LESSON IX.

Simple, clean, wholesome food of the right kinds fed to children in proper quantities and combinations will go further than almost any other single factor in assuring them normal health and sturdy development.

There is a real danger in attempting food conservation in the feeding of children without such a knowledge of food as will show what changes may safely be made. For the sake of the Nation as well as the individual, children must grow up well and strong.

Milk is the most important food for children. Every child under 6 should have a quart of milk a day if possible. Without milk it is hard to get the right kind of material to build the body and to keep the child in health. Skim milk is better than no milk at all, but if it is used butter or other fat must take the place of the cream in the whole milk.

Children should have either fruit or vegetables, preferably both, every day. Very little children may be given orange juice; a year-old child may have spinach cooked and put through a sieve; 2-year-old children may have soups of vegetable pulp and milk; and a healthy child between 3 and 6 may have almost any vegetable that he will chew thoroughly. Potatoes may be used freely. Every child should be given some cereal, in the form of well cooked breakfast cereal, well baked bread, or simple desserts, every day.

Bread and butter, whole cereals, and whole milk give all that the body needs for growth; beside this, fruits and vegetables are needed to give bulk.

Children need fats; but they are better uncooked, except bacon. Older children who have one-third of a quart to a quart of whole milk daily may use a butter substitute in place of butter, if it is necessary.

Sugar and sweets are valuable fuel foods, but children are liable to eat too much of them. They should be used as dessert after a good meal instead of before it.

A young child may be considered well fed if he has plenty of milk, bread, and other cereal food; an egg once a day or its equivalent in flesh foods; a small portion each of carefully prepared fruits and vegetables, with a small amount of sweet food after his appetite for other foods is satisfied. If there is too much or too little of any of these, his diet is one sided.
Lesson IX

THE CHILDREN'S FOOD.

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The choice of food is an important factor in food conservation when adults are considered; it is far more important in feeding children. The needs of the growing body are complex and must be supplied abundantly, and yet overfeeding in every sense must be avoided. Nothing must be given which can not be easily digested and assimilated. Food is less truly wasted when it is thrown into the garbage can than when it is fed to a little body that can not use it but must, on the contrary, get rid of it as soon as possible to avoid illness. This is a double or a triple waste.

Food Needs for Growth.

The child grows at the rate of from 4 to 10 pounds a year for the first 13 years of life. During this time he must have raw material from which to build tissue, especially (1) protein, (2) many minerals such as lime, salts, and phosphates for teeth and other bones, and iron, without which growth and development are impossible. He must have (3) fuel to keep the tissue factories going, as well as to generate heat and motion, for which purpose fats and carbohydrates are especially valuable. He must have (4) traces of two kinds of little-known substances which promote growth and prevent disease.

General Choice of Food.

The majority of children in this country in families of moderate income have diets containing all of these constituents. The purpose of this paper is to discuss various common foods as to their value for children and to indicate how one may judge whether a child is getting everything he needs and how to correct the diet if it is wrong. Decide on the food the child should have and then stick to it. Do not give tastes of other food.

Milk.—Milk contains all the food constituents necessary for growth except iron, of which it has very little. No proteins that have been studied are better for growth than milk proteins. No other food has so nearly perfect a balance of minerals for building the growing bones and other tissues. It contains both types of accessory substances. If it has a fault, aside from the small amount of iron, it is that it is too perfect—so completely digested and absorbed that there is no residue to assist in the daily evacuation of the intestine. On this account, cellulose vegetables should be fed—spinach and carrots especially, because they supply not only residue, but also iron. Iron may also be given in egg yolk or meat juice.

Since milk is so nearly perfect it is clear that it is the last food on which to economize. Every baby and young child should have a quart every day,
older children at least a third of a quart. Even adults are better off with a glass of milk a day either to drink or cooked in food. Diets containing no milk are almost always deficient in lime salts and this means among other things the danger of poor teeth. We should do what we can to increase the milk supply by encouraging more people to keep cows or milch goats, but in any case milk should be included in the dietary. It is not only indispensable for young children but, even at 15 cents a quart, it is one of the cheapest body-building foods. See that it is clean when delivered and keep it clean. Keep it cold until it is time to use it. If kept warm, it nourishes bacteria as well as children. If it is dirty, it will contain many bacteria, some of which may cause disease.

