influence on nutrition, except in so far as they promote the secretion of the digestive fluids. * * * The various flavoring seeds and leaves, truffles, mushrooms, etc., have no physiological importance, except as rendering articles of food more palatable."

In addition to the above we give the following from Professor F. W. Newman. It appeared in the January number of The London *Dietetic Reformer*. "In the writings of several leading vegetarians it is noticeable that they profess to take no condiments but salt. Mr. G. Dornbusch does not even take salt. I feel that this subject needs more light thrown on it. Salt being a mineral seems, at first sight, to need a justification. I find it in the fact that horses and cows love grass which has a taste of salt, and the American bisons make long pilgrimages to lick the salt rocks; in the notorious fact that it kills worms in children. Hence it may be inferred that a certain portion of it is healthful, and preservative from ailments. When instinct and common

sense point to a conclusion it is satisfactory to have corroboration from science. And here we find that the gastric juice is reported to us as containing muriatic acid, for which salt, being muriate of soda, gives a supply. Besides, salt is one of the ingredients of blood. Thus salt is really food, though any excess of it is of course mischievous.

"But that vegetarians should sweepingly renounce *vegetable* condiments comes to me as a paradox. So much of condiments as tends to thirst I warmly deprecate, and with difficulty bear a very minute taste of cayenne pepper or curry. But are we to foreswear mint, sage, mace, cloves, cinnamon, caraway, ginger, pepper, and all spices? Where shall we stop? What of mustard and cress, and watercress, celery, orange, and citron peel? As a special example, rice is so tasteless that the hardiest rustics (Turks and Arabs) reject it unless some condiment be added. Salt and butter are their ordinary demand, and then they call it *pilau* (pronounced *pilów*). The English generally expect milk with it, or milk and sugar. All watery vegetables seem to need *some* condiment. Salt may suffice, but it is difficult to understand why other tasty articles are to be banished from our tables."

## CHAPTER V.

### VALUES OF FOOD.

AT this point of our studies it will be well for us to carefully look into the heating power derived from food, as well as the mechanical force extracted from it. We shall draw freely from the works of Frankland, Letheby, Parkes, and other writers, whose experiments are of recent date and most reliable.

### HEATING POWER OF FOOD.

| NAME OF FOOD. | Lbs. of water 10 grs. will heat 1° when burned in the body. |
|---|---|
| Butter | 18.68 |
| Cheshire cheese | 11.20 |
| Oatmeal | 10.10 |
| Wheat flour | 9.87 |
| Pea meal | 9.57 |
| Ground rice | 9.52 |
| Yolk of egg | 8.50 |
| Lump sugar | 8.61 |
| Grape sugar | 8.42 |
| Boiled eggs | 5.86 |
| Lean beef | 3.66 |
| Lean veal | 3.01 |
| Potatoes | 2.56 |
| White of egg | 1.48 |
| Milk | 1.64 |
| Carrots | 1.33 |
| Cabbage | 1.08 |

Theoretically, the amount of work which can be done by foods, that is, the number of pounds that can be raised one foot high is 772 times the number of pounds of water it will, by burning, heat one degree. Therefore, to find the

comparative value of foods to support strength, multiply the above figures by this sum. It must not be supposed, however, that these figures are yet fixed beyond improvement, though it is certain they are very nearly correct. It is, of course, understood that when these values are got out of foods, they must all be digested, and completely absorbed and converted into nutriment; and this is never done. No invention ever made is so perfect as this. The human body, perfect as we think it is when in robust health, is not perfect enough to get all the virtue out of food. A working diet of 4½ ounces of perfectly dry nitrogenous matter, and 22¼ ounces of dry carbonaceous matter—equivalent to a daily allowance of some six pounds of ordinary food—possesses, theoretically, a working value sufficient to raise 10,874,136 pounds one foot high, yet the most work that can actually be got out of this amount of food is—including the beating of the heart, and respiration—not over 1,610,206 pounds. From this it will be seen that there is a vast difference between the theoretical and the actual value of food in work. No allowance, however, is here made for the food used up in thought, in feeling, emotion, and the molecular movements of the body. This cannot, in the present state of science, be calculated—if it ever can.

It has been found by experiments on a large number of men, that the carbonic acid exhaled and urea secreted daily in the amount of food mentioned above, really should supply force sufficient to raise 7,720,000 pounds one foot high, while the actual work is only about one-sixth of this amount. What becomes of the other force? Is it lost, or used up in mental and molecular labor, which cannot be measured? It must be the latter.

### AN INTERESTING COMPARISON.

Letheby in his work says: "In the steam engine, according to Sir William Armstrong, only a tenth part of the

actual power of the fuel is realized in work. The human machine is therefore more economical of its force than a steam engine; in fact it is assumed by Heidenham that less than half the force applied to the living muscles, as it is developed in their tissues, is realized. But although the animal machine is so much more economical of force than the steam engine, yet on account of the costliness of its food (fuel), it is far more expensive." Taking, for example, a steam engine of one-horse power, it will take two horses to do the same work for ten hours a day, or twenty-four men. Now, the cost for fuel for the engine will be about twenty cent's worth of coal; for the horses, about $2 worth of hay and oats; and for the men about $10 worth of bread, butter and meat."

## CHAPTER VI.

### SOURCE OF MUSCULAR STRENGTH.

IN a general way we have already shown that our strength of body comes from our food. It is proper now for us to inquire whether it comes from the proteids, fats, amyloids, or salts. Liebig taught us that all muscular strength exerted was at the expense, the breaking down, using up, metamorphosis, or oxydation of the muscular tissue. So much muscle destroyed, so much strength exerted. Now the *proteids*, that is, the albumen, fibrin, gluten in our food go to make up muscular structure; and Liebig taught, and all physiologists accepted his doctrine, that during exercise the destruction of the muscles was the source of the strength exerted. This would be very much like a theory that a saw-mill received all its power to saw logs from the wear and tear of itself. His theory made it necessary that the proteids of our food should be converted into muscle, and then during exertion destroyed, new proteids constantly, during rest, being converted into muscle for further use. Liebig also taught that the fats and amyloids were only necessary to supply heat for the body; but it seemed never to have entered his head that they were the source of muscular power.

In the present state of science this is all changed. Now the muscles are not regarded as the *source* of strength, but the *vehicle* to convey or exert it. In exercise they are not metamorphosed, or oxydized, or used up to an extent sufficient to account for all the strength; but their destruc-

tion is comparatively small. Now the theory is that the *proteids* supply the material for building up, *constructing* the body, and especially the muscles; but the main source of muscular strength is the fats and amyloids.

How came about this change of view? In this wise. It was found that men could do very hard work for awhile when deprived of proteids in their food. It was also found that the urea in the urine was not in sufficient quantity to account for all the force exerted, nor was it much more (often less) during long continued exercise than during repose. As long ago as 1861 Troube asserted that all muscular strength was derived from the oxydation of the fats and hydro-carbons; and in 1864 Donders was convinced that the transformation of muscle was not sufficient to explain all the force exerted in the body. Soon after, Dr. Edward Smith showed that while the amount of urea in the urine (urea is the product of the oxydation of muscle) was not increased by exercise the amount of carbonic acid (carbonic acid is a product of the oxydation of the carbon of the fats and hydro-carbons) was greatly increased, showing that during the manifestation of muscular power there was a great increase in the destruction of fats and amyloids. The most powerful argument, however, against Liebig's theory was yet to be given, one which Liebig himself saw the force of, and never satisfactorily answered. It is the argument, or rather the result of the experiments of Fick and Wislicenus, made in August, 1866. The results of these experiments were carefully and elaborately printed in THE HERALD OF HEALTH for September of that year. In order to make the subject clear, a very brief statement of these experiments is necessary. On the 29th day of August, 1866, these gentlemen prepared themselves for the work of climbing to the top of one of the Bernese Alps mountains, called the Faulhorn, 6,417 feet above Lake Brentz. Their object was to see if their muscular strength

could be supported in this arduous undertaking on fats and amyloids and without nitrogenous food, which could be converted into muscle and then oxygenized. To prepare themselves for the work, for seventeen hours before they commenced their ascent they ate only solid food, composed of starch, fat and sugar, compressed into solid cakes. They began their ascent by the steepest and most dangerous route at 5.30 in the morning, and at twenty minutes past one in the afternoon they had, *without fatigue*, finished their journey. Now what was the result?

1. That they had, without a nitrogenous diet, easily accomplished their task.

2. That the amount of nitrogen excreted was one-third less during the hours of vigorous exercise than the hours before and afterward.

This not wholly unexpected result was almost conclusive proof that the source of muscular power is mainly found in fats and amyloids, and not in the proteids.

Now let us glance at the work done.

Fick, weighing 145½ pounds, had climbed 6,417.5 feet high. This was equivalent to raising 933,746 pounds one foot high. Wislicenus, weighing 167.5 pounds, had climbed to the same height, which was equivalent to raising 1,074,931 pounds one foot high. In addition, however, to the mere labor of ascending the mountain, was the labor of the beating of the heart, and respiration. Now, according to the calculations of Donders, each heart beat is estimated to be equal to raising 4.65 pounds one foot high, and each respiration equal to 4.56 pounds one foot high. Let us then add this to the other work done. Fick says that during his ascent the heart beat at the unusual rate of 120 per minute, while his respirations were 25 per minute. There then must be added to the other work for this man 220,968 pounds for heart and respiration work, and if Wislicenus was in the same proportion there must be added for him

257,796 pounds. Adding these sums together we have the work done as follows:

Fick, in 5½ hours' work, 1,154,714 pounds raised one foot high; Wislicenus 1,332,727 pounds one foot high. Now the amount of urea excreted in Fick shows a destruction of muscle which, perfectly oxygenized, would only have raised 498,525 pounds one foot, while Wislicenus shows the destruction of even less, namely sufficient to only raise 481,618 pounds one foot high. These results show conclusively that, in their cases at least, by far the larger source of muscular strength was derived, not from the destruction of muscle and nitrogenous food, but from the destruction of fats and amyloids; the proportion being about two-thirds of the latter to one-third of the former.

Recent experiments confirm the general result of those above given. From an economical point of view, these results are interesting. If the source of muscular strength is entirely the destruction of muscular tissue, then the labor of assimilation, the constant repair of destroyed muscle would be very much greater than economy would dictate, for all the nitrogenous food would have to be converted into muscle before available. But if the source of strength is largely fatty and amylaceous matter, then much is saved, for they become oxydized and give out their virtues in the capillaries when they meet the oxygen.

Whether brain and nerve energy has the same origin is not yet settled, but there is little doubt that, to a certain extent, they have; though it is likely the addition of phosphorus, and perhaps other substances, are necessary for this work.

The practical value of these facts might be very great, if properly applied. We shall discuss this point as we proceed.

## CHAPTER VII.

### THE DAILY WANTS OF THE BODY.

THE requirements of the body vary with age, sex, occupation, health, work done, climate, and race. Therefore any attempt to decide just how much any person should eat would be fruitless. Still some facts may be useful and instructive. In the first place it may be stated that as a general rule a healthy man requires from 700 to 800 pounds of perfectly dry food in a year. This amounts to about two pounds of solid matter daily. In addition to this are required from five to six pounds of fluid. So, again, a man cannot live well on the meagre diet of a pound of bread daily, with water, but will become thin and weak. It is said that the poor needle-women of London almost starve on a daily allowance of a pound and a half of bread and an ounce and a half of butter daily.

It is well known that farm laborers have a good appetite and eat heartily. Dr. Edward Smith made inquiries into the food allowance of some hundreds of families in England, Wales, Ireland, and Scotland, and formed the following tables:

AVERAGE DAILY DIET OF FARM LABORERS IN GREAT BRITAIN.

| | *Dry Nitrogenous Matter.* | *Dry Carbonaceous Matter.* |
|---|---|---|
| England | 3.18 ozs. | 29.32 ozs. |
| Wales | 4.12 " | 35.51 " |
| Scotland | 4.76 " | 36.30 " |
| Ireland | 4.94 " | 34.26 " |

Dr. Playfair, who also made extensive observations in the same field of inquiry, gives in his valuable work the following table:

DAILY DIET ACCORDING TO WORK DONE.

| | Flesh-formers. | Fat. | Starch and sugar. |
|---|---|---|---|
| Subsistence diet ..... | 2.0 | 0.5 | 12.0 |
| Quietude..... | 2.5 | 1.0 | 12.0 |
| Moderate exercise..... | 4.2 | 1.8 | 18.7 |
| Active labor..... | 5.5 | 2.5 | 20.0 |
| Hard work..... | 6.5 | 2.5 | 20.0 |

According to Voit and Pettenkofer, an adult working-man requires daily five ounces of nitrogenous matter and twenty-three ounces of carbonaceous matter (calculated as starch).

According to Liebig, the Bavarian wood-choppers, who live five and a half days in the forests, are allowed three and a half pounds of fat, eight pounds of meal, and four and a half pounds of bread for five days' rations. This equals four and one-third ounces of nitrogenous matter and fifty ounces of carbonaceous matter. The Russian peasant has his yearly rations apportioned to equal five and two-thirds ounces of nitrogenous matter and forty-two and a half of carbonaceous. The Chinese laborer eats daily four and two-thirds ounces of dry nitrogenous and thirty-six and one-third ounces of carbonaceous.

These statements will not, perhaps, enlighten our readers much, unless they carry them further. This, however, is certain, the working-man requires about six times as much carbonaceous food as nitrogenous. Children, however, who have bodies to build up, require a larger proportion of nitrogenous; and so do those who are run down in flesh, and need building up, while, on the other hand, those who suffer from a lack of animal heat, require perhaps more carbonaceous.

Now it becomes a matter of some importance how we are to eat, so as to combine in our foods the right proportions

of these different elements, and also mineral matter. This is no easy task. Science may aid us in the decision, but we must rely largely on good judgment and instinct, provided the former is instructed by science and the latter not perverted by bad habits and depraved tastes.

Science teaches, according to Letheby, that the best proportions of food for the body are, of fat, nine parts; of flesh-forming material, twenty-two parts; and of starch and sugar, sixty-nine parts. To this the same author adds, that when we eat of a food which is deficient in any necessary ingredient, we generally combine with it another, which contains an excess of it. For instance, we combine bread with butter, lean meat with potatoes, salad with eggs. On the other hand, we should never mix together a great variety of foods containing an excess of carbonaceous matter, and a deficiency of nitrogenous.

### DISTRIBUTION OF MEALS.

As a general rule, savages eat when they can get food. If it is abundant, they eat nearly all the day long; if it is scarce, they live on one meal a day. They are like animals in this respect. They are as little injured by it as the cow or horse that grazes from morn till night on the sweet grass of the pasture. Civilized beings must not do this, because their mental and physical labors would seriously interfere with the processes of digestion. As a rule, three meals a day are best for most persons, though two meals are ample, and better for some. It depends on the kind of food, rapidity of digestion, and work done, how often we should eat. Our meals should be so arranged as not to offend the taste and burden the digestive powers.

### BAD DIETETIC HABITS.

We suppose there is no doubt but at least half the ill health of the world comes from improper eating.

An excess of carbonaceous food promotes the formation of fat, and prevents the complete nourishment of the muscles.

It gives a person bulk, but not strength. Vital power is deficient in very fat people.

An excess of nitrogenous food gives rise to diseases of a plethoric character—apoplexy, fevers, etc., etc.

Too little food, we all know, impoverishes the blood, and gives rise to feebleness and starvation. Nothing will so soon derange the brain and the nervous system as a low diet.

The salts in our food must neither be in excess nor deficient. Man cannot live without them any more than without the elements which go to form flesh or give heat. So too goitre and cretinism are caused by certain minerals in the water. There is much to be discovered on this subject.

### I.—GENERAL STATISTICS.

At this point I wish to add a quotation from Prof. Huxley, which will supplement this chapter:

The average weight of the human body may be taken at 154 lbs.

Such a body would be made up of—

| | lbs. |
|---|---|
| Muscles and their appurtenances | 68 |
| Skeleton | 24 |
| Skin | 10½ |
| Fat | 28 |
| Brain | 3 |
| Thoracic viscera | 2½ |
| Abdominal viscera | 11 |
| | 147 |

| | lbs. |
|---|---|
| Or of water | 88 |
| Solid matter | 66 |

The solids would consist of the elements oxygen, hydrogen, carbon, nitrogen, phosphorus, sulphur, silicon, chlorine, fluorine, potassium, sodium, calcium (lithium), magnesium, iron (manganese, copper, lead), and may be arranged under the heads of—

PROTEIDS. AMYLOIDS. FATS. MINERALS.

Such a body would lose in 24 hours—of water, about 40,000 grains, or 6 lbs.; of other matters, about 14,500 grains, or over 2 lbs.; among which of carbon 4,000 grains; of nitrogen 300 grains; of mineral matters 400 grains; and would part, per diem, with as much heat as would raise 8,700 lbs. of water from 0 degree to 1 degree Fahr., which is equivalent to 3,000 foot-tons. Such a body ought to do as much work as is equal to 450 foot-tons.

The losses would occur through various organs, thus—by

| | Water. | Other matter. | N. | C. |
|---|---|---|---|---|
| | grs. | grs. | grs. | grs. |
| Lungs..... | 5,000 | 12,000 | ... | 3,300 |
| Kidneys..... | 23,000 | 1,000 | 250 | 140 |
| Skin..... | 10,000 | 700 | 10 | 100 |
| Fæces..... | 2,000 | 800 | 40 | 460 |
| Total..... | 40,000 | 14,500 | 300 | 4,000 |

The *gains* and *losses* of the body would be as follows:

| | grs. |
|---|---|
| Creditor—Solid dry food..... | 8,000 |
| Oxygen..... | 10,000 |
| Water..... | 36,500 |
| Total..... | 54,500 |

| | grs. |
|---|---|
| Debtor—Water..... | 40,000 |
| Other matter..... | 14,500 |
| Total..... | 54,500 |

## II.—DIGESTION.

Such a body would require for daily food, carbon 4,000 grains; nitrogen 300 grains, which, with the other necessary elements, would be most conveniently disposed in—

| | grs. |
|---|---|
| Proteids | 2,000 |
| Amyloids | 4,400 |
| Fats | 1,200 |
| Minerals | 400 |
| Water | 36,500 |
| Total | 44,500 |

which, in turn, might be obtained, for instance by means of—

| | grs. |
|---|---|
| Lean beefsteaks | 5,000 |
| Bread | 6,000 |
| Milk | 7,000 |
| Potatoes | 3,000 |
| Butter, dripping, etc | 600 |
| Water | 22,900 |
| Total | 44,500 |

The fæces passed, per diem, would amount to about 2,800 grains, containing solid matter, 800 grains.

## CHAPTER VIII.

### DIGESTION.

IT is well to conclude this portion of our work with a brief account of the manner in which foods are converted into nutriment. Digestion is a process of washing or rinsing from food those substances needed for the nourishment and maintenance of the body. It begins in the mouth. During each twenty-four hours the salivary glands pour into this cavity—mainly during mastication—about three and a half pounds of saliva. This contains nearly half an ounce of solid matter, and less than a quarter of an ounce of ptyaline, which is its active principle. Saliva dilutes the food and the ptyaline acts on its starch, converting a portion of it into sugar. It is calculated that one part of ptyaline will convert 8,000 parts of starch into sugar. It produces no action on fat or albumen. Where the food is well chewed the saliva is more thoroughly mixed with it, the starch more completely converted, and digestion more perfect.

The food passes from the mouth into the stomach when it meets another digestive fluid, the gastric juice. It has been estimated that a healthy stomach secretes fourteen pounds of gastric juice daily, which contains less than half a pound of solid matter, and two-thirds of an ounce of pepsin, the active agent of digestion. The gastric juice converts all the soluble albumen and fibrin of food into liquid albumen and fibrin, which differs in many particulars from common albumen, more especially in this that it is capable of being passed through animal membrane by absorption, which albumen is not. The power of this pepsin in the pres-

ence of an acid is enormous,—one part of it being capable of converting 60,000 parts of albumen into the condition before mentioned. It always requires the presence of a small amount of free acid to produce this effect. So important is pepsin as an agent of digestion, that a large business has grown up in England and France, and also in America, in preparing it from the stomachs of calves and pigs to help the stomachs of poor mortals when overtaxed and incapable of digesting sufficient food for the demands of the body. A really good article of this pepsin is often very serviceable and may be considered a hygienic or physiological remedy.

Pepsin is rendered inert by heat or cold, hence either very hot or very cold drinks during and after a meal are hurtful.

The stomach absorbs and carries into the circulation considerable of the most fluid portion of the partly digested food and drink. A large portion, however, passes from this organ into the small intestines, in the first portion of which it meets with other digestive fluids; first of which may be mentioned is the pancreatic juice, the function of which is to digest the oils and fats. It has been estimated that nearly nine pounds of pancreatic fluid are secreted daily in a healthy person. This contains one pound of solid matter and nearly an ounce and a half of pancreatin, which is its active principle. The true action of the pancreatic fluid is to break up the oily and fatty matter of food into minute particles, so that instead of floating on the surface it is converted into a milk-like fluid, which can be absorbed through the walls of the intestines into the lacteals. This pancreatic fluid also acts like the saliva and converts the remaining starch into sugar.

Another fluid which meets the food in the intestines is the bile from the liver. Nearly four pounds are secreted daily. Its use is not yet well known.

The intestinal secretion is small in quantity, there being less than half a pound daily, but it is a powerful aid to

digestion and acts equally well on starch, albumen, and fat.

Thus we see that the food eaten meets several fluids, each of which helps to fit it for absorption. When digestion is perfect a very large part of its nutriment is given up, but not all; a small portion always passes away with the excreta.

In dyspepsia, the amount of undigested food is often very large.

The mineral substances of our food are mainly soluble in water and easily absorbed.

The aids to digestion are:

1. Proper selection of food.
2. Best treatment of food as regards cooking, flavoring, and serving.
3. Proper variety of food, with occasional change of diet.
4. Moderate exercise; warmth and a genial state of mind.
5. Abundance of sleep.
6. Pleasant social surroundings at the table.
7. Thorough mastication.
8. Regularity in eating, and proper intervals between meals.

# PART II.

# CHAPTER I.

## RECEIPTS AND GENERAL DIRECTIONS.

WHOEVER would be a good cook must give the mind to it. Fruits, grains, and vegetables will not walk into the kitchen and cook themselves. Troublesome as it is, cooking is an art that requires a good brain, education in the art, and love for it. With these qualifications a good repast may be made with few materials; without them the best kitchen in the world, and the most completely stocked larder are of little avail.

All the knowledge that science can give should be hers. A friend of mine believes that good cooks magnetize the food they prepare, impart to it wonderful virtues it did not before possess. There is no doubt of this. A good cook can transform the raw material of food at will into delicacies that are both healthful and nourishing.

### THE KITCHEN.

2. Another requirement for cooking is a good kitchen. It should be light, well ventilated, cheerful; pretty pictures should adorn the wall, and comfort reign. Water should be convenient; wood, good and abundant; and the utensils, such as stove or range and all other apparatus, good in quality and properly kept.

### MATERIAL.

3. The raw material should be of the very best. No mouldy flour, stale vegetables, and diseased meats should ever find their way to the kitchen. Nothing but the best should be provided, and that should be in proper variety and in abundance.

### ORDER.

4. Cleanliness and order should prevail throughout the domain of the kitchen.

### SIMPLICITY.

5. Mr. William Horrel says, "Simplicity is a virtue which has almost grown out of fashion, especially in relation to food and cooking. You can scarcely sit down anywhere to a good plain meal, and find everything simple. Even our dietetic reformers have much to learn in this respect, before the full amount of the good their system contains can be enjoyed by them. All that pertains to the science of cooking, on physiological principles, is easily accomplished. The real object of cooking should be to increase the quantity, and improve the quality of food; to render it more economical and physiological. This is best accomplished by simplicity. It saves money, time, and health. Variety may still be kept up to almost any extent, without complexity, by taking one kind one day, or at one meal, and another on the next day."

## CHAPTER II.

### CHOICE TREATMENT OF FOODS.

IN the choice of foods we cannot exercise too much care. It is cheaper to procure only the very best articles. All vegetables and fruits should be grown on the best soils, and the fertilizers used should be well decomposed and not fresh and rank. Partially decayed food of whatever kind, should be avoided. For breads, the best white wheat is none too good. If grown in new soil it is likely to be better and to contain abundance of the mineral matter so needful to health. Fruits for eating without cooking should be ripe, tender and not too tart; while those for cooking may be either sweet or sour, but they must possess the peculiar quality of retaining when cooked their best flavors. All woody fibres must be removed from fruits and vegetables before eating. Potatoes should be fresh and ripe—old ones are less wholesome, especially when they have been exposed to the light and air, and bruised by much handling, or long exposed to the cold.

Animal food should be chosen with great caution. Only healthy animals should be used for eating. They should neither be too old nor too young, too fat nor too lean. In butchering, all the blood should be removed from the body, as otherwise the flesh putrefies readily. It should be thoroughly cooled before eating. It is also desirable that the animal be not killed for several hours after eating or after fatigue. The long journeys animals are sent on crowded, filthy cars, render their flesh unwholesome. They ought to be butchered far away from the city and the meat transported in refrigerator cars, for city use.

The treatment of animal food is a matter of importance. Why do we cook it at all? First, to render it more pleasing to the sight; second, to develope its best flavors; and third to render it digestible and palatable. Flesh cooked too much is rendered innutritious and indigestible; if cooked too little, it is disagreeable eating. The albumen of flesh coagulates at 133° F., and the coloring matter is coagulated and destroyed at about 170° F., says Liebig, and he would never have flesh subjected to a higher temperature than this, except for a few minutes after it is put into the pot, when it may be submitted to a temperature of boiling water in order to coagulate the albumen into a sort of crust on the outside to hold in the flavors that might otherwise be evaporated. In roasting meat, also, let the heat at first be high, and gradually decreased to the boiling point for the same reason.

Stewed meats are more wholesome and nutritious than any other. The process renders flesh tender and succulent and easy of digestion. Letheby says, "all kinds of tongue and strong flavored meats may be cooked with advantage in this manner. The process is, moreover, susceptible of very delicate treatment of flavorless foods."

# RECIPES.

## SOUPS.

Soups are often complicated and expensive, requiring much money, time, and attention to prepare them. These difficulties are avoided in the following recipes, and a few trials will enable any one of ordinary understanding, who will follow the directions, to produce cheap, wholesome, and agreeable soups, without shins, knuckles, scrags, bacon, or drippings.

Split Pea Soup.—Put one pint of split peas, which have been previously soaked in cold water four hours, into two quarts of pure soft water. Let them boil for one hour, then add one carrot, one parsnip, one turnip, two onions, a small head of celery, and a little mint, all cut small, and boil the whole another hour. Strain the soup from the vegetables, and thicken it with a little Indian meal, previously mixed in cold water; boil the whole for ten minutes more, and serve in a tureen with toasted or plain wheat-meal bread. Mix the vegetables well, and put them into a mould or a basin, and then into a vegetable-dish, and serve it with steamed or baked potatoes. Salt moderately.

Bean Soup.—Wash and pick over one pint of white beans; steep them twenty-four hours in pure soft water, put them into a stew-pan (earthen and enameled is best), set them on the fire in two quarts of water, let them boil for two hours, then add two onions, one parsnip, one carrot, a little parsley and thyme cut small, a little cold boiled rice, and a little salt. Boil the whole gently for another hour, and serve it the same as pea soup. Salt to taste.

Barley and Bread Soup.—Take three ounces of barley, one and a half ounces of stale bread-crumbs, one and a half ounces of butter, one-half ounce of salt, and one-quarter ounce of parsley. Wash and steep the barley for twelve hours, in one-half pint of water, to which a piece of carbonate of soda, the size of a pea, has been added; then pour off the water not absorbed, and add the crumbs of stale bread, three quarts of boiling water, and the salt. Digest these in a salt-glazed covered jar, in the oven, or boil them slowly in a well-tinned covered pan, for from four to six hours, adding the chopped parsley, with the butter, thirty minutes before the expiration of the time of boiling.

BROWN SOUP.—One pound of turnips, one pound of carrots, half a pound and six ounces of onions, one and a half pints of peas, four ounces of butter, and half a pound of bread. Cut the vegetables into small pieces, put them in a pan with the butter, cover the pan, and let them stew over the fire till brown, occasionally stirring them; put in the peas with the water in which they were boiled; add sufficient boiling water to make three quarts altogether; next add the bread, which should be browned or toasted before the fire, but not burnt; season, and let the soup boil gently for three or four hours; rub it through a coarse sieve, return it into the pan; let it boil, and it will be ready to serve. If dried peas are used, they should be steeped for twenty-four hours in soft water, and boiled for two hours.

BARLEY SOUP.—Three ounces of barley, one and a half ounces of stale bread crumbs, one ounce of butter, quarter of an ounce of chopped parsley, and half an ounce of salt. Wash, and steep the barley for twelve hours in half a pint of water, to which a piece of soda, the size of a pea, has been added; pour off the water that is not absorbed; add the bread crumbs, three quarts of boiling water, and the salt; boil slowly in a well-tinned covered pan for four or five hours, and add the parsley and butter about half an hour before the soup is ready to be served.

CELERY SOUP.—Six roots of celery, one large turnip, two ounces of onions, four ounces of bread crumbs, one ounce of butter, one dessert-spoonful of flour, and half a pint of cream. Strip off all the green part of the celery, using only the white; cut it in shreds, reserving the inside of three of the roots to be added afterward; slice the turnip and onion, and put them with the celery into a pan; add two quarts of water, the bread crumbs, and a little salt; let all boil till the vegetables are perfectly soft; rub through a sieve; return it to the pan; add the celery (previously boiled till quite soft), the butter, and flour, well mixed; stir it, seasoning it with a little mace; and, after boiling a quarter of an hour, stir in the cream, but do not allow it to boil afterward.

BROWNING FOR SOUPS.—Three large spoonfuls of brown sugar; one half pint of boiling water. Put the sugar into a frying-pan, set it on the fire to brown, stirring it with a wooden spoon, that it may not burn. When sufficiently dark-colored, stir into in the boiling water; when thoroughly mixed put it into a bottle; and, when cold, cork it closely down, and use a tablespoonful or more, as may be required, to give a color to your soup. A burnt onion or two can be made of use for the purpose of browning, and is often considered better than the above recipe.

NOTE.—For the convenience of those who have not an opportunity of weighing the ingredients for the soups, it may be stated that one large tablespoonful will be about equal to one ounce, and one teasponful to a quarter of an ounce. But weighing should be resorted to whenever it is possible.

POTATO SOUP.—One quart of potatoes, pared and cut into small strips or blocks, a large sprig of parsley, the same of thyme or sweet marjoram, cut fine; boil three-fourths of an hour in three quarts of

water, then add half a pint of cream or new milk ; put a small tablespoonful of butter into a plate where it will soften, and stir into it two spoonsful of flour, add to the soup, and boil five minutes. Drop-dumplings made with a little flour and cream, yeast and milk are an addition.

GREEN-PEA SOUP.—Take two quarts of green-peas, one small onion, and a sprig of parsley cut fine ; add two quarts of hot water, and boil slowly for half an hour, then add a pint of small new potatoes which have been peeled and laid in cold water an hour ; put in a tablespoonful of sugar and a little salt, boil till the potatoes are done, now add a teacupful of cream or a pint of milk, boil a minute or two, and serve with small slices of toasted bread or gems cut in halves.

TOMATO SOUP.—Take two quarts of fresh, round tomatoes, scald and peel, without breaking; do not cut or fork them. Put into a porcelain kettle, or fire-proven stone vessel, add two quarts of boiling water, and a teaspoonful of salt, and set on the fire or in the oven, cover, and let them stew slowly three quarters of an hour. Mix two tablespoonsful of flour with a tablespoonful of butter, or a teacupful of good cream, which has been boiled, stir into the soup, and let it boil together ten minutes, and dish up with small thin slices of well-toasted bread. Be careful to let the tomatoes remain whole, as you would oysters.

A teacupful of grated corn added to the soup when you put in the flour, etc., will be an excellent addition, and render the imitation of oyster soup more complete. Simmer the corn only ten minutes, if it is fresh and full of milk.

NOTE.—We give you only one or two meat soups, and these with special reference to tomatoes. Meat soups are well known in almost endless varieties, but good vegetable soups are scarce.

BEEF AND TOMATO SOUP.—Take two pounds of red beef—a neck piece, or from the round ; carefully remove all the fat, and cut the meat into small bits; put into a stewpan with two quarts of cold water, and simmer slowly one hour. Remove all the scum as soon as it rises, and keep covered close. Scald until quite soft, one quart of nice ripe tomatoes, and press through a colander ; add to the broth from which you have removed the meat, and boil half an hour ; put in a sprig of sweet marjoram or thyme, then take two ears of swee-corn, and cut and scrape all the kernels from the cob, also two table spoonsful of flour and one of sugar, browned but not burned, mix with half a teacupful sweet cream or milk ; add these ingredients and boil fifteen minutes. Season with a little salt and cayenne pepper.

NOTE.—You will observe that all the ingredients of this soup require but little actual cooking. The pure nutriment of beef is found with rare cooking. Tomatoes lose their fine flavor by much boiling, and corn hardens at a certain period—fifteen or twenty minutes, if it is fresh and full of milk, is sufficient to cook corn.

ANOTHER.—Make a soup of bones or bits of meat left from a roast, add a little cabbage, sweet potato, and parsley cut fine, boil till well done, then cut or grate a pint of green corn and half a dozen fresh

tomatoes, boil these with the soup fifteen or twenty minutes, and serve.

