THIRD SESSION.

Thursday Afternoon, March 9, 1905.

RELATION OF FOOD TO HEALTH.

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Few people are able to answer correctly a very simple question: Why do we eat? Few people can tell us why certain foods are good for us and certain other foods injurious, or why certain habits of eating are sure to lead to disease later in life. Few people know that many, many foods served daily at their tables contain adulterants, some of which cause slight disorders, or sickness that they never trace to its origin. Few people know the causes of anemia, indigestion, dyspepsia, further than what the name implies, nor do they know that the proper food and care in selection and preparation of food will cure these ills, and that patent medicine cannot. In short, few people know the relation of food to health.

Until twenty-five or thirty years ago, very little attention was paid to the study of foods in this country. We have been so prosperous a nation that we never had to figure carefully the cost of foods, there has been an abundance of everything. In England and Europe many years ago the necessity for economy in living led people to study the question carefully, while in America we are practically beginning the study.

Why this utter ignorance of a subject that is of vital importance to every human being — of vital importance, because fame, fortune, ambition’s highest goal, are “like the mist that appeareth for a little while and then melteth and fadeth away” without health. With all our progress, our tearing away of veils that have hidden truths in history, philosophy, science, we still believe that a doctor’s prescription can, as if by magic, overcome the result of years of overloaded stomach, of overworked organs, of lack of fresh air, of neglect of exercise, of utter ignorance of the laws of health. Many misguided people laugh and remind us that parents and grandparents knew nothing of all this, and yet they lived and knew few ills. As before suggested, everything has progressed, except some few things that relate to the home.

Grandparents, if foreigners, lived on very simple fare, lived much out of doors during the day and had plenty of outdoor exercise; grandparents, if Americans, lived just as simply and knew little of office life, steam heated buildings, tram cars, pre-digested breakfast foods, canned peas, sweetened with saccharine and colored with copper and alum salts, strawberry jam that never knew a strawberry, and embalmed meats containing boric acid and sodium sulphite. Their lives were simple, fare simple, and many of the ills of the twentieth century were as unknown as motor cars and airships.

Physicians of today tell us that over half the disease is due to avoidable errors in diet. If this is true, and we know that it is, the relation of food to health is a known quantity and awaits our individual solution.

Is this knowledge inaccessible because of lack of material or books for study? Does it need the trained mind of the scholar to grasp the meaning or does it need years of research? Is it so dry and uninteresting a subject that it wearsies the average mind saturated with neurotic fiction or oriental philosophy or society’s scandal?

The Department of Agriculture at Washington, state experiment stations and colleges are eager to furnish free material that will give abundant
knowledge of the subject. Our government, our scientists, our progressive men recognize the importance, the value of the facts they have delved for. They do all they can; state facts clearly, simply, fully; give the information free to all who ask for it—but they cannot do the impossible. They cannot compel the thoughtless, frivolous, indifferent individual to read what will promote his health, the health of his family, and thus the health of the nation. Too many of us are like Browning's "Caliban"; we believe that sickness is some mysterious evils—the spread of tuberculosis, due to unsanitary conditions in homes and ignorance of its contagious nature, and adulteration of foods. Men do all they can in the latter case. We have dairy and food laws and commissioners to enforce them, but women could do much more. If women would thoroughly familiarize themselves with the food bulletins sent out and demand of their grocers only such goods as comply with the state laws, then the manufacturer who makes catsups out of waste products, coal tar colors, and uses salicylic acid to preserve the remains of a de-

COOKING ROOM, CLASS OF 1905.
Marathon County Agricultural School.

thing sent us by some unseen power, that, regardless of age or person, "Let twenty pass and stones the twenty-first, Loving not, hating not, just choosing so."

Work for Woman's Clubs.
If woman's clubs really wished to accomplish something of inestimable value to themselves and to the world, they would cease looking after State Boards of Control and civic affairs and turn their undivided attention to two composing mass, would find his goods unsold. He would then of his own account send out goods pronounced pure. If the public, and especially the women, could become educated and enlightened buyers, there would be little adulterated food on sale.

A Pertinent Question Answered.
Why do we eat? We eat because food supplies the body with material for the growth and renewal of its tissues, and because food furnishes energy, the resultants of which are heat
and motion. The body must have food and the right food for growth of tissue, else there is not the right growth. It must have food to keep the body warm and to supply energy for activity, work and play, for without fuel there is no energy. Further than this, we must have a constant supply of oxygen to properly oxidize the food and set free the energy.

Did you ever obtain heat from a stove if you filled it full to the top and closed all drafts? We fill our stomachs full and remain all day and every day in poorly ventilated rooms and we expect the overworked digestive organs to assimilate or get rid of food that requires fresh air and a vigorous muscular activity to oxidize and assimilate. If proper food is supplied in the right proportion, if the system is not overstocked with waste material for overworked organs to get rid of, if food is not prepared in so villainous a way that it cannot be digested, if enough fresh air enters the lungs to properly oxidize the food, then there is no reason for sickness due to disorders of the digestive organs.

