

CHAPTER XXI.

HOW AND WHEN TO EAT.

THERE is as much difference between normal and natural hunger-appetite and abnormal or unnatural appetite as there is between darkness and light. The one is the natural call of the body for food or drink and the other is an unnatural craving that takes possession of one and the satisfaction of which is fraught with danger. The healthy hunger-appetite can always be satisfied with pleasure and gratification and the results are invariably beneficial and healthful. The abnormal appetite is never satisfied until dulled or satiated and is never gratified with any other than injurious results. If man lived naturally and normally, his appetite could be relied upon to guide him both in the selection of his food and in the amount that he should take.

FIVE RULES FOR EATING.—There are five important points in regard to eating that should never be overlooked. First, *Never eat without a healthy, normal appetite-hunger.* Get rid of the idea that you must eat to keep up your strength. Unless you need food you are far better off without it. To eat three or four times a day because you are in the habit of doing so is a positive crime against the body, for nobody needs three or four meals a day, and to eat when you do not need it is to load up the body with a weight of material that, even if one got rid of it immediately, would require a considerable expenditure of energy. But, unfortunately, an excess of food is not thus easily disposed of. Nature endeavors to teach man the lesson of controlling his abnormal desires by making the excessive food a source of pain and discomfort to him. He suffers from flatulency, heartburn, acidity of the stomach, and a thousand and one other manifestations of indigestion, all of which are sentinel warnings against yielding to the unnatural cravings of abnormal appetite. But it may be asked, How shall I know that my appetite is normal? The test of the

normal appetite is this: that one is prepared to eat the plainest, simplest, most unattractive food without appetizing condiments, sauces or strong seasonings, flavors, or sweetening to make it palatable; to eat such food dry and chew it until it becomes delicious and perfectly liquefied so that it can be swallowed without recourse to tea, coffee, cocoa or any other liquid with which we too often wash down our food.

The second rule is of equal importance with the first. *Never eat without enjoyment.* There is no truth more positive and certain in the whole realm of life than the truth that food, to be properly digested and assimilated by the stomach and the alimentary canal, must be enjoyed while being eaten. Contentment should always be present, and never more so than in the process of eating. When food is enjoyed the salivary glands are active and the saliva mingles freely with the food. The gastric glands are active in the stomach and pour forth their liquids in copious quantities and in the best possible chemical condition to perform their important labors. Under no other circumstances are these digestive liquids furnished in the proper quantities, or the proper strength. We all know how one's mouth waters at the thought of some particularly palatable food. The actual necessity for a perfect digestion and assimilation is, that one should be in this condition of "watering of the mouth" before he begins every meal. Food eaten under these conditions is almost sure to be easily digested and assimilated, and can then produce that vigor of body and mind that the normal man and woman so much desire. If you have a craving for those things that you know are unwholesome, substitute for them some article of food containing the same constituents. For instance, if you have an intense desire for candy, it may indicate that you have a real need for sweets, and this craving can be perfectly satisfied by the use of honey or such naturally sweet fruits as dates, raisins and the like.

Third. *Never eat to repletion.* If one follows the normal hunger-appetite, there is very little fear that he will eat too much. But man has for so many centuries perverted his natural instincts of appetite, that it will take some time before he can

rely upon his appetite, unguided and uncontrolled by reason. It is better, therefore, to err on the safe side. There is very little danger, if a man enjoys every mouthful of food he eats, that he will take too little. The universal experience of the race is that we eat too much. Hence, there need be no alarm that one will not eat enough. It is far better to stop before satiation than to eat one mouthful more than the body actually requires. Every ounce of food taken into the body beyond its normal requirements, even though it be eaten with enjoyment, is putting a burden upon the excretory organs that have to get rid of it.

The needs of the body vary according to varying circumstances and conditions. When the appetite is normal and healthy it will call for the food that is best adapted to supply the needs of the body. It will adapt itself to these varying circumstances.

Once let a man thoroughly understand and realize that the body is originally self-acting, self-regulating, and that it clearly indicates to the alert mind of its owner what are the exact supplies it needs, and he will be able, after he has once got into a normal condition, to follow the dictates of his appetite with safety, and with most happy and beneficial results.

Now one should eat to live rather than live to eat. By following this policy you can actually increase your length of life from ten to forty years. This statement is not exaggerated. Nearly all diseases begin in the stomach and most diseases continue in the stomach. This organ, when diseased, helps in the process of making impure blood, blood that contains all sorts of poisons. This vile stuff is sent coursing through the body, and yet people wonder why they are not well. In many instances they might more reasonably wonder why they are alive.