NOTE—Remove all the fat from the meat before putting it into the water, and skim off what remains as soon as it rises. This is far more wholesome and relishable than *stock* prepared some days beforehand. Stale meats are the same, even in soup.

VERMICELLI SOUP.—Six ounces of vermicelli, two quarts of new milk, the yolks of four eggs, and one pint of cream. Blanch the vermicelli by setting it on the fire in cold water; when it boils, drain off the water, and put it into cold water; let it remain a few minutes, and then drain the water entirely from it; put it into a pan with the milk, and boil it; beat up the yolks of the eggs, and after gradually adding a pint of boiled cream, strain through a sieve. Take off the pan; add the eggs, cream, a small lump of white sugar, and a tea-spoonful of salt, and stir the soup on the fire till near boiling.

BARLEY BROTH.—Four ounces of Scotch barley, four ounces of onions, four ounces of oat-meal, or Indian meal, and two ounces of butter. After washing the barley well, steep it in fresh water for twelve hours; set it on the fire in two quarts of water, adding the onions and a little salt, and boil gently for an hour and a quarter. Melt the butter in a saucepan; stir in the meal till it becomes a paste; then add a little of the broth gradually, till it is a proper thickness to mix with the whole quantity; stir well together till it boils, and mix with a little of the broth a drachm of celery seed, pounded; stir well in the broth; simmer it gently a quarter of an hour longer, and serve.

## PORRIDGES.

WHEAT-MEAL PORRIDGE.—Having boiled one quart of soft water, and mixed half a pound of meal in a *little* cold water, mix them together, and boil for fifteen minutes, stirring it occasionally. Pour it into basins and let it stand for ten minutes. To be eaten with fruit, sugar or molasses, and bread.

INDIAN-MEAL PORRIDGE.—Make same as the wheat-meal porridge, only that it must be cooked for nearly an hour, and be made thinner, to allow for the evaporation which comes from the boiling.

INDIAN FARINA PORRIDGE.—To one pint of boiling water add four tablespoonful of farina; mix and serve the same as the wheat-meal porridge.

ARROWROOT PORRIDGE.—Mix one ounce of prepared arrowroot with a tablespoonsful of cold water, then pour *boiling* water on it to make it the required thickness, stirring it well at the same time. A slice or two of lemon with a little sugar will be found an improvement. To be eaten with crackers or bread.

BOILED WHEAT PORRIDGE.—Having soaked over night one pound of good wheat in pure soft water, strain the water off and add a quart of fresh; stew it gently till quite soft. It may be eaten as wheat-mea porridge.

SAGO PORRIDGE.—Four tablespoonsful of sago, one salt-spoonfuls of salt, and one quart of water. Soak the sago in cold water for a few minutes, and boil it gently about an hour, adding the salt; pour it into soup-plates, and serve with molasses or sugar.

SAGO AND RICE PORRIDGE.—Equal quantities of sago and ground rice. Proceed as with sago porridge.

MILK PORRIDGE.—Take of new milk a pint and a half, and half a pint of water ; place it over the fire. When just ready to boil, stir in a tablespoonful of flour, wheat-meal, oat-meal, or Indian corn-meal, previously mixed with a little water; after boiling a minute pour it on bread cut into small pieces. As milk burns quicker than almost any other article of food, it is always best to put it into a tin pail or farina kettle, which is or can be surrounded by boiling water while heating, then you are sure of not burning it.

ARROWROOT GRUEL.—Take one ounce of arrowroot, and two large tablespoonsful of preserved black currants. Put the currants into a pan with a quart of water; cover the pan and let them stew gently about half an hour ; then strain the liquid and set it on the fire; when boiling pour it gradually upon the arrowroot, previously mixed with a little cold water, stirring it well; return it into the pan and let it boil for a few minutes gently, adding sugar if required.

SAGO GRUEL.—Take two tablespoonsful of sago and one quart of water. Wash and soak the sago a few minutes in cold water; stir it into the rest of the water when boiling; boil slowly till the sago is well done, and add sugar and nutmeg as required.

TAPIOCA GRUEL.—Wash a tablespoonful of tapioca and soak it in a pint and a half of water twenty minutes; then boil gently, stirring frequently, till it is sufficiently cooked, and sweeten.

GROAT GRUEL.—Pick the groats very clean and steep them in water for several hours; then boil them in soft water till quite tender and thick, and add boiling water sufficient to reduce the whole to the consistency of gruel, also currants, sugar, and grated nutmeg. Groats are made of oats' grain, the hulls being removed and the grain left quite whole, as are all preparations of this grain. This gruel is very nutritious.

## REMARKS AND RULES FOR GOOD BREAD.

With good flour, a good oven, and a good, sensible, interested cook, we can be pretty sure of good, wholesome bread. Yeast bread is considered the standard bread, and is, perhaps, more generally found on every table than any other kind. Hence it is important to know how to make good, sweet, wholesome, yeast bread. Good flour is the first indispensable, then good, lively yeast, either yeast cakes or bottled, the former is preferable in all respects. Then, of course, there must be the proper materials to work with. A bread bowl or pan—the pan is easiest kept clean—a stone or earthen jar for setting the sponge; a sieve—flour should always be sifted before making bread of any kind,

first, to be sure that it is perfectly clean, secondly, sifting enlivens and aerates the flour, and makes both mixing and rising easier and quicker; a clean, white cloth to cover the dough, and a woollen blanket to keep the dough of even temperature while rising; baking pans, deep and shallow, a large, strong spoon for stirring, and a little melted suet or fresh butter for oiling the pans; never use poor butter. If you want shortening, rich milk or cream scalded and cooled will answer the purpose and be most wholesome. But thorough kneading is better still, and should always be done effectually. Scalding a portion of the flour makes a sweeter bread and speeds the work. Water, milk, or butter-milk may be poured boiling hot on a quart or two of the flour, stirring well, and cooling to a moderate temperature before adding the yeast—this makes the *sponge*. Scalded flour always makes a little darker bread, unless we use buttermilk, which makes a rich, creamy, white bread. Yeast is *fermented* flour or meal—the first stages of decomposition or decay. Understanding this, every baker will comprehend the necessity of regulating the extent of the fermentation with the greatest care: for a sponge or bread fermented or "raised" too long, is decomposing, spoiling—actually rotting! This is the language of an experienced English baker to us only a few days ago, during a talk about the delicate, foamy loaves "yeasted to death," which so many families are eating and calling "the staff of life," quite discarding the firm, sweet, substantial, home-made loaf which our mothers and grandmothers kneaded with their own skilled hands. Bread-making should stand at the head of domestic accomplishments: since the health and happiness of the family depends incalculably upon good bread; and there comes a time in every true, thoughtful woman's experience when she is glad she can make nice, sweet loaves, free from soda, alum, and other injurious ingredients, or an earnest regret that she neglected or was so unfortunate as not to have been taught at least what are the requisites of good bread-making.

YEAST.—Dry yeast or yeast cakes are more convenient and less liable to taste in the bread than bakers' yeast. Two or three times a year there should be a fresh supply of yeast cakes prepared and carefully put in a dry place. Yeast cakes are manufactured and sold, some of which are very reliable. To make dry yeast, steep for half an hour a handful of fresh hops in a quart of boiling water. Sift two quarts of flour in an earthen or stone pan, and strain into the flour the *boiling* hop tea. Stir well and let it cool, when lukewarm add a cent's worth of baker's yeast or a cupful of good home-made yeast, and put in a tablespoonful of brown sugar, a tablespoonful of ginger, a teaspoonful of salt, mix thoroughly and let it rise. It is best to prepare this sponge over night, and early in the morning it will be rounded up and light, and give you all day, which should be sunny and breezy, to make and dry the yeast cakes. Now mix into the sponge as much good corn meal as will make a stiff, firm dough, knead it well and make it into a long, round roll three or four inches in diameter. Cut it into slices half an inch thick, spread a clean cloth or clean paper on a board and lay the cakes on and put into a light, airy place to dry. Turn them several times during the day, and speed the drying as fast as possible, as the fermentation goes on while they remain moist. When dry put

into a bag made of firm linen or cotton, tie close, and hang high and dry.

BREAD WITH SCALDED SPONGE.—Set your sponge the last thing at night, thus: put one yeast cake to soften in a half cup of warm water, sift two quarts of flour into a bowl or pan that will hold four quarts, scald the flour with a sufficient quantity of *boiling* water to moisten it all. Stir very thoroughly till it is free from lumps and cool enough to put in the yeast cake, add the yeast, and set to rise in a warm place in winter, or in a cool place in summer. In the morning before breakfast the sponge will be risen round and foamy, and should be made immediately into dough. Sift as much flour as you need into your bread bowl or pan, and in cold weather to warm the flour will gain you time and credit. If you wish to make a Graham loaf or two, save one-third of the sponge for that, and mix the rest into the sifted and warmed flour, add a pint of warm water, or sufficient to make the flour into a firm dough, and knead until smooth and free from the board and hands. Put the dough back into the bread pan, cover with a clean cloth, and wrap a warmed blanket over the whole to keep from the air. The more muffled you wrap it the sooner the bread will rise. If the temperature has been just right, the bread will be ready to mold into the baking tins in less than two hours. Have the pans cleaned and greased; divide the dough into loaves which will two-thirds fill the pan, knead lightly with a little flour on the board, but use no more than you can help. Cover slightly and let it rise again till the loaf looks as large as it should be. Now the oven should be hot, with a firm steady fire, which will last three quarters of an hour; fresh fuel ought not to be added till the bread is finished. Every cook should know just what her oven will do, and be governed accordingly; if too hot at the bottom set the pan up an inch, if too hot at the top cover the loaf with brown paper, open the oven as little as possible. When baked, remove the loaf at once from the pan and put to cool on a rack, or resting it on one edge. Never cover or allow bread to sweat in the baking tins, the crusts will soften as they cool. Good flour and properly made bread will not have hard crusts. When *cold*, wrap the bread in the bread cloth and put into a tray or into a clean tin boiler, cover, but not air-tight. Bread thus made will be good and fresh for several days.

REMARK.—The keen fermenting odor which starts up when the dough is ready for the second kneading is not sour, nor does it need soda. Soda kills the lively quality of yeast.

YEAST GRAHAM BREAD.—Take the remainder of the white flour sponge, a tablespoonful of sugar, and three pints of warm water; mix with them Graham flour into as stiff a dough as you can stir well with a large spoon. Beat it up thoroughly for ten minutes, or, if you cannot manage the spoon, dip the hand into water, and work the dough till it is very smooth. Let it rise two hours, then stir it up and put it into deep baking-tins, and let it stand till it begins to rise again. Bake in a quick oven one hour. Graham flour ferments quicker than fine flour, and should not be allowed to rise so long. If, when the bread is cold, it seems too soft, remember, the next time, to mix the dough a

little stiffer. The precise consistency cannot be guessed always, as some wheat works softer than others. The sweetening can be left out with propriety. Indeed, we never could see why Graham flour should be sweetened at all, as it has all the sugar of the grain left in, while fine flour has had the sugar taken out by the process of bolting.

Bread with Potatoes.—Potatoes assist fermentation, and render the dough lighter and more tender when we wish to make bread in haste. Peel and boil, or steam, a quart of potatoes, mash them very fine, or, what is better, press them through a colander while they are hot, add half a pint of water and a salt-spoonful of salt, stir them into a batter, and then put in a yeast cake previously softened, or a teacupful of lively yeast, and make into a dough with two quarts of sifted flour. Knead it half an hour, put plenty of flour on your board, and knead it until it cleaves from the board with a light tearing sound. Be careful not to let your dough grow very cold while you work it. Divide into loaves, and set to rise in a warm place. Watch the process, and when the loaves are quite light have your oven in good heat and bake three quarters of an hour. This bread is very nice if well made, *i. e.*, the potatoes made very fine and kept hot, and perhaps the flour warmed also; but it is not so good when stale as that made with a scalded sponge.

Delicious Biscuit.—Made in the same manner, only adding half a pint of sour cream instead of the water. Bring the cream to a scalding heat, and put in a teaspoonful of soda; mix otherwise the same. Set to rise in the bowl, and, when light, make into small cakes. Put them close in the pan, and let them rise *upward* within an inch of the top of the pan and bake.

Buttermilk Bread.—Put three or four pints of *fresh* buttermilk into a saucepan and boil it. Stir it pretty constantly while it is heating, to keep it from separating into whey and curd. Have a quart of flour sifted into a suitable vessel, pour the boiling buttermilk on the flour, and scald it thoroughly. Stir until all the flour is mixed, and set to cool. When sufficiently cool add a teacupful of good yeast, and let it rise over night; in the morning sift and mix into the sponge enough flour to make a *stiff* dough; knead well, and set to rise for two hours, then divide into loaves and knead slightly. At this time use as little flour as possible. Set to rise again, and bake as soon as light enough. Bake in a steady oven three quarters of an hour. This is a good sponge for dark, or runny flour. The bread will be white and moist. Graham flour, prepared with scalded buttermilk, mixed a little stiffer than where sweet milk or water is used, is very sweet and good. Do not put soda into the milk or sponge. It will be perfectly sweet when it is baked if the yeast is fresh, and if the whole process is carefully attended to in the right time.

Sweet Potato Buns.—Boil, and then mash three good-sized sweet potatoes with a pint of cream or new milk; mix with as much flour as will make a dough as for bread, adding a teacupful of good sponge or yeast. Knead well, and set to rise. Always wrap your blanket close around the bowl, and place where the wind or cold air does not come,

if you wish a quick rising. As soon as the dough begins to crack open mould into small rolls and put close together in the baking-pan. When sufficiently light bake in a moderate oven half an hour.

GRAHAM MUFFINS.—Dissolve a half cake of yeast in a little warm water, scald a quart of milk and pour it into two quarts of Graham flour, stir well, and let it cool sufficiently, then put in the yeast and a spoonful of brown sugar, make a very thick batter, which will heap on the spoon ; set to rise over night. In the morning have a good hot oven, butter your rings and the pan well with cold butter, fill the rings two-thirds full, let them stand a few minutes in a warm place, then put into the brisk oven and bake half an hour.

BREAD MUFFINS.—Take four slices of *baker's bread*, and cut off the crust. Lay them in a pan, and pour boiling water over them, only just sufficient to soak them well. Cover the vessel with a cloth, and when it has stood an hour draw off the water, and stir the soaked bread till the mass is quite smooth, then mix in two tablespoonsful of sifted flour and half a pint of milk, and stir in, gradually, two well-beaten eggs. Butter some muffin rings, set them in a buttered bake-pan, and fill each two-thirds full. Bake brown, and send to the table hot.

BUCKWHEAT CAKES.—One quart of buckwheat flour and a half a pint of Graham meal. Mix with lukewarm water into a batter, stir in a teacupful of good yeast sponge or a half cent's worth of baker's yeast ; mix in an earthen or stone vessel, and set over night in a warm place to rise. If the temperature and yeast have been just right, the batter will be light and sweet, and not need soda. It should be considered a mistake when the ferment needs neutralizing, and care taken to set cooler or correct the yeast.

BUCKWHEAT GRAVY.—Buckwheat cakes are often considered rather an unwholesome dish ; but we think that the fault comes from the excess of melted butter and syrup, which is usually eaten with them. Substitute *this*, at least for the children :—Boil a pint of milk and half a pint of cream, put in half a teaspoonful of salt and two or three large spoonsful of buckwheat batter, dip a spoonful and put directly into the boiling milk, wait for it to boil up, and then add another till you get a proper consistency, boil a minute longer, and pour into a tureen or pitcher for the table.

GRAVIES—May always take the place of butter and syrup when griddle cakes are to be eaten, simply by boiling a pint of milk or cream and adding a spoonful or two of the batter of which the cakes are made as a thickening, a little salt and a very little lump of butter may be added. Children are far better satisfied with a creamy gravy than with butter.

HYGIENIC BREAKFAST CAKES.—One pint of fresh oatmeal, one quart water, let it stand over night. In the morning add one teaspoonful of fine salt, one tablespoonful of sugar, and the same of baking powder, and one pint of Graham flour. If the above proportions make a batter

too stiff for griddle cakes, add more water. If gems are preferred instead of cakes, the addition of a little more flour is all that is required to produce an extra article.

OATMEAL BREAD.—One quart fresh oatmeal, two quarts of water, let stand half a day or over night. When ready to bake, add one quart of fine, or Graham flour, half a cup of sugar, one teaspoonful fine salt, two teaspoonsful of baking powder; mix with a spoon. No kneading is required. If too stiff, add water.

CORN CAKES.—Three cups of corn meal, one cup of Graham flour, two teaspoonsful of cream yeast powder sifted together, one cup of cream, and half a cup of milk, one egg well beaten; stir altogether well and quickly; heat your gem irons hot; butter and fill; bake with a brisk heat. Gem *tins* or forms do not need to be heated before filling, they may be oiled and filled on the table, and put into a quick oven.

GRAHAM GRIDDLE CAKES.—Into one pint of Graham flour and half pint Indian meal mix thoroughly two teaspoonsful of cream yeast and half teaspoonful salt, beat up well one egg and mix with one pint cold water, into which mix thoroughly the flour as prepared, and fry at once.

GOLD MEDAL CORN CAKES.—Mix two heaping teaspoonsful of cream yeast and half teaspoonful of salt thoroughly through one pint of Indian meal and half pint of sifted flour, beat well one egg and mix in one tablespoonful of brown sugar, half pint milk or cold water, and stir in the meal as prepared, to the consistency of a thick batter, steam until half done in a three pint basin, and finish by baking in a hot oven, or drop into hot cup or gem pans well buttered, and bake in a hot oven.

CORN GEMS.—Mix two heaping teaspoonsful of cream yeast and half teaspoonful of salt thoroughly through one and one half pound sifted Indian meal; stir the meal as prepared slowly into one pint (more or less) of sweet milk or cold water, so as to make a very thin batter, place in hot gem tins or cups, let them stand five minutes in a warm place and bake in a very hot oven.

YANKEE STRAWBERRY SHORT CAKE.—Mix two heaping teaspoonsful of cream yeast and half teaspoonful of salt thoroughly through one quart of sifted flour, beat well one egg, and mix in two tablespoonsful melted butter, one of sugar, nearly a pint of sweet milk or cold water, mix in the flour as prepared, as thin as convenient to handle, knead but little, let stand five minutes in a warm place, bake in a quick oven; cut into three layers, place sugar and strawberries between and dust upper crust with sugar.

SQUASH CAKES.—Mix Graham flour with half its bulk of stewed squash, or pumpkin, and add milk enough to make a thick batter, about a cup of milk to each cup of squash. Put in one teaspoonful cream yeast, mixing it well with the flour. Cook on a griddle.

BOSTON BROWN BREAD.—Take three pints of Indian meal, sifted, and one quart of rye meal, sifted. Stir into the corn meal one teaspoonful of salt and one teacupful of molasses, and wet it to a batter, as thick as that used for griddle cakes, with boiling water ; then set it aside to cool. Stir one large coffeecupful of sour milk, or buttermilk, into the rye meal, add to it one teaspoonful of soda dissolved in two tablespoonsful of boiling water, and boil on the stove for two minutes, or until it is in a light froth.

Mix together the corn and rye meal batter with the hand, beating it well. Let it stand for fifteen minutes, then turn into an iron bake kettle, and bake for three or four hours. This will make a large loaf of bread, but it is better to bake it all in one pan, as a very thick, hard crust forms over the whole, and if one likes, it can be partly removed while hot, and eaten with milk or cream, for it makes a very palatable dish for breakfast or supper.

We prefer to *bake* brown bread, however, by steaming it in a large tin pudding dish for three hours, placing the tin in a kettle of boiling water, and not letting it boil over the top of it. Then it is put into the oven for another hour ; and this way of cooking it will form no crust that is not easily eaten, and gives the bread a delicious flavor, and it will remain moist for several days. When it is two or three days old it is much improved by being warmed in the oven or toasted.

APPLE BREAD.—Weigh one pound of fresh, juicy apples, peel, core and stew them to a pulp, being careful to use a porcelain kettle or a stone jar, placed inside an ordinary saucepan of boiling water ; otherwise the fruit will become discolored ; mix the pulp with two pounds of the best flour ; put in the same quantity of yeast you would use for common bread, and as much water as will make it a fine, smooth dough ; put into an iron pan and place it into a warm place to rise, and let it remain for twelve hours, at least. Form it into rather long-shaped loaves, and bake in a quick oven.

FRUIT CORN CAKES.—Put a pint of whortleberries in a bowl, add a teacupful of sugar, one pint of corn meal and a large tablespoonful of fine flour, wet with boiling water. Bake in cakes about one-half an inch thick on a griddle or in an oven twenty minutes. For nice apple cakes use sweet and tart apples, chopped, instead of berries.

OAT MEAL OR SCOTCH PUFFS.—One quart of sweet milk, three well-beaten eggs, two and a half cups of oat meal, one and a half cups of Graham flour, and a little salt. Use a medium-sized cup. Heat and oil the gem irons and bake in a quick oven.

GRAHAM FLOUR PUFFS.—One quart of sweet milk, two eggs, flour to make a thin batter, fill the gem cups two-thirds full, bake in a quick oven.

RICE GRIDDLE CAKES.—Cook half a teacupful of whole rice till every grain is dissolved and like jelly. Warm half a pint of rich milk, put in half a teaspoonful of salt, stir the rice into the milk till it is smoothly mixed. Bent three eggs, whites and yolks separately, till very light, and put into the rice and milk the last thing. Bake on a hot greased griddle till brown and light.

INDIAN GRIDDLES.—Two cups of meal, one of flour, one of milk, one of water, one egg well beaten, two teaspoonsful of cream yeast, sifted into the meal and flour. Mix and bake on hot griddles,

GRAHAM GEMS.—You are supposed to have the baking irons or "setting" for these gems; else we don't know what you will do. They are to be had of hardware dealers; at least no kitchen is furnished without them. These gems are displacing all other kinds of coarse bread on our table. They can be eaten with butter or without butter, hot or cold, morning, noon, and night. They are as handy as crackers; are just what you want for children's lunch, and to fill in when you are making up a picnic basket. They are not only hygienic, but are good in the mouth. They have an almond-like sweetness, and their fibre is like that of nut-meats, giving the teeth just the exercise they crave. No taste of "emptyings." But to our receipt, which will not be half as long as this preamble. Put the irons in the oven, where they will get hot by the time you have mixed the gems. Then take milk and water, half and half, and stir in Graham flour, No. 1, till you have a batter that will "drop from the spoon and not run." Stir very thoroughly, the more the better. Drop into the hot irons and bake immediately. (If you are quick you can take the irons out of the oven for better convenience in filling.) The oven is a grand point. It should have a solid heat, and bake as fast as it can and not burn. "If at first you don't succeed, try, try again." Make the batter a little thicker or thinner, the oven a little slower or quicker (quicker more likely). There is a way, and you will find it, and then be able to repeat your success as often as you wish.

WHEAT MEAL UNLEAVENED CAKES (GEMS).—To one quart of soft, cold water, add, by degrees, three pints of coarsely ground wheat meal. Stir rapidly, with a large spoon, three or four minutes, so as to incorporate a large amount of atmosphere. Dip out into iron baking molds, which have been heated hot and oiled. Bake immediately in an oven as hot as it can be and not burn, for twenty or twenty-five minutes. Diminish the heat after fifteen minutes. Iron molds are better than tin. The small size, about three inches in length, and one and a half in width, is better than the larger sizes. The proportions of water and meal in this formula are for white wheat. For red wheat a little more meal is necessary. One-sixth corn meal is an improvement, in which case it needs a heaping measure of meal to the water.

OAT MEAL AND GRAHAM GEMS.—Mix equal parts of fine Irish oat meal and Graham flour into a thick batter with milk and water equal parts, fill hot gem irons and bake with a brisk heat. Very sweet and tender.

WHEAT MEAL ROLLS.—Pour boiling water on unbolted wheat meal, stirring rapidly with a strong spoon or stick. The dough should be scarcely stiff enough to retain its shape. Of this take portions about the size of a hen's egg, and roll it into a round form three or four inches in length; a plenty of dry flour to prevent sticking. Bake at once. The coating of flour also prevents the *escape of air*

from the dough, as the sudden heat of baking expands it, thus making the rolls much lighter. Let bake in a very hot oven.

Snow Cakes or Bread.—First cool a wooden bowl, in this put the desired quantity of corn or unbolted wheat meal, mix with this twice or three times as much snow. It now appears like dry meal. Put some on a hot griddle ; if too dry to turn well add more snow ; if too wet to be light add more meal ; when *just right* bake the same as batter cakes, or put it in a pan, about two inches deep—rounding it *from* the edge—and bake in a quick oven twenty minutes.

Corn Cakes.—Pour hot water on to corn meal to make a stiff batter ; let it stand over night. In the morning add milk to thin it, then stir in Graham flour, in which is a little baking powder, until it is the right consistence for baking. Bake in gem pans, and they will be light and nice, with a very small proportion of yeast powder.

Corn Meal Breakfast Cake.—For two baking tins take one and a half pints of coarsely ground corn meal. Add water nearly boiling, but not enough to wet quite all of the corn meal ; add cold water, a little at a time, stirring thoroughly between whiles, until you have it so thin that it has a tendency to settle as you pour it into your pie tins. It should not be more than half an inch deep in the tins, and it should bake quickly in a hot oven.

Corn Cake, with Fruit.—Pour one quart boiling water on one quart corn meal, and stir quickly. Wet the hands, and form the dough into small round cakes one-half an inch thick. Bake in a hot oven. The addition of a few raspberries, huckleberries, or any other sub-acid fruit, is a decided improvement. Sweet apples, chopped fine, are also excellent.

Corn and Rye Biscuits.—Pour boiling water on coarse yellow corn meal, and stir to the consistency of a thick batter. Immediately add coarse rye meal to make into a very soft dough ; form into small, flat biscuits (fifteen to a baking pan) with the hands frequently wet in cold water, and bake immediately in a hot oven. They are very nice for variety, and are best made of equal parts of corn and rye. Bake thirty minutes or more.

Wheat Meal Crisps.—Wet unbolted wheat meal with boiling water, and form a stiff dough. Grease, or sprinkle flour on a nice sheet of iron—the bottom of a smooth sheet-iron pan would answer—on this roll out the dough as thin as possible, mark into convenient squares, and bake in a slow oven. When rightly baked they will not curl or blister. Invalids with the poorest teeth, whose state of health may require dry food, can eat them.

Wheat Meal Biscuits.—Pour boiling soft water upon coarse white-wheat meal, stir with a spoon to a dough as soft as it can be managed, by the exercise of skill, upon a molding board. Roll to an inch in thickness, cut with a biscuit cutter, prick and bake immediately in an oven hotter than is necessary for the two preceding. It

will take half an hour to bake. If made of red wheat it must be stiffer and baked longer.

GOOD UNLEAVENED BREAD.—Take half the flour you intend using, and pour on boiling milk (be sure it boils); have it about the consistency of batter that you would have for making pancakes; let this stand till cool enough to work; then knead in the rest of your flour, just sufficiently stiff to mold on a board. One hour in a middling hot oven is sufficient for baking.

DR. JENKINS'S GRAHAM CRACKERS.—Procure the whitest and cleanest wheat (Canada wheat is best), have the crackers made by a baker. Mix with nothing but pure, soft water, and thoroughly reduce the mass in a baker's break, as for making other crackers. Have them rolled very thin, no more than half as thick as soda crackers, cut in the form and the size of soda crackers, and bake quickly until a pale yellow. These will keep six months if placed in a dry, cool, sweet store room. They are fresher and more tender to place them in a hot oven a few moments before bringing them to the table.

GRAHAM CRACKERS.—Wet the best of Graham flour with cold milk, adding about a fifth proportion of thick cream, or a little butter if cream is not to be had. Mix as soft as can be handled; knead very thoroughly, say fifteen or twenty minutes; roll thin; cut in three-inch-square cards; lay, so they will not touch each other, on a hot sheet-iron pan, and bake quickly, say ten to fifteen or twenty minutes, according to thickness. Handle carefully while hot, and pack away, when cold, in tin cans or stone jars in a cool, dry place.

APPLE-CORN PONE.—Pare and chop fine a quart of sweet apples. Scald a quart of corn meal with a pint of boiling water; add new milk enough to make a stiff batter, then stir in the apples. Bake slowly in a close vessel three hours. Butter the dish well. This is very nice, boiled the same length of time in a pudding-mold or bag. But it is never so good as when baked in an old-fashioned kettle with a close-fitting lid, with live coals from the fire heaped on top and under the kettle. The thick brown crusts are delicious, with cream or milk.

STEAMED BROWN BREAD.—One quart of rye meal, one pint of Indian meal, one cup of molasses, one teaspoonful of sifted cream yeast stirred in the molasses, a little salt. Stir soft with cold water, steam three hours, and dry off in the oven fifteen minutes.

BROWN BREAD.—The sweetest bread ever made.—Take three pints of coarse yellow corn meal, scald it with three pints and a half of boiling water, add two pints of coarse rye meal after the corn has cooled. Knead thoroughly with the hands. Take it out into a stone-ware crock, or pot, which is a little larger at the top. The quantity here given will take a vessel which holds five or six quarts. Place it immediately in the oven after smoothing over the top with a spoon frequently dipped in cold water. Cover with a stone or iron plate, and have but little heat in the oven. It should take three hours to begin to bake, then bake slowly four hours. Leave the loaf in until the

oven cools off, if it is several hours longer. It should be dark colored, light and firm, with a good soft crust. A round-bottomed iron kettle will do to bake in. Try it.

YANKEE BROWN BREAD.—Take equal quantities of rye and corn meal, and mix with water, making a dough that can be kneaded. Work with the hands until it loses its stickiness, and will readily cleave from the fingers. Let it stand several hours, or over night, and bake in loaves, in covered dishes, in a moderate oven, from three to five hours. Or, it may be steamed three hours, and baked one. Coarsely ground meal is better than fine for this kind of bread.

APPLE BROWN BREAD.—Work equal parts of corn and rye meal into stewed apples until the entire mass is thoroughly mixed, and bake as above. Or, thin with water to a batter, and bake on the griddle.

HOW TO MAKE OAT MEAL CAKES.—The *Rural Cyclopedia*, published at Edinburgh, Scotland, gives the following receipt for making oat meal cakes. Well made they are delicious.

"As much meal as will make a sheet 24 or 30 inches in diameter and one-eighth of an inch in thickness, is put into a wooden basin, with a sufficiency of water for working the meal into a light paste. The meal and water are mixed by the fingers of the right hand, while the basin is turned constantly round by the left hand, till the paste is made; the paste is then turned out on a clean board, or table, and alternately kneaded with the knuckles of both hands, sprinkled with meal, gathered up, kneaded and sprinkled, and kneaded again and again, till it becomes a well kneaded and homogeneous dough; the dough is then flattened out with the knuckles into a circular cake of half an inch, or less, in thickness, and immediately afterward distended with a roller into a sheet of about one-eighth of an inch in thickness; and the sheet is then pared round the edges and cut into three or four parts from the centre with a knife. The parts of the cut sheet of dough are fired, or half baked, first on the one side and then on the other, upon a thin circular plate of iron, called a griddle or girdle; and then they are toasted, or whole baked, by being placed on their edge on a toaster close before the fire, with first the one side and then the other exposed to the heat, Some butter is sometimes mixed with the paste, to render the cakes 'fresh' and highly relishable, and occasionally a few caraway seeds also are added, but in the estimation of racy, unsophisticated cake-eaters, all such admixtures are an abomination."

A Scotchman writing to the New York *Observer* in reference to these cakes and oat meal generally, says:

"The favorite accompaniment to this is sweet milk, dipped with the spoon (which has previously taken up and contains a portion of the porridge) out of a separate dish from the porridge."

OAT MEAL BREAKFAST CAKES.—This is made of No. 2 oat meal, with water enough to saturate it, and little or no salt. Pour it into a baking tin half an inch or three-quarters deep, shake it down level, and when this is done it should be so wet that two or three spoonsful of water should run freely on the surface. Put it in a quick oven

and bake twenty minutes. Eat warm. It will be as light and tender as the best "Johnny cake," or else you have wet it too much or baked it too long. This is one of the most accommodating baked dishes that can be made. It will do very nicely with a little longer time if the oven is not quite hot. If it will not bake there at all, pour it into a frying pan, cover it close and set it on the top of the stove, where it will even bake in fifteen minutes.

For a hurried breakfast and a slow coal fire it is invaluable. Scarcely any wholesome thing in the whole bread line can be prepared more readily. It can be made still thinner and baked quicker. It is good either crisp or moist. For emergencies alone every housekeeper will find it convenient to be able to make the breakfast cake. Many use oat meal mixed with buckwheat, wheat or corn, for griddle cakes. For this use I prefer it cooked first. Take, say one-half pint of the porridge or the mush, diffuse it in one quart of water, and add the wheat meal, sifting it in and stirring slowly.

Oat Meal Cake.—Take one pint of oatmeal, and just warm water enough to stir up a batter like griddle cakes. Pour it into a shallow baking pan, and bake for twenty minutes in a hot oven. Or, if preferable, bake it in small cakes on the griddle, first putting in a handful of wheat flour and a little more water. The cold porridge will also make delicious griddle cakes.

Cream Toast.—Boil a pint and a half of cream or new milk and thicken with a tablespoonful of flour or corn starch, add a little salt. Toast slices of stale bread quickly, of an even brown on both sides, lay them in the toast dish and dip over them a plentiful supply of the hot thickened cream; add another layer of toast and then more cream.