Skimmed milk is much better than no milk at all. The proteins and minerals are still present, but it has just one-half the fuel value of whole milk, and therefore there is no economy in its use unless it costs less than half as much as whole milk or some cheaper (and equally good) source of fat is used in place of the cream in whole milk. Unsweetened condensed milks and most dried milk preparations are better than no milk but far inferior to fresh milk for children. While part of the milk should be drunk, especially by little children, much of it may be fed in soups, custards, puddings, and similar dishes.

Cereals.—Cereals should be used not only as breakfast food and porridge for supper, but in dessert. From the end of the first year, or even earlier, cereals should form an important part of the child's diet, next to milk the most important part for the first five years at least. Cereals are rich in starch; the protein is good, especially when supplemented by milk; and the minerals in the whole grains are very valuable. With patience and persistence almost any child may be taught to eat them.

For children under 18 months it is generally wise to strain the coarser cereal preparations, such as rolled oats and others, and in all cases such food should be cooked a long time—at least three hours in a double boiler.

Other cereals than wheat may be used. Well-cooked corn, as hominy or corn meal porridge or mush, is as nutritious as farina or other wheat breakfast foods; oatmeal, strained for babies, is equally good and supplies considerable iron, though in large amounts it may form pasty stools and increase constipation, unless other dietetic measures, such as are spoken of later, are taken to prevent this; barley, rice, and tapioca are also valuable, especially as sources of starch.

Wheat is not superior to corn, nor to oats where this last grain does not cause constipation, nor to rye, except in bread. So far as we know now no other grain than wheat gives by itself a light fermented loaf. On this account for little children wheat may be saved in other ways and used in bread, though even here it may be mixed with other grains. Bread forms an important part of children's diet, dried out or toasted for the younger ones. Bread and butter, preparations of whole cereals, and whole milk, supply all the body's needs for growth. Such a diet does, however, lack the indigestible residue which is necessary to give bulk to the feces and prevent constipation, and this should be supplied by vegetables and fruits.

Meat and eggs.—Meat is unnecessary for little children. Authorities are not all agreed as to how soon it should be given. Even when the child is 6 or 7 years old, only a small portion once a day should be allowed. Milk and eggs are good protein foods for children. One egg (soft cooked) may be given daily and occasionally an additional one in custard or plain pudding. A very few children are made ill by egg white in any form. These children can sometimes take the yolk alone. When this, too, is impossible, it may benecessary to give beef broth or beef juice one to three times weekly, even to little children.
Vegetables and fruits.—Children need vegetables, even though most of them dislike such food. Potatoes are a class by themselves and should form an important part of the diet, well baked ones at first, then mashed, boiled, and finally cooked in various ways. They are rich in starch; their small amount of protein is of an especially valuable sort, and their minerals are alkaline, thus serving, with the minerals of milk, to balance the acid minerals of cereals and of eggs. Sweet potatoes are also good food and, like parsnips, beets, and many fruits, they supply considerable sugar.

With the exception of potatoes, all of the common vegetables contain somewhat large amounts of cellulose or indigestible residue, important to prevent constipation, from which so many ills may arise. If the food mass moves too slowly through the intestines bacteria are likely to multiply and form poisons which lead to sluggishness of mind and body, even if more obvious poisoning does not occur.

The minerals of all vegetables are valuable, but so soluble in water that large amounts will be lost unless the water in which they are cooked is served with the vegetables or in soup. Most vegetables are rich in lime salts and in iron. The greens, spinach above all, carrots, and the legumes, such as peas and beans and many of the green vegetables, as well as the whole grains already mentioned, contain so much iron that they are valuable in the anemia so common in babies and adolescent girls and useful preventives of this condition. If put through a sieve, all of these foods except legumes can be given to babies. Not only is it pleasanter and cheaper to take the iron in food than in tonics; it is far more efficacious.

The only vegetable foods particularly rich in protein are legumes and nuts, which are not sufficiently easy of digestion to be given safely to very young children. Beans are very often decomposed by bacteria in the intestine. Peas are less likely to cause trouble. Soups of lentils, peas, and beans may be given to young children, but not often.