The average individual is of the opinion that one must eat three meals a day in order to keep up one's strength. This is a most erroneous and harmful idea. It is not what you eat that keeps up your strength, it is what you digest and assimilate. When you are in the habit of eating more than you need you

will actually gain in strength by simply lessening the amount of food you eat. The truth of this statement can be relied upon in every instance. Simply try lessening the quantity of food you are eating by one-fourth, and then test your strength day by day, and you will find there is a perceptible increase. It will not be necessary to change your habits in any way, simply adopt this suggestion, and you will certainly be rewarded by an increase of strength if you are following the usual practice of eating three meals a day whether you need them or not. This result is gained because, when you are eating more than you need you exhaust the surplus energies in ridding the body of the needless food.

If one will learn to eat what he needs, is wise enough to avoid adding poisons to the body through the stomach, he will rarely suffer from chronic diseases. Nearly all filth diseases, nearly all diseases that come from accumulated poisons, are the result of self-poisoning or auto-intoxication.

The fourth rule of diet is to *eat only food that is wholesome*. Many foods popularly considered wholesome are quite the reverse. Of these, white flour products are perhaps the most harmful. It is certainly sacrilegious to call this incomplete food that is made from it the staff of life. It is more like the staff of death. White flour products, if eaten as the principal article of diet, will starve the teeth to death. Unless you possess extraordinary vitality, the teeth will often become mere shells under the influence of a white flour diet, simply because the bony elements needed to nourish the teeth are lacking. Remember, your teeth should last throughout your entire life. There is really no excuse for the decay and loss of teeth that is so frequent, and it is largely caused by the excessive use of white bread and other useless foods.

The fifth rule of diet is to *masticate everything thoroughly*. Food must be chewed thoroughly to secure satisfactory digestive results. Mastication is really a part of digestion. It mixes the food with the saliva. Each morsel of food should be masticated until swallowed unconsciously. The late Horace Fletcher, the mastication expert, proved in an extraordi-

nary manner the value of properly chewing one's food. Many may be of the opinion that he has gone to extremes. He says that you must chew your food until the flavor has disappeared; must continue its mastication until you are able to chew out a certain amount of fiber from almost any food that you ordinarily eat. Mr. Fletcher claimed that the result of masticating your food in this manner is that you can live on one-half the quantity you are accustomed to eating, and secure therefrom a great deal more strength, and better health. Many will say, when told the necessity of mastication, that they have no time to perform it. It is a far greater waste of time to use up the energies of the body trying to digest and assimilate a hastily bolted meal than it would be to take the time required for proper mastication. For instance, if you have but a few minutes to eat, you will often gulp down a large quantity of food, and sometimes for hours thereafter you wish that you had not eaten that meal. Never eat a meal in a hurry. If you do, you are almost sure to regret it, unless you have a stomach of the ostrich character.

HOW MANY MEALS A DAY?—In America the standard number of meals is three per day. In Germany, at least before the war, it was five, two of them served to workmen in the field or elsewhere. In England, the conventional number of meals is—or was—four. But the European meal is not so likely to be a full meal as the American. Taken as a whole, a prosperous American is probably the most extravagant eater in the world.

The problem of the number of meals per day cannot be separated from the problem of the total quantity of food per day. Regular meal hours, so insisted upon by many writers, finds no foundation in the habits of animals or primitive man. Food was then eaten as it was procured, and varied widely in both quantity and quality. The digestive powers were much greater because of greater activity.

The food problem of the civilized and city-dwelling man is distinctly different from that of our primitive ancestors. The modern man's need for a less total food consumption, and for

the stopping of his meal short of the point of repletion, are quite an obvious result of the change in the habits which civilization necessitated. But whether the civilized man who requires the smaller food intake should get it by eating frequently and lightly, or by eating less frequently, is a question which has not been definitely answered by the experience of races or individuals.

The three square meals per day of the prosperous American working man are perhaps not so dangerous, but when he continues to do this after he ceases to work, it is the chief hygienic evil of the American people. This tendency to overeat can most easily be combated by the individual whose general customs and social relations continue to set him down before the conventional three square meals, by the simple step of dropping out one of these meals.

If a man eat his fill he can get enough food in one meal a day to supply him with the necessary nutrition for light labor. But this filling the stomach up to its limit once a day results in a heavy load on digestion and frequently makes the hours following such a meal rather useless for anything else than the function of digestion. Therefore, we find little practical reason for adopting the one-meal-a-day plan.

But, if this quantity of food which the stomach can hold in one meal were divided into two meals, we would have a very practical and efficient amount for the digestive apparatus to handle, and yet would have the feeling that one had eaten a meal and not come away too hungry for comfort.