Another Way.—Cut smooth slices of stale bread less than half an inch thick, toast a delicate brown, put the plate into the oven and heat it quite warm, lay the toast into the plate and pour over it cold, sweet cream, and the toast is ready to be eaten. For invalids and children with dainty appetites, this is very nice and easily digested. Some light fruit jelly will add to the relish and still be wholesome.

Norwegian Oat Meal Porridge.—Take two or three handfuls of meal, mixed, coarse and fine, in proportion of one-third latter to two of the former. Mix in a basin of cold water and pour into a pan containing about a quart of boiling water, adding a small portion of salt. Set on the fire, and keep stirring, adding from time to time small doses of meal until it boils and has acquired a proper consistency; which may be known by its glutinous state, as it drops from the spoon. Let it simmer ten minutes, then pour into common dinner plates. Spoon out portions and float in new milk, adding sugar to taste.

Oat Meal Cracknels.—Take the finest quality of oatmeal, and stir in barley water enough to wet it through; let it stand twenty minutes to swell, then roll it out to a quarter of an inch in thickness, first flouring the board and rolling pin with wheat flour. Cut it with a biscuit cutter and bake in a moderately hot oven, as these cakes

will burn quickly, and only require to be of the slightest brown. They will snap easily between the fingers, and are delicious, requiring no butter to make them palatable. If put into a close jar they will keep for several months. In the Highlands of Scotland they preserve their cracknels, or bannocks, as they call them, in the barrels of oatmeal for a year or so.

Another way to make cracknels, is to mix oatmeal to a stiff batter with cold water, and let it stand several hours. Or mix with sweet milk and let it stand until it swells (do not let it sour), then pour it into bake pans and bake twenty minutes. They should be one-fourth of an inch thick and a light brown color when done.

Oat Meal and Cocoanut Cracknels.—Oatmeal mixed with grated cocoanut produces a very attractive cake to both old and young. Take three heaping tablespoonfuls of grated cocoanut, or two of the prepared "dessicated" cocoanut; add to it half a pint of the finest oatmeal and two heaping tablespoonfuls of sugar; stir it into one gill of boiling water, and mix it thoroughly together; turn out on the rolling board, well floured, and roll it as thin and cut out as for common cracknels, put a bit of citron and half a dozen currants into each cake, sticking them into the dough. Bake in a slow oven and watch carefully lest they brown a shade too deep. To make them crispy let them stand a day in an uncovered dish. A very palatable pie crust can be made from the dough of oatmeal cracknels by wetting it a little thinner; or in preparing it, add just half the measure of meal in hot water. Add no butter or lard, simply a little salt; roll out thin, and make the pie of cooked fruits, as this kind of paste bakes very quickly, and if the fruit requires cooking it would become too hard and brown. Most persons who eschew all kinds of pies can eat those made of oatmeal without fear or trembling, and they will soon learn to consider oatmeal an invaluable addition to their tables.

Onion Toast.—Boil some onions of moderate size; change the water twice in boiling; salt in the last water. When nicely done take out with a skimmer. Make a gravy such as you make for cream toast. Toast slices of bread, lay them in a dish, put the onions on the slices, one on a slice, and pour the gravy over both.

*Note.*—The onions will cook in half the time if you cut them into three or four slices before you put them into the water.

Egg Toast.—Break the eggs carefully into water boiling hot, but not really boiling. Let them simmer till they are delicately cooked or till the yolks are covered with a white film, then take up with a skimmer and lay on slices of buttered or cream toast. Salt the water in which the eggs are boiled, and see that it covers the eggs. Butter and pepper may be added on the table.

## TO COOK EGGS.

Boiled Eggs.—Boil three minutes by the watch, and you have the central or yellow part soft boiled, while the white is hard, unpalatable, and difficult of digestion.

Place the eggs in water "milkwarm," or a little warmer. In four or five minutes pour off the water, and immediately pour on boiling water to cover the eggs, and in five minutes they will be cooked.

If boiling water is poured on cold eggs in a cold dish, it will be so suddenly cooled that the eggs will not be cooked, but treat them as above directed, and you will find them thoroughly cooked, yet soft and palatable.

THE QUEEN'S OMELET.—Place in the frying pan about one ounce of butter. Break three eggs, separately, to see they are fresh; beat them up with a little chopped parsley and a pinch of pepper and salt. The eggs should not be beaten too much, or the white of them separates, and you produce a watery mixture which destroys the flavor and appearance of the omelet. Now the butter is melted, pour in the frying pan the omelet mixture and stir till it begins to set or thicken, shake the pan occasionally, and fold over the omelet neatly into an oval shape, and when it is of a golden color turn quickly into a dish. To be able to prepare a plain omelet is to be able to prepare every kind of omelet. If you require a cheese omelet, introduce into the omelet mixture about a dessert spoonful of grated cheese, with a little pepper and salt, and sometimes a few grains of cayenne pepper. In a sweet omelet no pepper or salt, but a little grated sugar; and just before the omelet is folded in the pan distribute evenly over a little jam. In preparing an omelet, remember five things—a clean pan; the mixture must not be too much beaten; the omelet must not be too large; three eggs are better than six eggs, which make two omelets; they should not be too much cooked; they should be eaten immediately, or they become tough, and more like a pancake.

DROPPED EGGS.—Have ready a saucepan of *boiling* water. Drop fresh eggs carefully into the water so as not to break the yolks. Let them stand where they will keep hot, but not boil, until the white sets. Toast slices of bread and lay in a dish, and pour over it a gill of hot cream with a little salt; then take out the eggs with an egg-slice or tablespoon, and put on to the bread with parsley, if you like.

BAKED OMELET.—Boil half a pint of cream, or rich milk; beat six eggs thoroughly—they will be nicer if the whites and yolks are beaten separately; have a deep dish hot and buttered; stir the beaten eggs, with a little salt, into the cream; put all quickly into the dish, and bake from five to ten minutes, depending upon the condition of the oven. It should be lightly browned, and taken directly to the table in the dish.

SCRAMBLED EGGS.—Have a spider hot and buttered. Break as many eggs as you wish to cook into a dish, being careful not to break the yolks. Slip the eggs into the spider, sprinkle over a very little salt, and add a lump of butter the size of a nutmeg for half a dozen eggs, or three tablespoonfuls of rich cream. When the eggs begin to whiten, stir them carefully from the bottom, until cooked to suit. The yolks and whites should separate, though stirred together. Care should be taken not to have the spider too hot.

BAKED EGGS.—Take a common white dish with a smooth bottom, and large enough to hold the eggs you wish to cook ; *do* not crowd them. Set the dish into the oven till quite hot, then butter it ; have the eggs broken, and slip them carefully into the dish ; sprinkle a little salt over them, and put directly into a quick oven and bake three or five minutes. Butter and pepper may be added, if desired, when they are cooked. A tablespoonful of cream to two eggs, when they are first set to bake, is nice.

## PREPARATIONS OF CHEESE.

CHEESE AND BREAD TOAST.—Grate half a cup of good cheese—use your crumbs and dry pieces—mix with it one cup of grated bread and the yolk of one egg, half a spoonful of butter, and three spoonfuls of rich cream. Add a salt spoonful of salt, and a sprinkle of cayenne and mustard if desired. Toast two or three slices of bread, spread the cheese mixture on quite thick, put into the oven a minute or two, and send to the table hot. Or lay on a top slice, and make a sandwich. Take a sharp knife and cut into four pieces.

COTTAGE CHEESE.—This is a farmer's dish, but should and would be eaten and appreciated by all classes if they knew how wholesome and digestible it is. Those who have plenty of milk and make butter, have an abundance of sour or clabbered milk daily, clean and fresh. Skim the cream off for the churn, and set a gallon or two of the milk on the stove in a milk pan, and let it gradually warm till it is luke-warm all through. Stir it occasionally to prevent its hardening at the bottom, and when it is a little warmer than new milk, and the whey begins to show clear around the curd, pour it all into a coarse thin bag, tie close, and hang up to strain. Let it hang two or three hours in a cool, shady place, then take from the bag and put in a covered dish. When preparing the rest of a meal, mix with the curd rich sweet cream, sugar, and nutmeg. Some prefer salt and pepper, but the sugar gives it the place of fruits or acids. This preparation of milk will often be found most salutary and wholesome for dyspeptics and weak inflamed stomachs. The clabber is also very nutritious and easily digested.

## SANDWICHES.

SANDWICHES are very useful to put in your bag or your pocket when you are not likely to be able to procure your usual meal.

CHEESE SANDWICHES.—Take two-thirds of good cheese, grated, and one-third of butter ; add a little cream ; pound all together in a mortar ; then spread it on slices of brown bread or gems ; lay another slice over each ; press them gently together, and cut in small square pieces.

EGG SANDWICHES.—Boil fresh eggs five minutes ; put them in cold water, and when quite cold peel them, and after taking a little of the white off each end of the eggs, cut the remainder in four slices. Lay them between bread and butter.

FRIED EGG SANDWICHES.—Beat some eggs well; fry them in butter as a pancake. When cold, cut in small square pieces, and lay them between brown bread and butter.

OMELET SANDWICHES.—Take four eggs, two tablespoonfuls of bread crumbs, and one half ounce of chopped parsley. After beating the eggs well, add the bread crumbs, then the parsley, and two tablespoonfuls of water. Season, and fry it in small fritters, and when cold put them between brown bread and butter.

## VEGETABLES.

All green vegetables should be as fresh as possible. Put them into cold water with some salt in it, for about ten minutes, to clear from soil or insects. If not quite fresh, let them remain in the water some time longer; drain in a colander, and put them into a pan with plenty of boiling water, adding salt, and a small piece of soda; cover the pan till boiling, but not afterward; then boil quickly, and carefully remove any scum which may rise. Do not allow them to remain in the water after they are done, but immediately drain them in a colander, and finish each kind, as directed in recipes. Peas and spinach do not require so much water as most other green vegetables, but only just sufficient to cover them. Cauliflowers and brocoli require especial care in boiling, as the flower is easily broken and their appearance spoiled; boil them quickly for a few minutes, and then moderately till tender, which may be easily ascertained by trying the stem with a fork. All vessels used in cooking vegetables should be particularly clean. Soft is preferable to hard water in cooking all kinds of vegetables. Potatoes are in universal use, and yet how few know how to cook them well! "A well-boiled potato is a thing purely ideal—it has never come out of the pot, in the experience of living man." This is too strong; but there is very much room for, and need of, improvement in the *science of cooking a potato.* To do it *well*, the matter must be *studied*, and not performed by routine. They differ very much, even those grown in the same field and from the same seed. A good potato, well cooked and served up, is a luxury, which, unfortunately, few people know how to accomplish, or will not give themselves the trouble to do.

POTATOES.—Those grown on virgin soil, of a middle size, and floury, are to be preferred. They should be as nearly as possible of one size, well washed, but not pared. They should be put into a vessel of cold water for an hour, then put into fresh water, and boiled in a kettle or saucepan, closely covered, in the most expeditious manner possible; or they should be steamed, which would be still better. If boiled, no more water should be used than merely to cover them, as they produce a considerable quantity of fluid. When they are done, the water should be instantly poured off, and the kettle containing the cooked potatoes be placed on the side of the fire with a cover on, and a cloth over them, until the steam is absorbed, and rendered quite dry and mealy before they are sent to the table.

BAKED POTATOES.—Have a hot baking oven, select and wash potatoes of uniform size, and put them moist into a clean oven. Do not

open the oven if you can avoid it for half an hour; try if they are done in a towel. Eat them hot.

POTATO BALLS.—(For Breakfast).—Boil and mash a double quantity of potatoes for dinner, season with sweet cream and a little salt: work in two fresh eggs to a quart. Mold into little balls, prick the tops, and lay away in the cold on a plate. In the morning put on baking pan and set into the oven until done to a delicate brown, which requires fifteen or twenty minutes.

POTATOES are a standard article of food on most tables, but they are often so badly cooked that they are neither palatable nor wholesome. As a breakfast dish they are excellent. We like them prepared thus: Select the smaller ones—leaving the larger ones for dinner—scrape off the skins of new potatoes, put them into cold water for ten minutes, have water boiling, and cook them twenty minutes; pour off the water and add a cup of milk or cream, and thicken it with a little flour and butter rubbed together. Butter never floats on the surface when mixed with flour thus, nor does the flour trouble you with lumps. It is just as well, however, to leave out the butter, mixing the flour with a little cream.

POTATOES should always be put into *boiling* water to cook, boil quickly and pour off the water, letting them dry a few minutes over the fire before dishing up. Steaming is the best manner of cooking them.

MASHED POTATOES should be left in the kettle after draining and drying as above, and mashed thoroughly over the fire; add a little milk or cream, and they will be light as a sponge and white as flour. Never put butter into them.

STEAM SQUASH.—Squash cooked in a steamer over a little water is much nicer than when boiled. I never boil squash. It may be cut in large pieces and cooked in a kettle with a small steamer in the bottom and half a pint of water; fill the kettle with squash and keep closely covered till well cooked, taking care not to let it burn. A very hot fire is not so good for cooking as a slow, moderate heat. May be placed on the table warm or cold, mashed or not, as preferred.

Many kinds of squash, especially late and winter squashes, are better baked than any other way—they are quite equal to sweet potatoes when baked in a close kettle so as to partly steam them. Cut in slices three quarters of an inch thick.

RAW TOMATOES.—The simplest and one of the most wholesome modes of preparing tomatoes is to remove the skins by scalding, cut them in slices and season to the taste. To *our* taste powdered loaf sugar makes the best seasoning. The tomatoes should be solid, like the Trophy, and perfectly ripe. As a substitute for fruit, they answer a good purpose, especially the yellow and white varieties.

STEWED TOMATOES.—Let the tomatoes be well ripened, scald them and remove the skins, cut into small pieces, put into a saucepan, with a little salt and butter, and cook till well done, but no longer. Pepper may be added if agreeable. As a substitute for fruit, omit the pep-

per and sweeten to the taste with white sugar. In this case Dixie and White Apple tomatoes are best, as they have a decidedly fruity flavor.

BROILED TOMATOES.—First raise your tomato. If not quite ripe, no matter; cut in two flat-wise; put it skin down, on a hot iron and in a few minutes (seasoned to your taste) you have a dish that is pretty, wholesome and delicious—tomatoes on the half shell.

We have tried it. Those who have not, do not yet know how exquisite a morsel the tomato is capable of being made. With a little pepper and salt, or, better still, with butter and sugar, broiled tomatoes furnish a dish fit for the gods.

NOTE.—This manner of preparing tomatoes is indeed excellent. We toast slices of bread nice and brown, butter them a little, and lay on to them the broiled tomatoes; put half a teacupful of cream into the dish around the toast, and set it into the oven a few minutes before taking to the table.

TOMATOES should be sliced and boiled in their own juice without water. They should boil briskly. Twenty minutes suffices for a quart. If boiled much longer it injures their peculiar flavor. Season when ready to take up.

BAKED TOMATOES.—One quart of fresh round tomatoes. Scald and peel carefully, so as not to break the tomato; put into a deep dish, and season with a little salt and cayenne. Roll a teacupful of crackers and spread over the top; cover lightly, and bake in a quick oven half or three quarters of an hour. Two or three lumps of butter, the size of a Lima bean, may be dropped into the dish just before dishing up. Slip them out carefully, the brown side up, or leave them in the baking dish.

SCALLOPED TOMATOES.—Peel as many large ripe tomatoes as you wish to prepare; cut them into slices a quarter of an inch thick. Pack in a pudding dish first a layer of tomatoes, then a thick layer of bread crumbs, salt, and a little white sugar and butter, then a layer of tomatoes, then bread crumbs, etc., till the dish is nearly full, having tomatoes last. Now dust over pepper, a little sugar and butter, strew the top with bread crumbs, and bake (*covered*) half an hour; then remove the cover and bake brown, but be careful not to scorch.

CORN OYSTERS.—One quart of grated corn, three eggs well beaten, half a teaspoonful of salt, with flour enough to make them stick together. Drop from a spoon into a hot buttered frying pan, making cakes the size of an oyster. A cup of sour milk, with half a teaspoonful of soda, will answer if eggs are not plenty.

GREEN CORN ON THE COB.—Remove the husks and silk from full-grown ears of corn in which the milk is well developed. Put them into sufficient boiling water to cover. Boil gently in a covered kettle from twenty to thirty minutes, according to the age of the corn. It is better cooked by steam for half an hour. Corn which requires more than half an hour to cook is not good.

CORN WHEN CUT FROM THE COB.—Split the kernels of corn before removing from the cob, and in cutting off cut them several times through, leaving a large part on the cob to be scraped off, so as to

make a fine mass of the whole. Take a pint of milk or cream, bring it to a boil, and put the corn in and boil slowly in a closed porcelain or tin vessel for fifteen or twenty minutes with a very little salt ; or, which is better, steam it for half an hour. It will then be very rich and savory.

Succotash.—For succotash, Lima beans are the best ; the Agricultural stand second on the list. But any good variety of bush beans, which come earlier than these, makes an article by no means inferior. Shell the green beans, and boil them slowly in an abundance of water for one or two hours, being careful to keep them covered with water while boiling. Cut well-grown corn from the cob, as in the previous directions ; place it in a pan or basin to steam, over the beans—if not provided with suitable steam apparatus. Add a little water to the corn, and stir it occasionally. Steam from twenty to thirty minutes, then add the corn to the beans, and simmer for half an hour. Stir often, and watch carefully that it does not burn. Season to suit the taste.

Dried Sweet Corn.—Wash the quantity you wish to cook. Add two or three times as much water, and soak over night. In the morning place on the range or stove in a closed tin or porcelain vessel, where it will keep at the scalding point for four or five hours. Do not let it boil a moment. Be equally careful to keep it hot. Add water, if necessary, but do not make it too thick. Season as you like with salt.

Winter Succotash.—Take equal quantities of dried sweet corn and of dried green beans. Wash and soak them separately, over night, in warm water. Add more water, if necessary, in the morning. Boil the beans slowly for four or five hours, adding boiling water occasionally. Cook the corn as you would without the beans. Then add the corn to the beans, and cook slowly, only long enough to combine them well. This is an excellent article of food, if carefully prepared, although not equal to succotash in the summer. Season with cream and salt.

To Bake Beans.—Prepare them as for stewing, and place them with a large quantity of water in a stone-ware pot in a hot oven. Let the oven cool somewhat after they begin to cook, and bake them from four to six hours rather slowly. Leave out meat and butter, and trim with cream and salt.

Dried Green Peas.—Wash the peas, pour boiling soft water over them, sufficient to cover. Let them stand over night. Stew them for several hours, or until they are soft and pulpy. Add boiling water occasionally, and keep them covered closely while cooking. Add half a cup of cream and a little salt, and boil ten minutes ; then dish up.

Stewed Carrots.—One pound and a half of carrots ; one ounce of butter ; quarter of an ounce of parsley ; one teaspoonful of flour, and four tablespoonfuls of cream. About half-boil the carrots, then scrape and slice them ; put them into a pan with half a teacupful of vegetable broth, or water ; let them simmer till quite tender, but not

broken ; add the chopped parsley, and stir in the flour and butter, previously mixed; simmer them ten minutes longer, and serve immediately.

GREEN PEAS.—The most important part is to get the peas fresh from the vines. They lose their delicious flavor in a very short time after picking. Wash before shelling, not after. Shell the peas, then select the tenderest pods, and put into just water enough to cover them, and after boiling them ten or fifteen minutes, skim out the pods and put in the peas. Boil them slowly twenty minutes, trim with a little rich cream, and salt. They should be boiled in so little water that there will not be more than a half teacupful around them when they are cooked, and this should be seasoned and dished with the peas. Those who must depend upon the markets for peas often find them very insipid and tasteless, notwithstanding their care in selecting and cooking. Sometimes a spoonful of sugar will add to the flavor. Boiling the pods adds much to the richness and sweetness of the peas.

ASPARAGUS.—Select green asparagus. If you have the privilege of cutting it from the bed, break or cut as close to the ground as it is tender. If you must buy from the markets, try several stalks and see that they are not woody and tough. The white ends are usually so, and are not eatable, being very bitter besides. After breaking off the hardest part, the asparagus may be improved by taking a thin sharp knife and stripping off the outside skin, beginning at the cut end and drawing the skin upward as far as it will go. The bitter lies next to the outside. Now cut the stalks into pieces an inch long, put into a saucepan, sprinkle over a little salt, and just cover with boiling water. Cook twenty minutes ; add half a teacupful of sweet cream ; rub together a teaspoonful of butter and a teaspoonful of flour and stir in ; boil up a minute or two ; toast a thin slice of bread a light brown ; cut into several pieces ; lay into the bottom of a dish, and pour the asparagus over. Or leave the asparagus without cutting up, lay it all one way in the saucepan, and otherwise prepare the same.

SHELLED BEANS.—Of the shelling beans the Lima, Horticultural, and Saba are the best. They require a full hour to boil, and a large quantity of water, as there appears to be a more rapid evaporation when beans are boiling than with most vegetables. When ready to dish, season as other vegetables. Much seasoning destroys or covers up the delicious taste of the bean. A little rich cream and salt is sufficient.

STRING BEANS should be strung, broken in pieces, and boiled an hour or two, and seasoned the same as shelled beans.

BOILED CABBAGE.—Take off the outside leaves—all that are green or imperfect—from a head of white cabbage ; cut into quarters, and lay it for a few minutes into a panful of cold salted water. This will at once remove slugs or insects. Open the leaves, but do not break them from the stem. Shake them in the water and examine carefully, then put into a kettle containing at least three quarts of fast boiling water. Cover the kettle and boil fast for three quarters of an hour.

Boil a tea-cupful of rich milk or cream, thicken with a spoonful of flour, and pour over the cabbage, which has been taken up into a vegetable dish and all the water drained off. Add a little salt and a sprinkle of cayenne.

CABBAGE WITH MILK.—Cut half of a solid head of cabbage fine as for slaw. Have a deep spider on the fire and hot. Put in your cabbage, pour quickly over it a pint of boiling water, cover close, and cook for ten minutes ; then pour off the water that remains, and add half a pint of rich milk. When the milk boils up stir in a tea-spoonful of flour moistened with a little cream or milk, a sprinkle of salt, and cook the flour a minute, then dish up.

Those who usually find cabbage an unpleasantly indigestible article of food will be gratified with the result of this mode of cooking it. It is quite like cauliflower, and is much cheaper.

DR. EVERETT'S CHOICE.—Cut fine as much clean nice cabbage as will fill a spider. Place it in this utensil, cover with a plate, and let it cook till done in the steam from its own juices.

ONIONS.—The unpleasant breath which eating this vegetable produces is perhaps the greatest objection to its use, but still it is a very wholesome and desirable article of food for many, and hence should be brought on the table in the most attractive form. White onions, and those grown in the South, are least odorous and pungent. Take off the outside skin, cut off both ends close, and let them stand in cold water an hour, then drop them into a saucepan with two quarts of boiling water. Cover, and boil fifteen minutes. Have a kettle of boiling water on the fire ready for use, pour off the water from the onions, and add as much more—be sure the water is boiling—and boil half an hour longer. Scald a cupful of rich milk, pour off the second water from the onions, add the milk and a little Graham flour to thicken it. Salt and otherwise season to taste. Boil up a few minutes and serve the onions whole ; or they may be cut in halves before cooking.

COLD SLAW.—Take half a head of white cabbage, cut it into fine shreds, and put into a bowl or deep dish. Add the juice of a large lemon and two spoonfuls of cold water, and stir together ; then sift evenly over the cabbage three or four table-spoonfuls of granulated sugar ; shake the dish so that the sugar may be diffused, but do not stir it again. Let it stand ten or fifteen minutes and then serve.

Grape or currant vinegar is very nice instead of lemon, and a preferable acid with many.

POTATO SALAD.—Cut six or eight cold potatoes into even, thin slices, and put into a salad dish. Cut fine, and sprinkle over the potatoes a tea-spoonful of parsley, and a little salt and cayenne. Stir half a tea-cupful of good cream until it is very smooth and foamy ; pour over the potatoes, and mix carefully, so as not to break the slices. A little prepared mustard, and a few stalks of white celery chopped fine, is an addition. This is a good dish for a hearty lunch.

SWEET POTATOES may be peeled, cut in thin slices or strips, and fried, heating and buttering the skillet in the same way. They will not bear quite so hot a fire, nor take so long to cook. Use as little butter as possible. Fried food is not considered so wholesome as boiled or steamed, but is sometimes more convenient to prepare.

EGG PLANT.—Pare and cut into slices, half an inch thick, two or three egg plants, according to the size of your family, and put to soak in cold salted water for two hours. This removes a black, bitter juice, said to be unhealthful, certainly very disagreeable. Then press the slices between two plates, and wipe them on a clean cloth, then boil till soft enough to mash like turnips. Mash them smooth, add a few bread crumbs soaked in sweet cream, a little chopped parsley and salt, and a sprinkle of cayenne. Mix all thoroughly, pour into a buttered baking dish, cover the top with bread crumbs, and bake half an hour.

CAULIFLOWER.—Soak the head two hours in cold salted water, and boil till tender in plenty of water. Have the water boiling when you put in the flower. Pour off the water, and add a cup of cream or milk. Rub together a tea-spoonful of butter and a large spoonful of flour. Stir into the milk, season as you like, and let all boil up together for five minutes and serve.

SPINACH.—Wash carefully in plenty of cold salt and water, put it into a saucepan that will just hold it, put in some salt, and pour over it a pint of boiling water. Cover close, and let it cook slowly twenty minutes. Drain off all the water, and pour over it a gill of scalded cream or a little butter, and it is ready for the table.

## PIES.

PIES are wholesome or not as they are well or badly made. An apple pie can be so prepared as to be nearly or quite as simple as bread, butter, and apple sauce. A whole meal may be made of it without injury to the health. On the other hand, it may be so prepared as to be unfit for the stomach of even a rhinoceros. The model pie is in our opinion the apple pie. Peach pies are highly relished by many; but the peach loses its finest flavor by cooking, whereas the apple is improved by this process. Most of the berries in their season make good pies. So does rice and eggs, and the custard pie is not only delicious but wholesome. Meat mince pies are not to be tolerated by delicate people; though they may be eaten by men of strong digestion, who live much in the open air and do muscular work. The first point to be secured in a pie is good crust. In general terms, this should be thin and, when well baked, tender. It should not be shortened with lard, but the best of cream—or in the absence of this, good butter. Delicate fruits are soon tainted with the shortening of the crust. Many in baking pies, use too much crust. The less that can be used the better the pie will be. The crust should be thin, the fruit good pie-apples, and plenty of them, put between the crust. Where the two crusts meet on the edge of the dish, care should be taken to

have the apples pressed out, so that there shall not be a wide strip of thick crust with no apples near them. An apple pie should be eaten just after it is cool. If eaten while hot, it is apt to go down only half masticated, and the effect of the heat on the tongue tends to destroy the finer sense of taste. After an apple pie is one day old it begins to grow stale, unless it is kept with great care. Soyer, the famous London pie-maker, thinks that if all the spoilt pies made in London on one single Sunday were placed in a row beside a railway, it would take an express-train an hour to pass them in review. Whoever will induce bakers to improve their methods of making them, will be a public benefactor. The usual price for a piece of pie in a New York restaurant is ten cents. They could be afforded for half that price, at a profit, too, if there were no spoiled pies.

The following receipts for pie pastry will be found excellent. They may be varied somewhat to suit individual tastes, provided only the general rules be kept in view. We commend the cream shortening as better than any other.

GOOD PIE CRUST.—A quart of flour will make two large pies. Sift the flour. Take a large, strong spoon, and stir into the flour one quarter of a pound of butter and a tea-spoonful of yeast powder; then moisten with cold water—ice water if you have it—using just as little as will make the flour stick together. Sprinkle some of the shortened flour on the pie-board, and roll the crust large enough for the pie-pan; do not try to make smooth edges until you have put in the filling, and the upper crust; then press the edges firmly together and cut off the rough edges with a knife. The secret of good, tender, plain pastry is speedy work—no working with the warm hands.

CREAM AND POTATO PASTRY.—Six good-sized potatoes, boiled and mashed, mealy, and white, one tea-cup of sweet cream, half tea-spoonful of salt, and flour enough to make it stay together, and roll out. Work and handle as little as possible, and roll thicker than for common pastry.

This is MRS. BEECHER'S receipt for "pastry for *meat* pies," and is exactly what a wholesome fruit pie needs. Light tart apples, cut in thin slices, and filled into such a crust with a table-spoonful of water and two of sugar added, and a top-crust, baked half an hour, will be good enough for an epicure.

MRS. COX'S METHOD.—Pour sufficient boiling water upon wheat meal to make a stiff dough; roll, without kneading, to any desired thickness, from an eighth to a half inch.

NOTE.—This makes a very tender crust, quite as much so as can be made in the ordinary way. It may be made of superfine flour, or rye meal, or a mixture of different kinds.

To have the crust tender, it must not be kneaded, but rolled out with plenty of meal on the board.

MATTIE JONES' CREAM PIE CRUST.—Take equal quantities of Graham flour, white flour, and Indian meal; rub evenly together, and

wet with very thin sweet cream. It should be rolled thin and baked in an oven as hot as for common pie crust.

NOTE.—This makes excellent pastry if properly baked. Many patients have said to us they did not see how they could ever again relish the pastry in common use (this is so much sweeter and more palatable, to say nothing of its wholesomeness).

APPLE PIES.—Take nice, tart apples—spitzenbergs are best, although pippins, greenings, russets, etc., are excellent. Slice them; fill the under crust an inch thick; sprinkle sugar over them; add a spoonful or two of water; cover with a thin crust, and bake three-fourths of an hour in a moderate oven.

ANOTHER.—Peel and cut about two pounds of apples—sharp ones being the best for the purpose; cut each into four pieces, removing the cores; then cut each quarter into two or three pieces, according to the size. Put half of them into a pie-dish, slightly press them down; put over them two ounces of brown sugar; put in the remaining apples; then add another two ounces of sugar, making the apples form a kind of dome, the center being two inches higher than the sides; add a small wine-glass of water; cover the top with paste, and bake in a moderate oven from half to three-quarters of an hour.

MOCK APPLE PIE.—For a large pie-plate, two crackers (milk or soda), one egg, one cup of sugar, one of water, and the *juice* of one lemon; add a pinch of salt, and spice with nutmeg or the rind of the lemon. This is quite a tolerable counterfeit.

APPLE PUFFS.—Peel and core six tart apples, cook quickly with very little water; cover close so as to make them white and free from lumps; when done to a puff, sprinkle over them two heaping spoonfuls of sugar, and stir smooth. Set to cool. Prepare your pastry. Beat the whites of three eggs to a stiff froth, stir into the apples and fill the crust; grate a little nutmeg or cinnamon over the top. No top crust. Bake in a quick oven, only long enough to cook the pastry.

APPLE FLOAT.—A pint of stewed, well mashed apples; whites of three eggs, four large spoonfuls of sugar, beaten until stiff; then add the apples and beat all together until stiff enough to stand alone. Fill a deep dish with rich cream, boiled soft custard, and pile the float on top. This is excellent with other fruits in place of apples.

FRENCH APPLE TURNOVERS.—Eight large apples; eight ounces of sugar; two ounces of butter, and the rind of a lemon.

Prepare the apples as for a pie; put them into a saucepan with the sugar, butter, the rind of a lemon rubbed on a piece of sugar, and two table-spoonfuls of water; cover the pan, and set it over a slow fire, turning it occasionally till the apples are about half done, and pour them into a basin to cool. Roll out a piece of paste in a circular form, the eighth of an inch thick, and about the size of a dinner-plate; wet it round, and fasten a rolled cord of paste within an inch of the edge; put in the prepared apples, raising them in the center in the form of a dome; spread some apricot or orange marmalade over the surface, and cover the whole with another circular piece of paste, and press the edges together, or fold them over in the form of a cord. Spread

some beaten white of egg all over the top with a soft paste-brush ; then strew coarsely pounded or rough granite sugar over the entire surface, and bake lightly in a moderately hot oven.

JAM TURNOVERS.—Roll out some short paste about one-eighth of an inch thick ; cut it in pieces about four inches in length, and between two and three inches in breadth ; lay on each a little apple jam, or any other preserved fruit, without syrup ; turn the edges over, wetting them, as little as possible, with water ; press them lightly together, and also the ends ; lay them on tins, and bake in a moderately hot oven. Ice them very perfectly, and return them to the oven for a few minutes, or set them in a Dutch or American oven before the fire.

APPLE PIE CAKE.—Mix unbolted wheat with cold water, making a batter soft enough to nearly level itself. If shortening is desired, use sweet cream or butter. Fill a rather deep pie-plate about a third full of the batter, and sprinkle over a little sugar. Wash, quarter, and core tart apples, and place as many in the batter (skin side up) as it will hold. They may be pressed down and leveled with a stiff spoon. Over the top sprinkle some sugar, and bake till nicely brown.

This cake is both wholesome, nutritious, and delicious. Children and grown folks can eat of it freely without injury.

COCOA-NUT PIES.— Open the *eyes* of a cocoa-nut with a pointed knife or a gimlet, and pour out the milk into a cup ; then break the shell and take out the meat and grate it fine. Take the same weight of sugar and the grated nut and stir together ; beat four eggs, the whites and yolks separately, to a stiff foam ; mix one cup of cream, and the milk of the cocoa-nut with the sugar and nut, then add the eggs and a few drops of orange or lemon extract. Line deep pie-tins with a nice crust, fill them with the custard and bake carefully half an hour.

