

the pith of the elder. They then have the form of a honey-comb; whence they have derived their name of cellules.



Fig. 2.

38. All the organic tissues, whether animal or vegetable, originate from cells. The cell is to the organized body what the primary form of the crystal is to the secondary, in minerals. As a general fact, it may be stated

*a*      *b*      that animal cells are smaller than vegetable cells; but they alike contain a central dot or vesicle, called *nucleus*. Hence such cells are called *nucleated cells*, (Fig. 3, *a*.) Sometimes



Fig. 3. the nucleus itself contains a still smaller dot, called *nucleolus*, (*b*.)

39. The elementary structure of vegetables may be observed in every part of a plant, and its cellular character has been long known. But with the animal tissues there is far greater difficulty. Their variations are so great, and their transformations so diverse, that after the embryonic period it is sometimes impossible, even by the closest examination, to detect their original cellular structure.

40. Several kinds of tissues have been designated in the animal structure; but their differences are not always well marked, and they pass into each other by insensible shades. Their modifications are still the subject of investigation, and we refer only to the most important distinctions.

41. The *areolar tissue* consists of a network of delicate fibres, intricately interwoven so as to leave numberless communicating interstices, filled with fluid. It is interposed in layers of various thickness, between all parts of the body, and frequently accompanied by clusters of fat cells. The fibrous and the serous membranes are mere modifications of this tissue.

42. The *cartilaginous tissue* is composed of nucleated