Inquiry among the readers of *Physical Culture Magazine* has shown that the adoption of two meals results in—first, a decreased quantity of food eaten; second, a marked improvement in health, resulting in both losses and gains in weight, according to the abnormality; third, in the elimination of digestive disturbances, and the related ills due to the eating in excess of the bodily needs. The careful study of these reports leads to the conclusion that for both office and household workers the system of three meals a day, which has been passed down from our pioneer forefathers, is a mistaken plan.

The evidence, however, is not of such nature as would cause a careful thinker to decide that there is any inherent evil in partaking of food as frequently as three times a day. The benefits received from the change from three meals to two meals are more properly to be ascribed to the fact that it is a practical means to cut down the total quantity of food consumed.

The testimony of those who reported on the two-meal-a-day experiment in thirty-two instances stated the amount of food eaten showed a decrease of total food consumed; six reported no change in the amount, and three reported an increase. It is frequently emphasized that the dropping out of the breakfast or other meal has not resulted in increasing food consumption at the two remaining meals. The reports on the amount of the decrease in the amount of food taken range from "slight" to "more than one-half."

LESS INTAKE OF FOOD.—The average of the estimates of those who decreased their food intake was twenty-six per cent less food consumed in two meals than was formerly eaten in three meals. It is safe to say that there are forty million adults in America today who are doing light labor and still eating three meals a day. Fifty cents a day is a low estimate for the cost of their food. A saving of twenty-six per cent would mean a saving of thirteen cents per day for the forty million—which you can figure out. But you will be more interested in the forty-seven dollars per year you could save on your own food.

The economy of time is worth quite as much as the economy of food cost. Being obliged to be at a certain place three times a day and to "get the family together" if one eats at home, and the interruptions and difficulties involved in this third meal, are all absolute wastes of energy.

By cutting out the extra meal you can get that hour a day that you have been needing to devote to much neglected outdoor exercise or a course of reading.

But greatest of all savings of the two-meal-a-day plan is that it gives women an opportunity to escape from one-third of their kitchen labor.

Those who tried two meals a day in this test were almost entirely from the lighter group of workers. Two-thirds at least were those whose work could be classified as clerical. Closely related in the nature of their physical labor were a number of school teachers, a couple of college students, two traveling salesmen, a preacher, a doctor, a barber, a station agent and a weaver. The only men whose work would in any sense be considered heavy were an electrician, a physical director, a sailor, a chauffeur and three farmers. Among the women, over half were housekeepers. The rest were teachers or clerks.

A few of those who had tried two meals a day made the comment that when engaged in extra hard physical labor they find it necessary to go back to three meals. With these exceptions there was almost unstinted praise for the two-meal plan.

The effect of two meals a day, which means refraining from over-eating, is that it tends to bring the body to normal bodily weight. That the same change in eating habits should make lean people fat and fat people lean sounds a little like the story of the satyr who blew on his fingers to make them warm and on his soup to make it cold. But we have not far to go for the explanation of this paradox. The fat man has a digestive system which absorbs surplus food and passes it on to be accumulated as fatty globules in the tissues. But when excessive food is forced upon slightly differently organized digestive organs, the result is a breaking down of the digestive powers, causing dyspepsia, and kindred ills, and these lead to malnutrition and underweight.

The period of rest that comes to the digestive organs from changing to the two-meal plan is secured both from a lessened consumption of food and a greater time interval between meals. The result is that better assimilation develops and when the subject is under weight this frequently results in building up weight.

The weight changes of these two-meal experimenters were studied by comparing the reported weights with the proper weights for the given sex and stature. It is found that the change to two meals a day resulted in gains (averaging eight

pounds) for the men whose original weight would indicate that a gain was desirable. For the men who should lose weight there was an average loss of thirteen pounds. There were a number of men who reported that the change in meal plan did not affect their weight. Those whose weights were not affected were found to be already very near the ideal weights for their heights.

In this call for experiences with two meals a day, nothing was said as to which meal should be omitted. Twenty-seven report the omission of breakfast, five report the omission of a noon meal, and four report the omission of the evening meal, while the four remaining report meal hours of mid-forenoon and mid-afternoon.

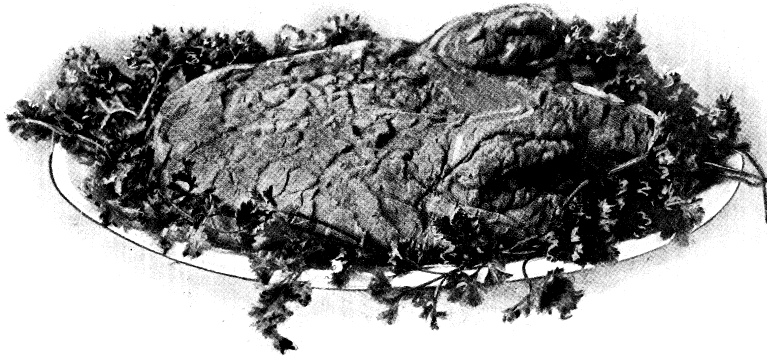
Practice is pretty evenly divided as to whether "dinner," in the sense of the heaviest meal, is to be eaten at noon or night. There were twenty-one who, when eating two meals, made the last meal the heavier. Against this were fifteen who ate a heavy dinner at noon and a light supper at night.