LEMON PIE.—For each peeled and grated lemon add one tea-cup of sugar, and one table-spoonful of corn-starch dissolved in cold water. Over this pour a tea-cup of boiling water.

*Crust.* One part white flour, one part Graham flour, one part corn-meal. Shorten it with butter or condensed milk, reduced one-third. Use two crusts.

The above recipe for lemon pie is used in our Institution, and has given perfect satisfaction.

ANOTHER RECIPE.—Take two lemons, two eggs, one cup of sugar, one cup of water, and one large table-spoonful of flour. After grating the peel, take off and throw away the white rind, and cut the lemon in small pieces, carefully picking out the seeds. After the under crust is laid in, sugar it well. Bake with two crusts. Lemon pie is not quite so easily managed by the stomach, and should be eaten more sparingly than apple pie.

PUMPKIN OR SQUASH PIE.—Cut the pumpkin into small pieces; take out the seeds and inside, but do not pare it. It must be a well-grown and thoroughly ripened pumpkin, and not watery. Put the

pieces into a sauce-pan with only a few spoonfuls of water, not more than four; cover close and let it cook gently so as not to scorch, until the water has all evaporated, and the pumpkin has cooked quite dry and of a rich, dark, orange color. While hot, sift it through a coarse sieve. Season only as much as you are needing for the day. For one large pie, one egg, one table-spoonful of molasses, four table-spoonfuls of condensed milk, or enough of new milk to make it as thin as you wish; or, if you have it, half milk and half cream, instead of condensed milk. Sugar to suit the taste.

ANOTHER.—Select a pumpkin which has a deep, rich color, and firm, close texture. Stew and sift in the ordinary manner; add as much boiling milk as will make it about one-third thicker than for common pumpkin pie. Sweeten with equal quantities of sugar and molasses, and bake about one hour in a hot oven.

NOTE.—Those who will try this method will be surprised to find how delicious a pie can be made without eggs, ginger, or spices of any kind. The milk being turned boiling hot upon the pumpkin, causes it to swell in baking, so that it is as light and nice as though eggs had been used.

SQUASH PIE.—This is even superior to pumpkin, as it possesses a richer, sweeter flavor, and is far preferable. It is made in precisely the same manner as pumpkin pie.

SWEET POTATO PIE.—Boil and sift through a colander, nice, ripe, sweet potatoes, add boiling milk, and make the same as pumpkin pie.

SWEET APPLE PIE.—Pare mellow, sweet apples, and grate them upon a grater. A very large grater is necessary for this purpose. Then proceed as for pumpkin pie.

NOTE.—The four receipts last mentioned, are from Mrs. Jones' *Cook-book*, a work of which thousands have been sold, and which has been republished in England.

RICE PIE.—Take cold rice, cooked in milk; add sufficient cream to make quite thin; mash it with a wooden or silver spoon till free from lumps. Beat up four eggs very light—yolks and whites separately; sweeten to suit your taste, and pour in the eggs—the whites last; stir well; cover a deep custard or pumpkin pie-plate with pastry, pour in the rice, and bake, but not long enough to make the custard watery.

Rice pie should be made thick, and eaten when fresh, but not till after it is cold. Children are fond of it, and may be allowed as much as they wish.

CRANBERRY PIE.—Stew a few good, ripe, sweet apples, and add an equal quantity of cranberries. Cover a deep plate with a crust, and fill even full; roll the upper crust, and cut in strips half an inch wide and lay across the pie, leaving the spaces diamond-shaped, and bake.

STRAWBERRY PIE.—Place the under crust upon a deep plate, and the upper one—cut just the right size—on a flat tin or sheet-iron; prick to prevent blistering, and bake. Fill the deep dish while hot with strawberries, and cover with the flat crust. If the fruit is rather hard, replace in the oven till heated; if quite ripe, the crust will steam them sufficiently.

Raspberry and blackberry pie may be made in the same manner. The flavor of these delicious berries, when quite ripe, is greatly injured by cooking; and they are also changed to a mass of little else than seeds and juice.

*Ripe Berry Pies*, generally, may be prepared as above, and baked till the fruit is cooked, which takes only a few minutes. This method is much better than baking the fruit with the crust, as the greater part of the juice is often lost before the crust is cooked.

BERRY TARTS. — Cover gem-pans with crust, as for little pies, and bake; when nearly done, fill up with berries and replace in the oven a few minutes.

NOTE. — The four receipts mentioned above, are from Mrs. Cox's *Hygiene Cook book*, a radical, but thoughtful little book of one hundred pages, which will repay a careful reading.

PIE FOR DYSPEPTICS.—Four table-spoonfuls of oatmeal, one pint of water; let stand a few hours, or till the meal is well swelled. Then add two large apples, pared and sliced, a little salt, one cup of sugar, one table-spoonful of flour. Mix all well together and bake in a buttered pie-dish; and you have a most delicious pie, which may be eaten with safety by the sick or well.

We might go on giving other receipts for pies; but trust to the ingenuity of the reader to get up her own methods, bearing in mind always the rule that they be healthfully made.

## CUSTARDS.

ALMOND CUSTARDS.—One pint of milk; half a pint of cream; one ounce and a half of sweet almonds; five yolks and two whites of eggs, and four ounces of white sugar. Boil the milk and cream with a small stick of cinnamon; pour into a basin, and when cool, take out cinnamon; set the milk on a slow fire, adding the sugar, the eggs, well beaten, and the almonds, blanched and chopped fine; stir on the fire till thick, but do not allow it to boil; pour it into a jug or bowl, stirring it frequently till cold, and serve in custard glasses.

ARROWROOT CUSTARDS.—One ounce of arrowroot; three-quarters of a pint of milk, three ounces of sugar, and four eggs. Mix the arrowroot with a quarter of a pint of cold milk, adding the eggs, well beaten, the sugar, and a little almond-flavor; add half a pint of boiling milk, stirring constantly, and when cold, serve in custard glasses.

MILK CUSTARD.—One pint of new milk; one table-spoonful of flour; one table-spoonful of thick cream; cinnamon; almond-flavor, and sugar. Set the milk over the fire with a little cinnamon, stirring it till quite hot, but not allowing it to boil. Mix the cream and flour together; pour on the hot milk; stir well, adding the almond-flavor, and sugar. Bake lightly, without crust, in a moderate oven.

ANOTHER.—One quart of new milk; sugar, and one stick of cinnamon. Boil the cinnamon in a pan with the new milk; take the pan off the fire, and stir in the sugar. Bake in pie or pudding dishes,

lined with custard paste. The paste should be pricked with a fork, but not through to the dish, and partly baked before the custard is put in. Egg custard may be made in the same way, allowing five or six eggs, according to size, to a quart of new milk.

BAKED CUSTARDS.—One pint of cream; four eggs; cinnamon; almond-flavor, and three ounces of sugar. Boil the cream with a piece of cinnamon; pour it into a basin, and when cold, add the eggs, well beaten and strained, the sugar powdered, and a few drops of almond-flavor. Bake in small cups, in a cool oven.

PLAIN CUSTARDS.—The same, without any condiments. One quart of new milk; the yolks of eight and the whites of four eggs; five ounces of sugar; quarter of a pint of cream; the rind of a lemon, and a small stick of cinnamon. Boil the milk with the cinnamon, sugar, and the rind of the lemon, pared very thin; when the milk has boiled a few minutes, pour it into a bowl; beat the eggs, adding the cream, and mix well in the milk; then strain the whole into the pan, and set it on a slow fire, stirring constantly till near boiling; pour it into a jug, stirring it till nearly cold, and serve in custard glasses.

GOOSEBERRY CUSTARDS.—Three pints of green gooseberries; quarter of a pound of sugar; four eggs, and two table-spoonfuls of orange-flower water. Set the gooseberries in cold water over a slow fire, and simmer till soft; then drain the water away, and rub them through a sieve; to a pint of pulp add the eggs, the sugar, and orange-flower water; set it over the fire, stirring constantly till it becomes thick, and when cold, serve in custard glasses.

LEMON CUSTARDS.—Eight eggs; six ounces of sugar; two lemons; a tea-cupful of cream; one pint of boiling water, and two table-spoonfuls of orange-flower water. Beat the yolks of the eggs till quite frothy; pour on them the boiling water, stirring quickly all the time; add the sugar, and the rind of the lemons, grated; stir it over a slow fire, till thick, adding the cream, and orange-flower water; when hot, stir in the lemon-juice; pour it into a basin; stir till nearly cold, and serve in custard glasses.

LEMON CUSTARDS.—One large lemon; one quart of new milk; quarter of a pound of white sugar, and seven eggs. Grate off the rind of the lemon; put it with the sugar in the milk, and boil quarter of an hour; strain, and let it remain till cool; then stir in the eggs, well beaten and strained, leaving out three whites; pour it into cups with half a tea-spoonful of fresh butter, melted, in each cup; set them in water, and bake in a moderate oven; color them when done, by holding a hot salamander over, and serve cold, with sugar sifted on the top.

RASPBERRY CUSTARDS.—One pint of cream; three quarters of a pint of raspberry juice, and half a pound of white sugar. Boil the cream; dissolve the sugar in the raspberry juice; mix it with the boiling cream, stirring it till quite thick, and serve in custard glasses.

RICE CUSTARDS.—One ounce and a half of ground rice; three ounces of loaf sugar, and one pint of new milk. Boil the rice in the milk,

adding the sugar, and a piece of cinnamon ; pour it into custard cups, in which a little fresh butter has been melted, and bake in a slow oven.

VANILLA CUSTARDS.—One stick of vanilla ; one pint and a half of new milk ; half a pint of cream ; quarter of a pound of white sugar, and seven yolks and four whites of eggs. Cut the vanilla into slips ; boil in the milk and cream quarter of an hour, adding the sugar ; strain, and let it remain till cool ; then stir in the eggs, well beaten ; pour it into cups with half a tea-spoonful of fresh butter, melted, in each cup ; set them in water ; bake in a moderate oven ; color them when done by holding a hot salamander over, and serve cold, with sugar sifted on the top.

WHITE CUSTARDS.—One pint of cream ; three ounces of sugar ; the whites of four eggs, and one table-spoonful of orange-flower water. Boil the cream with a blade of mace ; let it simmer for about five minutes ; then take it off the fire, and add the sugar ; beat the whites of the eggs to a complete froth ; put them into the cream ; set it on the fire again, and let it boil gently, stirring constantly, till it becomes thick ; take it off the fire ; add the orange-flower water, or a few drops of almond-flavor, and serve in custard glasses.

NOTE.—Custards are both wholesome and nutritious, especially for delicate stomachs, and for those recovering from sickness, especially if used in moderation, they supply the waste of nerve-tissue better than meats or breads. The custard pie is made by baking the custard in an appropriate crust.

## PUDDINGS.

RICE PUDDING.—One cup of fresh whole rice ; nine cupfuls of new milk, and one cup of sugar. Put into a stone or earthen pan, and bake in a moderate oven three hours. Stir it two or three times during the first hour ; do not increase the heat of the oven after the milk begins to simmer ; be careful not to scorch or blister ; a light cover toward the last will be better. Set to cool undisturbed. It is best eaten cold. Raisins may be added, if desired.

ANOTHER.—Five tea-cupfuls of rice picked and washed ; fifteen quarts of new milk ; one and a half pound of white sugar ; one pound of raisins. Bake three hours in a moderate oven ; stir it occasionally for two hours ; then leave it to brown over. This makes a delicious pudding, plain and simple.

BREAD PUDDING.—To one loaf of bread, well grated, pour two quarts of boiled milk or cream ; four eggs ; a quarter of a pound of white sugar ; flavor to the taste (mace is a very good flavor), and bake an hour. If the boiled milk is poured upon pieces of stale bread and left standing two hours, they can be mashed and freed from lumps with the hand before putting in the eggs. Dried currants, that have been well washed and swelled in lukewarm water, or raisins, will be a good addition to this pudding. If made with crackers it will be still more delicate. Cold sauce may be eaten with it or fruit sauce, if no fruit is put into the pudding.

APPLE AND TAPIOCA PUDDING.—Put a tea-cupful of tapioca into a quart of warm water before breakfast ; set it where it will keep warm for three hours ; stir it from the bottom once or twice and keep covered. Pare and cut in thin slices five or six nice tart apples, and lay them in the bottom of the pudding-dish ; add a heaped cupful of sugar, dissolved in hot water, to the tapioca ; stir well together, and pour over the apples ; bake slowly for two hours. To be eaten with whipped cream flavored with a little lemon or orange. Good either hot or cold.

GRAHAM GEM PUDDING.—Take six cold gems—yesterday's baking; break them into small pieces, and pour over them one pint of cold water; cover and let them soften for an hour ; then add a pint and a half of new milk ; a handful of seeded raisins or currants ; one beaten egg, and one tea-spoonful of cream-yeast. Mix half a cup of sugar and the cream-yeast thoroughly together, before putting them with the other ingredients. Stir together well and quickly ; butter the pudding-dish with cold, sweet butter, and bake in a quick oven three-fourths of an hour.

STEAMED GRAHAM PUDDING.—Sour milk or fresh buttermilk, five cupfuls ; brown sugar, two cups ; butter, half a cup ; two tea-spoonfuls of soda ; two eggs ; half a pound of seeded dates. Graham flour enough to make a thin batter. The dates should be chopped fine and rolled in flour before they are put into the batter. Steam for three hours. Make a sauce of milk and cornstarch, or eat with good cream.

APPLE AND BREAD PUDDING.—Break and rub bread fine ; peel and chop good, sweetish apples—sweet apples keep their place, and take a little longer to cook ; butter a pudding-dish, then put a layer of apples an inch deep, then a layer of bread-crumbs not quite so thick, then another layer of apples, alternating, till the dish is full ; bread being last. A little butter may be added to each layer of bread, or a table-spoonful of cream sprinkled over each. Bake an hour, or till the apples are thoroughly cooked. Serve with sweet sauce, or cream.

CHERRY PUDDING.—One quart of scalded milk ; one pint of corn-meal ; half a pint of Graham flour, or a little less of fine flour ; four eggs well beaten ; a tea-spoonful of yeast-powder, and a pint of ripe cherries ; wash, and pick out the imperfect cherries ; leave the seeds in ; drain off all the water, and roll the cherries, while damp, in some of the flour. Stir all together ; put into a pudding-mould or bag, and boil two hours. To be eaten with sugar and cream. The late black cherries are the best for this pudding. They are not so juicy, retain their shape, and diffuse a rich purple tint around them, which makes the pudding handsome for the table.

POOR MAN'S PUDDING.—One cup of flour ; one cup of cornmeal ; one table-spoonful of cream-yeast powder mixed well with the meal and flour ; two cups of rich milk ; one cup of molasses ; one cup of currants washed and rolled in flour ; one table-spoonful of butter rubbed evenly and cold into the pudding-mould. Mix the ingredients well together ; put into the mould, and boil three hours. Be careful to keep the pudding-mould upright in the boiling kettle. Do not allow the water to stop boiling at any time, or to boil over the top of the

mould, as it is almost impossible to have the lid so close that water will not get in and quite spoil the pudding. When done turn the pudding out of the mould into a broad platter and serve hot with cream sauce.

NOTE.—The *poor* man's pudding may suggest the possibility of not having a *mould* to boil it in. A small, high tin pail with a lid which can be tied down tight will do quite as well, though it may have to boil an hour longer, to cook the center of the pudding. A pudding-bag dipped in cold water and floured inside is just as good. The pudding-mould is a great convenience, not an essential.

COTTAGE PUDDING.—One-half cup of sugar; one egg; one cupful of cream; one pint of flour; one heaping tea-spoonful of Taylor's cream-yeast. Bake in a cake-pan. To be eaten with a hot, sweet sauce, or with cold cream.

GRAHAM BIRDSNEST PUDDING—Is made by laying in a deep dish nice quartered apples, and pouring over them a thin batter made of flour; one tea-cup of sour milk, and about one-third of a tea-spoonful of soda. Bake in a moderate oven till the apples are thoroughly cooked.

TAPIOCA CUSTARD PUDDING.—Soak two table-spoons tapioca over night in cold water; when ready to make custard, boil one quart milk; while boiling add beaten yolks of three eggs, three-fourths cup sugar, and the tapioca; turn in the dish you wish to serve it in; have the beaten whites ready, sweetened a little and spread over top; put in oven and just brown a little. Eat cold.

DELMONICO PUDDING.—Three table-spoonfuls cornstarch; one quart boiling milk; three eggs, whites and yolks separated. Mix yolks with cornstarch and add milk gradually. Let it boil. Beat whites to stiff froth, sweeten. Put cornstarch in pudding-dish, cover with frosting and set in oven to brown. To be eaten cold.

NICE CHEAP PUDDING.—One quart of milk; four table-spoonfuls of flour; four eggs; six table-spoonfuls of sugar; nutmeg. Steam three-fourths of an hour.

SAGO PUDDING.—One dozen tart apples; one and a half cups of sago; soak the sago till soft; peel and core the apples, and place in a dish; fill the apples with sugar; pour the sago over, and bake till the apples are cooked.

SAGO BIRDSNEST PUDDING—Is made by laying quartered fresh apples, or stewed dried ones, in a pan about half full, and pouring over them the sago, prepared as for a thin mush; then bake in a moderate oven till the apples are cooked; say an hour or more, according to the size of the pudding.

INDIAN PUDDING.—*Extra good.*—Two tea-cups of cornmeal; half a cup of superfine flour; one cup of syrup; half a tea-spoonful of salt. Scald three quarts of milk, and stir into the above. Let it stand half an hour—stir it again. Bake quickly until it boils, then slowly about two hours.

A Simple Cornmeal Pudding.—Stir into a quart of boiling milk the yolks of two eggs, three heaping spoonfuls of meal and a half a cup of sugar, well beaten together. Cook five minutes, stirring constantly ; remove from the fire, and add the whites, beaten to a stiff froth. Pour into a pudding-dish, and bake one hour in a moderate oven. Serve with cream and sugar.

Batter Pudding.—Take a half pound of flour ; one pint of milk ; two eggs, and one tea-spoonful of baking powder. Rub the baking-powder quite smooth ; mix it well with the flour, then stir in nearly half of the milk, and beat it perfectly smooth ; add the remainder of the milk and the eggs, well beaten ; boil the pudding one and a half hours, in a buttered basin, and serve with sweet sauce ; or put it into a buttered dish, and bake it in a quick oven.

Baked Batter Pudding with Fruit.—Take a half-pound of flour ; one pint of milk ; the yolks of four, and whites of two eggs, and half a tea-spoonful of baking-powder. Rub the powder till smooth, mixing it well with the flour, and as much milk as will make it a stiff batter ; beat it till quite smooth, then add the remainder of the milk, and the eggs, well beaten. Put some apples, cut as for a pie, into a buttered dish ; pour the batter over, and bake in a moderately hot oven. Damsons, currants, gooseberries, or rhubarb, may be used in the same way.

## CAKES.

Cake is good and wholesome when it is plain and simple. It is bad when it is too rich and compounded of too many ingredients. It may be eaten freely like bread in the former case. In the latter it had better not be eaten at all. Children are generally fond of cake. It ought always to be so made that they can eat of it without injuring the vigor of the stomach, which should always be preserved. We would always have the family cake made of the best of coarse flour. It is sweeter and more wholesome. Most of the following receipts are such as have been used in our Institution for years ; a few are favorites at other institutions. All may be varied to suit individual wants, always keeping in mind the two words, simplicity and healthfulness.

Cookies for Forty or Fifty.—Four cups of sugar ; one cup of butter ; two cups of sour milk ; two tea-spoonfuls of cream-yeast, brown or white ; flour sufficient to roll them out. Work them but little ; make them thin, and bake in a quick oven.

Cup Cake for Seventy-five or Eighty.—Four cups sugar (white) ; one of butter ; four eggs ; rub these together ; then add three tea-cups of sweet milk ; ten tea-spoonfuls Taylor's cream-yeast, mixed with the flour of which you use a sufficient quantity to make the whole into a stiff batter.

Graham Cup Cake.—Unbolted wheat meal, two cupfuls ; buttermilk, one cup ; molasses, half-cup ; butter, quarter of a cup ; eggs, two ; soda, half a tea-spoonful. Bake half an hour.

DROP CAKES.—Put six well-beaten eggs into a pint of thick cream add a little salt, and make it into a thick batter with flour. Bake it in rings or in small cups fifteen or twenty minutes. The same may be made with Graham flour.

DELICIOUS CORN GEM CAKE.—One quart of cornmeal; two quarts of sweet milk; two heaped teaspoonfuls of cream-yeast; two eggs. Bake in a quick oven.

STRAWBERRY SHORTCAKE.—To a quart of flour (enough for two cakes) put three heaping spoonfuls of baking-powder (Taylor's). Sift together *thoroughly* and rub in one ounce of butter. Wet with a pint of sweet milk, using a spoon. The mixture will be somewhat softer than common pie-crust. Do not try to mould or roll out the dough. Spread it on tin pie-plates by patting with the hand. It should be about an inch in thickness. Bake slowly at first till the cakes have had time to rise; then increase the heat, and expect them to be done within twenty-five minutes. Split the cakes hot from the oven; spread the halves with butter (liberally if good), and cover them with the fruit previously sweetened. Place one on the other (the upper half is reversed of course), or each on a plate by itself. It is a good rule to sugar your strawberries before you begin to make your cake, and if they are large, or not very ripe, it is best to cut them in two, or mash them a little. Don't calculate for these cakes standing on the stove hearth a minute. They should be served like griddle-cakes—no time lost between the oven and the table. Observe these rules and you will have a dish as dainty as Izaak Walton's Baked Fish, of which he said, "It is too good for any but very honest people." When strawberries are gone, red raspberries (Clark's or Philadelphia) are very nice in their place. White currants are also very much liked as a substitute, and peach shortcake is hardly surpassed by the strawberry itself, if the peaches are first-rate. All these fruits should be prepared by sweetening an hour or two before wanted.

SHAKESPEARE CAKE.—Six cups of flour; one of sugar; one of rich cream; eight eggs.

ORANGE CAKE.—Two cups of sugar; yolk of five eggs and white of four; half a cup of water; two cups of flour; one teaspoonful of baking-powder, juice and grated rind of one orange. Spread and bake on tin pie-plates. This quantity should cover six plates. Make a jelly by beating the white of one egg to a froth, and adding to it three quarters of a pound of powdered sugar, and the grated rind and juice of another orange. Spread the jelly on the cakes and lay one above another in three tiers.

SILVER CAKE.—Two and a half cups of flour; half a cup of butter; two cups of sugar; three-fourths of a cup of sweet milk; white of eight eggs; two teaspoonfuls of baking-powder.

GOLD CAKE.—Two cups of flour; three-fourths of a cup of butter; one cup of sugar; one egg, and the yolk of eight eggs; two spoonfuls of baking-powder.

ITALIAN CREAM.—One quart of cream reduced by one pint of milk, and set on ice to cool. Beat the cream and milk with a good egg-beater fifteen minutes thoroughly. Dissolve two ounces of gelatine in a gill of water, and strain it through a flannel bag into the cream. Add two cups of sugar and flavor, if desired, with lemon or vanilla. Stir briskly for three or four minutes; pour into serving-dishes and set on ice to cool.

COOKIES.—One cup of butter; two of sugar; half a cup of milk; four eggs; two teaspoonfuls of baking-powder; half a nutmeg. As little flour as possible, and roll out.

SPONGE CAKE.—Six eggs; the weight of six eggs in sugar, and the weight of four in flour, with lemon extract, or a little grated lemon-peel; a little salt, and a spoonful of baking-powder.

DELICATE CAKE.—When making cocoanut-custard use the whites of the eggs as follows: One cup of white sugar; five table-spoonfuls of butter; whites of six eggs; one teacup of sweet milk; three cups of prepared flour, or to the same quantity of common flour add one teaspoonful of soda, and two of cream-of-tartar sifted in the flour. Flavor with orange, lemon, or vanilla.

NOTE.—So says Mrs. Beecher: "We would substitute a teacupful of sweet, rich cream, instead of the milk and butter. Also, cream-yeast instead of prepared flour, or soda and cream-of-tartar." We give in this connection a recipe for cocoanut-custard, as the two can be more economically made at the same baking.

COCOANUT CUSTARD.—One pound of grated cocoanut; one pint of rich milk, and six ounces of sugar. Beat the yolks of six eggs and stir them into the milk with the nut and sugar. Put into a farina-kettle, or into a small pail which you can set into a kettle of boiling water. Stir all the time till very smooth and thick; as soon as it comes to a boil take off and pour into cups.

GROUND RICE CAKE.—Break five eggs into a stewpan, which place in another, containing hot water; whip the eggs for ten minutes till very light; then mix in by degrees half a pound of ground rice; six ounces of powdered sugar; beat it well; any flavor may be introduced; pour into a buttered pan and bake half an hour.

## MOLDED FARINACEA.

ARROWROOT.—Take four ounces of arrowroot, one quart of new milk, and four ounces of white sugar. Set a pint and a half of milk on the fire, adding the sugar; when boiling, put in the arrowroot, previously mixed till perfectly smooth with half a pint of cold milk, and stir constantly till it has boiled three minutes; and pour it into a mold previously dipped in cold water.

BARLEY.—Six ounces of Scotch barley; three pints and a half of water, and six ounces of sugar. Steep the barley twelve hours; drain it, and pour the water, boiling, upon it; stew quickly in the oven in an earthenware jar, covered, till perfectly soft, and all the water is absorbed; when about half boiled enough, add the sugar, and

a few drops of pure lemon juice; pour it into a mold, and let it stand to set. When boiled quickly, the above quantity requires two hours and a half, and is a much better color than when it is longer in preparation.

MOLDED RICE.—Take eight ounces of rice and one and a half pints of milk. Wash, and swell the rice in the milk, till the whole of the milk is absorbed and the rice thoroughly softened; then pressing it into a mold or basin for half an hour, with a weight upon it, serve it, turned out, with preserved or stewed fruit.

MOLDED SAGO.—Take five tablespoonfuls of sago; one-fourth pound of sugar, and a little pure lemon juice. Steep the sago a quarter of an hour in half a pint of cold water. Pour on it one and a half pints of boiling water, and boil the whole in an earthen vessel in the oven about one hour, occasionally stirring it. Pour into molds or basins, and let it stand. When cold, turn it out, and serve with stewed fruit.

SAGO WITH FRUIT.—Take four ounces of sago; half a pint of raspberry and currant juice (strained), and six ounces of loaf sugar. Wash the sago and steep it one hour in cold water; strain off the water; add the juice and boil gently a short time, stirring it occasionally, and adding the sugar; when clear, pour it into a mold; let it stand twelve hours, and pour it on a flat dish.

TAPIOCA.—Take three ounces of tapioca, two ounces of ground rice, one pint and a half of milk, and eight drops of almond-flavor. Wash the tapioca in water two or three times; mix with the ground rice; add half a pint of cold milk, and let it remain thirty minutes; then add the remainder of the milk, and simmer it half an hour, stirring well the whole time; add the almond-flavor, and pour it into a mold previously dipped in cold water.

CRACKED WHEAT.—For a quart of the cracked grain have two quarts of water boiling in a smooth iron pot over a quick fire; stir in the wheat slowly; boil fast and stir constantly for the first half hour of cooking, or until it begins to thicken and "pop up;" then lift from the *quick* fire and place the pot where the wheat will cook slowly for an hour longer. Keep it covered closely, stir now and then, and be careful not to let it burn at the bottom.

Wheat cooked thus is much sweeter and richer than when left to soak and simmer for hours, as many think necessary. White wheat cooks the easiest. When ready to dish out, have your molds moistened with cold water, cover lightly, and set in a cool place. A handful of raisins added with the wheat is an addition. Eat warm or cold, with milk and sugar, or fruit.

## MISCELLANEOUS DISHES.

A STORY is told of an old doctor who always emptied the odds and ends of every medicine he used into a large bottle, and when he had a patient that he was in doubt about as to what medicine he needed, he always gave him a dose from this bottle. "Some one of the many

drugs will meet the case," said he : so in this list of miscellaneous dishes, which were not properly classified, or were received after the foregoing portion of this work was in type, something will be found to meet the wants of the table when the good house-wife don't know what else to get. We shall commence the list with a recipe for making Dr. Heald's favorite bread. It was, so far as we know, invented by the Doctor and his good wife, and is much used in his Institution. We also add a few other bread recipes recently sent in by our correspondents :—

Dr. Heald's Favorite Bread.—Stir the best white wheat meal into cold water, until the batter so formed can no longer be worked with the spoon. Then sprinkle meal upon your bread-board, and knead the dough *thoroughly* for ten, fifteen, or twenty minutes, as you have time, and desire the bread softer or harder. Work in all the meal you can while kneading. The more you knead it and incorporate air with it the lighter and better it will be. When sufficiently kneaded, roll out with the hands on the board into a cylindrical form two inches in diameter ; cut into pieces three inches long, and roll these into rolls a little shorter than your oven grate, and one inch in diameter ; place them on the *hot* grate, just from the range or stove, and bake in an oven, not quite so hot as for "Gems," twelve to twenty minutes. *Break* into pieces three inches long for table. We think this the best and sweetest bread that can be made.

Coarse or Graham Bread.—No. 1, or fine Graham flour, makes the best bread. The sponge is made at the same time, and in like manner to wheat bread, except the water used, which is ten degrees colder, as coarse flour rises quicker than fine. The same proportions of milk and water used. It is generally sweetened a little with sugar. When the sponge is added, make as stiff a batter as can be stirred conveniently. When light, mold into soft loaves. For this reason, it wants the hottest place in the oven.

Rye Bread is made like wheat, with one exception—the loaves are made quite soft. As little flour as possible is used in molding.

Corn or Brown Bread.—The sponge is made of unbolted rye or wheat. In the morning take four quarts of Indian meal, make a thin batter, using hot water. Let it stand half an hour to swell ; then pour in the sponge and one quart of molasses, three quarts of rye meal, or enough to make a stiff batter ; then put into covered dishes to rise. Bake three hours.

Boiled Wheat.—Take good plump wheat ; pick it carefully, and wash clean ; soak over night in soft water, and boil in same water till softened through, which will require several hours. Rye or barley may be cooked in the same way. Serve with cream, sugar, and ripe fruit.

Brown Bread.—Mrs. Susan Everett, M. D., sends the following from a lady who attended one of her courses of lectures. The author states that twenty-five years ago she attended a course of lectures on hygiene, and the lessons she then learned have enabled her to keep in

good health ever since. She sent this recipe with a loaf of delicious brown bread to Mrs. Everett during her course of lectures at Perth Amboy, N. J. We regret that we are not permitted to give the lady's name :—" We make our own yeast from hops of our own raising. The vine makes a delightful shade for the south end of our back porch, and from that vine we gather, the last of August, hops enough for our own use during the year, and also for some of our friends. To three pints of water put a handful of hops, and boil them half an hour; put into your yeast pot or jar six tablespoonfuls of flour and one teaspoonful of salt; set your jar near the kettle, and dip the hop tea into the jar through a sieve or colander. When you have strained enough to wet all the flour, stir it well, and then strain upon it the rest of the hop water. The mixture should be about the consistency of batter for griddle cakes. When it is *cool*, not *cold*, stir in a gill of good yeast; set it in a warm place; do not cover it close. When fermented, put it in a cool place, and cover close. This is the yeast from which we set our white bread at evening. The next morning we take a good handful of the dough; put it in a large yellow bowl, and add a teaspoonful of salt, a half cup of molasses, a pint of lukewarm water, and enough Graham flour, making a dough softer than for white bread; set it to rise and bake. We do not *knead* this bread. This makes two loaves. Brown bread is not improved by sugar."

Anger's Method of Making Gems.—" *To the Editor.*—By your special request I will here state my experience in regard to the method of making the Graham gems. The flour is the principal ingredient, and on it depends chiefly the success of the baker; it must necessarily be of the very best kind, made of the best winter wheat, and be possessed of the qualities commonly known as "dry and strong." The treatment varies according to the qualities of the flour. If the flour is of the kind -described above, the dough can be baked immediately; but if the flour be moist the dough must be allowed to stand in a warm place for at least four hours, in order to obtain a palatable article. The German hygienists allow the dough for their unleavened bread to stand six hours, in every case; this is, however, unnecessary, provided the flour is of good quality. The next in order is a good baking oven, one that is capable of baking equally as well from the top as from the bottom; it is difficult to state the exact amount of heating required, as some ovens are more easily heated than others; suffice it to say that a quick oven is necessary, and that the glaring heat, which always accompanies a freshly-heated oven, be allowed to pass away before baking the gems, as they are very apt to blister on the top, especially the water gems. In mixing the dough take blood-warm milk or water, adding the flour and beating thoroughly for at least five minutes. It is better to retain some of the milk or water one intends to use, making the dough slightly thicker, beat it well, and then add the remaining milk. By this method the dough becomes more thoroughly mixed, and is entirely freed of the small lumps that are so difficult to get rid of. If milk is used, make the dough thick enough, so that it can be spooned out comfortably; but for water gems it must be made somewhat thicker.

"The pans used in baking the gems are of oval shape, measuring two

and a half by one and a half inches ; eight of these unite in making one pan ; there are also some pans made of tin, but as the cast iron pan retains the heat longer it is the best.

" If the dough is ready and the oven heated, then put some of the pans in the oven and allow them to become quite hot ; take one out, grease it with a clean rag dipped in butter, and drop the dough in the pan with a large spoon ; return the pan quickly to the oven. If the pan is too hot, so that when greased the butter is burned, allow it to cool before using it, as the gems will be apt to stick to the pan and be burned. After eight or ten minutes they must be looked after, and if they are getting too brown must be put in a cooler place and allowed to bake for another ten or fifteen minutes more. They ought not to be taken out before they are thoroughly baked, as they will become wet and doughy if taken out too soon, and no amount of after baking can undo this. They may be eaten hot with impunity, a quality not possessed by any other form of bread.