The Needs of the School Child.

Let us consider the physical condition, growth, activity and the needs of a child of from nine to 18 years of age—the school child.

During this period the mind and body are undergoing great and rapid development; there is constant muscular activity in all kinds of work and play, the normal child is active all day long. The great majority of loving parents think only of the need for mental development at this time, forgetting that the mind develops all through life while the bodily development ceases soon after school age. If physical welfare has been neglected, if development has not been perfect, the child suffers through life.

During the school period, the various tissues and organs increase in strength and size, the muscular activity develops and strengthens the muscles and trains them to act with power and vigor; digestion is rapid and thorough, and absorption and assimilation must be equally so. For these reasons, food must be abundant—it must furnish material for all these new tissues, must furnish heat and the energy nec-

essary. Improper, insufficient food lays the foundation for dyspepsia, indigestion, and results in an enfeebled condition. Why, then, are so many children anaemic, subject to digestive disorders, poorly developed physically, fretful, selfish and nervous? An outline of the daily life of such a child will throw a flood of light on the subject.

Breakfast is late, or the child has remained in bed so long that if she eats her breakfast she will be late for school. Very often she eats no breakfast, very often she takes a cup of milk or coffee or cocoa standing up and then rushes to school. This child has had no food since six o'clock the night before and is really physically weak from lack of food, but the excitement keeps her up. At noon she comes in late, swallows her food hastily and runs out to join her school friends who are waiting for her, or she may not like the food served and refuses to eat, or a cold lunch may have been provided for her to take with her to school, a lunch of bread, pie and a piece of cake. If dinner is served at night, she may eat a hearty meal, but more often she eats a light supper and cares only for foods containing condiments, sauces or desserts. What is there in such a diet to furnish material for the great growth and development of the body?

Many parents blame the school when the child breaks down, thinking she has been overworked. On the contrary, she has been under-nourished, for most breakdowns are due to lack of proper nutrition and not to overwork. It is next to impossible to overwork the normal child. If you have a strong, healthy boy or girl, I think you will agree with me that studies do not worry much. It is when the nerves are ill-fed that the child becomes fretful and worried.

The first remedy for anaemic condition should be a diet of good beef and eggs, not patent medicines and iron preparations. The red in the meat contains the iron that is needed to give color to the blood and tone the system, and you cannot get what is needed by taking some iron preparation. Someone once asked me if a great many of the diseases of the digestive organs are not caused by eating too much meat. If you give a boy or girl simple fare, they will not eat too much, and the system can assimilate all they will eat.
It is after a man or woman have reached 40 or 50, when they cease to be active and do little work, after they have acquired the double chin of prosperity, that they lay the seeds for the disorders that come later. A child needs more protein in proportion to other foods than a man or woman fully grown. All they need is to repair the tissues that are wearing out, the child needs it for the growth and development of the organs.

All children should be compelled to remain at table during the entire meal. They should be ready for breakfast or rolls or muffins and butter; eggs or bacon, and some warm drink. Dinner should include soup, beef or mutton or chicken or fish, potatoes and green vegetables, puddings, light dessert or pie. Supper should include some warm dish, as macaroni, or fish or meat balls, bread and butter, a small piece of cake and some sauce. Fresh fruits are wholesome, because they keep the blood in condition and aid digestion. Milk should form a good part of the diet in soups, puddings, and eaten with break-

**PUPILS MAKING FLOWER GARDENS.**
Marathon County School of Agriculture.
fast foods. The child's system demands sweets in some form and as they are a great source of energy, this demand should be supplied in jelly, jam, honey, simple cakes and cookies, good pastry and home-made candy. Pickles, spices and highly seasoned dishes and fancy cooking should be carefully avoided. If a child is given simple food, there is little danger that he will eat too much. The dangers from over-eating are not so great in school children as are the dangers from under-eating; by this is meant the dangers in eating simple foods.

After the body is fully developed, after the individual is less active, after it is possible to indulge the tastes for fancy foods, people over-eat and then is laid the foundation for gout, rheumatism and dyspepsia.

There is a great and open field for study in this subject of foods. A little knowledge of foods, their composition, nutritive value and cost, their digestibility, would make us all stronger, healthier, happier, and we would have sweeter dispositions—women all have sweet dispositions—but good, proper food would materially sweeten the disposition of the husband.

DISCUSSION.

A Lady—You did not say anything of milk as a food.