Fruits, as well as vegetables, are valuable foods. Many of them contain sugar in a highly utilizable form, much less likely to cause indigestion than candy. They also contain considerable cellulose and certain of the mild fruit and vegetable acids which are of additional value. Orange juice, strained and at first diluted, should be given even to little babies if there is constipation or if for some reason boiled milk must be fed. It is a safe laxative and is said to prevent scurvy to which babies fed on boiled or pasteurized milk are believed by many to be liable. Strained prune juice is also a good laxative for babies; after the first year, the soft pulp may be given to healthy children. Most fruits should be cooked for little children. Bananas are easily digested if very ripe and may be given raw or baked.

Fats.—Fats are the most concentrated fuel foods. They are far better uncooked for children, who can digest fairly large amounts of butter and oils but little cooked fat, except bacon. Rich gravies and sauces, fried and sauté foods and pastry, should never be given to children. The fats most readily digested are, first of all, that in whole milk, then cream, butter, olive oil (which is sometimes utilized by babies better than cream), and bacon. For older children who have a third of a quart of milk daily, butter substitutes, such as oleomargarine and nut butterine, are entirely satisfactory. For them there is little to choose between the principal food fats as fats, though the oils and the softer fats (those of lower melting point) may digest somewhat more thoroughly than the harder ones like beef and mutton fat. But if the milk supply is short, the choice of fat becomes doubly important. The almost unknown “essential accessory,” whose presence in the food is one of the necessities for growth, is present in milk fat and so in butter, in less amount in oleomargarine.
made from beet fat, but not at all, apparently, in butter substitutes made principally from nut oils.

Sugar.—Sugar and sweets, though valuable fuel foods, are dangerous for children unless carefully controlled. Because of their flavor, it is only too easy to eat too much of them. They are likely to cause digestive disturbances, to take away the appetite for other more valuable foods if eaten at the wrong time, and therefore indirectly to cause anemia and bad teeth. Obviously, they are entirely unbalanced foods, supplying only fuel and no building materials in any permanent sense of the word. They must, therefore, supplement and not replace other food. In moderation, as dessert after a good meal, they are in their proper place.

Meals.—In combining foods from these various classes into meals for older children, it is well to have, in the course of the day, something from each class: a protein food (milk, eggs, meat, legumes, nuts), a starchy food (cereals, potatoes), a cellulose vegetable (leaf vegetables, like cabbage, spinach, and other greens, salads, root vegetables other than potatoes), some fat and some sweet, and to see that iron and lime salts are supplied.

The amount of food given depends on the age, size, and activity of the child. Other things being equal, a fat child needs less food than a thin one, a quiet child less than an active one. During the pre-adolescent period (12 to 14 years for boys, 10 to 12 years for girls) children need far more food in proportion to their weight than at any other time in life after infancy. Boys of that age may need more food than their fathers, not only in proportion to weight, but absolutely.

As to the choice of these foods to be made for children of different ages, the first rule is, go very slowly in increasing either the amount or the variety of foods. For the first six years milk should be the chief food, a quart being given each child every day. At the beginning of the second year, a baby should have milk, well-cooked whole cereal strained through a sieve, dried or toasted bread, and one to three tablespoons orange or prune juice or pulp. In addition, he may have the yolk of an egg two or three times a week or beef broth with cereal in it if egg is not tolerated. The egg yolk is gradually given more frequently until the limit of one a day is reached. The strained pulp of well-cooked spinach or carrots, later that of green peas and of young beets, may be added, and toward the end of the year all these vegetables may be given unstrained. At any time the vegetables may be served in milk soups.

During the third and fourth year these same foods may be served in a larger variety of forms and a few others added. The quart of milk should still be given in one form or another; top milk may be used on the cereal; a whole soft cooked egg may be given at noon with the pulp of mashed vegetable or a milk soup containing the vegetable; dried peas or beans may be used in soup; a little butter may be put on the bread; and baked potato and butter and a simple dessert, such as junket, bread, or plain cereal pudding, or apple or pear, baked or stewed, may be added to the meal. Only large rapidly growing children are likely to need all of this every day. The evening meal may consist of milk toast or bread and milk or cereal and milk.

