

be noticed that the vegetable class contains less water than the animal, while the salts are more evenly distributed between the two. The vegetable class contains a very high percentage of cellulose, starch and sugar, or glucose-forming elements; while the animal, excepting milk and its derivatives, is absolutely deficient in this respect. The vegetable class contains a very low percentage of fat, while the reverse is true of the animal foods. In the purely proteid group it is pretty evenly abundant in both classes. If there is any advantage as to quantity, taken as a whole, it will be found in favor of the vegetable class. With the fifth or hemoglobin- and lecithin-yielding group, the advantage is largely on the side of the vegetable class of foods; in fact the animal class is deficient in this respect.

Having found these five classes in both the vegetable and animal foods, the next question is, what are the requirements of the system as to the exact amount of each of these groups to maintain the highest grade of nutrition? Careful observation and close study of the chemistry and physiology of the animal economy seem strongly to indicate the necessity for a continuous and quite uniform supply of each of these five classes to secure and maintain the best nutritive activity. This applies particularly to the last four classes—the glucose-forming, the fats, proteids, hemoglobin- and lecithin-yielding substances. If anything, it is more important with the last two of the four than with the first two; they being tissue-builders, while the others are only heat-producers. How the first three of this group of four—or the glucose, fats, and pure proteids—shall be proportioned, is the all-important question.

If we turn to nature and the composition of milk, it will be found that the three are quite near together in percentage amounts, but with a slight preponderance in the glucose column. This is true also in a large measure in the more acute processes and even in perfect health. The vegetable class is so constructed in its synthetic formation that it is very difficult of digestion, while all animal substances are easy of digestion. The difference is so great that from 16 to 80 per cent. of the vegetable foods pass through the alimentary canal undigested, while with the animal foods the loss ranges between 2 and 9 per cent. From this fact alone, it is easy to understand the greater economic value of the animal as against the vegetable class. It shows also why eating too abundantly of animal food is followed by conditions of suboxidation, especially if there is lowering in the oxygenating capacity. At the same time it has been proved conclusively that neither class is absolutely perfect in all respects