The reports of those who have tried two meals a day are almost invariably enthusiastic endorsements of the plan. The following are sample comments: "Much improved." "Do not feel so 'stuffed.'" "Tired feeling gone." "Did not feel so ambitious." "I feel invigorated, do not fatigue so easily." "In about one month I gained ten pounds and felt like a new man."

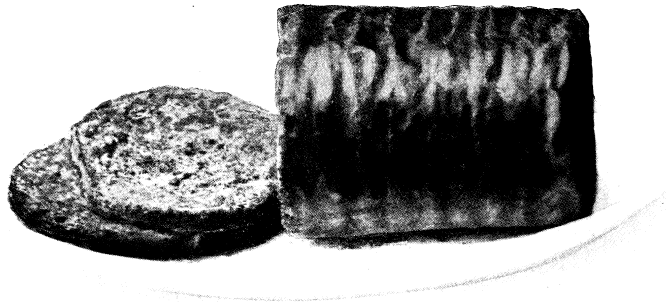
Many observers made note of greater sleepiness in the daytime when eating the three square meals. One comments: "The effect of going without breakfast has been to make my mind clearer, wide-awake. I found it easier to study in the morning—a feeling of mental vigor, whereas with three meals there is a feeling of mental drowsiness—general inefficiency."

MAKING TWO MEALS A DAY SUFFICE.—The practical conclusion from all this is that two meals a day is the sensible thing for all those not engaged in heavy manual labor. If for social or business reasons the light worker cannot adopt the two-meal plan, the next best thing is to eat but one full meal a day. For that meal it may be safe to set an abundance of food on the table and eat to a point of reasonable repletion. But the other

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Vegetable Turkey.—Mix together three cupfuls of dry bread-crumbs, three cupfuls of chopped nuts and three cupfuls of milk. Add one tablespoonful of butter melted, one teaspoonful of powdered sage and salt to taste. Then stir in six well-beaten eggs and bake in a buttered pan for twenty minutes in a hot oven.



Vegetable Roast.—Put through a food chopper enough walnuts to make one cupful when ground. Add four cupfuls of bread-crumbs, one grated onion, salt to taste, one chopped hard boiled egg, one raw egg, well beaten, and enough milk to moisten the mixture. Mix the ingredients well and turn into a well-buttered mold of desired shape and bake in a moderate oven for about an hour. Serve hot with brown sauce. Some people like the addition of thyme or sage as a seasoning.

two meals should consist of definite items set forth in limited quantities. If one determines to breakfast regularly on half a grapefruit and two eggs on toast, the mind and the appetite soon become accustomed to such a restricted food intake and loses the desire to eat a square meal whenever one sits down to the table.

In eating three meals there is always danger that one will eat beyond his capacity to digest. It is impossible for one to know real hunger-appetite unless the food of the previous meal is digested and out of the way. The results that follow eating without this necessary hunger have already been pointed out. These can be avoided by seeing to it that each of the three meals is of easily digested foods and is small enough in quantity to enable the body to fully utilize it; but this requires both care in the selection of foods and self-denial in eating them.

It should never be forgotten that the more food one puts into the stomach above that which is necessary, the less effective become the gastric and other digestive juices. The result is, all the best elements of the food are not extracted for the needs of the body, and at the same time the residue ferments, creating poisons that are often absorbed into the blood, there to become sources of more or less serious disturbances. Very often the "tired feeling" experienced shortly after eating, or shortly before another meal is due, is entirely owing to the effect of the poisons generated by undigested food that the body has been unable to eliminate.

Those who do hard physical labor are better able to digest three meals than those whose work is purely mental, for in the destruction of muscular tissue caused by heavy labor there is a normal demand made upon the assimilative organs for whatever is within their reach. Mental workers, however, make no such demand, and the food must be digested in simple fashion or evil results are bound to follow.

The world at large has been trained to believe that regularity in diet and the eating of three meals a day are essential to keep up strength and preserve the body in perfect health. Neither habit is at all essential. Irregularity in diet is incal-

culably better than the regularity which forces men to eat three hearty meals whether the normal hunger-appetite exists for them or not. In the former case the most perfect health can be absolutely and certainly maintained. In the latter, there is no power known that can prevent digestive disturbances with their consequent discomforts and diseases.