During the next three or four years the amount eaten gradually increases, but the character of the food is not materially altered. The pulp of raw fruits is introduced gradually and dried fruits properly cooked may be given. Vegetables may be creamed and potatoes boiled, creamed, or mashed. Bacon may be used and tender beef, lamb, and chicken in small amounts. Plain cookies and sponge cake. 24 hours old may be given for dessert. All sweet foods should always come at the end of a meal.
A DAY'S FOOD FOR CHILDREN.

These menus apply the principles just laid down. They give a choice of foods that will supply all the food needs of a child from 7 to 10 years old.

BREAKFAST.
Orange or stewed prunes or baked or stewed apple.
Oatmeal or other well-cooked whole cereal.
Whole milk—on cereal and to drink.
Toast.
Butter.

DINNER.
Soft cooked egg or small portion of tender meat.
Potatoes, baked or mashed or boiled.
Green vegetable; carrots, parsnips, onions, or spinach.
Milk to drink or in soup made of the green vegetable.
Bread, rice, or hominy.
Butter or jelly.
Pudding or plain stale cake or cookies or stewed fruit.

SUPPER.
Cream soup, or milk porridge, or rice, or milk toast.
Bread and butter.
Pudding or stewed fruit.

RECIPES, WITH SUGGESTIONS FOR DEMONSTRATION.

With the recipes for children's food, that include milk, soups, a cereal, some simple desserts, and wheatless crackers, there are given directions for pasteurizing milk, since at times it may be necessary to do this in the household. All through the lesson there should be reiterated emphasis on the need of the care of children's food from the standpoint of cleanliness, and this should be especially applied to milk. Simplicity, thorough cooking, care in serving may also be taught better in connection with children's food than in any other lesson.

CREAM OF VEGETABLE SOUPS.

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\begin{align*}
\frac{1}{4} \text{ cup butter or clarified meat fat.} \\
\frac{1}{4} \text{ cup flour (rice or corn).} \\
1 \text{ quart of milk, whole or skimmed.} \\
\text{Mashed vegetable.}
\end{align*}
\]

| Water in which the vegetable was cooked. |
| Salt. |

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Directions.—Melt the fat and stir into it the flour. When these are thoroughly mixed, add the cold milk gradually, stirring until the milk boils. Use this thickened milk as the foundation for any kind of cream of vegetable soup by adding enough of the mashed vegetable and the water in which the vegetable has been cooked to give the consistency of the thickened milk; or the water alone may be used with half the amount of milk. A desirable flavor can be obtained with as small a quantity as ½ cup of the vegetable stock and pulp, especially strongly flavored vegetables as onion, cabbage, and turnip. As much as 1 quart of the more delicately flavored vegetables may be used. Onion or other flavor may be added.

If the mixture is beaten thoroughly with an egg beater just before serving, an attractive lightness may be obtained.

Vegetables used in this way may be potatoes, carrots, turnips, onions, cabbage, cauliflower, spinach, asparagus, peas, beans, and corn.

NORWEGIAN PUDDING.

⅔ pound prunes or other fruit. | ½ teaspoon cinnamon.
2 cups cold water. | ⅓ cup boiling water.
1 cup sugar. | ⅓ cup cornstarch.
1 tablespoon lemon juice.

Directions.—Cook prunes and remove stones; then add sugar, cinnamon, boiling water, and simmer 10 minutes. Combine cornstarch with enough water to pour easily. Add to prune mixture, cook until cornstarch is thoroughly done. Add lemon juice, mold and chill. Dried raspberries soaked in water for 5 or 6 hours and cooked for 20 minutes are particularly good in place of prunes.

DATE PUDDING.

1 package dates. | Speck salt.
1 pint milk.

Directions.—Wash dates and cut in small pieces. Add milk and cook in double boiler until thick, about ¾ hour.

CEREAL COOKED IN MILK.

⅔ cup of any coarse cereal, rice, corn | 1 quart milk, whole or skimmed.
meal, oatmeal, or barley. | ¼ teaspoon salt.

