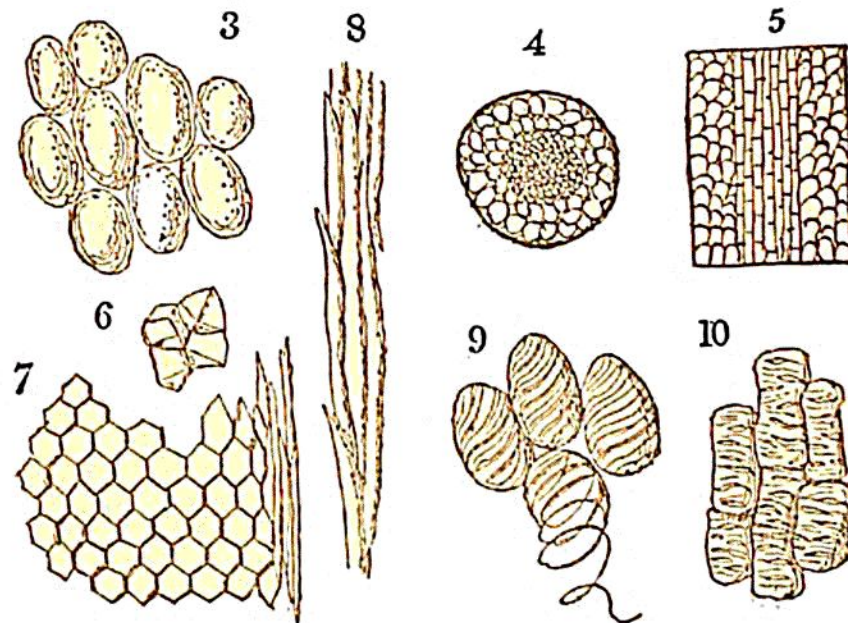


nerally adhere together more closely, composing by their union a species of vegetable cellular tissue, which may be regarded as the basis or essential component material of every organ in the plant. This cellular structure is represented in figures 4 and 5, as it appears in the *Fucus vesiculosus*; the first being a horizontal, and the second a vertical section of that plant.\* The size of these cells differs considerably in different instances. Kieser states that the diameter of each individual cell varies from the 330th to the 55th part of an inch; so that from 3,000 to 100,000 cells would be contained in an extent of surface equal to a square inch. But they are occasionally met with of different sizes, from even the 1000th part of an inch to the 30th.



In their original state, these vesicles have an oval or globular form; but they are soon transformed into other shapes, either by the mutual compression which they sustain from being crowded into a limited space, or from unequal expansion in the progress of their development. From the first of these causes they often acquire angles, assuming the forms of irregular rhomboidal dodecahedrons, and often of hexagonal prisms, like the cells of a honey-comb; and by

Slack's memoir on the elementary tissue of plants, contained in the 49th volume of the Transactions of the Society of Arts.

\* De Candolle, Organographie Végétale.