

"AS A MAN EATETH SO IS HE."

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"Like leaves on trees the race of man is found,
Now green in youth now withering on the ground."

Man is the dominant and superior being of this great and grand universe. We have all grades and classes, all types and stamps of this human being we call man; but what of man if his food be not considered, for does not man depend entirely upon food, and the great majority upon a large amount and that of a good quality. Man could not survive long in this world if it was not for the abundant supply of food which nature has unhesitatingly given him.

It might be well here to clearly explain the term food. Webster says, "Food is that which goes to support life by being received within and, assimilated by, the organism of an animal or a plant." So we see all living things depend upon food for the life they possess. Thus we see by our definition that even the combination of H and O, which we call water, and that of O, H, and N, we call air, both the very essentials of life are foods to the living human body.

Foods are divided into two classes, nitrogenous or proteid foods, that is, those which contain nitrogen, and non-nitrogenous, or those which do not contain nitrogen. The latter group embraces the fats and carbohydrates which collectively are sometimes termed heat producers or respiratory foods, since by oxidation in the body they produce heat. The proteids are known as plastic foods or tissue formers since no tissue can be formed without them; but both of these groups are useful in other ways than for heat and tissue.

But of what use would our food be to us if it were not for the wonderful digestive tract God has given us for the assimilation of our

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food. The food upon entering the mouth is met there by a set of grinders called the teeth, and in the process of this grinding, the food is mixed with the first fluid of the digestive tract, the saliva, which contains the active principle known as ptyalin; from the mouth the food passes down the Esophagus, a narrow passage about nine inches long, the walls of which are made up, in part, of muscles which aid in carrying the food through it. At the lower end is a circular muscle guarding the opening into the stomach.

The stomach is a dilated portion of the alimentary canal, pear-shaped in form and capable of holding from one to two quarts, the walls being like those of the entire digestive canal, largely composed of thin layers of muscles by means of which it is able to change in shape and size and produce a sort of churning motion.

In the stomach we find the gastric juice, a fluid intensely acid and known as an organic hydrochloric acid; there is also present a small amount of lactic acid. This gastric juice contains two digestive principles, pepsin and renin. At the lower end of the stomach we find, another circular muscle, another guard, known as the pylorus, these two guards are kept tightly closed while digestion is going on.

Next in order comes the small intestine which is about twenty feet long, the muscular wall secreting an alkaline digestive fluid known as the intestinal juice which is a very complicated fluid. In this organ the process of absorption is carried on. All food, that that is not absorbed or stored in the liver, is now sent into the large intestine, which ends in the rectum, from which all waste material is carried out of the body.

The liver, the largest gland of the body, must not be forgotten. This is located a little to the right just above the lower border of

the ribs and partly covering the stomach; on the under side is a sac containing a digestive fluid formed by the liver, called the bile. A short canal connects both the gall bladder and the liver with two small intestines at a point a few inches below the stomach. Just behind the stomach is a long, peculiarly shaped gland, known as the pancreas, secreting the pancreatic juice; during digestion it is poured into the small intestine through a duct joining that from the liver. This pancreatic juice contains four active principles, amylopsin, trypsin, steapsin and a milk-curdling ferment.

Next comes the foods which are supplied to these organs for digestion and assimilation. They are classified as follows;

I. Nitrogenous.

(a) Albumenates, nitrogenous substances having the same or nearly the same, chemical composition as albumen such as;- albumen, fibrin, Syntonin, Myosin, Globulin, casins, coming from animal sources and Gluten and Legumin, from the vegetable kingdom.

II. Non-nitrogenous.

(a) Fats or Hydrocarbons containing carbon, Hydrogen and oxygen, the proportion of oxygen being insufficient to convert all the hydrogen into water: olein, stearin, margarin.

(b) Carbo-Hydrates containing carbon, hydrogen and oxygen; the latter two in the proportion to form water such as; starch, dextrin, cane sugar, grape sugar, lactose or milk sugar. The vegetable acids, oxalix, tartaric, citric, malic, acetic and lactic, are by some authors referred to this class. Cellulose is a carbohydrate but not a food principle. It is the indigestible frame work or woody portions of plant.

(c) Minerals.

Phosphates, sulphates, carbonates, chlorates, iron, potash.

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(d) Water, the great solvent agent.

The first group are acted upon by the gastric juice changing proteids to peptones, acted upon by trypsin of the pancreatic juice and converted into albumenose and peptones, albumen formation and repair of tissue. They regulate absorption and utilization of oxygen. The second supplies the fatty tissues and heat and energy by oxidation. The third are converted into dextrose and maltose by the saliva supplying heat and energy by oxidation and supply fat by reduction. The fourth group aids in the formation of tissue and are essential as an ingredient in foods helping in the formation of bone, muscle and gastric juice. The fifth and last food principle is that great and important food and solvent, water, which makes up the greater percent of all foods.