Directions.—Put in the double boiler, stirring from time to time. Cook two hours or more. This may be served with dates or other dried fruit cut up in it; or ⅔ cup of brown, white, or maple sugar, sirup, honey or molasses may be cooked in it; or it may be thinned and used to pour over prunes or other cooked fruit in place of milk.

SOFT CUSTARD.

3 egg yolks. | ⅛ teaspoonful of salt.
2 cupfuls of milk. | Flavoring.
¼ cupful of sugar, honey, or sirup.

Directions.—Heat the milk in a double boiler. Thoroughly mix the eggs and sugar and pour the milk over them. Return the mixture to the double boiler and heat it until it thickens, stirring constantly. Cool and flavor. If the custard curdles, remove it from the fire and beat with a Dover egg beater.
This custard may be served in place of cream on many kinds of dessert. The whites of the eggs may be beaten until stiff, sweetened slightly, and served upon the custard, either with or without cooking slightly over hot milk or water.

The custard may be made with the whole egg, 1 egg to 1 cup of milk, or 3 eggs to 1 quart, but it is more difficult to keep it from curdling.

Tapioca custard may be made by adding to the ingredients for boiled custard ¼ cup pearl tapioca soaked in water for an hour, drained and cooked in the milk till transparent, before adding the egg. Less eggs may be used. After the custard is slightly cooled the stiffly beaten whites may be folded in.

Baked custards are made by mixing the ingredients given above, and baking in a moderate oven till firm. The easiest way to secure good results is to set the baking dish in a pan of water.

**TO PASTEURIZE MILK.**

Set the bottles of milk in a pail with a perforated false bottom. An inverted perforated pie tin will do. Insert a thermometer in one of the bottles, by punching a hole in the cap or through the cotton plug. Fill the pail with water nearly to the level of the milk. Heat the water slightly until the thermometer registers 150° F. Change the thermometer from the milk to the water; add cold water till the temperature of the water is also 150°. Cover the kettle, keeping it as nearly this temperature as possible for 30 minutes; then cool, by running water into the pail. Remove the bottles and put them immediately on ice.

If no thermometer is at hand, the following method may be followed: Put a gallon (4 quarts) of water on the stove in a kettle with a perforated false bottom. When the water is boiling hard, remove the kettle from the stove to a table and allow it to stand uncovered for 10 minutes; then put the filled and loosely corked bottles into the water, cover the kettle, and allow it to stand covered for half an hour. At the end of this time remove the bottles, cool rapidly under running water, and put in the ice box until needed. Do not uncork the bottle from the time it is first closed until the baby is to be fed.
REFERENCES.

Farmers' Bulletin 717, Food for Young Children.
Order from the Department of Agriculture, Washington, D. C.
United States Food Leaflet No. 7, Food for Young Children.
Order from the Federal Food Administrator in your state.
United States Department of Labor. Children's Bureau:
Care of Children Series—
1. Prenatal Care.
2. Infant Care.
3. Child Care.
4. Milk the Indispensable Food for Children.
Order from the Department of Labor, Washington, D. C.
Farmers' Bulletins 712 and 717 include simple discussions and practical suggestions and recipes. The bulletins of the Department of Labor referred to are prepared by the Children's Bureau and give simple and reliable suggestions which any mother can follow; they include sections on food and nutrition. The Children's Bureau also publishes in its press series brief articles on the care of children which will be sent free on application to the bureau.

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LANTERN SLIDES.

Little Americans, Do Your Bit.
How Every Child Can Help. Eat all the Food on Your Plate.
Belgian Children.
Belgian Children Fed by Belgian Relief Commission.
Pasteurizing Milk.
A Sensible Breakfast for a Child.
A Sensible Dinner for a Child.
A Sensible Supper for a Child.
School Lunch.
Nutritive Requirements at Different Ages.
The Relative Food Value of Clear Soup, Meat Stew, and Bean Soup.
The Race for Life.
Milk as Compared with Tea and Coffee.
A Variety of Cereals.
Be Strong and Healthy.
The Health of the Children.
Wheat for Children.
Enjoying a Wholesome Food.
Taking His Bottle Correctly.
Text—Simple, Clean, Wholesome Food.

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