If the conditions are such that it is necessary for social reasons for one to eat three meals a day, endeavor to follow with the utmost strictness the principles already laid down: 1. Eat only the right kind of food. 2. Eat only when you are hungry. 3. Be careful to eat less rather than more. 4. If there is the slightest suggestion of the approach of illness, miss one or more meals.

It will be appropriate here to give a few suggestions to those workers in the large cities whose occupations take them away from home during the day, where they have to rely upon restaurants, chop-houses, cafés, etc., for their noon meal. There are many who would take their luncheon with them did they have a proper place to eat it, but this is often impracticable or impossible. Some find it inconvenient to follow the plan of eating breakfast at home, going without a noon meal, and waiting until they return home in the evening before partaking of their second meal. They either feel somewhat faint late in the afternoon, or else when they get home at night they are apt to eat more than is good for them. Perhaps for those who come in these categories, it would be better to abstain from breakfast. It is very seldom that the abnormal craving for food, and sensation of emptiness of the stomach, continues longer than a few days, and almost invariably there comes a delightful sense of mental and physical freedom owing to abstinence. At noon one should seek out the most convenient place where he can secure the most nourishing and palatable food. The following foods can nearly always be secured and they form a good and substantial basis from which to select. Other nourishing and palatable dishes can be added as they are discovered.

Whole wheat or other entire grain product with cheese and

salad or fruit. Vegetables, salads and stewed fruit or baked apples, etc. Dairy products, milk, cream, eggs, etc. If restaurants are "bad" then patronize the grocery store, where raisins, shelled almonds or other nuts can be secured; also fruit, cheese and cereals. Do not eat in a hurry.

Drink wisely and intelligently, that is, sip very slowly a small quantity of cool (not ice cold) water until satisfied.

It is a common thing for men to follow their noon meal in the city with a cigarette, cigar or pipe, sometimes accompanying this with a cup of black coffee. They feel that such smoking and drinking has a soothing influence and, therefore, may be tolerated. To those who have been the slaves to this habit and who have any desire whatever to be free, let me say that if you will eat the right kind of food in the manner suggested, you will have no desire either for the sedative influence of tobacco or the stimulation of coffee. The craving for both unquestionably arises from a diseased condition of the stomach. When a healthful condition is brought about by proper habits of diet, these cravings are found to disappear totally.

PLAN MENUS SENSIBLY.—The old-fashioned American farm family placed everything on the table at once, and passed it around and around again. Theoretically dinner was served as one course, but in practice it was a ten or twenty course meal if one counts helpings as courses.

The more urban fashion of serving a meal is to set forth part of the food, a single dish or combination of dishes that are to be eaten together; to eat this and clear away the dishes and then to serve something else.

Which of these eating habits is followed is a matter of custom and method of service; its dietetic significance lies only in its effects on the kind and amount of food eaten—or wasted. For purposes of the present discussion we can count a dish and what is supposed to be eaten with it as a course and leave the manner of serving to the established habits of the household.

Considered from the practical standpoints of food cost, labor cost and health efficiency, there is little excuse for any meal having more than three courses: First, soup; second,

the heavy dish of the meal, conventionally a meat or meat substitute, with its side dishes of vegetables or salad; and third, dessert. This is the typical dinner approved by custom, simple enough for a farmer and fancy enough for a financier. Likewise, a breakfast of fruit, cereal and milk or eggs and toast is sufficiently complicated even for the man who eats but two meals a day.

Such a planning of meals is sensible. It fits in with our habits and is adapted to both rich and poor. Those who have been accustomed to more numerous courses need only to eat larger portions, while if one has been used to simpler meals, he may decrease the size of the servings. The three-course service permits of ample variety and the inclusion of soups which are economical, of vitamine foods, preferably in the uncooked state, and, if the heavy dishes are partly of cereal origin instead of wholly of meat, it is consistent with thrift and economy. In either case the number of courses should not affect the total quantity of food eaten.

Theoretically, we may say that the increase of variety need not affect the quantity of food eaten, yet in practice excessive variety at the same meal tends to both gluttony and waste. Gluttony, because the appetite is stimulated beyond its natural demands, and waste, because there is a slight loss in buying—the grocer sells the paper as meat; in cooking food sticks to the pot; in serving some of the food prepared is often held back for second helpings, and this may not be called for; lastly there are the left-overs on the plate. The more kinds of food there are to be handled in one meal the greater will be the number of such wastes and the greater the proportion of the total food wasted.