"L. F. J. ANGER."

[We can testify from personal knowledge that Mr. Anger's gems are unsurpassed in delicacy and perfection by any we have ever tasted.—ED.]

RUSK.—Beat three eggs thoroughly, then beat in a cupful of sugar, and a little flavoring to the taste of lemon or nutmeg. Add a tumbler and a-half of rich cream which has first been mixed with a little flour ; use no more flour than will give it consistency enough to be molded. Let it rise all night or all day, and when very light put it upon tins to rise again before baking. Bake in a quick oven fifteen or twenty minutes.

TOMATO CUSTARD.—This is said to be a beneficial diet for consumptives. It is made by straining finely stewed tomatoes through a coarse sieve, and adding two pints of milk which has been scalded and cooled, and one pint of tomatoes, for four eggs, and one teaspoonful of sugar. Bake in small cups quickly.

COOKING RAISINS.—It is well to cook before putting them into pies, cakes, or puddings. Soaking is not sufficient. Steaming them by pouring a small quantity of boiling water among them in a tightly closing dish, and allowing them plenty of time to cook before opening, is a good plan. When raisins are rightly cooked before using, they are plumper and more palatable, and can be eaten without injury by most dyspeptics.

TOMATO PIE.—Peel and slice ripe tomatoes and lay them on dishes as for apple pie. Sprinkle on a little flour ; and sugar to suit the taste. Bake with two crusts, in a moderate oven. This as well as green apple pie can be made with one crust only, by stewing the tomatoes or apples before putting into pies.

BARLEY PUDDING.—Prepare a half pound of pearl barley, one quart of new milk, and six ounces of sugar. Put the barley in fresh water, and let it steep twelve hours ; pour the water from it, add the milk, sugar, and a small salt-spoonful of salt, and bake it in a slow oven. If a richer pudding be required, take it out of the oven when

nearly done, stir in two ounces of butter, four well beaten eggs, a little flavoring, or any suitable seasoning; return it to the oven in a buttered dish, and bake it one hour.

ASPARAGUS AND TOAST.—Asparagus, the best of the greens. Wash, pin up in a cloth, and boil gently in a little pure water about twenty minutes. It goes well with samp and potatoes, without condiments, but some people will not be content without dressing. The least objectionable dressing is the white sauce—milk thickened with wheatmeal and slightly salted. "Asparagus toast" is made by cutting wheatmeal biscuit into thin slices, dipping in hot milk, spreading on a platter, laying the boiled asparagus on it, and pouring over it the white sauce. "Asparagus peas" are prepared by just cutting into bits the tender part of the raw asparagus, boiling in just water enough to cover it until done, skimming out, dishing, and pouring over it the white sauce.

GRAVY FOR CHILDREN.—For a pint of gravy you want a large spoonful of flour, stirred smoothly into half a teacup of the cold milk. Let the milk be boiling when this is added, and kept constantly stirring, or the gravy will be lumpy. If cream is used instead of milk no butter is necessary. The milk should be stirred while coming to the boil to keep it from burning. It is less likely to burn if a little butter is melted in the spider before pouring in the milk. Add a little salt. For bread and potatoes it is better by far than meat gravy, and not only palatable and wholesome, but nutritious.

OATMEAL JELLY.—A very delicate breakfast-dish can be made of "oatmeal jelly." Soak half a pint of good oatmeal over night in one and a half pints of water. In the morning drain off the water through a sieve, adding to it one and a half pints hot water, and put it to boil over a quick fire. Stir till it boils, then set it back and let it simmer ten minutes. Turn it into molds, and in fifteen minutes it will be set sufficiently to turn out into saucers, and will be warm enough to eat. Serve at once, without trimming, or with a little milk or sweetened fruit-juice. The soaked meal that is left can be utilized in batter-biscuit, or corn-meal mush, or made into a porridge by itself. In the latter shape it is bland, and peculiarly suitable for invalids who have not yet learned to like oatmeal. These preparations are in no way better than the whole oatmeal, excepting for variety.

TOMATO SOUP.—To make one gallon, take three quarts of good beef stock; one medium-sized carrot; one medium-sized turnip: one beet; one small onion. Peel and cut these up in small pieces; then add three quarts of best fresh tomatoes, and boil for an hour. Strain through a sieve; then put five ounces of butter in a saucer; heat it to a light brown; now, take it off the fire, and add, while hot, three table-spoonfuls of flour. Put in the boiled tomatoes, and season to your taste. Add one dessert-spoonful of sugar. Put it on the fire and stir it till it boils. Let it boil for five minutes, skimming it the while. It is now ready for the table. More sugar and flour can be added, if necessary.

USE FOR COLD MUSH.—A good way to use cold mush of any kind, either oatmeal, Graham, or Indian. After taking off the skin which

forms, or any part which may be dry, mix a little milk with the mush to soften it ; then work in Graham or middlings till you can make the dough up into balls as large as a black walnut, and bake on the grate in a moderately quick oven.

Boiled Rice.—Wash and drain off one pint of good new rice ; put into a covered saucepan with one quart of boiling water. Boil briskly for five or ten minutes, or until the water is mostly absorbed ; then set on one side of the stove, and let it steam steadily fifteen or twenty minutes. Keep closely covered all the time, and do not stir it at all after it begins to boil. The Southern people, who know both how to cook and to eat rice, never allow the lid to be removed while the steaming is going on ; perhaps just lifting one side of the cover to peep in, and see that it does not burn. When done just right, every grain will be swelled to its utmost, and bursted open. To be eaten as a vegetable, or with cream or maple syrup.

Oatmeal Mush.—Julia Colman, who has charge of the cooking of the Hygienic Hotel, No. 13 & 15 Laight Street, New York, hands us the following method :

"To three quarts of boiling water add one level teaspoonful of salt and one quart of *good* oatmeal, stirring while the latter is poured in slowly. Let it stand where it will boil gently, and stir it occasionally for ten minutes, or until the meal is evenly diffused through the water. Then cover close, and place where it will barely simmer for one hour. Do not stir it during that time. Serve warm, messing it as little as possible.

Hygienic Plum Pudding.—This is from the *Dietetic Reformer :* "Put together in a basin some currants and sultana raisins that have been well washed and dried ; add wheat-meal flour in proportions preferred, whether for a *plain* pudding or more fruit ; stir in gradually cold filtered rain-water, beating the mixture well ; make it the usual consistency of plum-pudding ; bake in a well-buttered dish, or boil several hours in a cloth. To suit some tastes, add a little sugar, candied peel, and grated lemon peel."

A Delicious Cracker.—A delicious and wholesome cracker.—Take equal parts "middlings" and Graham flour. Wet with new or sweet milk, and knead rather stiff. Work it a good deal on the board ; then roll out to one quarter of an inch in thickness, and cut out in diamonds or squares ; prick them, and bake in a quick oven. Bake best right on the grates.

Mixed Gems.—Take a half-pint of corn-meal, pour boiling water upon it, enough to wet it ; then cool with skim-milk to the consistency of pancake batter ; and thicken with equal parts of "middlings" and Graham flour ; to be baked the same as gems, only not so quickly.

Quaker Mince Pies.—Chop fine a half-dozen of large bell-flowers or greenings ; add one cup of raisins, well cooked ; one cup of canned cherries, whortle-berries, or other fruit to suit the taste ; then a pinch of salt, and sugar or syrup enough to sweeten to the taste ; lastly, add a cup of sweet cream when ready to use. Bake with cream crust.

BAKED OR STEAMED INDIAN PUDDING.—For one quart of sweet milk take a half-dozen large spoonfuls of best corn-meal ; wet it with syrup, and pour the milk over boiling hot—stirring it meanwhile. Chop fine three or four large sub-acid apples, and stir in; steam or bake three-quarters of an hour ; then beat an egg with a spoonful of sugar, and add a little milk, and stir in.

NEW WAY TO SERVE EGG PLANT.—The vegetable egg we think has been undervalued, more on account of its improper preparation than for its demerit—the saturating it in butter and lard being the greatest objection.

Wife has this season prepared as follows : Peel and then cut egg in slices or pieces ; add water enough to boil soft, and salt to suit taste. When soft pour off water and mash it ; make a batter of flour and eggs (chicken) ; mix the whole together, and bake like griddle-cake. When the proper quantities are mixed it will make a nice brown cake, with no grease (except to keep free from pan), and free from the strong wild taste which is generally disliked. We think the egg is destined to become a more general article of food, especially among hygienists. So says H. M. ENGLE.

MAPLE SYRUP.—This is the most delicious of the sweets. Every family should have some. If given to children on oatmeal or cracked wheat for breakfast every morning they would thrive like calves well fed with milk. To make a good maple syrup, melt with one pound of maple sugar two pounds of best white sugar. It will not do to use the brown, as this is not clean enough.

TOMATO GRAVY.—Scald, peel, and cut very fine, a pint of good, ripe tomatoes ; put into a stewpan, with a pint of boiling water, and stew them one hour; stir frequently to keep them free from the bottom, and to make them very smooth and fine. When they are stewed down to a pint, rub a large spoonful of flour with a lump of butter the size of a walnut, and stir into the tomatoes ; stir thoroughly till they are cooked, then pour a pint of rich, sweet cream into the middle of the thickened tomatoes, and let them become boiling hot before you stir them ; then stir well together, and boil five minutes. Salt to taste. Cut a slice of brown bread, or split gems into four pieces, lay into a vegetable dish, and pour the tomatoes over them. This is very nice when, well cooked, and all the ingredients are sweet and fresh. Children who are fond of tomatoes like this modification of cream and gravy.

APPLE PAN DOODY.—For a family of six persons use a two-quart tin or earthen pan. Use the best pie apples. Pare and slice the apples nicely. 1st. Place a layer of apples about an inch thick, season with a speck of salt and sugar. 2d. Put a layer of cracker crumbs half inch thick. Alternate a layer of apples and cracker crumbs until the pan is full. Bake one hour, and serve with cream or rich milk.—R. I. Greenings are the apples for pies and puddings.

BAKED APPLES.—Select sound apples of one size—pippins or some other well-flavored apple—peel and core ; use a small knife with a narrow blade, and take out the core of the apple from the blossom

end—the core lies nearest to that part—do not go through, but make a cup, into which put a teaspoonful of sugar ; set the apples close together in a deep dish, add a teacupful of water, put into the oven and bake. Sweet apples prepared in the same manner are very nice. A lemon cut in very thin slices, and a slice laid on each apple may be a desirable flavoring.

Boiled Pears.—Take hard pears, wash, and remove specks ; be sure that they are sound at the core ; put them into a fruit-kettle, cover them with water—at least a quart—and boil them slowly an hour ; then add a sufficient quantity of sugar to make a lively syrup ; boil half or three-quarters of an hour, and serve cold.

Crushed Wheat.—This preparation of wheat is not yet generally in use by those who are in favor of farinaceous food. The whole grain is "crushed" in such a manner as to retain all its particles quite together. Nothing is lost or sifted out. It is made from good white wheat, and is very clean, and well put up in packages. It cooks more readily than the cracked grain, has more gluten, and has all the sweetness and flavor of the wheat. I cook it just as I do oatmeal ; having a quart or two of boiling water on the fire, stir in two handfuls of the grain—all I can grasp—for each quart of water ; boil rapidly for twenty minutes, stirring frequently to prevent its adhering to the bottom of the kettle ; then let it simmer over a slow fire for ten minutes, covered tightly. I like it better when cool ; the gluten forms a jelly, and when molded makes a handsome dish for the table. To be eaten warm a little more grain must be added when you make it. It is delicious and wholesome with cream, light fruits, and sugar.

French Honey.—Break one pound of lump sugar into pieces, put it into a pan, and add the yolks of six eggs, and the whites of four, the juice of four lemons, and the grated rind of two, and three ounces of butter. Stir this mixture over a slow fire, until it becomes thick like honey. It will keep a year, put into a dry, cool place. This is nice for a variety of tarts or shells.

Jellies.—Currants and grapes make the best and cheapest jelly for home use. Select large, ripe currants, fresh from the bushes as possible, pick out all the leaves or old currants, let the clusters remain on the stems ; weigh six pounds of the fruit thus cleaned, put into a stone or earthen vessel, add a pint of fresh water, then take a wooden masher and crush the berries thoroughly. I have a strong, thin linen towel sewed firmly into a poke, into which I put a pint or so of the crushed berries, wring and squeeze them completely ; emptying and filling until all the juice is secured, of which there will be about five pints. To this juice add five pounds of best brown sugar, putting the whole into a porcelain kettle over a good fire, stir slowly with a silver or wooden spoon, and let it boil fifteen or twenty minutes. By this time, if the fruit is fresh, there is no failure of the jelly. Then I put it up in pint size, self-sealing glass jars for common use. It is, I really think, as cheap, and far more delicious for meats, than cranberries, and as a relish of fruit. It costs about twenty-five cents a pint, or pound. The best brown sugar makes the richest jelly, and with more uniform success. If you want a delicate color, and more acid jelly, use white

sugar. Black currant jelly is considered very beneficial in diarrhœa, and other diseases of like nature.

GRAPE JAM.—Slip the skins off from the pulps and put them into an earthen dish ; put the pulps into a porcelain kettle over the fire, cover them, and bring them to a boil, being careful not to burn them ; boil and stir them till the pulps are broken and the seeds are separated ; remove from the fire, and let the seeds settle to the bottom of the kettle ; then pour off the juice or strain it through a colander, and put back into the kettle ; add the pulps and their weight in best brown sugar ; simmer slowly, stirring frequently for an hour ; put up as you would fruit in glass cans. If you cook it long enough to keep without being air-tight, the flavor of the grape will be spoiled.

*Plums* and late *Cherries* are excellent fruits for jams, light preserving, and canning. Both of these fruits retain their own delicious flavor better if the seeds are left in. They are particularly relishable with farinaceous food.

JAM AND JELLY.—The fruit that comes from the vines or canes latest in the season makes the poorest jelly. If currants hang long upon the bushes, they lose most of their jelly-making property. They need to be used as soon as possible after gathering. One who desires clear, fine-flavored jelly will not squeeze the jelly-bag if it be of loose material. Fine flannel is best for this purpose, and when this is used some pressure is allowable ; but we wish to strain the juice not only free from stems, skins, and seeds, but free from all fine particles.

RASPBERRY JAM.— One pound of sugar to each pound of berries, and nearly a pint of currant juice. Put the sugar and berries together in a pan over the fire, and with potato-masher, or wooden spoon, keep mashing and stirring them constantly to prevent burning. When they are well mashed, add the currant-juice, and boil briskly, still stirring it carefully. Just before it actually boils skim it well. Let it boil about three-quarters of an hour to bring it to the right consistency. It is best to put it up in cups, bowls, or fruit-jars, as it does not keep so well after being disturbed. Cover the cups with firm paper varnished with white of egg, and pressed closely around over the edges of the cups. Jam should be kept in a cool, dry place.

GRAPE JELLY.—Put the grapes in a jelly-pan with a very little water ; simmer on the fire till quite soft ; then strain through a colander or flannel bag ; when the juice is all run out, measure, and allow fully one pound of loaf sugar to every pint of juice ; boil till it jellies ; when it has boiled twenty minutes, try a little in a saucer. It should be watched for fear of boiling over. Common sugar may be used, but the jelly will not keep so long.

BARBERRY JELLY.—Scald the berries on the stems, and squeeze them through a thin cloth or flannel. Take one pound of sugar to one pound of juice. Boil together half an hour. Try a spoonful of the juice in a teacup of ice-water ; if it sinks to the bottom in a solid form, the jelly has come—if not, boil a while longer.

*Barberry Jam* is excellent if made by cooking and stirring with the berries a quantity of good sweet apples. Boil till the apples are thoroughly cooked and mixed, then can in glass cans.

BAKED IRISH POTATOES.—Boil soft eight good-sized Irish potatoes; mash them, add two tablespoonfuls of butter and a pint of milk: salt to taste. Put into a dish and bake half an hour.

TO DRESS SWEET POTATOES.—Put two or three platefuls in the oven, bake till quite soft; peel and put them on a tin sheet, and bake again for half an hour.

ANOTHER WAY.—Another mode of dressing sweet potatoes. Boil the potatoes until quite soft; peel and rub smooth with a spoonful of butter and salt. Bake in a pan, and turn into a vegetable dish.

RICE CAKES.—One pint of soft-boiled rice, a teaspoonful of butter, an egg, half a pint of milk, and half a pint of rice flour: salt to the taste. Beat all well together, and bake in patties.

CORN MUFFINS.—To three pints of corn meal add a pint of tepid water, a teacupful of bakers' yeast, a tablespoonful of sugar, and a teaspoonful of salt; mix all well together and bake in rings. To be mixed at night, for use the next morning, etc.

CORN DODGERS.—One quart of corn meal, a little salt, and water enough to make the batter just stiff enough to make into cakes with the hands. Bake in a Dutch oven, on tin sheets.

NORTH CAROLINA DABS.—One pint milk, two eggs, a tablespoonful of butter, wine glass of milk: scald the meal, and while hot rub in the butter; beat the eggs very light, and add to the meal, stir in the milk and a little salt. Drop the mixture from a spoon upon a tin sheet, and bake in a moderate oven.

MUFFINS.—One pint of milk, one dessert spoonful of butter, two eggs, half gill of yeast, a little salt, and as much flour as will make it thick enough for a spoon to stand. To be baked in rings.

GRAHAM MUFFINS.—One pint of Graham flour, a pint of milk, one egg, a little salt.

LOAF RICE BREAD.—One pint of rice flour, three eggs, a spoonful butter, saltspoonful of salt; beat the eggs quite light; stir in butter, flour, and salt. Dissolve a yeast powder in a little warm water; mix well with the other ingredients; pour into the pan and place it immediately in the oven. Bake nearly an hour in a moderate oven.

PAN JOURNEY CAKE.—Half pint rice, dessert spoonful of butter, two tablespoonfuls of milk, two tablespoonfuls of fine rice flour; boil the rice quite soft, and stir the butter in while hot. If the bread is wanted for breakfast, the rice must be boiled the night before; and if wanted for tea it must be prepared in time for it to become cold before the other ingredients are mixed in. When ready to bake, stir in the milk and rice flour; spread the mixture about half an inch thick, in a shallow pan well greased. Bake half an hour in a moderate oven.

OKRA SOUP.—Cut up in fine slices two soup plates of okra, and put into a digester with five quarts of water and a little salt—at nine o'clock. At ten o'clock, add your meat; at eleven, peel a soup plate and

a half of tomatoes, and after straining add to the soup, through the colander; then season with pepper and salt; allow all the ingredients to boil until two o'clock, when it is fit to be served up.

"EVERY-DAY" PUDDING.—Half a loaf of stale brown home-made bread soaked in a quart of milk; four eggs, four tablespoonfuls of flour; a little fruit, dried or fresh, is a great addition. Steam or boil three-fourths of an hour. Serve with the following sauce:

Butter, sugar, and water, thickened with a little cornstarch, and flavored with lemon juice and rind.

FANCY DISH.—Take half a dozen eggs. make a hole at one end and empty the shells; fill them with blanc mange; when stiff and cold take off the shells; pare lemon rind very thin, boil in water till tender, then cut in thin strips to resemble straw, and preserve in sugar; fill a deep dish half full of jelly or nice cold custard, put the eggs in and lay the straws, nest-like, around them.

A NICE STRAWBERRY DESSERT.—A nice dessert is made by filling coffee-cups loosely with strawberries, and pouring over them Graham-flour mush; or instead, thicken sweet boiling milk to a consistency which is thin enough to fill the interstices between the berries, and yet thick enough to be firm when cool. Turn out and serve up with cream and sugar.

EGGS WITHOUT BOILING.—Drop eggs into a sauce-pan of boiling water, which remove immediately from the fire. Let them remain in the hot water five minutes.

BEANS WITHOUT PORK.—Some families seem not to know that baked beans are delicious without pork, if properly cooked and seasoned. Boil a pot of beans until they are cooked thoroughly soft, take half for one day's bean-soup, and use the other half a few days later for baked beans. If the beans are old drop in a small lump or half-teaspoonful of soda. When this water boils, turn it off, and supply its place with clean boiling water. After the beans have boiled in this an hour, we change the water again—sometimes three times, but never after the beans have begun to come to pieces. Set them where they will not boil too hard, and cook them four or five hours, when they are well softened and separated. Then we stir into this soup salt, and a cup of cream if we have it; if not, a tablespoonful or two of good butter. We take out half of the beans (if we have cooked enough for two meals) before seasoning the day's portion, and sometimes thin what is left for soup with hot water, and then put in the cream and salt, and boil and stir it all together. When we bake the reserved portion, we pour it into a large baking-dish or dripping-pan, stir in a spoonful of salt and a cup of cream, or creamy milk, and bit of butter, and bake an hour. I cannot believe that any one who tries it would prefer "pork and beans" to this. The most common mistake in cooking beans is to cook them too little. This is the cause of their flatulent tendency, and such result may be prevented by thorough cooking. The frequent changing of the water takes away the strong flavor which is disagreeable to many.

SPINACH WITH EGGS.—Wash the spinach leaves in several waters, and keep in cold water until time to cook it. Then put in boiling water enough to cover it, and add a little salt. Cover the pan, and boil the spinach briskly until the leaves are tender; they will sink when done. Then press the water out, cut the spinach fine, put it in the pan, season with butter, and serve hot. Have the eggs ready poached, lay them on the spinach, and mix well with it. This is a delicious dish, and seasonable in the spring of the year.

GEM AND CHEESE SANDWICHES.—Toast good cheese lightly; split wheatmeal gems in halves, and spread between two halves, so as to come to the edges all round, a slice of the toasted cheese. It makes a wholesome and palatable lunch; children are fond of it. Some object to toasted cheese. The principal objection to it is that it is generally toasted too much. If toasted dry, it is as hard to digest as a very hard-boiled egg. Another objection is, that it is too often eaten as a dessert with rich pie and cake, instead of with the principal part of the meal.

# PART III.

# LIQUID FOODS.

LIQUID FOODS.—All wholesome drinks may be very appropriately called liquid foods, whether taken to quench thirst, or to convey nourishment to the blood.

Water is the chief natural beverage of mankind, and most important of any liquid or solid food Eighty-seven per cent. of our bodies is water. It wastes with every breath and motion, and this waste must be restored with a new supply of several pints every day. It serves many purposes in the animal economy.

1. It softens and helps to dissolve the solid elements of our foods, rendering them capable of being masticated, dissolved, and fluid enough to flow in the veins and arteries.

2. It maintains a proper bulk to both blood and tissues, rendering them mobile and round instead of dry and stiff.

3. It holds in solution the solid parts of our food, while being moved to the places where they are needed.

4. It dissolves the waste matter of the system, and transports it out of the body.

5. It takes up the superfluous heat of the system, and carries it away through the pores of the skin.

6. It slakes our thirst, and cools the blood in warm weather.

7. It may be the means—taken hot—of carrying heat into the system after exposure to cold.

Indeed, there is no apparent end to the uses of water, and

it is a great wonder that it has not always been used as the only drink; and a greater wonder, that such substitutes as alcoholic beverages ever should have become popular with even a small minority of people.

THE PURITY OF WATER.—The purity of water is a question of great importance. Such an article does not exist in nature. The nearest approach to pure water is made by distillation; but even this is not absolutely pure. Even the best natural waters contain some salts of lime, magnesia, ammonia, atmospheric air, carbonic acid, and other substances, and many contain in solution, organic and inorganic matter enough to render their use objectionable. Water that contains much lime and magnesia is called hard water, and conveys to the blood substances not wanted there. Water containing organic matter dissolved from vegetable and animal substances, or poisonous gases dissolved from the air, is a very dangerous drink, and should be avoided. Water contaminated with miasma causes fever and ague, and it is a question if this disease is not caused more by drinking water than by breathing the air of malarious districts. Water contaminated by effluvia from cesspools, privies, and barn-yards, is a sure source of that dangerous malady, typhoid fever. There is no doubt but the unclean water about many farms and dairies spreads this disease in otherwise healthy towns, and causes many deaths.

DISTILLED WATER.—In many states of health distilled water is an important aid to recovery. It can only be made by the use of apparatus, which is very troublesome and inconvenient. Druggists generally keep it for preparing medicines. Every household can prepare water which is almost as good, by boiling it briskly for a few minutes, and after cooling, straining it through a pan of charcoal, and keeping in a well-corked bottle in a cool, dark place.

Water prepared in this way is comparatively pure and free

from insects, and will often be of great service to invalids, especially in sections of country where the natural water is impure.

FILTERED WATER.—A vessel to purify water by filtration, is one of the most valuable and necessary articles of household economy, and no one who has a fine appreciation of the connection between that great blessing, good health and pure water, if he lives in a region where the latter is not usually good, will consider his domestic establishment perfect without some form of filter. There are many forms of them, and their expense is slight compared with the good they accomplish.

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## SIMPLE BEVERAGES FROM FRUITS.

THE juices of various fruits may be used with water and sugar for making most delicious and wholesome beverages.

Put a gallon of water on to boil, cut up one pound of tart apples, each one into quarters, put them in the water, and boil them until they can be pulped ; pass the liquor through a cullender, boil it up again with half a pound of sugar, scum, and bottle for use, taking care not to cork the bottle, and keep it in a cool place: the apples may be eaten with sugar as a sauce.

ANOTHER WAY.—Bake the apples first, then put them in a gallon pan, add the sugar, and pour boiling water over, let it get cold, pass the liquor as above, and bottle.

APPLE TOAST AND WATER.—A piece of bread, slowly toasted till it gets quite black, and added to the above, makes a very nice and refreshing drink for invalids.

APPLE BARLEY WATER.—A quarter of a pound of pearl barley instead of toast added to the above, and boil for one hour, is also a very nice drink.

APPLE RICE WATER.—Half a pound of rice, boiled in the above until in pulp, passed through a cullender, and drunk when cold.

All kinds of fruits may be done the same way.

Figs and French plums are excellent ; also raisins.

A little ginger, where desired, may be used.

FOR SPRING DRINK.—Rhubarb, in the same quantities, and done in the same way as apples, adding more sugar, is very cooling.

## LEMONADES.

LEMONADE FROM PRESERVED LEMON JUICE.—Preserve your juice when lemons are plenty and cheap, by adding one pound of refined sugar to each pint of juice, stirring the mixture till dissolved, when it should be bottled. Put a teaspoonful of salad-oil on the top to keep out the air, then cork closely. When wanted for use, apply a bit of cotton to the oil to absorb it. To a goblet of water add sufficient of this juice to suit the taste. Every family should preserve lemon juice in this way for times of need. If hot lemonade is desired, use hot instead of cold water.

TEA LEMONADE.—To a cup of very weak cold tea add the juice of half a lemon. It makes a pleasant beverage for old people who use tea. It is not desirable for the young.

PINEAPPLE LEMONADE. — Peel twelve fresh lemons very thinly, squeeze the juice from them ; strain out the seeds ; pour on the peel a little hot water ; let it stand a little while to infuse, covering closely. When cool, strain this water into the lemon-juice, adding a pound of loaf sugar. Put the whole into a decanter to be kept cool for present use. Use two tablespoonfuls for a glass of lemonade. To add to the delicacy of the beverage, add a slice of pineapple to each glass. To add to the appearance, add a thin slice of lemon. Cool, delicious, wholesome.

ORANGE AND LEMONADE.—Peel one large fresh lemon and six fresh oranges. Cover the peel with boiling water, and let it infuse in a closely-covered dish. Boil one pound of sugar in a pint of water, till a syrup is formed, skimming off any impurities, strain the peel-water, add it to the syrup when cold, and add the juice strained, stir well, and add cold water till it makes a pleasant drink. These methods of making drinks are more troublesome than the common way, but the result in the end is more satisfactory.

COMMON LEMONADE.—Cut three large fresh lemons in very fine slices, taking out the pips. Add half a pound of white sugar and about two quarts of water. Bruise well together and stir, and it is ready for use.

HOT LEMONADE.—Hot lemonade is often desirable in winter, when the body has been exposed to cold and is chilly. It is made the same as cold lemonade, except by using hot instead of cold water.

ENGLISH LEMONADE.—Pare a number of lemons, according to the quantity of drink you wish to make. Pour boiling water on one quarter of the peel, and let it infuse. Boil your sugar to the consistency of a rich syrup, adding the white of an egg whipt in. When it boils pour in a little cold water to stop it, then let it boil again, when the pan should be taken off to cool and settle, skimming off any scum that comes to the top. When settled, pour off the syrup into the peel water, now add the juice and as much water as is necessary to make a rich drink. Strain through a fine jelly bag.

LEMON WHEY.—Boil as much milk as you require, squeeze a lemon, and add as much of the juice to the milk as will make it clear. Mix with hot water, and sweeten to taste.

LEMON WATER.—Cut a fresh lemon into very thin slices, put them in a pitcher, and pour on one pint of boiling water. Let it stand till cold, sweeten to taste, and use.

MILK LEMONADE TO KEEP A DAY OR TWO.—Pare twenty-four large fresh lemons as thin as possible; put eight of the rinds into three quarts of hot but not boiling water, and let it stand three hours. Rub fine sugar on the rind of the others, to absorb the essence. Put it in a china bowl, and squeeze the juice from the lemons over it, after which add a pound and a half of fine sugar. Now put the water to the above, and add three quarts of boiling milk. Mix and pour through a jelly bag. Use the day after made.

## SIMPLE DRINKS FROM VARIOUS SUBSTANCES.

AMERICAN TEMPERANCE BEVERAGE.—Twelve lemons, one quart of ripe raspberries, one ripe pineapple, two pounds best refined sugar, three quarts of pure soft cold, but not iced, water. Peel the lemons very thin, squeeze the juice of all over the peel, let it stand a few hours, add the two pounds of refined sugar, mash the raspberries with half a pound of same sugar, cut the pineapple, after paring it, in very thin slices, and cover them with sugar. Strain the lemon-juice, crush the raspberries, press the pineapple, put the lemon-juice in a bowl, add the three quarts of water, add the crushed berries and pineapple, stir all together till the sugar is dissolved and it is ready to serve. This makes a delicious beverage.

CRANBERRY DRINK.—Mash a tea-cupful of clean fresh cranberries in a cup of cold water. Boil a large spoonful of oatmeal and a slice of a lemon in two quarts of water; add the cranberries and as much sugar as will sweeten to the taste. Boil for half an hour and strain.

EGG TEA.—It is a common but injurious practice for women to take a cup of hot tea on an empty stomach when tired and exhausted. An egg broken into a weak cup of tea, well beaten and mixed with a glass of cold sweet milk, is much less injurious, and really nourishing.

TAMARIND WATER.—Boil an ounce of tamarinds, three ounces of currants, and two ounces of stoned raisins in three quarts of water, until nearly a third has evaporated.

Pure tamarind water is much used in fevers, and is considered a cool and refreshing beverage. It is made by dissolving the pulp in boiling water, straining and cooling, or it may be prepared with barley water and treated in the same way.

STRAWBERRY DRINK.—Boil a pound of sugar in a pint of water till it makes a syrup. Add a pint of strawberry juice, and boil gently for an hour. Cool, and bottle in well corked bottles for use. Add water to taste. It is a delicious spring drink.

A very delicious drink may be made from canned strawberries, water, and sugar, for early spring use. This fruit is rarely canned, but is the most wholesome of any for early spring use before other new fruit can be had. The acid acts favorably in clearing out the system, acting on liver and bowels.

BLACKBERRY DRINK.—A delicious drink is made by stewing a pound of ripe blackberries in a quart of water, adding sufficient sugar to make the drink palatable, and pouring off the fluid. The berries may be eaten separately. An equally pleasant drink may be made by stewing dried blackberries, adding sugar to make it sufficiently sweet. The amount of water and sugar may be decided by the taste.

RASPBERRY DRINK.—Take fine red, ripe raspberries, crush them in a sieve, and press out the juice, to each pint of which add a pint of syrup made by boiling a pound of sugar in a pint of water, the scum being removed. When the syrup and juice are mixed, boil slowly for an hour, cool, bottle, cork, and seal. When wanted, dilute with water to the right consistency. A delicious drink is quickly and cheaply made by stewing dried raspberries in water, adding sugar to make the drink palatable. It can be made of fresh berries by crushing them in a bowl and adding water and sugar to taste. Children are generally fond of drinks made in this way, and the variety is almost endless.

CHERRY DRINK.—Mash twelve or fifteen large sour cherries, stones and all, in a goblet, pour on water till the glass is two-thirds full; add loaf-sugar sufficient to suit the taste. This is a cooling summer-beverage, and an excellent diuretic. Persons suffering with gravel in the bladder are often greatly relieved by this beverage, only it should be made very strong of cherry-juice for them.

PLUM WATER.—Pour over half a pound of plums a quarter of an ounce of ginger (if approved), two quarts of water; boil till pulped, strain, boil again, skim well, and bottle for use. Keep cool.

GOOSEBERRY WATER.—Green gooseberries, served in the same way, make a good drink. The proportions are: gooseberries one pound; water, one gallon; ginger, one-half ounce; sugar, three-fourths of a pound.

MIXED CURRANTADE.—Mash one pound of ripe red currants with half a pound of ripe red raspberries; add a half pound of sugar and a gallon of cold water. Let it settle, and it is ready for use. If it is desirable to bottle it, strain. Dried currants and dried raspberries may be used, and so may currant jelly, if more convenient.

