5. Cells with a rarer accompaniment of others prolonged to fibres.

The cells are either simple or endogenous. The latter frequently occur in larger quantity in medullary cancer, sometimes in scirrhus, in tumors of the mucous membranes, and occasionally in catarrhal affections.

The cell-structures frequently approximate, in their form and their chemical relation, to those of the organs, within or in the vicinity of which they are developed. Thus, in epithelial tumors with, or without ulceration, the cells are like those of the normal epithelium;* and, in the same manner the cells of medullary cancer of the liver frequently are quite like the hepatic cells.

SECOND CLASS.

Carbon predominating.

1. Pigment,—The black pigment of most pathological products exists in the form of free granules, or within cells, which are sometimes elongated in a fusiform manner.—Generally, it consists either of carbon, and is therefore insoluble in mineral acids, as in melanotic tumors, in the lungs, skin, glands, etc., or of sulphuret of iron, soluble in the latter acids—as upon the intestial mucous membrane frequently occurring in typhus.

The crystallized transformations of hematine into hematoidine found in the blood which has been a long time stagnated, either within or external to blood-vessels, and more especially in that effused after rupture of the graafian vesicle, were first accurately investigated by Virchow.

According to the latter, the hematoidine appears in the form of spherical bodies, granules, and oblique rhombic prisms, or perfect rhombs; is yellowish red, red, or ruby-red, and is insoluble in water, alcohol, ether acetic acid and weak mineral acids. In hydrate of potassa it becomes spongy, and then crumbles into granules which gradually dissolve. In concentrated mineral acids—as for instance, sulphuric acid—the crystals lose their sharp contour, and break down into granules, which become brownish-red, then green blue, rose-red, and finally, dirty yellow. According to my own researches, the crystals of hematoidine, of which the chemical composition is yet unknown, although its origin is undoubtedly from hematine, sometimes exhibits a very variable relation with the same reagents. Thus, in one case, I observed the rhombic crystals break up into red granules with a considerable development of air-bubbles,

* To speak of epithelial cancer is as unnecessary as to adopt an hepatic cell-cancer.