Variety as a factor in healthfulness is quite a different matter. Such desirable variety is more economically secured by the change of dishes from meal to meal and from day to day, and not from more numerous courses. Variety therefore does not mean greater food intake but a better selection that the various food groups may find place in the diet.

Though two meals are advised, the author realizes that

many will not see fit to adopt that plan. The following standard menu has, therefore, been prepared with three meals, but these meals are such that with a little shifting the second meal can easily be dismembered and divided between the first and last meals. Thus for two meals one would probably transfer the "light meat dish" of lunch to breakfast, and the lunch vegetable could make a second vegetable at dinner, while the bread and butter and sweet dish could be divided as appetite dictated.

STANDARD MENU.—With the qualification that it is for suggestion only, and not to be slavishly followed, I give the following standard daily menu. This menu is given for a family equivalent to four men at light work, which equals in dietetic requirement an average family of husband, wife and three children.

WHEAT POUND ANALYSIS OF DAILY MENU FOR FAMILY OF FOUR.

Substance	Total Wheat Pounds.	Cereal Group.	Sugar Group.	Fat Group.	Vitamine Group.	Animal Protein Group.
FIRST MEAL.						
Fruit .....	.20	.....	.10	.....	.10	.....
Cereal, milk and sugar.....	.70	.50	.10	.....	.....	.10
Bread, butter or fruit jam.....	.60	.40	.10	.10	.....	.....
Beverage .....	.10	.....	.05	.....	.....	.05
Total for meal.....	1.60	.90	.35	.10	.10	.15
SECOND MEAL.						
Light "meat dish".....	.70	.25	.....	.20	.....	.25
Vegetable .....	.40	.05	.....	.05	.30	.....
Bread, butter and sweet.....	.60	.40	.10	.10	.....	.....
Total for meal.....	1.70	.70	.10	.35	.30	.25
THIRD MEAL.						
Soup .....	.40	.10	.....	.10	.10	.10
"Meat substitute" .....	.80	.04	.....	.15	.....	.25
Vegetable or salad.....	.40	.....	.....	.10	.30	.....
Dessert .....	.40	.15	.10	.05	.....	.10
Beverage .....	.10	.....	.05	.....	.05	.....
Bread and butter.....	.60	.50	.....	.10	.....	.....
Total for meal.....	2.70	1.15	.15	.50	.45	.45
Total for day.....	6.00	2.75	.60	.95	.85	.85
Percentage of total.....	1.00	.46	.10	.16	.14	.14

The total for the day is 6.00. A rough approximation of the division of food substances among the five food groups is also given. Detailed accuracy here is not practical. The time to check up your diet by the group system is when you go over the monthly food expenditures and not in planning each dish or meal. The idea that it is necessary to health to balance each meal with certain proportions of various food elements has no scientific foundation.

A man can live for thirty days without food, which means that there is stored in the properly nourished body enough of food elements of all sorts to support life for that length of time. This is further established by the fact that deficiency diseases, such as pellagra, which are due to lack of a balanced diet, require several months on such unbalanced diet to develop them. Therefore, if the general average of a month's food intake be well balanced there is no need to worry over the balance of a particular meal or day.

And let me repeat that it is for suggestion only and not to be slavishly followed, I give the foregoing standard daily menu.

WISE FOOD COMBINATIONS.—A single food rich in varied nutritive compounds is better than a variety of foods eaten at the same meal. In fact, we should aim at simplicity in our diet rather than the reverse. The subject of food combinations, therefore, needs to be considered not so much to learn how to make various combinations, but also to learn to avoid all those that are not actually essential to supplement food deficiencies.

It has been said that "all foods agree with the consumer, but they do not agree with one another"—and this is very largely true!

In preparing proper food combinations no food element should be represented out of its due proportion—but make sure that each group is included.

For instance, an excess of fat in combinations makes foods greasy and heavy and hard to digest, the body can not assimilate excess protein, and rejects it with much irritation and ex-

pense to itself; the carbohydrates are stored as fat and persons of good assimilation with a tendency to taking on weight must carefully avoid the presence of too great an amount of the starches and sugar in their diet. The question of the relative amounts of protein and the other elements needed in the diet and the conditions governing amounts of protein and other food elements required will be presently discussed.

The pivots on which to turn in combining foods are: (1), to provide the nutritive properties in their due proportions—proteid, fat carbohydrates and mineral salts, and vitamins; (2) that the combination will be tasteful and attractive and thoroughly enjoyable. Combinations that will meet the test of these two are right combinations, perfect combinations; combinations that can meet only one are not very satisfactory. If the combination is nutritious but not enjoyable, not much benefit is derived from its eating. Only food that is thoroughly enjoyed is well digested. If, on the other hand, it is enjoyable but not nutritious, though it has the advantage of being thoroughly ingested, it will not produce enough energy for the body. Both are absolutely essential.

