

But besides these we should mention the sugar of starch; for it is a curious fact that this substance is capable of being converted into a sugar possessing exactly the same properties as the sugar of grapes. This singular discovery was made by Kirchhoff, a Russian chemist, as he was employed in a set of experiments to convert starch into gum. He conceived that the starch would be rendered soluble in water by boiling it with very dilute sulphuric acid; and by prolonging the boiling he gradually observed the conversion of the starch into sugar. Saussure ascertained that an hundred parts of starch, when converted into sugar, became one hundred and ten parts. Hence he drew as a conclusion that starch sugar is merely a compound of starch and water in a solid state.

This process of converting starch into sugar is exceedingly simple. The starch may be procured either from wheat or potatoes. It must then be mixed with four times its weight of water, and about one hundred part its weight of sulphuric acid, and the mixture boiled for thirty-six hours, fresh water, being supplied from time to time as fast as it evaporates. After the boiling is over, lime must be added, so as to saturate the sulphuric acid, and the sulphate of lime thus formed must be separated by filtering. The liquor which remains is only sugar and water, and if concentrated by sufficient evaporation the sugar only will appear.

Sugar, is a part of our necessary food, or as adding to our luxuries, is too well known to require description. But its use as an aliment is by different medical men differently appreciated. While the great Boerhave supposed it to have a tendency to emaciate the human body, John Hunter recommended it as a restorative in cases of debility. How-