PURE CURRANTADE.—Press the juice from ripe currants, strain, add to each pint a pound of best white sugar; add cold water to taste. It makes a delicious beverage. Dried currants may be used, and thus the drink made at any season of the year.

A COOL GINGER DRINK.—Ginger is used almost universally as an addition to many drinks. There are those who would not allow it in the stomach, still, as the root contains no essential oil, and is slightly warming and carminative, it is not particularly objectionable. Gen-

erally it agrees well with most stomachs. The following receipt for a mild ginger beer will not be amiss.

To six gallons of pure soft water put eight pounds of loaf-sugar, the whites of three eggs, well beaten, and three ounces best ginger. Powder the ginger finely, and mix with a little water before adding it to the mass. Boil gently for three-fourths of an hour, removing meantime the scum that rises to the surface. Let it cool, add the juice of three large lemons and a table-spoonful of yeast. Now put it in a cask and bung it very tightly, and let it stand for about ten days, when it will be fit to use.

RHUBARB TEA.—Boil two pounds of rhubarb stalks well sliced, for an hour in a quart of water, strain into a pitcher, add the juice of one lemon, and sugar to taste after it is cold. This makes a refreshing drink in the spring of the year.

APPLE TEA.—Peel, core, and quarter two pounds of apples, boil for half an hour in a quart of water, strain the liquor into a pitcher, add the juice of one lemon and loaf-sugar to taste.

DRIED APPLE BARLEY WATER.—Boil one pound of clean dried apples in one gallon of water for an hour. Boil a quarter of a pound of pearl barley one hour. Strain off the juice of the apples, add the barley water, put it into uncorked bottles, and keep for use in a cool place.

APPLE WATER.—Cut some very tart apples fine, pour over them boiling water, and let them simmer gently for half an hour. Strain off the liquor and sweeten to taste.

FIG WATER.—Boil a quarter of a pound of best preserved figs with a half ounce of ginger in two quarts of water. When reduced to a pulp, strain off and bottle for use.

BARLEY WATER.—Boil half a tea-cupful of the very best pearl barley in a quart of water till it is smooth, then strain it off into a mug, add the juice of a large lemon and loaf-sugar to the taste. The barley water should be strained through muslin before adding the lemon juice.

TOAST AND WATER.—Fill a quart-pitcher with boiling water. Drop into it a slice of bread toasted very brown. Let it stand till cold. Remember, drop the bread in instead of pouring the water over it, otherwise it will be cloudy instead of clear and beautiful.

FRUIT JUICES.—The juice of the apple and pear, says Mr. Knight, may be used to great advantage in preparing a beverage. He has frequently, he says, reduced it by boiling to the consistence of a weak jelly, in which state it has remained several years without the slightest apparent change, though intentionally exposed to variation of temperature. A large quantity of the inspissated juice would take up but little space, and the addition of a few spoonfuls to a quart of water would at any time form a delicious, wholesome, refreshing drink, free from all intoxicating properties. Its cheapness would be greatly in its favor. On sea voyages it would be a great luxury. We suggest experiments with it in the field of domestic economy

SUMMER BEVERAGES.—Take the genuine jelly of any fruit you like, dissolve it in water, sweeten to taste, and keep in a cool place; or if you have the fresh fruit, currants, raspberries, strawberries, cherries, grapes, bruise them in water, strain and sweeten. Keep in a cool place, and use as needed. Such drinks on ice will keep for several days.

CAPILLAIRE.—Take fourteen pounds of sugar, break into it six eggs with the shells. Stir into it gradually three quarts of water. Set it over the fire and boil it, taking off the scum until only a light froth rises. Add one gill of orange-flower water, and two or three drops of vanilla; strain through a jelly-bag, and when cold bottle it, corking tightly. A wine glass in a tumbler of water is very refreshing. You may add to it slices of lemon, pineapple, crushed currants, or strawberries, as suits the taste and season.

EAU SUCRE.—Water, with sufficient sugar to make it sweet, is a common beverage in France, and there considered very wholesome and refreshing. Ladies generally take it before bedtime. It may be useful in some cases, but should not be used too freely.

GRAPE DRINK.—This is one of the most delicious and refreshing drinks ever devised by thirsty mortals. It is made of nearly ripe grapes pounded, loaf-sugar, and water. It is strained until it becomes of the palest straw-colored amber, and then frozen. Delicious drinks may be made from grapes by stewing with sugar and water. We leave the reader to use his or her own ingenuity in devising them. The fermented juice of the grape bears no comparison with these pure, simple, delicious beverages.

## ICES.

CREAM SHERBET.—Put the yolk of six eggs and a dessert-spoonful of orange-flower water into two quarts of cream. Boil it up once in a covered stew-pan, then strain it. Add three-fourths of a pound of fine loaf-sugar, and stir till dissolved. When cold set it in ice, or freeze same as ice cream.

LEMON SHERBET.—Dissolve a pound and a half of loaf-sugar in a quart of water, take nine large lemons, wipe them clean, cut each in halves, squeeze them so as to get out both juice and some of the essence of the peel, stir into it the sugared water, strain and freeze same as ice cream.

STRAWBERRY SHERBET.—Take one pound of best ripe strawberries, crush them to a smooth mass, then add three pints of water, the juice of one lemon, and a tablespoonful of orange-flower water. Let this stand three or four hours. Then put into another basin a pound of best refined sugar, stretch over it a cloth or napkin, and strain on the sugar the berries, squeezing out the juice as much as possible. Stir until the sugar is dissolved, then strain again, and set in ice an hour before serving, in small tumblers.

## MILK.

MILK is a liquid food in a much higher sense than water. A pound of new cow's milk contains:

1. Six drachms or three-fourths of an ounce of sugar.
2. Four drachms or half an ounce of butter.
3. Six drachms or three-quarters of an ounce of cheese
4. Two drachms or one quarter of an ounce of mineral salts.
5. Thirteen and three-quarter ounces of water.

Milk makes a most perfect food and drink for the infant. It is also a very important food for other than children. It is of great service to invalids and the convalescent. It is true there are some constitutions with which it does not agree. Where this is the case, the objection may generally be obviated by skimming off the cream before using it. Even skim milk is very nutritious; it contains nearly all the valuable nourishment of new milk except the butter.

A MILK DIET.—Within a few years a milk diet has become a very popular prescription among physicians, they ordering patients to subsist on it for days or weeks at a time. In cases where the patient needs a good sustaining food without the risk of inflammatory action or excitement succeeding its use, a milk diet is perhaps the best regimen that can be chosen. This is especially true in all diseases affecting the respiratory organs, inflammations of the stomach, bowels, kidneys, and bladder. It is of benefit in cases of hemorrhage, and gout, and diarrhœa. In fevers it is much used. In convalescence from small-pox, scarlet fever, measles, typhoid fever, milk is often very serviceable. I have found gems and milk very excellent after scarlet fever. Indeed, good home-made brown bread and milk is almost a perfect food, especially for feeble children suffering with scrofulous habit of body, mesenteric diseases, spinal affections, fits, taint of the blood. I even go so far as to say that all children would be the better for taking one meal of brown bread and milk daily, and feeble ones should use it three times a day.

In ulceration of the stomach or bowels, milk is very serviceable. The case reported in the *Herald of Health* for August, 1873, of Mrs. Sara B. Clase, is in point. After nearly two years' suffering of untold agony from ulceration of the stomach, she was cured by a milk diet. She began by taking a teaspoonful every hour, and adhering to it alone for nearly a year, except the amount was increased as the strength returned. The greatest fear is in taking more than the stomach in its weakened condition can manage. I commend a study of this case to all suffering from ulceration or cancer of the stomach.

In diabetes an exclusive milk diet has been found to work wonders. It must be persevered in methodically and exclusively until convalescence is established. It is well known that in this ugly disease the great danger is that the starch of the food is converted into sugar, and as such passes out of the system without yielding any of its force to the body. Dr. Arthur Scott Duncan, of England, says, "the rapidity with which milk acts is truly surprising. Twenty-four hours

being sufficient to produce a marked change, the quantity and density of the urine suddenly falling, thirst and appetite disappearing, the skin becoming moist and perspiring, sleep improving." Dr. Karell reports two hundred cases treated by milk alone, among which were many remarkable cures.

For the aged, milk, or bread and milk, offers advantages worthy of their serious attention. The great Professor Black adopted it for many years before his death, because he thought it ought to be the natural food of an aged man in his second childhood. He died with a bowl of milk in his hand, so quietly that not a drop was spilled.

Dr. George W. Balfour has found an exclusive milk diet to be very beneficial in asthma after it had resisted other means of cure for years.

Boiled milk is digested in two hours; raw milk in two hours and a quarter.

Choice of Milk.—Cow's milk differs greatly in quality, some being rich and other thin and watery. In choosing a family cow it is well to bear this in mind, and to select only those that are healthy and give the very best milk. They should also be fed on the best of food, and allowed pure soft water to drink. The practice of feeding cows on garbage, swill slops, distillery feed, and of keeping them confined in close, filthy, unventilated stables, is one which seriously deteriorates the milk, and should ever be avoided.

Those who live in cities cannot of course keep cows, and so they must depend on the market for their supply of milk. In large cities such cannot do better than to use condensed milk, if they can get it. It has been used in our institution for many years with very satisfactory results. In preparing it the animal odor is evaporated, and it can be made as rich as is desired. It may be diluted for babes if necessary. Of course we do not speak of the condensed milk put up in cans, but that prepared for supplying the market for immediate use.

If condensed milk cannot be obtained, and you cannot keep your own cow, then insist on having the best article, and refuse to use that from distillery-fed cows, or that diluted with water. A little attention to this subject will enable any one to secure a good article. It is the laxity of purchasers of food in not demanding the best that makes it so easy for the dealer to palm off adulterated and inferior articles upon thoughtless people. If the poor would do this, it would improve their own and their children's health wonderfully. The milk supply of a city has a great deal of influence for good or evil on the health of the children. In England, this question is getting to be a very important one. The *Food Journal* says that "perhaps the most serious and destructive change in the nutrition of the poor is their almost total privation of milk. Infantile sickness and mortality depend largely on this want." There the occupation of mothers in factories and workshops deprives many thousands of infants of their natural food—breast milk.

Preparing Cow's Milk for Babes.—In this connection I wish to give explicit directions for preparing artificial human milk for babes.

It is well known that cow's milk is far richer than human milk. It contains more curd, more cream, more mineral matter, and less water. Compare the following table with the one at the beginning of this paper. One pound of human milk contains:

| | | | | | |
|---|---|---|---|---|---|
| Sugar | 4 | drachms | and | 40 | grains. |
| Butter | 3 | " | " | 30 | " |
| Curd | 3 | " | " | 30 | " |
| Mineral salts | | | | 41 | " |
| Water | 14 | ounces | and | 41 | " |

It may not be well known why cow's milk so often disagrees with babes. A principal reason is that in the stomach the curd forms in harder lumps and is not easily acted on by the gastric juice, whereas human milk forms a flocculent soft curd which readily absorbs the gastric juice, and is acted on by it with great ease.

The question is how to modify cow's milk to make it suitable for a new-born infant; it having been found to disagree in its pure state.

There is in the first place too much casein, or cheese, in cow's milk, and the child cannot digest it; to reduce it to the true proportion, nearly twice as much water as milk is necessary; to be exact, it must be eighteen parts of water to ten parts of milk; but this would reduce the quantity of butter also, without which the child would not thrive. The milk to be diluted must therefore contain more butter than ordinary milk, which must be obtained by setting aside, say, three quarts of milk, and at the end of four or five hours remove the upper quart; the upper third of any quantity of milk containing fifty per cent. more butter than the ordinary milk of the cow. The same result can be obtained by taking the "strippings," or latter part of the cow's milking. This milk, when diluted with one and a half parts water, and properly sweetened, resembles ordinary human milk.

VARIOUS DILUTIONS FOR VARIOUS AGES.—Mother's milk for new-born babes is so peculiar as to have got a special name, *colostrum*. It gradually loses these peculiarities. For colostrum, or milk prepared for the first two weeks of a child's life, must contain more butter—the upper eighth, instead of the upper third, must be used. From two quarts of milk, which has stood four or five hours, skim off carefully half a pint; or the last tenth of milk just stripped from a cow. For example, if a cow gives five quarts, the last pint may be used. This milk must be largely diluted with water, according to the following schedule.

SCHEDULE.

| AGE. | MILK. *Gills.* | WATER. *Gills.* | WHOLE QUANTITY. *Gills.* |
|---|---|---|---|
| 2 to 10 days | 1¼ | 3¼ | 4½ |
| 10 to 20 days | 1¾ | 4¼ | 6 |
| 20 to 30 days | 2½ | 6 | 8½ |
| 1 to 1½ months | 3 | 6¾ | 9¾ |
| 1 to 2 months | 3½ | 7 | 10½ |
| 2 to 2½ months | 4 | 7½ | 11½ |

| Age. | Milk. *Gills.* | Water. *Gills.* | Whole Quantity. *Gills.* |
|---|---|---|---|
| 2½ to 3 months | 4½ | 7½ | 12 |
| 3 to 3½ months | 5 | do. | 12½ |
| 3½ to 4 months | 5 | do. | 13 |
| 4 to 4½ months | 6 | do. | 13½ |
| 4½ to 5 months | 6½ | do. | 14 |
| 5 to 6 months | 7 | 7 | 14 |
| 6 to 7 months | 7 | 7 | 14 |
| 7 to 8 months | 8 | 6 | 14 |
| 8 to 9 months | 8¼ | 6 | 14¼ |
| 9 to 10 months | 8½ | 6 | 14½ |
| 10 to 11 months | 8¼ | 6¼ | 14½ |
| 11 to 12 months | 9 | 5½ | 14½ |

Eight large spoonfuls are about a gill.

Regulations of the Quality of the Milk.—If the milk be too strong, indigestion will follow, and the child will lose instead of gaining strength. When particles of casein, or curd, pass through his bowels unaltered, a milder quality or lower grade should be substituted. A feeble child of six months may require the food suited to a vigorous child of six months. For constipation, increase the richness of the milk, put in more cream. In cold weather, or if milk is kept on ice, it may stand an hour or two longer before the upper third is removed ; or the upper fourth may be taken; or set five quarts instead of three to get one quart.

The water used in diluting milk should not be hard ; nor should it be boiled. Add it to the milk, and heat it by putting the bottle in warm water.

Sweetening.—Use loaf sugar enough to make it as sweet as undiluted new milk, a teaspoonful to a quart. If too sweet, it will cloy the appetite, and not enough food will be taken.

Temperature.—The milk should be heated to one hundred degrees Fahrenheit ; test it once, and try it on the cheek ; which should regulate it subsequently.

Quantity.—For the first ten days, about one to one and a half pints a day should be given ; before the end of the first month the child will take more than a quart daily ; at the age of three months he may require two quarts daily. After that time the quality will change more than the quantity. The child will need half a pint at a time every three or four hours, which should be sucked in about ten minutes, and he will pass six or eight hours at night without feeding.

The bottles should be annealed by being put into cold water and boiled three or four hours, and the most scrupulous care observed in cleaning them.

We have made out a scale of dilutions for one year, but the mother may, after the child is six months old, find it necessary to use more

milk and less water, in which case she will dilute less. If the child manifests symptoms of malnutrition on this food, it is evident that its food should be rendered more nourishing. We are indebted to Dr. Corson for the demonstration of the practical utility of beginning our trials with pure cow's milk, since the principal inconvenience which is found to occur is the regurgitation of a part of it; while, on the other hand, the infant runs the risk of starvation, or at least of numerous diseases, before any notice is taken of the deficiently nutritious quality of milk and water. If he succeeds in his object "of directing attention to the fact that many thousands of children annually die prematurely from want of food," he will have accomplished a great work; but if he proposes to give all children pure cow's milk, without reference to its agreement or disagreement with their stomachs, he will have fallen into the same error with those who confide exclusively in milk and water.

OATMEAL MILK.—I cannot help in this connection printing the following letter from one of my correspondents, regarding oatmeal milk for young children; which I am sure will help some mother to rear to health a child when she might otherwise fail. I may add, however, that it should not be used before the babe is three or four months old, and then a gradual substitute for the breast. She says:

"When my baby was five months old, for the sake of my own health, I weaned him from the breast. I gave him cream and water, with a little sugar. In two weeks' time his bowels were so constipated that I fully realized that some change must be made in the food. I, therefore, made oatmeal gruel by boiling oatmeal in about twice the usual quantity of water for an hour and a half or two hours. When properly cooked, I poured it through a fine sieve. The part which passed through was, when cold, of the consistency of jelly. Then, in a quart cup, I mixed one half pint of thin cream and oatmeal gruel—about one gill of each—added one teaspoonful of white sugar, and filled the measure nearly full of boiling water. This food he relished, and in every way it agreed with him; and if there ever was a child that grew any faster than mine did when fed with oatmeal and milk, I think it would be a wonder. People would say: 'How your baby grows,' and in the same breath (when I told what his food was), would say: 'Why, you'll starve him!' But by putting in less water I found it was too hearty, causing him to vomit; and once in possession of the key to my child's health nothing turned me aside.

"My child is now a year and a half old, his food is three parts milk and one part gruel. He is very large, strong and active, has twelve teeth, weighs thirty pounds, and in all the time has not lost an ounce of flesh, even at the most trying time—warm weather.

"That I am enthusiastic in regard to oatmeal milk should not seem strange, and I wish that, of the many mothers throughout the land, those who find it necessary to provide other than the natural food for their children would try my recipe. They would find doctors' visits few and far between."

RECIPE FOR GRUEL.—One teacup oatmeal, two quarts of hot water. Boil two and a half hours. Strain through a fine sieve.

I prefer this way to the plan of soaking the oatmeal in cold water, which I have tried, but find that the taste is not so pleasant.

SKIMMED MILK.—Skimmed milk, according to analysis, is not greatly inferior to new milk, except in the amount of butter it contains ; as will be seen from the following :

100 parts new milk—water, 86 ; nitrogenous, 5.5 ; sugar, 3.8 ; fat, 3.6 ; salts, 0.66. 100 parts skimmed milk—water, 88 ; nitrogenous, 4.0 ; sugar, 3.8 ; fat, 1.8 ; salts, 0.8.

The effect on Dr. Smith of eating one pint of new milk was to increase the exhalation of carbonic acid 2.26 grains per minute. It also gave an increase of air inhaled of 96 cubic inches in one minute; skimmed milk, on the other hand, gave an increase to carbonic acid exhaled of 84 grains per minute and 21 cubic inches in the inspired air. Much is said in these days regarding the food qualities of alcoholic drinks, but Dr. Edward Smith, in his experiments on the best brandy as food, found that instead of an increase of vital action by the exhalation of more carbonic acid and the inhalation of more air, that there was a diminution of both. In other words, vital action was diminished instead of increased, and this was the result with nearly all the alcoholic drinks tested. And in those cases where vital action seemed increased, it was in a very slight degree, not one-fifth so much as shown above in the use of milk. Ten grains of milk consumed in the body produces heat sufficient to raise 1.7 lb. of water 1° F., and this is equal to raising 1.246 lb. one foot high. Can alcohol consumed in the body do this?

CAUTIONS REGARDING THE USE OF MILK.—While good milk is an excellent article of food for the young, the aged, and many invalids, it may be the means of spreading dangerous diseases. That which is sent to cities may have received infection from the air of the dairy-house, and in this way scarlet and typhoid fevers sometimes be propagated. But a greater source of danger is in the water that the dairyman mixes with it. If the water is pure, of course the injury lies only in the less amount of nourishment it contains ; but if water is used from wells or springs not pure, then the danger is very great. In England numerous instances have come to light where a large number of families supplied by the same milkman have had typhoid fever, and on careful investigation it was found that the dairyman had in these cases watered his milk from a well-pump in the yard, into which there was a slight leakage from a drain. Through this leak had oozed the poisonous germs that poisoned the milk, and carried that most dangerous malady into forty-seven families, destroying one hundred and sixty-five persons. Thanks to the spirit of investigation which sought and found the source of the contagion. Still another source of danger in the use of milk is where the child is nursed by a diseased mother, or one subject to fits of passion, or where the mother has been poisoned by food or medicine. We mention these things that all may be on their guard, and be able to avoid causes of disease that lurk in unsuspected and hidden places.

CREAM.—Cream is a liquid food of great richness, especially in fat, and pure would be too hearty to be used as a food to any great extent ;

but mixed with milk it forms a very agreeable, even delicious drink, and for persons thin in flesh and run down in health it may often serve important uses, especially if it agrees with the stomach. Pure cream contains,

| | | | |
|---|---|---|---|
| Water | 66.00 parts | Sugar | 2.8 parts |
| Nitrogenous | 2.7 " | Fat | 26.7 " |

A mixture of cream and milk and oatmeal forms a very nourishing diet for consumptives, and those with little animal heat, also for those who use little or no animal food.

BUTTERMILK.—This liquid food is not much used by Americans, but the Germans regard it with great favor. It contains about as much nourishment as skim milk. It is poor in heat-giving qualities, but there is considerable nitrogenous matter in it. Here is the analysis :

| | | | |
|---|---|---|---|
| Water | 88.0 | Sugar | 3.6 |
| Nitrogenous | 4.1 | Fat | 0.7 |
| Salts | | | 6.8 |

It also contains lactic acid, which is believed to favor digestion. In some forms of disease a buttermilk diet is found to be serviceable. It is better adapted to the fat than the lean, and to those who have a superabundance of animal heat than to those who suffer with cold feet and hands and languid circulation.

## TEA.

So much has been written on the use of tea, pro and con, that little new can be said. Nevertheless there are some points concerning this question not yet well understood. They are as follows:

1. Tea is not nutritious. The milk and sugar put into the cup to give it flavor has a real value as a food.

2. Nearly all teas, whatever their price or name, are about of equal value so far as their physiological effects are concerned. The higher priced sorts have, however, a much more delicate flavor, and for this reason will always be preferred.

3. That tea should, when used, be weighed rather than measured, as some kinds weigh more to the teaspoonful than others. Oolong, for instance, weighs 40 grains to the teaspoonful, Congou weighs 87, and gunpowder tea weighs 125 grains to the teaspoonful.

Then, too, the effects of tea are not well understood.

1. Tea increases the amount of carbonic acid expired from the lungs.

2. It increases the volume of air inspired, but not the rapidity of respiration, consequently it must increase the depth of inflation of the lungs.

3. Tea tends to induce perspiration, especially if taken hot.

4. Tea excites to increased action the muscular system.

5. Tea powerfully excites the nervous system.

The points last enumerated accord with the experience of a majority of tea-drinkers, and if the subject were dropped here, the impression would be very favorable to the use of this beverage. There is, however, another side to be considered. It has been found that

tea is not nutritious, and that it actually increases the waste of the system. From this it may be inferred that tea is not a good drink for those who are dyspeptic and nervous, or those in which the waste of tissue is already more rapid than the supply. Dr. Edward Smith puts it in this way: "Tea increases waste, since it promotes the transformation of food without supplying any nutriment, and increases the loss of heat without supplying fuel. It is, therefore, specially adapted to those who eat too much, when the process of assimilation should be quickened, but is less adapted to the poor, the ill-fed, and during fasting."

Dr. Smith also gives the following as the generally admitted effects of tea:

1. A sense of wakefulness.
2. Clearness of mind and activity of thought and imagination.
3. Increased disposition to make exertion.
4. Reaction, with a sense of exhaustion following the preceding effects and in proportion to them.

ANALYSIS OF TEA.—The active principle of tea is a substance called *theine*. One hundred parts of tea contain:

| | | | |
|---|---|---|---|
| Theine | 2.00 | Starch | 0.75 |
| Casein | 15.00 | Fat | 4.00 |
| Gum | 18.00 | Vegetable fiber | 20.00 |
| Sugar | 3.00 | Mineral substances | 5.00 |
| Tannin | 26.25 | Water | 5.00 |

The amount of *theine* varies from two to six per cent. The chemical formula for *theine* is $C^{16}. H^{10}. N^4. O.^2 + H^2O$.

PRACTICAL HINTS CONCERNING THE USE OF TEA.—The following hints concerning the use of tea may prove useful:

1. Whoever uses tea should do so in great moderation.
2. It should form a part of the meal, but never be taken before eating, or between meals, or on an empty stomach, as is too frequently done.
3. The best time to take tea is after a hearty meal.
4. Those who suffer with weak nerves should never take it at all.
5. Those who are troubled with inability to sleep nights should not use tea, or if they do, take it only in the morning.
6. Brain-workers should never goad on their brains to overwork on the stimulus of tea.
7. Children and the young should not use tea.
8. The overworked and under-fed should not use tea.
9. Tea should never be drunk very strong.
10. It is better with considerable milk and sugar.
11. Its use should at once be abandoned when harm comes from it.
12. Multitudes of diseases come from the excessive use of tea, and for this reason those who cannot use it without going to excess should not use it at all.

TEA AND SICK HEADACHE.—The following, from the *Medical Investigator*, has an important bearing on the use of tea: "Dr. Gregg published an article in the *Homœopathic Quarterly* on tea, as a cause of

sick headache, worthy of the attention of those who suffer with this common malady. The doctor there alleges that this beverage is the cause of more cases of this disease than any other, if not than all other causes put together, and gives a number of instances where, after leaving off its use, persons who had previously been afflicted were exempt from further attacks. One evidence the doctor gives of the injurious effects of this agent is the fact that tea-drinkers are liable to have headache if they omit its use at the regular times of taking it, and the cessation of the pain on again resuming their cups. This latter, with many other facts contained in the article, have often been observed, not only on myself, but on others, for I had inherited the disease from my mother. It had been the plague of her life, as well as my own. We had both been not excessive but regular tea-drinkers; and though she lived to be over eighty years of age, she was never exempt from an attack, of greater or less severity, for more than a few weeks at a time, for a period of nearly or quite half a century. Knowing this fact, and that from my earliest recollection I had been similarly afflicted, I was content, when the pain returned, to relieve it with the appropriate remedies, with little thought or hope of ever being able to eradicate it. Some twenty years ago I had abandoned the use of coffee and green teas, using only the black and Japan. Pork, pastry, spices, acids, and most kinds of raw fruits were sure, if indulged in, to bring on an attack of my old trouble; and this weakness of the stomach seemed to be gradually on the increase, besides a train of nervous symptoms, such as sleeplessness, palpitation of the heart, unsteadiness of the hand when writing, etc., gave me no little annoyance. After reading the article referred to, I concluded, some three months ago, to use no more tea, substituting in its stead hot water with a little milk. The result, for the first week or ten days, was much as I had anticipated, being, during the whole of that time, scarcely ever free from headache. At length the pain became lighter, and when it did return was of short duration. My nervous symptoms grew less, palpitation left entirely, my stomach became much stronger. I can now eat with impunity many things which for years had been sure to disagree. The headache now very rarely returns, and never with severity; besides, within the past two months my weight has increased sixteen pounds."

TEA AND DYSPEPSIA.—Where there is any tendency to dyspepsia, tea aggravates it, and many cases are cured by disusing it. Dr. Corfe mentions a cure of supposed cancer of the stomach, cured by the disuse of tea. Dr. Milligan mentions a person who could never use tea without experiencing a disposition to commit suicide.

TEA-DRUNKARDS.—In closing what is to be said about tea, one word seems necessary in regard to tea-drunkards. Their number is legion; they are of both sexes, but more of women than of men. Instead of using tea in moderation, or as an occasional beverage, they swill it down three or more times a day, in quantities that are incompatible with health. They are as much slaves to the teapot as the drunkard is to his bottle. They are tea-drunkards. Tea, in anything but great moderation, is a poison capable of ruining the stomach, enfeebling and

disordering the heart's action, shattering the nerves, and ruining the health and happiness of the victim. In few words, without holding that the use of tea is as bad as the use of alcoholic liquors, one may well believe that the total abstinence reformers have, in their red-hot zeal against rum, encouraged an indulgence in tea-drinking which will one day have to be fought against with might and main, to prevent the wholesale ruin of multitudes. A tea-drunkard may be defined as one who drinks strong tea several times a day, who depends on it instead of food and rest for strength, and who cannot go without it without bringing on distressing symptoms.

## COFFEE.

The active principal of coffee is called *caffeine*. An analysis of one hundred parts of raw coffee shows the following to be its composition :

| | | | |
|---|---|---|---|
| Caffeine | 1.00 | Mineral matter | 6.07 |
| Casein | 13.00 | Acids | 5.00 |
| Gum and sugar | 55.05 | Wood fiber | 34.00 |
| Fat | 13.00 | Water | 12.00 |

Caffeine is analogous to theine in composition and effects.

Coffee produces effects very similar to tea, and the same general rules are applicable for its use. It, like tea, powerfully affects the respiration, increasing the quantity of carbonic acid expired and air inspired. Coffee differs from tea in its effects by increasing the rate of respiration and not its depth, in increasing the rate of pulsation, and in diminishing the action of the skin. Those who suffer with dry skin, or palpitation of the heart, or heart disease, are particularly liable to harm from the continued use of coffee in large quantities. It is more suited to the wants of the poor and debilitated than tea, and is more appropriate for the breakfast meal than afterwards.

## COCOA AND CHOCOLATE

Cocoa and chocolate have, for their active principle, the obromine, a substance very similar to caffeine and theine. The formula for theobromine is $C.^{7}$ $H^{8}$. $N^{4}$. $O^{2}$.

The analysis of the cacao bean gives in 100 parts :

| | | | |
|---|---|---|---|
| Theobromine | 0.56 | Extractive matter | 4.14 |
| Cacao | 6.61 | Humic acid | 7.25 |
| Cacao butter | 36.97 | Woody Matter | 30.00 |
| Gluten | 3.20 | Salts | 3.00 |
| Starch | 0.55 | Water | 6.01 |
| Gum | 0.69 | | |

Dr. Edward Smith, to whose work we are largely indebted for our knowledge of tea, coffee, and cocoa, says of the latter substance : "Its action is less exciting to the nervous system than tea or coffee, and at the same time it contains a much larger portion of nutritive material. Boiled in milk, it may produce a most agreeable and nutritious food, and for very many persons is greatly to be preferred to tea or coffee."

## Methods of Preparing Tea, Coffee, and Cocoa.

Tea.—The theine of tea is without flavor. This depends on the aroma, which should all be extracted from the leaf. The dried juices of the leaf, on the other hand, should not be extracted further than to give body to the drink, otherwise it will be bitter and the aroma will be covered up or hidden. The best rule to secure the aroma and not too much of the body is to put the tea into hot water, and keep it at or near the boiling point for five minutes. If cooked longer than this the aroma will be dissipated, more theine will be extracted and the tannin, which makes tea bitter, will be in excess. The best water for tea is pure spring-water. It should be fresh and used immediately after boiling. After the tea is cooked it should be strained and kept hot till used.

Coffee.—Soyer's mode of making coffee was to warm the powder over the fire first, then to pour the boiling water over it; cover it closely for five minutes, strain it, and boil again for use. French coffee is made by adding a pint of made coffee to a pint of boiling milk and warming them both together, but not letting them boil too long.

Chocolate.—Cut a cake of chocolate in very small pieces, boil a pint of water, when it is at the boiling point add the chocolate; mill it off the fire till quite melted, then place it on a gentle fire till it boils. Pour into a basin and it will keep for ten days. When required, put a spoonful or two into fresh milk, boil it with sugar and mix well. Mill to a fine froth and serve.

Cocoa.—It made from the ribs, boil a quarter of a pound of them in three quarts of water to two quarts and a half. The ribs to be strained after five hours' boiling. If made from paste or powder, use one and a half teaspoonful of cocoa to a cup of boiling milk. Sugar to taste. Or one and a half teaspoonful of cocoa, three quarters of a cupful of boiling water. Sugar to taste and fill the cup with milk.

## Conclusion.

Some hygienists will find much fault that we have not condemned entirely the use of tea and coffee, but though we never use them ourselves, we have thought best to give the results of late scientific studies on the subject, and such cautions regarding their use as will enable those who do use them to do so with as little harm as possible. If asked what is the proper amount of these drinks for each day, we should say, do not exceed one cup of tea or coffee, and at farthest two of cocoa or chocolate.

# PART IV

# PRACTICAL DIETETICS

AND

# ANSWERS TO EVER-RECURRING QUESTIONS.

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## FOOD FOR DIFFERENT SEASONS OF THE YEAR.

WHAT changes should be made in our food at different seasons of the year?

ANS.—Our food should vary with the season of the year. As winter gradually gives way to spring, our health, comfort, and happiness are greatly augmented by diminishing the quantity of our heat and force producing foods, and substituting in their place, to a considerable extent, green vegetables and early mild acid fruits. Even before early vegetables and fruits can be had, canned fruits and vegetables should take the place of the rich foods required in winter. Many people think they must be "physicked out" in the spring, but this is a vile practice wholly unnecessary. Good brown bread, milk, cream, fruits, and oatmeal as the staple articles of spring diet, with no salted meats, and little or no meat of any kind, will keep the bowels in perfectly healthy condition at this season of the year; whereas if ham and eggs, hot bread, superfine hot biscuits, stale potatoes, are the principal articles of diet, there is no end to the suffering that may be entailed; then as summer comes on, early fruits and vegetables should be still more largely partaken of. Strawberries should be used in abundance all through June—raspberries, blackberries, and cherries in July. In August apples, and soon after tomatoes, peaches, grapes, melons, etc., make up a list of fruits rich in fluids, opening, cooling, appetizing, delicious, health-giving; these with good brown bread, and gems with milk cream, oatmeal and fresh butter should, to a great extent, take the place of fats and highly carbonized foods and meats. In very hot weather the fats should be almost discontinued. One will suffer less from the heat if this is done. Then as cool weather comes on, if necessary, there may be a gradual return to a more highly carbonized diet, and during winter it may be partaken of quite freely, especially in cold latitudes, and when much work is to be done. Much sickness will be prevented by proper attention to the subject of wisely adapting our food to the season of the year and climate.