The problem of food combination involves both the combining of raw materials in the more complex dishes and the effect of combining two or more dishes in a meal. The final effect is the same in the body, but in the earlier stages of digestion it may be made more difficult by complicated dishes. In so far as it is consistent with appetizing food, I would advise the combination be made at the table as the foods are eaten rather than by the cook. Thus I believe it better to eat whole wheat bread with milk or with butter or with eggs, than it would be to add the milk, butter, and eggs to the whole wheat flour and so make a complicated cake.

The staple foods used in the household of the vegetarian or non-meat eater are: vegetables, salad greens, cereals, eggs, milk, flour, fruit, nuts, butter, cheese, and whole wheat. These contain an abundance of vitamins and minerals along with protein, carbohydrates and fat, thus providing a balanced food diet, with succulence and roughage, all of which are important.

If meats are eaten, they should be mixed with potatoes, rice or turnip, foods in which carbohydrates are the chief nutritive elements. Meats are also rich in fat, so, speaking roughly from the standpoint of nutrition, this is an excellent foundation for a meal, and eaten in sufficient quantities with bread will of itself be a satisfactory meal. It is not the most healthful meal, for reasons which have in these pages been brought against the use of meat as a food.

Among the vegetables, the dried legumes, peas, beans and lentils, are the high proteid foods. These articles of diet also have considerable carbohydrates, but with the exception of peanuts, lack fat. When lima beans are cooked plain they should be served with butter, which will balance the dish. Other ways of combining fat with beans are in the forms of purées (in purées, the cooked vegetable is pressed through a sieve and to this smooth, thick pulp seasoning and other ingredients are added). They may also be baked with tomatoes as a flavoring, and the fats added in the form of olive oil or butter. Bean soups are completed by the addition of milk, cream or white sauces, made of butter, flour and water or milk. The bean or pea porridges (purées), if tastefully made, that is, by boiling another flavoring vegetable with them (onion, leek, tomato or celery), are nutritious and make, with the addition of a simple salad and dessert, a complete meal.

The egg is an important food in almost every form of dietary. Its nutritive elements are proteid and fat, but it is lacking in the carbohydrates. To supply this we combine eggs with rice, flour, cornstarch, potatoes, milk and bread crumbs which contain the needed starches and sugars. When eggs do not enter as an ingredient into other foods, but are served as a separate course, soft or hard boiled, poached or scrambled, they are eaten with bread, either plain or toasted. Thus do we supply the missing starch and the bulk.

In the non-meat diet, the animal products, butter, milk, cheese, cream and olive oil and the nuts provide the fat. Butter is combined with foods in various ways. Foods are flavored with it in cookery and it enters into sauces. Almost

every form of vegetable may be served with butter or with a sauce. Since butter is more digestible in the raw state, foods should be flavored with it after they are cooked. In the case of vegetables and cereals this is an easy matter. The reason why we can make a satisfying meal on bread and butter and milk or on bread and butter alone, is that in either combination all the nutritive elements are present in sufficient proportions.

Many people consider cheese indigestible. The reason for this is that they often do not realize how highly concentrated a food cheese is. Added to this, we have the statement that cheese is nearly twice as nourishing as meat. Such statements coming from authorities cause people to forget that whereas a pound of meat includes fat, bone, gristle and other inedible portions which are wasted, a pound of cheese contains practically no waste, and therefore can not be used in anything like the same quantities as meat. Many people have argued that though they can eat a half-pound of meat enjoyably, the same amount of cheese afforded them distress, and therefore concluded that cheese was a most indigestible food. Cheese in its ordinary form goes best with bread, especially because it is so highly concentrated. Incidentally, it may be noted that while bread is lacking in fat, the percentage of this element in cheese is almost four-tenths. Cheese is also very rich in protein, and combined with bread is one of those foods of which a little bit goes a long way. It is too rich to be eaten alone. In cooking, cheese is combined with rice, macaroni, spaghetti and similar foodstuffs because they are lacking in fat. In soufflés, rarebits, milk is used to dilute the cheese.

Cream and milk are mixed with foods in ways that have been mentioned, and they will be referred to again. The prime element of most of the nuts is fat, though several varieties contain a fair amount of protein, and some of them are quite rich in carbohydrates. The nut and fruit diet is represented to be an ideal diet, as by this combination, not only are all the elements supplied, but the sugar is supplied in the purest and most digestible form, and the fruit-juices are ex-

ceedingly healthful. To my mind, too, the fruits are also valuable because the amount of water they contain serves to offset the richness of the nuts. Both fruits and nuts should be included in the ordinary dietaries. Nuts eaten with bread are an excellent combination, and will be found to be actually delicious.