Next we will take up the action, of the secretions and juices of the different digestive organs, upon the different foods eaten. Starch is acted upon first by the Ptyalin of the saliva which converts it partially into a form of sugar, dextrin; this sugar dextrin then passes into the stomach and the only action here is the neutralizing of the alkaline by the acid of the stomach. From here the intestines take up their work and the pancreatic juice completes the conversion of starch into dextrin which, if needed, is at once absorbed, and if not, is stored in the liver for future use as glycogen. When needed the glycogen is oxidized by the blood and taken for food.

Further is the digestion of proteids which receive no action in the mouth except being moistened. In the stomach they are acted upon by the gastric juice and changed into peptones. In the intestines they are acted upon by the trypsin of the pancreas changing them to peptones which are absorbed into the blood.

The bodily requirements or daily income of an average American should be:

Nitrogenous material - - - -.4 lbs.
 Fats and Oils - - - - - .4 lbs.
 Starch - - - - - --1.1 lbs.
 Ash - - - - - .1 lbs.
 Water - - - - - 6 lbs. or 3 qts.

His outgo should be daily for the digestive organs

Digestive organs - - - - - .6 lbs.
 Urea - - - - - .2 lbs.
 Lungs as C O - - - - - 2.25 lbs.
 Water - - - - - -6.50 lbs.
 Mineral Matter - - - - - .1 lbs.
 9.65

The most important factor in life is carefulness in eating, and care in this line has a great deal to do with the health; with health comes strength, agility, and a power of indurance cherished by all mankind. This diet should commence in infancy and should be wise and judicious for this is the period of growth and the formation of habits which will continue, usually, through life. Often have the bodies of children been stunted by under feeding, while over feeding may render growth excessive and unnatural. There should be an abundance of good bread of all sorts and this bread should be well made and well cooked.

Milk is a splendid food for a child but should come from healthy, well groomed cows, cows that have clean, fresh food and plenty of fresh air and water. After all this precaution the milk should be cared for in clean utensils kept in a sweet, cool cellar or ice box, for there is no food so susceptible to germs as milk.

Fruit is an excellent food for the young and should be fresh and free from any deteriorating particles. It may be cooked or uncooked,

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cooking increases the digestibility of all foods, except meat, the raw meat being easier digested than the cooked; uncooked fruit juice is more valuable as a germ destroyer than is the cooked, the acids acting as a sterilizer in the stomach. Professor Kiosoto, an eminent Japanese Bacteriologist, Professor Koek and others have shown that the acids of lemons, apples and other fruits - citric acid, malic acid - are capable of destroying all kinds of disease germs. Cholera germs are killed in fifteen minutes by lemon juice or apple juice and typhoid fever germs are killed in half an hour by these acids, even when considerably diluted. In cases of biliousness, foul tongue, bad breath, sick head ache and nervous head ache, a fruit diet is a wonderful purifier as it cleanses the stomach and the alimentary canal and drives off disease germs which are responsible for a large part of our ailments.

All the farinaceous articles, including oat meal, wheaten preparations, rice sugar in suitable quantities and eggs to a moderate extent. The drink should be pure water or milk or cocoa may be drunk, but not too much. Tea and coffee should be entirely prohibited as they have no nourishment and act too strongly on the sensitive nervous system of the child and only lay a foundation for future nervous disorders. Pies, cakes and puddings are all allowable if plainly made and well made, for many of the disorders of the stomach in youth arise from imperfectly prepared food.

A diet for the laboring man is quite varied and large and one can hardly designate exactly what he should eat. All foods are practically open to him, for his active, out-door life demands this variety and will be the means of eliminating the over supply. vegetables, fruits, farinaceous foods, oats being especially good, as they are said to be a very strengthening food. Meat from once to twice a day

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may be taken. The cases of indigestion among the hard working classes are very rare.

The brainsworkers diet needs differ from that of the laborers in its being more easily digested, unless he keeps up a sufficient amount of exercise to eliminate the extra amount taken just as the working man by his hard toil and labor eliminates the extra supply taken. For perfect work the brain should be well nourished, and the brain worker taking little exercise must beware, for he can enjoy a fair degree of health and comfort only by living on a light diet and one that does not require much force to digest and much muscular activity to assimilate. A greater expenditure of nerve force is demanded for the heavy meals than for those of a lighter repast which is more suitable for the Sedentary; this nerve force or power then saved is used for mental work rather than using it for mere digestion. Fruits should be used freely, eggs and milk come in as valuable if meat is eliminated from the diet, and very little meat should be used unless in the form of soups; fish, fowl and game being preferable and most beneficially used.