## FORCE-GIVING FOOD IN SUMMER.

But shall we eat no heat and force-giving foods in summer?

ANS.—Yes. Brown bread, oatmeal, and fruits are all force-giving, but to a less extent than fats, yet sufficiently so for the requirements of the season, and those persons who have very much muscular work to do may use more freely force-giving foods in hot weather than those whose labor is sedentary and light. From experiments which we have seen tried over and over again, however, we are satisfied that even farmers in the hottest days of summer who are obliged to work in the harvest field can do more work, suffer less with heat, and incur less risk of sunstroke by following the rules we have laid down, than by using a highly carbonized diet of oils and fats.

## HAM AND EGGS.

Do you think ham and eggs are objectionable in spring?

ANS.—Eggs are allowable. Indeed, lightly poached and dressed on toast they make an excellent food, but ham is not a good article of diet for any except the lowest of human beings, and even for these it is not so good as eggs, bread, oatmeal, and milk. Eggs, however, do not seem to be relished with every meal for days in succession, and hence should be taken at intervals as the appetite tolerates them.

## DAILY VARIATION OF DIET.

Should the diet be varied from day to day, or remain unchanged?

ANS.—*The diet should be varied in kind and form* quite frequently, though not necessarily every day. Even in health, the best viands when continued from day to day become unpalatable, and even nauseous. An occasional change of diet, in short, is indispensable to a proper relish for food, and the maintenance of the appetite and good health.

## AMOUNT OF FOOD REQUIRED DAILY.

How much food is needed daily by a healthy person?

ANS.—The amount varies greatly, for the following reasons:

1. Great vigor, activity of the circulation of the blood, and the elimination of worn-out particles increase the amount necessary.

2. Great physical exertion increases the required amount, and inactivity diminishes it.

3. Cold increases the amount of food needful, while heat decreases it, but increases the amount of water needful.

4. Rapid growth, as in childhood, increases the amount of food demanded by the body, while ill health diminishes it for the time being.

5. The amount of food required varies greatly with the assimilative power. As some steam-engines are constructed so that the same amount of fuel generates more steam than it would in other engines, so some persons can get more out of a pound of food than others, because they more perfectly digest it.

## OVER-EATING.

Do not people generally eat too much food?

ANS.—Many do; but eating too much is not so common as improper eating. If the food is wisely chosen there is not much danger of over-eating. Dr. Beard says, It is a fallacy to suppose that *people, as a rule, eat too much, and that most of the diseases of the world come from over-feeding.* The truth is that among all decent or civilized people, the tendency is directly the reverse. In our country, and especially in our large cities, far more are underfed than overfed. Throughout our land, thousands and thousands die every year from actual starvation. Some of these unfortunates are little children whose parents are too ignorant, or too poor, to give them what is necessary to sustain life. But many of them are adults, whom hard poverty, or sad ignorance, has forced into a habit of systematic though undesigned starvation. Day after day their stomach receives less nutriment than the system demands. Day after day the vital powers slowly fade, the strength grows less, the spirit becomes morbid, and the face wan and dejected. Disease now steps in, attacks and carries by force some important citadel of the body, and death follows. The process is a slow one—sometimes very slow—extending, perhaps, over many years, but it is oftentimes just as sure as it is slow.

The latter remarks apply with great force to the poor of all large cities. With abundance all around them, they overwork and slowly starve to death.

## GUIDE TO PROPER QUANTITY OF FOOD.

What is the best guide to the amount of food required?

ANS.—The natural appetite is the only guide. This should be aided by common sense and reason. In cases of disease our judgment may be called on to aid the appetite, to say, eat more or less as the case may require.

## VARIETY AT MEALS.

Do you think it better to eat one or two articles at a meal, or from a number of dishes?

ANS. A wholesome variety is better than to eat only from one or two dishes, except in some kinds of morbid condition, when confinement to one kind of food may be necessary.

## BRAIN WORKERS AND THEIR FOOD.

Do brain-workers require as much food as those who work with their muscles only?

ANS.—We do not know as this question has ever been decided by experiment, but we think from some observations we have made that they do require as much food, provided they take sufficient exercise for health. They should choose their food with care, so it may not oppress the stomach, and arrange their hours of eating so as not to let vigorous brain work come during the time of digesting a hearty meal. The changes of tissue in the brain during protracted thought are rapid and

extensive, and the loss must be made good by an abundant supply of food.

## AMOUNT OF FOOD FOR MEN vs. WOMEN.

Which eat the most food, men or women?

ANS.—Men eat more than women, when their work is of the same kind. It does not follow, however, that because men eat more that they get more strength from their food, for generally women have better digestive organs, and abstract more nutriment from the same amount of food.

So, too, while men and women eat at the same table, it is observable that they do not eat the same quantities of the same dishes. Men eat more heartily of the force-giving foods than women do, probably because there is more demand for them. This is perhaps the only difference. At a restaurant largely patronized by ladies, I have noticed that biscuit, tea, cake, ice cream, and delicacies were more in demand by women, and meats and hearty food by men.

## BOARDING-SCHOOL TABLES, STUDENTS' DIET.

Do you think the students at boarding-schools are sufficiently well fed?

ANS.—Generally they are not well fed. Boarding-schools, the world over, we believe, are generally thought to feed the youth who attend them on rather meager fare, though there are many notable exceptions. Proprietors of these schools seem to have the matter of economy more at heart than the health of their pupils. They do not seem to know that growing boys and girls need to be fed as well as growing calves and colts, or pigs, but can get on with a small amount of food. We once knew a school that boarded pupils and threw in their tuition, for twelve to fifteen dollars a quarter of twelve weeks. How did they do it? By half starving the boys and girls that lived in the house. White bread, hashed potatoes, or tough steak, with a trifle of sauce, was the daily bill of fare, with little variation. The proprietor, a strong, hearty man, used to sit at the head of the table, say grace, and eat as fast as he could himself; when through, rest his knife on the table as a notice to return thanks, and send all away. The result was, hearty, growing boys were half starved, and foraging on orchards and cornfields was always going on.

We are so impressed with the importance of this subject, that we copy from the *London Food Journal* the substance of an article showing how the boys are fed in a certain English school. We should modify it materially for this country. For instance, we should leave out the tea and coffee, and substitute milk or water or cocoa. For boys and girls, in this excitable climate, tea and coffee are much worse than in England. Wine and ale also should be left out, and less meat eaten. If a lunch be taken, it should be of fruit. Oatmeal and maple or other good syrup, or wheat and corn-meal mush should be added daily, and so should good home-made brown bread, and light, unleavened cakes or gems. No boy or girl should be under-fed. All desserts should be plain and nutritious. Rich cakes and pies, and hot

bread and biscuits should be omitted. With these hints, we commend the article, not as furnishing an absolute guide, but as affording abundant hints for an improved system of feeding boys and girls at school. We also advise parents who send their children from home to school, to refuse to patronize any school that does not furnish a good table for the students.

The notion so long prevailing, that students should eat but little, is utterly false, and has done harm. They should not stuff themselves at all hours with all sorts of bad food, but should eat abundance of the very best.

The following is the article referred to :

On School Dietaries.—In the neighborhood of one of our Midland cities is a school of some fifty boys. During some recent visits to this school, the singular healthiness and heartiness of the boys made me curious to learn exactly how they were fed. The following I ascertained to be the dietary :

*Breakfast* (in summer at 8, in winter at 8.30) consists of abundance of milk, bread and butter, and cold meat. By way of a change now and then, eggs for a few days together take the place of meat. Before the foregoing, boys who like it have a small basin of bread and milk, or of Scotch porridge made with milk. The milk is new, and comes straight from a farm adjoining the school-grounds.

*Lunch* at 11—Each boy has a small fresh roll of bread, or a bun, or a captain's biscuit, if weakly, a tumbler of milk ; but, as a rule, nothing is drunk at lunch, dinner, or supper but pure water.

*Dinner* at 1.30, always consists of two courses. 1. Two kinds of meats, viz., beef and mutton, with not less than two kinds of vegetables, and of these a liberal supply. 2. Pudding, usually of fruit, fresh or preserved according to season, and always well sweetened. On four days of the week the meat is hot roast ; on one day it is hot boiled ; on one day steaks, cutlets, or made dishes are substituted for joints ; while the Sunday dinner always consists of cold beef, mashed potatoes or salad, and plum pudding. After dinner, some ripe fruit, as an orange or some kind of garden fruit, according to the season.

*Tea* at 6 P. M.—Tea, bread and butter, varied almost daily either with home-made plum-cake, or marmalade, or honey. Whenever procurable, some salad herb, such as lettuce, radish, etc., is given at this meal, and always eaten with much relish.

*Supper* at 8 P. M. (for senior boys only).—Bread and butter, or bread and cheese, or biscuit, or, where it seems needed, a tumbler of milk and a sandwich.

No hampers of eatables are allowed to be sent to the boys from their friends, and no shops for the sale of sweets, etc., are allowed or accessible to the boys.

This dietary seems to me so nearly what growing boys or girls ought to have, and so often what they do not get, even at their own homes, that it may appropriately serve as the text for a few remarks on the usual dietaries of public and private schools. I will begin by at once stating my belief—as one who was himself at a private and a public school, and who still sees a good deal of schoolboys—that either

in quality, quantity, and variety the dietary of nearly every school I have known is more or less defective.

The usually unvaried breakfast of tea or coffee (and these fluids too often of a miserably thin description), with bread and butter, is a meagre meal for a boy who has to break a twelve hours' fast. It is not enough for the robust, nor varied enough for the delicate. A good basin of bread and milk, or milk porridge, should always be allowed as a substitute for tea or coffee ; and the latter, when preferred, should always be accompanied with some little extra, such as a bit of cold meat, or an egg—sometimes the one, sometimes the other, so as to secure the utmost possible variety.

The fault of most school dinners is roughness in the cooking and serving, insufficient variety in the form and kind of meat and vegetables, and the too frequent absence of puddings. It will be seen by the above dietary that with very little strain of culinary arrangements meat may be served up in half a dozen different forms each week, and if two kinds of it always come to table, ample variety will have been attained. Variety in food is no mere luxury or pampering of appetite. In all cases desirable, in the case of growing boys it is highly so ; while in the case of boys with delicate or capricious appetites, it becomes an absolute necessity. A certain percentage of such boys will be found in every school—boys who, if denied considerable range of choice in their food, will at least fail to thrive in the midst of plenty.

Many boys, being small meat-eaters, should at least have the chance of "making up" with something further, and good reason can be given why this something should be a well-sweetened pudding or tart ; if containing fresh or preserved fruit, so much the better. All boys, as a rule, dislike meat fat, and leave it on their plates, and it is a barbarous practice to try to make them eat it. And yet the same fat, in a different guise, embodied with flour in a *well-cooked* pudding, they as universally like. All boys, again, love sugar and the juices of fresh vegetables or fruits, and it is a grave mistake not to secure a fair proportion of these elements in their daily food. Now a well-made fruit pudding or tart combines these several elements in happy proportion and palatable form, and boys' universal liking for this article of diet is simply the practical expression of the physiological truth, that fat and its chemical allies, starch and sugar, together with certain organic acids and salts, are indispensable to the healthy constitution of the blood—in other words, to the due building up and maintenance of the fabric of the body.

A boy who has dined at 1 or 1.30 is ready by 6 o'clock for something more than the eternal tea and bread and butter. He keenly relishes at this meal some little variety or addition, such as plain home-made cake, or some fruit, or a bit of whatever salad herb may be in season.

In the dietary above quoted, it will excite surprise* that no beer or other stimulant is allowed either at dinner or at any other meal or time in the day. If proof were needed that boys *may* grow up in the perfection of health and strength without any stimulants whatever, provided they are *liberally fed*, I might point to the splendid physique

* Remember this is written of England, not America.

of the little inmates of this particular school, and invite any one to see how they work and how they play. Where the food is amply sufficient and varied, a boy does not want beer, nay, is better without it; where the food is not so, beer or wine will but imperfectly supplement its shortcomings.

Another noteworthy point in the arrangements of this school is the veto on all "hampers from home," and the absence of any "shop" for the sale of sweets, etc. These are far from harmless institutions; they are time-honored abominations which cannot be too strongly condemned. The evil tendencies, at any rate of the latter, are so glaring that its authorized existence is, in my opinion, a blot upon any school. Setting aside the trash eaten, the sickness caused, the morbid appetite and habit of selfish gluttony acquired, and the facilities afforded for the introduction of contraband goods—the money boys often spend at these places is grievous to think of. I can vouch for many a boy, whose parents were weak enough to supply him with almost unlimited pocket-money, having often spent at his school "shop" a weekly sum quite sufficient to feed a poor family. Now, where school meals are abundant enough, varied enough (especially in respect of sugar and vegetable juices), and frequent enough, there the inmates will have no further craving for cakes, sweets, fruits, etc. But if there be a shortcoming in one or other of these respects, then instinct drives the boys to seek elsewhere those elements of food in which their regular diet is deficient. An authorized "tuck shop," therefore, in connection with a school is *prima facie* evidence to an outsider, and not uncommonly a tacit admission on the part of the school proprietor that the diet of the inmates by no means satisfies all their legitimate cravings.

That a scale of diet such as I have here advocated is just about what boys ought to have, if they are to develop into *strong healthy men*, I am satisfied from personal experience and observation. That it is at all likely to meet with the acceptance of schoolmasters generally, I am not simple enough to suppose. It is too violent an innovation on old routine. Nay, even paterfamilias himself will probably pooh-pooh such new-fangled notions of feeding boys like grown men (especially when he finds they cost more money), forgetting that boys need more and more varied food than men. So-and-so was good enough for his (pater's) boyhood, why won't it do for his son's? But paterfamilias should speak only for himself. The diet of *his* school-days sufficed for *him*, thanks probably to his sound constitution, but was it enough for many of his less robust schoolmates? Did any of these in after years fail to grow up strong and healthy men? and if so, is paterfamilias sure that their "simple," *i. e.*, monotonous and meagre mode of feeding during their years of most active growth had nought to do with their failure?

Just as any system of teaching is a real success in proportion as it adapts itself to the peculiar needs—not of those who are quick and willing, but of those who are slow or averse to learn—so any scale of diet approaches perfection in exact proportion to the provision made, not merely for the average standard of taste and appetite, but for all reasonable deviations therefrom. The daily meals of a school may be

abundant and of good quality, still if they be not more varied than to my certain knowledge they often are, many a boy and girl must fail day after day to get those particular elements of nutrition which they specially require. The result with such boys and girls is that even in the midst of plenty they remain under-fed and imperfectly nourished, thus retarding if not arresting the due growth and development of their bodies, and strongly favoring the development of any inherited or any other constitutional unsoundness lurking within them.

## BRAIN FOOD.

Does the man who labors with his brain require the same kinds of food as he who labors with his body?

ANS.—Dr. J. M. Winn, an eminent English physician, says: "If we keep in view the difference between the structure of the nervous and muscular tissues, it becomes evident that a somewhat different kind of diet is required for the nutrition of the former from that of the latter. In order to develop and support the muscular organization, a large proportion of nitrogenous food is requisite; not so when the object is to supply the waste of the more delicate and subtle tissue of the nervous system. Fatty matter and phosphorus enter largely into the composition of the brain. It has been estimated that the former (brain wax, or brain fat, as it has been called), amounts to about one-third, and the latter (phosphorus) to one-twentieth or one-thirtieth of its solid substance. It is now generally believed that exertion of the will and reasoning powers cause an expenditure of the brain material, and a corresponding exhaustion of the nervous force. However, it must not be forgotten that prolonged bodily exercise exhausts the nervous force, as muscular contractions are commonly brought into action by nervous influence, hence the importance of a student avoiding excessive bodily efforts, which expend that nervous energy so essential for brain work.

"Large quantities of animal food and malt liquor conduce rather to somnolency than to mental activity. There is a common saying that 'fish feeds the brain,' which may depend on the phosphorus it contains. Certainly there can be no doubt that some sorts of fish, such as soles, whiting, plaice, etc., are peculiarly suitable to a weak digestion. I may incidentally observe that I have found a fish diet especially serviceable for those predisposed to consumption.

"The London correspondent of the Birmingham *Morning News* alludes to a new book that has recently appeared, containing remarks about the diet of certain literary men; and he states that he is acquainted with a well-known writer who cleaves to oatmeal porridge when he is in working trim. In this respect the said writer imitates Gerald Massey, who swears by oatmeal porridge as a brain-inspiring compound. 'There is a deal of phosphorus in oatmeal,' Mr. Massey says, 'and phosphorus is brain. There is also a large amount of phosphorus in fish. Consequently I never miss having a fish dinner at least once a week, and take a plate of good, thick, coarse, well-boiled Scotch oatmeal every morning in my life.'"

To this it may be added that the best diet for brain workers who take a proper care of their health is brown bread, cream, fresh butter, oatmeal, eggs, fresh cheese (if it agrees), fish, and a moderate amount of meat. Oysters may be used freely in their season, and fruits should not be omitted. There should be variety and change as the season and health require.

## APPLES AS FOOD.

Do you recommend apples as a portion of the regular diet?

ANS.—Yes, quite as much as potatoes. Many persons do not value apples sufficiently as an important article of diet. Besides containing a large amount of sugar, mucilage, and other nutritive matter, this fruit contains vegetable acids, aromatic qualities, etc., which act powerfully in the capacity of refrigerants, tonics, and antiseptics, and when freely used at the season of mellow ripeness prevent debility, indigestion, and avert, without doubt, many of the "ills which flesh is heir to." The operators of Cornwall, England, consider ripe apples nearly as nourishing as bread, and far more so than potatoes. In 1810, which was a year of much scarcity, apples, instead of being converted into cider, were sold to the poor; and the laborers asserted that they could "stand their work" on baked apples without meat; whereas a potato diet required either meat or some other substantial nutriment. The French and Germans use apples extensively, as do the inhabitants of all European nations. The laborers depend upon them as an article of food, and frequently make a dinner of sliced apples and bread. There is no fruit cooked in as many different ways in our country, nor is there any fruit whose value, as an article of nutriment, is so great.

An old gentleman recently stated to us that every fall he used to have a severe sickness, but since he bought, during the season, a barrel of good apples, for himself alone, and ate the whole barrel in two or three months, he had every year saved himself from this sickness without wanting a doctor.

Two good apples eaten before or soon after breakfast are an almost sure cure for constipation.

## OIL OF ALMONDS.

Is oil of bitter almonds injurious if used to flavor foods?

ANS.—Nearly all the oil of bitter almonds used in this country contains a very small amount of prussic acid, and for this reason it is injurious, as this is a powerful poison. Taylor, in his Medical Jurisprudence, says it is a disgrace that such substances are allowed to be sold as flavors to foods. Confectioners use it in the preparation of food, and it is largely used in domestic cookery. So powerful is it that a single drop will flavor a large amount of cake. The artificial almond oil is made from nitro-benzole, a product of the distillation of coal tar.

## FRUIT ESSENCE.

What is the composition of the various fruit flavors in common use for cooking?

ANS.—The genuine are made from the fruits themselves, and are wholesome and palatable. Most of them in use are artificial; for instance, quince essence is made of aqua fortis, oil of rue, etc.; pear flavor from fusil oil, acetate of potash and sulphuric acid; apple essence from fusil oil, sulphuric acid and valerian acid; strawberry, raspberry, and other essences are made from various compounds of ethers. Taken in any quantity they are believed to be injurious to health; and no doubt children, who are most likely to indulge in them to excess, are often made sick by them; indeed, such cases are common. The fruit syrups used at the soda fountains are largely artificial, and few can tell the difference, except in the after effect. The genuine is wholesome, the latter injurious.

## FRUIT JELLIES.

Is the fruit jelly seen so often on the hotel table, used so frequently for dessert, and sold so abundantly by the grocer, healthful?

ANS.—Genuine fruit jelly is a wholesome dessert, and makes a pleasant drink when diluted with water, but most of the so-called fruit jelly put up so neatly in glass jars, so prettily colored, is not jelly at all, but a preparation from the feet and legs and bones of dead animals, that should find their way to the bone-boiler or the manufacturer of bone dust for the farmer. It is very cheap when compared with the true fruit jelly, and is made to resemble it by the color so easily given by the chemist. Chemistry is an art which has done much for civilization, but it has also done a great deal for dishonest dealers, and a great deal to destroy the health of the people. Yet strange to say, most of them are too thoughtless to use their brains to protect themselves. When will people demand and have only genuine articles instead of cheap, worthless, fraudulent stuff, bearing only the name?

## TARTARIC ACID.

Is it proper to use tartaric acid in cookery?

ANS.—Tartaric acid is put up under the false name of fruitina, and is largely used to make tarts, pies, etc. It is not a rank poison but cannot be used very extensively without harm, and is no substitute for fruit. We advise you not to use it.

## MELONS.

Are water and musk melons wholesome?

ANS.—There are many persons who think the melon very unwholesome, but there really is no more wholesome fruit. If eaten fresh and fully ripe, it makes a most agreeable addition to the breakfast and dinner table.

## OATMEAL AND MILK DIET.

Why are the Scotch people, who drink a great deal of whisky, the best developed, physically, of any of the English race?

ANS.—According to Dr. Edward Smith, who carefully investigated this subject, their fine bodies are in great part the result of their diet of oatmeal and milk. The Scotch women and children do less factory work, and live more out of doors.

When the writer was in Edinburgh, the celebrated Dr. Guthrie called his attention to the size of Scotch people, and to the fact that the average size of their heads was greater than that of any other nation in the world, not excepting even the English; and when asked how he accounted for this, he replied that he thought it was owing largely to their universal devotion to oatmeal.

Indeed, the writer observed that the national dish was found upon the table at almost every meal, in the houses of the rich as well as the poor. In the morning came the mush, and in the evening the traditional cake, about the size of the crown of a hat, and a little harder than a sun-dried brick.

For further confirmation on this important question, let the writer add that he has found a great advantage to follow the daily use of (honest) brown bread and oatmeal in his family. A child whose first teeth came through in a starved condition, so that they began to decay at once and cause much suffering, is now blessed with as fine a set of second cutters as any one could ask, while the general health of all has improved. In fact, we all vote that we must daily have our brown bread and its twin-sister dish of oatmeal.

## HONEY.

Is honey wholesome?

ANS.—Yes, used in moderation it is. Very old honey, however, should be eschewed.

## WORKING ON RICE AND MILK.

Can a man do hard work on rice and milk?

ANS.—Yes, especially in hot weather, as the following case shows: A health reformer was told that he could not keep up with the crew of men through haying on his "sick folks' baby diet." He replied that he could go through the two weeks of haying on *rice* and *milk*, and endure the labor as well as any man in the crew. The whole company ridiculed him.

> "They laughed, 'twas well; but the rule applied
> Soon made them laugh on the other side."

He went through the entire haying season with only rice and milk for nourishment, and, to the astonishment of all, did more work and endured it better than any other man in the company. They had supposed that rice contained but little nourishment, was suitable only for sick people, students, etc., but were surprised to learn that there is on earth but one other article of food (oatmeal) containing more nourishment to the pound than rice.

## A HYGIENIC MEAL.

Will you please give us a bill of fare for a simple, wholesome breakfast without meat?

ANS.—Raised Graham bread, gems, baked potatoes, baked apples, cream, butter, boiled eggs. If you have cold mush, whether made of corn-meal, oatmeal, or Graham flour, you may cut it in slices, place upon slightly buttered pans, and warm in the oven. Bake the potatoes in a hot oven, and take them out the moment they are done, or they will be heavy, waxy, and sodden. Removed at just the right time, they will be white and mealy, and such are better cold than over-baked ones, though steaming hot.

Then for a simple drink mix equal parts of corn-meal or Graham flour, or corn-meal and oatmeal, stir a cupful of this in two quarts of boiling water, boil for twenty minutes, then add a quart of milk, pour into a pitcher, and send to the table. A cupful is an indefinite quantity; we purposely leave it so, for some will prefer for that quantity of gruel a very small cupful, and some will prefer it thicker. Puddings or cracked wheat, cooked the day before, may be placed on the breakfast table cold or slightly warmed, to be eaten with sugar and hot milk or stewed berries.

To be added to the bill, if the family is large, or substituted for some of the articles if the family be small, consider the following: Baked squash, Graham bread toast, with boiling milk thickened with corn-starch poured over it, or add to boiling milk, broken stale bread; boil for one minute and send to the table hot. Graham mush, oatmeal mush, or cracked wheat, sent to the table in saucers, hot, to be eaten with sugar and cream or stewed fruit; corn bread or corn-meal gems; cabbage, cut fine, boiled in a small quantity of water, add cream dressing or lemon juice; boil together freshly pared turnips and potatoes (the turnips must boil awhile before the potatoes are added); as soon as done pour off the water, dry for a moment, mash finely, add a little milk or cream, then stir well with a fork, dish and send to the table hot.

## TO MAKE OATMEAL RELISH

How can oatmeal be made to relish?

ANS.—Fill a saucer nearly full of well-cooked oatmeal. Now fill the oatmeal full of strawberries (pressing them in), ripe peaches, ripe pears, or some such fruit. Add a little sugar and cream. It is a rich and delicate dish.

## BREAD MADE WITH SEA WATER.

Can a wholesome bread be made with sea water?

ANS.—M. Rabuteau calls attention to the importance of this article. In the first place it is very pleasant eating, also increasing the appetite and stimulating digestion. On board ship, bread so prepared has been found very conducive to the preservation of health during long voyages. It also exerts important medicinal effects, especially in dyspepsia. In phthisis and in scrofula it is said to be a powerful adjuvant. Of this, however, we have little positive knowledge.

## FASHIONABLE DINNERS.

Are late fashionable dinners objectionable?

ANS.—There can be little doubt that the very late dinner hour patronized by modern society is highly unnatural, undesirable, and pernicious. The fatigues undergone by fashionable folks during the day do not tend to whet appetite—rather they serve to blunt its cravings—besides, the stomach of such is unfitted from properly fulfilling its functions. Of course tempting viands are presented on the dining-table, prepared by practised and skillful cooks, while the pleasures of love, friendship, and social converse become added as incentives. All the more dangerous, we should say. It is possible to cloy the stomach, and yet derive no benefit therefrom, but contrariwise. Better be in the condition of the Cambridge students of yore, and "diet upon fasting every day" than cause the human system to receive more than it can digest. "I restrained myself," observes Bacon, "to so regular a diet as to eat flesh but once a day, and a little at a time, without salt or vinegar."

## FOOD FOR GOUT.

What is the best food for gout?

ANS.—Temperance at the table. Dr. Cheyene said, nearly two hundred years ago:

"Three pints of milk and six ounces of bread, daily, are the only certain remedies for gout. Let two people be chosen, as like as possible, both suffering from the same cause. Give the most promising patient the most approved nostrums, etc., and let the other have only the simplest attention, but placed under a strict diet, the lightest and least, milk and seed diet, and I will venture reputation and life that my method cures soonest."

## CHESTNUTS.

Are chestnuts wholesome?

ANS.—Yes. In New York they are mainly eaten roasted or boiled, but where the teeth are sound, so they can be masticated thoroughly, they may be eaten raw, if preferred, by the young and those who have good stomachs.

## POTATOES.

Are potatoes a good article of food for sedentary people?

ANS.—Potatoes are more important than any other root used for food, and, on the score of their economy, are advantageously used in large quantities by those who work hard out of doors, though their nutritrive value is not great except the starch they contain. They are, however, easily cultivated, easily kept, easily cooked, and easily digested; but being wanting in fat and nitrogenous matter, they require to be eaten in conjunction with those kinds of food which will supply the deficiency. They should be white and mealy. Sedentary people who have weak digestion had better not eat very largely of potatoes, especially new ones, or those that are very old. During the

winter and spring potatoes begin to grow old and decay, when they become particularly unwholesome. Never eat one of these. If there is any taint about them, any bad taste or smell, never put them in your stomach. In the city they are exposed so much to cold, and heat and light, and get so bruised, that they are never so good as when they come from the farmer's cellar. While on this subject we will give our readers a receipt for raising wholesome and delicious potatoes. Choose a soil that is a dry and sandy loam if possible ; but any soil will do except where it is positively wet. With a plough mark out your furrows three and a half feet apart, and eight or ten inches deep. Now fill this furrow four inches deep with thoroughly rotten oak tan bark, or chip manure, on which is a good sprinkling of salt. Over this spread the soil half an inch thick, and plant the best varieties of potatoes. Strictly follow this rule, and nutritious and delicious potatoes will be the result.

## MID-DAY HEARTY MEALS.

Is a hearty meal in the middle of the day a good thing for a literary person who expects to write in the afternoon ?

ANS.—No. The dinner should be light, or delayed till the work is done. Intense brain work cannot go on at the same time the stomach is strongly taxed in digesting food.

## EATING GRAPE SEEDS, ETC.

In eating grapes, apples, cherries, and other fruits, may one safely swallow the stones or seeds ?

ANS.—It is best not to do it. No good comes from it, and sometimes great danger. A person, for instance, who eats a pound of Catawba grapes and swallows the seeds, takes into the stomach four large hard stones to each grape. Now count the grapes to a pound and see how many there are. Now collect the stones, or seeds, together, and see what a pile it makes ! These go rasping through the bowels like so many gravel stones, causing piles, ulceration, obstructions, etc

## MOULDY BREAD.

Is there any danger in eating mouldy bread ?

ANS.—Yes, several cases of poisoning have been observed by the use of mouldy bread. Johier has signalized the poisoning of three animals which had eaten mouldy bread. Westerhoff has made known the case of two children who had taken rye bread containing the *mucor mucedo*, the most common species of mould. The mould commonly found in bread is the *Ascophora mucedo*, a species of minute fungi closely allied to the *mucor mucedo* named above. This last is the kind that is often found plentifully on ripe fruit, preserves, etc., and when observed should be removed at once, not only because of its deleterious nature, but also for the reason that it materially hastens the progress of decay.

## MEAT.

Is not a large quantity of flesh meat necessary to the highest health?

ANS.—No doubt a large quantity of flesh meat is demanded by persons who eat mainly of fine bread, and the ordinary fare of the majority of people; but much less will be found necessary with the diet commended in this work, and in many cases persons will find it a positive delight to avoid meat entirely. Still we do not advise this unless they choose wisely and well their food from among the very best articles used. Meat is generally considered necessary to maintain health and strength; but this is largely the result of the false teaching of writers and the false education of the people. People eat too much meat. This taxes the excretory organs, renders the blood liable to be filled with impurities, which, if not eliminated, cause gout and other diseases.

## SUBSTITUTES FOR FLESH.

Are there any substitutes for flesh food which are equally healthful and nourishing?

ANS.—Yes. Eggs, cheese, and cream are good substitutes for flesh. They should not be eaten so constantly, but occasionally. The constant and daily use of eggs and cheese would overload the blood with nitrogenous matter and do harm. About one-third of the weight of an egg is solid nutriment. This is more than can be said of meat. There are no bones and tough pieces that must be laid aside. A good egg is made up of ten parts shell, sixty parts white, and thirty parts yolk. The white of an egg contains eighty-six per cent. of water, the yolk fifty-two per cent. The average weight of an egg is about two ounces. Practically, an egg is animal food, and yet there is none of the disagreeable work of the butcher necessary to obtain it. The vegetarians of England use eggs freely, and many of these men are eighty and ninety years old, and have been remarkably free from illness. A good egg is alive. The shell is porous, and the oxygen of the air goes through the shell and keeps up a sort of respiration. Eggs may be dried and made to retain their goodness for a long time, or the shell may be varnished, which excludes the air, when, if kept at a proper temperature, they may be kept good for years.

Good cheese is even more nutritious than eggs. Cheese varies much in its composition, but when properly made it contains about one-third water, one-third albuminous material, one-fourth fat, and about five per cent. of mineral matter. One-half of a pound of good cheese contains as much nitrogenous matter as a pound of the best meat, and one-third of a pound as much fat as a pound of average meat. Old cheese, however, is not wholesome, and should not be eaten. Very new cheese, on the other hand, is less easy of digestion. Cheese is difficult to keep in warm climates, and easily decays in all places unless properly cared for. Mouldy and decayed cheese is unwholesome. but this can always be known by the taste. American cheese is not so good as English and Swiss, still the best American cheese is very good. The English working classes use bread and cheese largely as

an article of diet. The Americans use it as a relish and luxury, but rarely as an article of nourishment, We believe Americans use too much meat. Those who wish for a substitute will find it in good eggs and cheese. With these foods, used properly, and fish, we need rarely use meat.

## MEAT AND THE EXCRETIONS.

Does meat tax the excretory organs severely?

ANS.—Very much meat severely taxes the kidneys to carry off any surplus of effete nitrogenous matter.

## ANIMAL FOOD AND BRAVERY.

Does not animal food make people braver and bolder than vegetable food?

ANS.—Such may be true, but we do not believe it. Good food, and plenty of it, and good health may help to make people brave, and to a great extent this depends on food; but that bravery is the result of eating either animal or vegetable food we very much doubt.

## EXCITING AN APPETITE.

When a person has a poor appetite, is it wise to sharpen it by artificial devices?

ANS.—Such a practice is wrong, and may lead to baneful results.

## FAT AND SCROFULA.

Does fat food produce scrofula?

