

not dissolve at all, or do so only very slowly, as the so-called mucous-corpuscles, or nuclei of epithelial cells.

The nuclei of animal tissues appear to be developed from nucleoli, as, according to Schleiden, is the case in plants. I have not been able directly to observe such a development of pathological nuclei, but it often appears to be the most probable mode.

Cells exhibit a variable constitution. Thus, according to Schleiden, the cell-membrane of the youngest cells of plants dissolves in water, but not at a later period. The cell-membrane of cartilage-cells is soluble in acetic acid, that of the blood-corpuscles is not; the young epithelial cell-wall is also soluble in the latter liquid, but no longer after it has become corneous, &c. Whilst the wall of most cells is dissolved by a solution of caustic potassa, epidermal cells only become clearer, and swell out. Similar phenomena are presented by the cells of pathological structures. Ordinarily, these cells, at the commencement of their development, dissolve in acetic acid, but at a later period do so no longer, as in the case of abnormal epithelial cells.

Cells grow by endosmosis, and through deposition upon the inner surface of their membrane. In plants the deposits frequently occur in layers. Pathological cells also grow by endosmosis, and deposit upon their inner surface. Concentric deposits rarely take place in the latter, so that the layers remain distinct (as in cancer), and occasionally these deposits occur externally, and afterwards become transformed into fibres. Similar results of physiological development I have observed in the skin.

In some cases a fusion takes place between the cell-wall and an intercellular substance, or of the walls of neighbouring cells, as, for instance, in certain cartilages—(Schwann, p. 217). A similar occurrence I have observed, though rarely, in the epidermal formations of meliceris in which the walls of the sac and the cavity become indistinct; and only the outlines of the contained cells remained visible, in the form of a shaded network.

The endogenous reproduction of cells occurs rarely in animals, as in cartilage, and in the thyroid gland, but is common in plants, and is frequent in pathological products, as in cancer, and not rarely in abnormal epithelial formation (catarrh of the bladder). An extraordinary enlargement of parent and secondary cells is presented in the endogenous formation of cysts. It is a repetition of the process of endogenous cell-production on a grand scale. In these cases there is at first formed a scarcely visible semi-solid, rounded, gelatinoid mass, the nucleus, and around this a