

It must be noted that carbon atoms to which four different groups are attached are asymmetric, that is to say, they can exist in two forms which resemble each other as the right hand resembles the left (Pasteur, LeBel, van't Hoff). This characteristic results in further increase in the number and variety of organic compounds. It is therefore necessary, in writing the formula, to represent the form of the molecule as it exists in space (in three dimensions), and this is actually accomplished by imagining the three-dimensional formula to be projected upon the paper so that when the hydrogen atom is written to the right of the carbon atom one asymmetric form of the latter is designated, when the hydrogen atom appears to the left, the other.

It has long been known that when glucose is dissolved in water its optical activity, as the power of a substance to rotate the plane of polarization of light is loosely termed, changes slowly for some time before reaching a constant value. Recently it has been shown that this phenomenon probably depends upon the existence in solution of three different forms of glucose, which pass freely into one another and ultimately attain a state of equilibrium.¹

¹ This subject has been fully discussed by Hudson, *Journal of the American Chemical Society*, XXXII, 889, 1910.