ANS.—It is believed that fat pork does produce scrofula, but we do not think that other fats produce it. Indeed, fat in some forms is essential to health.

## EATING PORK.

A country friend writes: "It is now about hog-killing time; everybody round here, men, women and children, will almost live on pork for weeks to come—pork soups, pork mince pies, pork cake, and pork everything. Do you think pork is a nutritious article of food, and ever suitable as an article of diet for children? Many here think it ridiculous to say that pork is not healthy. Will you please give us your ideas on this question?

ANS.—1. It is the source of nearly all the tape-worms found in the human body. Now and then one comes from eating beef or mutton; but this is a very rare occurrence.

2. It is the source of all the trichina, that so dreadfully affects human beings at times, these never coming from other meat.

3. Hogs are almost always fattened so as to be actually diseased before killing.

4. It is generally believed that pork-eating is a common source of scrofula.

5. For sedentary people and for women it furnishes far too much of the fats for the best nutrition of the body.

6. "And the swine, though he divide the hoof and be cloven-footed, yet he cheweth not the cud; he is unclean to you. Of their flesh shall ye not eat, and their carcass shall ye not touch."—*Leviticus* xi. 7 and 8.

"And the swine, because it divideth the hoof yet cheweth not the cud, it is unclean unto you. Ye shall not eat of their flesh, nor touch their dead carcass."—*Deut.* xiv. 8.

"I have spread out my hands all the day to a rebellious people which worketh in a way that is not good, after their own thoughts, which remain among the graves and lodge in the mountains, which eat swine's flesh, and broth of abominable things is in their vessels." —*Isaiah* lxv. 2 and 4.

"They that sanctify themselves, etc., eating swine's flesh, and the abomination, and the mouse, shall be consumed together, saith the Lord."—*Isaiah* lxvi. 17.

## EGGS SOFT OR HARD BOILED.

I have two friends who sit near me at table, and they often dispute about eggs, one says soft boiled eggs are most wholesome, and the other says hard boiled eggs are the healthiest. Please tell us if hard boiled eggs are ever healthy.

ANS.—Hard boiled eggs have always been considered more difficult of digestion than soft boiled ones. The reason is this: the white of an egg is almost pure albumen. Now albumen coagulates with heat, and is not so readily acted on by the gastric juice; so that much of it passes from the stomach undigested. Persons with vigorous digestion may manage a hard-boiled egg so as to extract most of the nourishment from it, if it be well masticated and mixed with other food. The yolk of the egg, however, is not rendered worse by hard boiling. Eggs boiled just four minutes leave the white part in a partly flocculent condition, more easily digested, and not so soft as to be offensive to any one. An egg may be cooked in water at a temperature of about 165° F. for fifteen minutes and leave the yolk well cooked, but the white will not be rendered tough and hard to digest. Though more troublesome, this is a good way to cook an egg to render it easy of digestion as well as palatable. Persons whose palates will not tolerate a soft-boiled egg should have them poached and dropped on toast.

## WINE FOR CHILDREN.

Do you think a weakly child would be injured by a glass or two of wine after dinner?

ANS.—The child's blood must not be inflamed by such means. If ardent spirits are used by any it should be by the aged, and not by the young.

## ADULTERATED MILK.

Do you think it morally wrong to adulterate milk; nearly every milkman does it, and an honest one can hardly live?

ANS.—We should like to see every dishonest milkman nailed by the

ears to his pump till he would promise to do better. Adulterated milk kills children by inches.

## NOTIONAL PEOPLE.

Do you think it well for people to be notional and squeamish about their food?

ANS.—No. It is well to be wise in the choice of food, but not notional. It is generally best to train the appetite to take what is convenient, providing it is wholesome. Custom will make it pleasant to you. This rule will perhaps have exceptions, as when there are idiosyncrasies.

## VALUE OF DIFFERENT PARTS OF MEAT.

Why is there so much difference in the nutritive value of the flesh of animals in different parts of the body?

ANS.—Flesh is composed of numerous bundles of minute tubes adhering together in a mass. These tubes are filled with the juices of the flesh. Now the quality of the flesh depends much on the juices, while the tenderness or toughness depends largely on these tubes, and these vary with the age and condition of the animal. In old or ill-fed animals the tubes are more than the juices, and the meat is tough. In young animals it is the reverse. There is more nutriment in the flesh of animals not too young or too old, and neither too fat nor too lean.

## SALTED vs. FRESH MEAT.

Why is not salted meat as wholesome as fresh?

ANS.—1. Salt extracts a considerable portion of the juices of flesh. It also hardens it.

2. The flavor is far inferior.

3. It carries far too much salt into the system. Much of the impaired health farmers have in spring comes from this source. This excess of salt with the meat begets thirst, loss of appetite, impaired digestion and skin disease. It would be far better for them to eat no meat in winter, but substitute oatmeal, molasses, cream and fruit for salted flesh, than to eat so much of the latter. With this diet they would rarely have the debility in spring now so common.

## EXTRACT OF MEAT.

Is Liebig's extract of meat as good as is claimed by the manufacturers?

ANS. No, not half nor a quarter so good. To make, for instance, one pound of this extract requires thirty pounds of flesh, but is all the nutriment of the flesh condensed to this amount? By no means, but only the juices of the flesh and those parts soluble and the least nutritious. For very feeble persons, who can take but little food, it may be useful; but as a staff for the sick generally, who need good nourishment, it is a broken reed.

## BUTTER.

Is butter a food—that is, does it nourish and strengthen the body?

ANS.—Butter is a food quite as much as meat. Indeed, there is more strength stored up in an ounce of butter than two ounces of the best lean meat; but butter will not furnish material to build up the tissues of the body as bread and meat do. A man would starve on a butter diet in a very short time. Butter is a fat useful in the body to support animal heat and generate force, as coal and wood do under the boiler, and of some use in building muscular and nervous tissues.

## EATING TO PLEASE.

When dining with friends, should we eat of all the dishes set before us to please our host, who good-naturedly urges us to take more than we want?

ANS.—

> "'Tis better, sir, I should you now displease,
> Than, by complying, next day lose my ease."

An ingenious and dextrously made excuse is always as acceptable as compliance.

## HYGIENIC COFFEE.

How can hygienic coffee be made?

ANS.—What is called hygienic coffee may be made from rye, corn, sweet potatoes, peas, beans, etc., etc. It may be made by roasting these articles and treating them in about the same way that coffee is treated. As an occasional drink they are wholesome, and if well made, an agreeable beverage.

## BE AGREEABLE AT MEALS.

You tell us to make ourselves agreeable and entertaining during our meals. Some of us have not the faculty of ready speech. What's to be done in such a case?

ANS.—Every one can do something to add to the social life at the table. If one cannot talk, he can listen, or ask questions, and draw out others who can talk. Good listeners are as necessary as good talkers. Never argue at the table; but tell pleasant stories, relate or read anecdotes, and look out for the good of all. Sometimes a single anecdote from a paper starts a conversation that lasts during the meal time.

A family table ought to be bright and cheerful, a sort of domestic altar, before which every one casts down his or her offering, great or small, of pleasantness and peace; where, for at least a brief space in the day, all annoyances are laid aside, all stormy tempers hushed, all quarrels healed; every one being glad and content to sit down at the same board, and eat the same bread and salt, making it, whether it were a rich repast or a dinner of herbs, equally a joyful, almost a sacramental meal.

## EATING WHEN TIRED.

Is it injurious to eat a hearty meal while very tired?

ANS.—Yes, it is very injurious. Always arrange your labor so as to have a short resting-spell both before and after every hearty meal, especially if old or feeble.

## OATMEAL DRINKS.

How is oatmeal drink made?

ANS.—This is highly recommended by those who have tested it. A writer says: "Last year we attended a field trial of plows, and for a drink in the field we had buckets of cold water with oatmeal stirred in, which we found to be both victuals and drink, and mighty refreshing." A Scottish medical journal also says of oatmeal, that, in its raw state, when mixed with water, it is becoming a favorite drink. The brose of "Auld Scotland" is becoming a favorite dish—and we are glad to note this, because we believe it to be a healthy and muscle-forming nourishment. The hunters and trappers of the West, are substituting oatmeal in this form for parched Indian corn. The same brawny fellows, whose powers of endurance are proverbial, whose scorn of fatigue is known to all readers of natural history, have found out that a very acceptable drink is made by putting about two teaspoonfuls of oatmeal to a tumbler of water. This they—the hunters and trappers—aver to be the best drink they can use; and it is at once nourishing, unstimulating, and satisfying.

It is a good substitute for tea, coffee, or any form of intoxicating liquors, which produce so much harm.

## FOOD AND PROLIFICNESS.

What food causes people to be most prolific?

ANS. It is said that the families of fishermen are largest and very healthy, but we think this may arise from the fact that they live largely out of doors and take a great deal of exercise, as well as eat fish. It was once thought that the reason why the Irish are so prolific, was because thy live so largely on potatoes, but in our opinion this is not true. Prolificness is an inheritance. Some races and families are so by nature, and others are the reverse. It depends partly on the health and vigor of the generative apparatus, partly on habit, partly on food, and, strange to say, too much food, especially when coupled with indolence, interferes with bearing children. Unfortunately the poor are more prolific than the rich. This subject is more fully discussed in our little work, "Parturition without Pain."

## LARGE STOMACHS.

Is it well for a child to have a large abdomen?

ANS.—It should not be abnormally large, but it should be much larger than many people think. Only a good-sized stomach is capable of digesting abundance of food to keep up a large supply of blood. Small stomachs and small lungs are incompatible with high health and great powers. When children are kept on very concentrated food

and too much sugar, the stomach is apt to be too small. On the other hand, if kept only on coarse vegetables it may be too large. Never reduce the size of the stomach by tight lacing. Corsets injure this organ and the liver more than they injure the lungs.

## CODFISH.

Is codfish easy of digestion?

ANS.—Dr. Pavy declares codfish to be "a more trying article of food to the stomach than is generally credited."

## BEST SEASON FOR FISH.

When are fish best for food?

ANS.—Their quality is best just before the spawning season, when they are in good health and condition. Just after spawning they are least valuable as food. Fish that have not attained the spawning age are always in season.

## SHELL FISH.

Are shell fish nutritive and easy of digestion?

ANS.—They are less nutritive and more difficult of digestion than other forms of animal food, and are apt to upset delicate stomachs. Oysters are, however, an exception.

## OYSTERS.

Has an oyster stomach, heart, and liver?

ANS.—An oyster has a stomach, but no heart. It has gills like a fish, which answer for lungs. It has a very large liver, indeed, about two-thirds of an oyster is liver.

## RAW OYSTERS.

Are raw oysters digestible?

ANS. They are more digestible than cooked ones. It is believed by some that there is a true gastric juice in an oyster's stomach, which assists in digesting them.

This, however, is not known with certainty.

## COMPOSITION OF OYSTERS.

What is the chemical composition of an oyster?

ANS. — It varies somewhat; but Payen gives the following analysis:

| | |
|---|---|
| Nitrogenous matter | 14.010 |
| Fatty matter | 1.515 |
| Saline matter | 2.695 |
| Non-nitrogenous matter and loss | 1 395 |
| Water | 80.385 |
| | 100.000 |

## OYSTERS IN SUMMER.

Why are not oysters eatable in months with an "r" in them?

ANS.—The oysters cast their spawn in May, lose their good condition, become poor and sickly, and are reckoned "out of season." In June, July, and August they regain their good condition and become eatable once more.

## RICE.

Is rice nutritious?

ANS.—Rice is very rich in starch, yielding from seventy-five to ninety per cent. of this carbo-hydrate. It is very poor in nitrogenous matter, yielding only six or seven per cent. It is very poor also in saline matter and in fat. The starch of rice is very easily digested, and it forms a valuable food for delicate stomachs.

The composition of rice is:

| | |
|---|---|
| Nitrogenous matter | 6.3 |
| Carbo-hydrates | 79.5 |
| Fatty matter | .7 |
| Saline matter | .5 |
| Water | 13.0 |
| | 100.0 |

## NUTS.

Are nuts wholesome?

ANS.—Nuts are a very rich food, containing much oil, in such a state that it is not easily acted on by the gastric juice unless minutely divided before being passed to the stomach. Thoroughly chewed, however, they are wholesome for persons with good stomachs.

Children may eat nuts freely to advantage, but care should be taken to choose fresh ones. Stale, old, overdried nuts are very indigestible and injurious.

## TURNIPS, ETC.

Is there much nutriment in the turnip, carrot, etc.?

ANS.—Very little. They contain about ninety per cent. of water. Their chief value is as a divisor of more nutritious food, to allow the gastric juice to act on it more readily, and as a relish.

## FRUITS.

Should fruits constitute a very large share of our food?

ANS.—Fruits are a very important article of food. They are agreeable, refreshing, wholesome. They counteract the injurious effects of too much nitrogenous, fatty, and salty matter. They are not highly nutritious, and should not be eaten in such quantities as to overtax the stomach, as they easily undergo decomposition and produce flatulence.

## THE BEST FRUIT.

Which is the best of all the fruits?

ANS.—The apple. It is, when cooked, very easily digested and lax

ative, overcoming constipation and furnishing a valuable acid for the stomach. The following is the composition of an apple:

| | |
|---|---|
| Sugar | 7.58 |
| Malic acid | 1.04 |
| Nitrogenous matter | 0.22 |
| Pectous substances | 2.72 |
| Ash | 0 44 |
| Water | 88.00 |
| | 100.00 |

This does not include seeds or stem.

## THE ORANGE.

Do you think an orange is wholesome, if taken before breakfast?

ANS.—The orange is very easily digested, admissible in health and disease, and one before breakfast will often prepare the delicate stomach for a good meal better than anything else.

## GRAPES.

Are not grapes very nutritious and a healthy food?

ANS.—They are. Well ripened, sweet grapes may be taken to great advantage in cases of dyspepsia, liver complaint, constipation, and by nearly all invalids. The skin and seeds should be rejected. The "grape cure" is very popular in France, Spain, and Germany; but European grapes are better than American. The composition of grapes is:

| | |
|---|---|
| Sugar | 13.780 |
| Malic acid | 1.020 |
| Nitrogenous matter | .832 |
| Pectous matter | .498 |
| Ash | .340 |
| Seeds and Skin | 2.592 |
| Pectose | .941 |
| Water | 79.997 |

## BEST TIME TO EAT FRUIT.

When is the best time to eat fruit?

ANS.—Most writers advise that fruit should always be eaten as a part of the regular meal; but we believe that from an hour before to an hour after quite as good a time as any. Fruits do not need much digestion and need not interfere with the digestive process. Do not mix fruits with roots—such as potatoes, for instance. In good health they may be eaten moderately at any time when they are demanded. Fruits are more of a drink than food. Children in health may have fruit most freely, but should not eat it just before going to bed. If it causes flatulence, eat less of it.

For a full statement of the analysis of all fruits, and their virtues, see "Pavy on Food." Our space will not allow of a full discussion of this subject.

## HONEY.

Is honey a true food, and may it be eaten with safety?

ANS.—Honey is a vegetable product, secreted by the nectariferous glands of flowers, sucked up by bees, passed to the honey-bag, possibly slightly changed before disgorged, and deposited in the cell of comb. Pure fresh honey is slightly laxative and wholesome. The comb is not easily digested. A German teacher has lately written a work on the subject of honey and its healing properties. While he may overestimate its value, what he says is interesting. He says:

"A strong influence for publishing this book was the fact that I, a sufferer from hemorrhages, already given up to despair, and at the verge of the grave, was saved by the wonderful curative powers of honey; and now, thank God, I am freed, not only from weakness of my lungs, but rejoice in the possession of perfect health.

"At my first attack, upward of thirty years ago, powders and tea were ordered for me, which benefited me but little. I then placed little confidence in honey, which I used occasionally, and in small quantities. Judging from my present knowledge, I believe that the honey was the only remedy that was doing me any good, and it is this that I have to thank for the gradual, the sure restoration of my health.

"As my disease increased, I began to use cod-liver oil, which weakened and injured my stomach, so that I could hardly digest anything more, and my condition became worse and worse. Again I returned to honey, when my suffering immediately began to decrease and disappear. Besides the use of honey, I took pains to preserve my breast and lungs from injury which, in my trying situation as public teacher, was almost impossible. My disease being caused by my constant teaching during so many years, I gave up my profession, and honey was my only medicine, whereby I, by the simplest, safest, quickest, and pleasantest manner (for I was fond of honey), relieved the disease in my throat; and, out of thankfulness, I now write this book for the use and benefit of many, especially for the use of those suffering from diseases of the throat and lungs."

## THE TEETH.

As our teeth have a great deal to do with our food, what are the best methods of preserving them?

ANS.--As soon as the teeth make their appearance it should be the duty of the mother or the nurse to clean them, morning and evening, with a small brush and tepid water, and, as they increase in number, floss silk, well waxed, should be passed between them, moving it up and down a little under the gums, for the purpose of removing accumulations, remembering that food, fruit, etc., left in the mouth and between the teeth during sleep, are the principal causes of their decay. Early and careful attention to the teeth, cleanliness of mouth, temperance in living, and abstinence from acids, are some of the best maxims for the preservation and beauty of the teeth. When children are thus familiarized with the healthy and necessary custom of brushing the teeth, it becomes a fixed habit, and they will find it ever afterward abso-

lutely essential to their comfort. As soon as the child is old enough give it a tooth-brush and give instructions for use, and see that it is done often and thoroughly. The brushes to be used should be adapted to each case, neither too soft nor too hard, and so formed as to clean the teeth without injuriously irritating the surrounding tissues. Brushes for children should not be quite as stiff as for older persons, the gums, not having been subjected to as much friction, are not so dense. Procure brushes of a medium width and narrow at their extremity, so as easily to penetrate to the last molars without wounding the cheeks; they should have three rows of bristles, with the handle slightly bent, so as to allow of an easy and graceful motion.

## ICE.

How can ice be kept in small quantities, in a sick room, without its immediately melting?

ANS.—Make a double pocket of strong woolen cloth, no matter how coarse and faded it is. Have a space, about two inches or so, between the inner and outer pockets, and pack this space as full as possible with feathers. You have no need to use geese feathers; hen feathers are just as good. With a pocket thus constructed, and kept closely tied at the mouth, a few pounds of ice may be kept several days.

## STARCHY MATTER FOR BABES.

Can an infant be fed on preparations containing much starch when the mother has not sufficient milk for it?

ANS.—No. The starchy preparations so common in the nursery are very deleterious, and starve the little one. There is no starch in milk. Never feed a baby on arrow-root, unless you desire to kill it.

## BAKING-POWDERS.

What are baking-powders made of, and are they proper things to be introduced into the stomach?

ANS.—The modern baking-powders, as a rule, consist of tartaric acid and carbonate of soda, which evolve the necessary gas, when in contact with water, to make the bread light, leaving behind a residue of tartrate of soda. In practice, they are made by mixing together these two substances (first thoroughly dried and pounded) in nearly equal proportion, and then diluting the mixture thus made with any cheap material—such as flour of rice—so as to add to the bulk, and enable an apparently greater quantity of baking-powder to be sold for a given sum. Many excellent food authorities have objected to the use of baking-powders thus made, on the ground that it behooves us to be careful how we add to the already sufficiently large amount of mineral matter which we naturally consume daily. We should hesitate before we advised the whole bread of a family to be thus prepared, though for some of the minor articles of food only occasionally used, they may do little harm. Unfortunately, some of the manufacturers of baking-powders are guilty of the addition of alum in considerable quantities.

## HUMILIATION IN EATING AND DRINKING.

Are not eating and drinking humiliating acts, rather than an ennobling, elevating one?

ANS.—No. There are those who pretend that it is humiliating to be afflicted by purely animal needs; others, on the contrary, are of opinion that as feeding is a delectable operation, we ought to be very thankful that we can perform it so frequently; a third class thinks nothing about it either way, while doctors, economists, and historians regard eating as a grave question, as one of the keys to health, and as a serious element in the progress of civilization. And there is another point of view, more interesting still. We meet to eat; our repasts are made in company, they bring families and friends together, they exercise a unifying effect of enormous force. Our dinners may, however, be a source of gluttony and dissipation, if we will make them so. Should not each one determine that they shall minister to good, and not to evil? We should always go to the table with a cheerful spirit and keep cheerful as long as we sit there, and try to make others so.

## ENERGY AND FOOD.

Can all the energy in food be extracted during digestion?

ANS.—As a general rule, all the energy of food cannot be extracted from it by the body. If it could be, then an ounce of lean beef would give strength sufficient to lift fifty-five tons one foot high; an ounce of veal, forty-five tons one foot high; an ounce of bread, eighty-three tons; an ounce of rice, one hundred and forty-five tons; an ounce of oatmeal, one hundred and fifty-two tons; an ounce of pea-meal, one hundred and forty-six tons; an ounce of potatoes, thirty-eight tons; an ounce of carrots, twenty tons; an ounce of cabbage, sixteen tons; an ounce of butter, two hundred and eighty tons; an ounce of the white of an egg, twenty-two tons; an ounce of the yolk of an egg, one hundred and twenty-seven tons; an ounce of good cheese, one hundred and sixty-eight tons; an ounce of milk, twenty-four tons; and an ounce of sugar, one hundred and thirty tons, one foot high. In order, however, to get all this strength out of food it must be well digested, and used to advantage. There must be no waste. It is calculated that the strength developed from food in the average body is equal daily to an amount that will lift five thousand tons one foot high. But by far the larger part of this is used up in keeping the body warm, circulating the blood, digesting food, etc., so that the available force of the body is only a small portion of this.

## DIETETIC REFORMERS.

Do you think those dietetic reformers, who, like Sylvester Graham advise the disuse of salt, butter, milk, sugar, eggs, cheese, condiments and all forms of fat as well as flesh, have a correct notion of diet?

ANS.—No. True dietetics must be founded on science and common sense, and not on conceptions of the brain or fancies of theorizers. We do not doubt but science will yet show us how to live without flesh, but it will never show us how to live without nourishing, wholesome food, containing the fats, salts, and all the elements of complete nutri-

tion. The dietetic reformers, in their zeal, have, some of them, overshot the mark, but they meant well, and, while they have done much harm, have also done much good by calling attention to a neglected subject and to many abuses of diet. The good they have done will live after them; the harm will soon be forgotten.

## RYE BREAD.

Is rye bread wholesome?

ANS.—Yes. It is a laxative, cures constipation, but sometimes the disease to which this grain is subject will render the whole population where it is used dangerously ill, and be productive of most afflicting diseases. This however, is a rare circumstance easily avoided.

## DIET FOR A FEEBLE CHILD.

What diet would you prescribe for children from two to ten years of age, of strong mental temperament and slender bodies? I am anxious to know how I can best develop their bodies. My boy of seven years of age takes a number seven hat and weighs but a little over thirty pounds. His general health is much better than it was one year ago. Is there any particular objection to Indian-meal bread or rye bread? I do not like to trouble you, but I am anxious to learn. We do not send him to school now, and keep him out of doors as much as possible in pleasant weather. Why I ask so particularly about corn-meal is this: a phrenologist that lectured here last spring said I ought not to give him corn bread because it is so heating. He is very fond of it.

"AN ANXIOUS MOTHER."

ANS.—Give your children plenty of the best brown bread and milk. Well made corn-meal bread, rye bread, and oatmeal wafers, are good. The phrenologist who objected to corn-meal bread did not know very much about it. Corn-meal pudding and good syrup or milk, will be excellent. Now and then an egg on toast will not come amiss. Children need abundance of wholesome food. If they cannot have it they will be dwarfed and stunted. Good fruit is appropriate.

## DIET FOR CONSUMPTIVES.

What are the best foods for consumptives?

ANS.—Consumptives must see that their bodies are properly fed. They should not take food as a medicine, but as nourishment. They should have the very best things to eat that they can get, and, fortunately, the best things are not always the most expensive or difficult to obtain. If it agrees, a cup of cream may very appropriately be taken every day by those who are inclined to consumption. Brown bread, and milk and cream, oatmeal and cream, eggs, with the moderate use of beef and mutton, good butter and mealy potatoes, will, of themselves, constitute a perfect diet. They should avoid nicknacks and fancy foods, and live on things substantial and nourishing. Fruits should be used in their season moderately. Consumption is a constitutional disease showing poverty of blood and poverty of healthy tissue, and this

poverty must be eradicated. It can be done partially by such foods as are needed to build up a strong healthy body and carry on all its functions. Many physicians think that the disuse of fat is a cause of consumption, and they prescribe cod-liver oil, not as a medicine, but as a food, and, in many cases, it has proved useful. We think, however, that it is the sedentary and unnatural life people lead that has most to do in causing so much consumption, and that with this sedentary life comes a feeble condition of body and brain favorable to the disease. A wise physical education and abundant wholesome nourishment would dissipate half the consumption in the world, and the other half would soon be banished by some other means. Consumption is a disease to be avoided, not cured.

## INSUFFICIENT NOURISHMENT.

What are the effects of insufficient nourishment?

ANS.—Insufficient nutriment weakens the mind as well as the body. Many writers place poor diet at the head of the causes that weaken attention and debilitate all the faculties of the mind. Thus we often see that disease which wastes the body enfeebles the mind also; though this is not always the case, for sometimes the brain does not diminish as the other parts of the body do.

## APPETITE AND WORK.

Can a person with a poor appetite do much hard work?

ANS.—Pavy says that a falling off of the appetite indicates a diminished capacity to labor. A farmer was once asked why he paid his hands so much, replied, it was economy to pay them well, so they could buy sufficient food. One might as reasonably expect much labor from a meagre diet as much fire from a little wood. A good appetite is generally synonymous with health and abifity to do much labor. Great workers, whether with body or brain, or both, are usually liberal eaters. Lawyers and ministers are apt to be good eaters. They should eat wisely as well as liberally, otherwise, dyspepsia will be the result. The old notion that great thinkers are small eaters is incorrect, except in the case of those who otherwise live very quiet and inactive lives.

## GREEN PEAS.

Are green peas digestible and wholesome?

ANS.—Peas, when eaten green, are more digestible, but less nourishing than when in the mature state. In the latter case they need slow and prolonged cooking before they are fit for the table. When old they should be soaked for some hours previous to boiling. From the large amount of nitrogenous matter and starch in their composition, they form a valuable and cheap article of diet.

## THE SWEET POTATO.

Is the sweet potato very nutritious and wholesome?

ANS.—The esculent properties of this tuber depend very much upon the conditions under which it was grown. Perhaps no vegetable is so greatly modified in its character by variations of soil and climate. To

grow good sweet potatoes requires a light, warm, porous soil, and a proper degree and continuance of summer heat. Planted in ground of a compact, retentive nature, they become watery, insipid, heavy, and quite unfit for human food. Their fine qualities are often impaired likewise by rough, careless handling, and by exposure to cold. They should be gathered when fully ripe, and only on a clear day. Allow them to lie exposed to the sun for a few hours to become dry; then place them in clean barrels or boxes, handling them carefully as if they were eggs; store them in a dry place where the temperature will be pretty uniform, never lower than 45°, and they will keep fresh and good all the year round. Owing to the large amount of starch and sugar in their composition, they may be regarded as constituting a rich and valuable food. When properly grown and cooked they are delicious, wholesome, and satisfying. If eaten in an unripe state they are apt to produce flatulence.

## ANALYSES OF FOODS.

Is there any table of analyses of foods, showing the amount of each proximate principle?

ANS.—The subjoined table, compiled from Letheby's Analyses, may serve to determine the relative values of the substances named as articles of diet:

| | WHEAT FLOUR. | OAT-MEAL. | BARLEY. | RYE. | MAIZE. | RICE. |
|---|---|---|---|---|---|---|
| Nitrogenous matter | 10.8 | 12.6 | 6.3 | 8.0 | 11.1 | 6.3 |
| Carbo-hydrates | 70.5 | 63.8 | 74.3 | 73.2 | 65.1 | 79.5 |
| Fatty matter | 2.0 | 5.6 | 2.4 | 2.0 | 8.1 | 0.7 |
| Mineral matter | 1.7 | 3.0 | 2.0 | 1.8 | 1.7 | 0.5 |
| Water | 15.0 | 15.0 | 15.0 | 15.0 | 14.0 | 13.0 |
| | 100. | 100. | 100. | 100. | 100. | 100. |

The following table is from the analyses of Payen. The substances analyzed were previously dried.

| | BUCK-WHEAT. | BEANS. | PEAS. |
|---|---|---|---|
| Nitrogenous matter | 13.10 | 30.8 | 23.8 |
| Starch, etc. | 64.90 | 48.3 | 58.7 |
| Fatty matter | 3.00 | 1.9 | 2.1 |
| Cellulose | 3.50 | 3.0 | 3.5 |
| Mineral matter | 2.50 | 3.5 | 2.1 |
| Water | 13.00 | 12.5 | 8.3 |
| | 100. | 100. | 98.5 |

The following is also from Payen:

| | POTATO. | SWEET POTATO. |
|---|---|---|
| Nitrogenous matter | 2.50 | 1.50 |
| Starch | 20.00 | 16.05 |
| Cellulose | 1.04 | 0.45 |
| Sugar and gummy matter | 1.09 | 10.20 |
| Fatty matter | 0.11 | 0.30 |
| Other organic matter | | 1.10 |
| Mineral salts | 1.26 | 2.60 |
| Water | 74.00 | 67.50 |
| | 100. | 99.70 |

FROM LETHEBY'S TABLE.

| | CARROTS. | PARSNIPS. | TURNIPS. |
|---|---|---|---|
| Nitrogenous matter | 1.3 | 1.1 | 1.2 |
| Starch, etc | 8.4 | 9.6 | 5.1 |
| Sugar | 6.1 | 5.8 | 2.1 |
| Fat | 0.2 | 0.5 | |
| Mineral salts | 1.0 | 1.0 | 0.6 |
| Water | 83.0 | 82.0 | 91.0 |
| | 100. | 100. | 100. |

## FATS.

Do you advise people to eat sparingly of fat?

ANS.—Fats are very important elements of our food, still goose oil, lard, tallow, train oil, fish oil, and such articles of diet, are wisely eschewed by all except lumbermen, and those whose physical labor is very great, and who are almost constantly exposed to cold. While, therefore, the student and civilized worker wisely eschews the coarser forms of fat, he should not ignore it in some more refined and delicate form. He should instead use such as are most suitable to his taste and needs. The brain is a great consumer of fat, combined with phosphorus. No phosphorus—no thought, is a modern phrase, expressing the importance of phosphorus in mental action. As yet we are in the infancy of knowledge on this subject, but it may be predicted that when we know the whole truth, the phrase will be something like this: "No phosphorized fat, no thought." There is always some fat in most of our foods. The special forms best to make up any deficiency that may be in them are no doubt to be found in good butter

and cream. There are, of course, instances in which they will not be tolerated, but these are exceptions. Fat is not digested in the stomach, but by the pancreatic juice in the intestines, nature having provided a special juice to form it into an emulsion so it may be absorbed. In this state every atom of fat is so small that it requires a microscope to detect it, and in this state it may easily be passed through the walls of the intestines and carried into the circulation. We need no better evidence of the need of fat than this careful provision for its digestion in the system. The symptoms which attend a non-use of fats in some form are coldness of the extremities, a tendency to indigestion, lack of nervous energy and power to think. Emaciation, diminished muscular power, and a tendency to consumption.

It may be true that many persons suffer from an inability to digest fats, and that sometimes they obstruct the liver and make much trouble. In all such cases it will be advisable to use them wisely and judiciously, but rarely to avoid them altogether, except, perhaps, in corpulence, where they are best used in great moderation. Lean people should use fats rather more freely than fat ones. The amount of fat necessary for a healthy working person is about three ounces daily. Persons with extraordinary working power require more than this. The starch in our food is to a certain extent a substitute for fat, and may be converted into it.

## SUGAR.

Is not sugar an objectionable article of food?

ANS.—No. Sugar is a carbo-hydrate, and bears a close relationship to fat, only the latter contains about two and a half times as much force-giving quality. It is objected to sugar that it deranges digestion, obstructs the liver, spoils the teeth, and in many ways does harm—no doubt of it. Taken on an empty stomach, and in great quantities, sugar is injurious; but as a part of our food, and used in moderation, sugar is not only harmless, but very beneficial. Children should be allowed a reasonable amount of sugar as a part of their meals, but candies, as generally sold, made partly of sugar or glucose, and many poisonous ingredients, should never find their way into the stomachs of our little ones. So, too, the syrups made by the action of sulphuric acid on corn-starch, or the refuse in corn-starch factories, making a beautiful golden-drip syrup, is a very dangerous article, spoiling both stomach and teeth. In using sugar or syrups, choose only the purest and best sorts, otherwise much harm will come from them. As you value teeth, stomach, and health, never use those articles of food manufactured in the chemist's shop; if you do, you must expect to suffer the consequences. Half the ills of life would be avoided by careful attention to the wise choice and adaptation of food to daily needs.

## CONCLUSION.

This little work is here brought to an end. It does not pretend to be an elaborate and exhaustive treatise; but it is believed that its pre-

cepts are wise and judicious, and its hints and receipts valuable. In conclusion, let the writer urge on the reader the necessity for his making the subject of which this work treats a study. Do not trust to find out all you need to know from your doctor, your parents, or your friends, or even the ordinary cook-books, but delve into the science of dietetics. On it hangs, to a greater extent than is believed, the future of our race—well fed, they will reach a higher civilization—better health, greater beauty, and more happiness, than illy fed. Guard ever against excess, and avoid the extremes—either great abstemiousness or gluttony. With these words the author bids the reader an affectionate farewell.

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