

the name which distinguishes them. It may be well at this stage to notice very briefly the several bodies we have thus divided into two classes.

33. Starch is a white granular body **very abundant** in vegetation, especially in corn and some "root" crops. If you place a little wheat flour in a fine gauze bag, and wash it in a glass, the water quickly assumes a milky appearance. In a short time a white deposit is formed in the glass, and the water has again become bright and clear. The sediment thus obtained is **starch**, which has been separated from the wheat flour. If the bag were now opened, a glutinous mass would be found, in appearance something like soft threads of india rubber. This is the gluten of wheat, to which we shall have to refer subsequently. **Gum** exists in plants generally in a liquid condition, but we occasionally find it thrown out on the surface in a more or less hardened and transparent form, especially in the case of fruit trees, when the bark has been injured. **Sugar** is also found in vegetation in a liquid form. In the well known sugar-cane, sugar-beet, and sugar-maple, it is found in great abundance, and from all of these sugar is obtained for the public supply. You should however remember that it is present in our cultivated plants even when not in sufficient quantity for it to be separated for use. It has many important duties devolving upon it in promoting the growth of the plant, and its passage through the plant, mingled with the sap, enables it to perform these duties. **Cellulose** is so called because it is the matter of which the cells of plants are constructed, and it is sometimes known as cellular matter. It varies very much in its firmness and strength. When first it is produced in the plant, it is excessively tender and fragile, but as it becomes strengthened by growth so it gradually becomes more rigid and tough, and at length assumes the form of **woody fibre**. These bodies are very similar in composition, and are capable