Miss Conley—That is one of the very best things that you can give a child. Milk contains about four per cent fat, five per cent carbohydrates and three and one-half per cent protein, and it also contains a great deal of the lime salts necessary to build and strengthen the bone of the child. Most people do not know how to drink a glass of milk, they drink it in one swallow as they would a glass of water. As the milk enters the stomach, it is acted upon by the gastric juice and changed into one solid mass; if it is taken slowly it forms into smaller curds and then most of it comes into contact with the gastric juice and it is much more easily digested. Great precaution should be taken that the milk may be pure. The only way the typhoid fever germ enters the system is through the stomach. Milk and water are carriers of this germ, so be careful that the milk comes from healthy cows and is clean and pure. Diseases other than typhoid also come from an impure milk and water supply.

Question—Is protein the same as albumen?

Miss Conley—Yes, they belong to the same class.

Question—Is there no other way to supply it to children except by meat?

Miss Conley—Of all foods which contain protein, we get it in the form most easily digested from meat. Eggs and milk contain protein in form easily digested if served properly. Peas, beans and lentils are the vegetable foods that contain most protein, but they are harder to digest. Let us understand that while these foods contain protein, they contain much cellulose and so are harder to digest. We get protein in oats, wheat, and nearly all the cereals contain protein—about eight to 14 per cent protein to about 70 per cent carbohydrates. But there is another reason why the child needs beef. It is for the iron, the coloring matter for red corpuscles. Eggs will serve as a substitute for this same purpose.

Question—you spoke of candy being good for growing children. It is not a year since a leading physician told me that there is scarcely a child under 11 years old that can digest cane sugar in any form properly, and I wanted to know if there was any difference—if the beet sugar is more easily digested than cane sugar?

Miss Conley—Not a particle of difference. I will tell you what is a better form of sugar and that is honey, it is very pure. Dr. Gilman Thompson, probably the greatest American authority on Food and Dietetics, advises the use of sugar for children. He says: “The craving of children for candy furnishes a true indication of the requirements of nature, and it must be admitted that wholesome candy not only does children no harm but may serve them as an excellent food.” Make the candy at home, so you may know it is made from sugar, not from glucose. Do not let children eat it at all hours of the day, give it to them as dessert. Of course, all people do not agree on this subject, but writers on dietetics agree that sugar is necessary for the growing child, sugar in some form. It is digested and assimilated by them
when taken in moderate quantities, no food is properly digested when taken in excess.

Question—At what age would you begin to feed a child meat?

Miss Conley—The first thing I would give a child in addition to milk is beef juice, that is between the age of one and two years. After the child is three years old give him a small piece of beef or chicken.

Question—What do you think of a lunch of bread and milk for children?

Miss Conley—It is a very good food. Children would be healthier if they ate more bread and milk than they do. Grown people do not need milk. Milk is a food, a nutritious food, and when we add milk to our meal we should take that into consideration and count it as a food.

Question—Would whole wheat well cooked be a good substitute for bread?

Miss Conley—It would be a monotonous diet. You mean eaten as a breakfast food?

The Lady—Yes, but for the child’s lunch, if he would eat it properly.

Miss Conley—If the bran coats are not removed from the wheat it would be hard for the child to digest. A man working out of doors can digest foods made from coarser flour, flour that contains the bran coats, but one must have a very strong, vigorous digestive apparatus before her system can take care of it. That is the difference between the whole wheat and fancy patent flours. If you can thoroughly digest the whole wheat so as to get all the nutrition out of it, then the bran coats that are left act as a stimulant to the intestines, but if a person who works indoors, at office work, would eat whole wheat bread he would not get as much nutrition out of it as he would from bread made from fancy patent flour. His system could not thoroughly digest it. It is not what we eat, but what we digest, that makes us strong.

Question—Do you believe in pampering the stomach with all these patent foods, these breakfast foods? Don’t you think it wise to consult the tastes of each individual person? Do you think it is right to force a child to eat things that are distasteful to him just because you think it is good for his health?

Miss Conley—Sometimes the taste of children is consulted so much that they do not care to eat anything that is provided for them. If away from home, however, where their individual taste is not consulted, they eat everything set before them. They should not be allowed to become so critical of food—it is hard for them later on. As to patent breakfast foods predigested: if you eat things already digested, soon you will not be able to digest anything. If you tie up your arm for a certain length of time it becomes weak, the muscles shrivel and you cannot use it. So with the stomach, it becomes stronger by working. I do not believe in predigested foods. One is advertised to contain 10 times as much available nutrition to the pound as a pound of meat or wheat or oats; four teaspoons contain so much nutrition that it equals in nutritive value the average meal. This is absurd. If it is made from wheat, it can contain nothing more than what is in wheat; if made from oats, it can contain nothing more than is found in oats; and if it is a mixture, it can contain nothing more than the average nutrition of the ingredients. No chemist under the sun can concentrate any known food so that you can get the amount needed for nutrition from a little pellet. If you could, your digestive apparatus, from disuse, would become atrophied. Do not let any food company insult your intelligence. If they put such claims on their packages, do not buy their foods.