Each person is a living, walking chemical laboratory, the body being made up of sixteen essential elements which are:- Oxygen, Carbon, Hydrogen, Nitrogen, Phosphorus, Silicate, Chlorine, Florine, Sulphus, Calcium, Potassium, Sodium, Magnesium, Iron, Manganese and Copper; these elements combining and making up over one hundred distinct compounds to be found in the body, the quantity of each compound differing in different people according as the climate, occupation, kind of food taken and whether affected with disease or not.

As each person is a living, walking chemical laboratory care must be taken not to hinder the action of the work in this laboratory for if it is hindered suffering will come sooner or later, for health

can only be maintained by the observation of healthful and right living, a sound mind in a sound body is the result of this care.

Health, wealth and morals depend upon the kind of food that is taken, and plain food, well cooked is the rule.

Physiology clearly teaches that the body is precedent in the development of a human being. The tiny infant is but a breathing, eating, sleeping bundle of living cells, its movements being simply automatic or governed by an intelligence higher than its own. Mind and character are products of an after development.

Men long ago learned, that muscles are made from food and that there is a very close relation between food and strength, between the taking of food and capacity for muscular and mental work. Athletes are the best example of this muscular power; their foods are those which produce the highest degree of muscular activity and endurance. If a man over eat or live on a highly seasoned class of food, such as pastry, fats and sweets he will find that he can not compete with the man who lives upon a good substantial plain food such as home made bread, Vegetables, meat and plain pastry, well cooked and eaten in the proper amount.

The brain receives one fifth of the blood in the body and without good food the blood can not be pure, and without pure blood the brain cannot be healthful. A starved brain cannot produce good results and must be weak and unable to produce a high degree of activity. In an over fed body the brain activity may be in a still worse condition by being clogged with waste and refuse material which the over worked digestive organs have been unable to throw off. So in this way the whole system may be starved or over fed, and, in the latter case an accumulation of unused decomposing food material harboring

myriads of living, swarming microbes are found in the alimentary canal tearing down the body tissue and impairing the health and vital action of the body and mind. Whatever passes into the stomach is absorbed and circulated by the blood all through the body and whatever causes irritating and exciting action is thus carried all through the system.

If the brain becomes overtaxed with blood, sleeplessness, irritability, over frénzy, mania or insanity may insue. Ungovernable dispositions, ugly temper, nervousness and a dissatisfied feeling in the majority of cases is caused by nothing more or less than indigestion.

If we trace the life of a drunkard back to childhood, we find that it was a result of an imperfect nutrient supply or the result of highly seasoned food, the use of which instilled in him the taste for something stronger; this is also true of the cigarette fiend and the passionate, avaricious person. On the contrary if a mild food is given and a rigid rule as to quantity be kept we find a pure, easily controlled, mild temperment, the result of patient, loving, watchful care.

In the main if the health is impaired by careless or ignorant treatment, diminution in strength of will and a lowering of the moral tone is the result, the destruction of which will be according to the surroundings and circumstances in which the person is placed. Professor Alcott has remarked that "the purest poets are persons who use no animal food." This assertion finds a strong confirmation on the experience of Lord Byron; although the lofty genius of a strong man was fully matched by the grossness of his habits, at times he led, for periods of several months, a most correct and virtuous life. He was able to do this, however, only by adhering strictly to a diet the most abstemious in character, and from which all flesh foods were

rigidly excluded, the use of which in his own words gave him the "disposition of a beast." Purity of mind never goes hand in hand with gluttonous habits in eating.

The pages of history show that the degeneracy of the people began with this luxuriousness of diet, and Dante in his picture of the infernal region, pictured the glutton and the sensualist in the same circle. In the Scriptures we find the same principles, simplicity of life and purity of character everywhere associated. In the simple life of the Shepherd lad, David developed those elements of character which fitted him to become the greatest of all the kings of Isreal. Christ taught us simplicity and the necessity of controlling the appetite, in his forty days fast in the wilderness. The appetite must be trained to be the subject not the master, and a depraved, unnatural appetite is the result of cultivation more often than it is due to inheritance. The bud is the stage in which to nip this habit and in nipping this one a great many are killed which are only the result of this great and primary one.

When we think of the lives that are shut into the dark and gloomy cities knowing nothing of the pleasures and beauties of life can we wonder at the crime and vice which thousands, yes millions of human beings revel in, striving to keep their miserable, wretched beings upon the earth as long as their misery and squalor will permit. Not only in vice and inhumanity associated with poor and hungry but it ranks high among those who have a great abundance, for an over supply of this world's goods is oftener a great deal worse than an under supply and statistics show that a larger percent of Americans die as a result of overeating than of under eating.