Those important foods, the cereals and the starchy vegetables, are the chief sources of supply of the carbohydrates. Cereals contain also proteid, and when served with milk or butter and sugar will provide the basis of a nourishing meal. The cereals, because of the amount of starch they contain, are balanced by the addition of fats, and as they are rather insipid, the juicy vegetables are sometimes added for flavor. Thus, rice is baked with tomatoes and cheese; combined with milk, butter and eggs in puddings, etc. The same rule of combination applies to the Italian pastes, spaghetti, macaroni, etc. Rice, barley, farina, oatmeal and other cereal products used in combination with fresh green vegetables make a wholesome dish, which, were the latter used alone, would have very little food value; for instance, fresh green pea soup, with noodles or macaroni; celery soup with barley; tomato soup with rice. Owing to their total lack of fat and protein, potatoes, the chief of the starchy vegetables, should be combined with foods containing these elements. I have cited as an example the use of potatoes and meat together. Their very mild flavor makes them adaptable for combination with various other food stuffs. This is also the case with rice. It will be evident from what has been said in this paragraph that one of the points to be kept in mind in combination is that of using together foods for the purpose of taste and flavoring. The manner in which this may be done is suggested by the examples given.

There is a large class of vegetables and leafy greens in which the percentage of proteid, fat or carbohydrates is practically nil, but they are valuable because of their salts and acids and vitamins. Where economy is an important consideration, these vegetables should not be used except when

in season. The green vegetables, like lettuce, celery, cabbage and tomatoes, may be combined with olive oil and lemon juice, or with cream sauces, in the form of salads. In salads we have the pleasing results of the combination of the necessary food elements; protein in the form of the egg, fat in the oil and the mineral salts and vitamins in the green vegetable. Other non-nutritious vegetables, like carrots, turnips, asparagus, Brussels sprouts, squash and spinach, are best simply cooked and seasoned with butter and salt. They may also be served with cream sauces. They are rich in vitamins and minerals.

Fruits have already been touched upon in an earlier paragraph. They can be formed in pleasing combinations, but they are best served in their natural state.

As to combinations that are to be avoided, it is hard to render any strictures in the matter, much depending on individual idiosyncrasies, power of digestion, etc. There are individuals who can not combine sugar with their food in any form, and we have all read the opinion of persons who have declared sugar to be even more unhealthful than meat, and that it has no place in the physical culturist's dietary. To set this up as an absolute rule is utter nonsense, for what should be inferred from such experiences is not that sugar is unhealthful for all (except in excess, and that is an argument against excess and not sugar), but only for the individuals who have found that it has affected them for ill. On the other hand, many persons are made sick by eating strawberries, others still can not abide tomatoes or onions in combination with other foods and even not at all; and so one may go through almost the entire catalogue of foods and find apparently healthy persons who do not like them. This may not be normal, but the fact is to be faced, and when one discovers that certain foods or combinations thereof do not agree with him, no matter how healthful the professors or others may declare them to be, there is only one thing to be done, and that is to avoid them. When a food does not agree with you, no matter what may be said for it as far as others are concerned, it is unhealthful for you. A tendency present in some house-

holds is to serve too many sweet combinations, and this tendency should be watched and overcome.

To summarize the statements that have been made, I am presenting a table, grouping the principal foods used in the vegetarian's dietary in such a way as to enable one to tell at a glance the nutritive elements for which the food is especially valuable and suggesting the articles of food that would supplement what they lack. This is merely suggestive and can be expanded by each individual as occasion requires.

FOODS	VALUABLE FOR	COMPLEMENT
Eggs, Cheese,	Proteids and Fat	{ Sugar and Starch: Rice, Potatoes, Flour, Bread, Etc.
The Legumes: Peas, Beans, Lentils,		
Cream, Butter, Olive Oil, Olives, Nuts: Almonds, Brazil Nuts, Filberts, Hickory, English Walnuts,	Fat	{ Proteids and Carbohy- drates: Legumes, Cere- als, Fruits.
Cereals: Barley, Buckwheat, Oats, Rice, Rye Wheat, Breads, Macaroni, Etc.,	Carbohydrates and Proteids	{ Fats: Butter, Cheese, Cream, etc.
Potatoes, Sweet Potatoes, Corn, Parsnips, Sugar, Fruits,	Carbohydrates	{ Proteids and Fat: Eggs, Milk, Cheese, etc.
Lettuce, Celery, Cabbage, Spinach, Onions, Tomatoes, Cress, Cauliflower, Brussels Sprouts, etc.,	Organic Salts and Vita- mins	{ Proteins, Fats and Carbo- hydrates.