

found in many different isomeric forms, but these isomers should not be mistaken for radically different compounds so far as the number of atoms is concerned. The difference is rather in the relation that the atoms bear to each other. This often causes the proteid bodies to assume different physical forms, thus apparently multiplying varieties while they all still remain proteid bodies. The same is true of the glucose molecule.

With this simple outline of the primary origin and chemistry of foodstuffs, we are in a position more closely to study their economic value, digestive and assimilative possibilities as applied to the dietetic management of chronic diseases.

Both the vegetable and animal foods contain these five essential classes, all of which are necessary for the maintenance of animal life. This being true, why is not one type of food just as available as the other? If it is not true, what advantage has one class over the other? These questions can be solved only by a close comparison of the relative proportions of the five classes as found in the two primary divisions, taken in conjunction with the demands of the physiological economy for these five different groups of substances. Chemicophysiology investigation has demonstrated that a certain amount of each of these five classes must be supplied daily to insure the best nutritive results. Water and salts, a sufficient amount of the purely heat-producing compounds, a certain amount of tissue-building or pure proteid material, and the requisite quantity of hemoglobin- and lecithin-yielding material must be supplied. All this must be accomplished and still keep well within the oxygenating capacity of the system. In this connection it is well to note that, in health, nature permits a quite wide latitude between the possible intake of food and the oxygenating capacity of the animal economy. Were this not so, it would be impossible to maintain a perfect state of health. In connection with disease, however, this latitude between the intake of food and the oxygenating capacity of the system is often reduced to a very dangerous point, so much so that it becomes one of the exciting factors in the maintenance of the pathologic process. Even with the largest possible latitude between the intake of food and the oxygen supply, neither the vegetable nor animal diet alone, so far as composition is concerned, is absolutely perfect. The latter, however, so far as the human economy is concerned, is more nearly perfect than is the vegetable class, as we shall see a little later in our analysis of the two.

Looking a little more deeply into the exact and comparative composition of the two classes of human diet, it will