

that those features of the tumor cells, which are specific for one or other tissue, tend to disappear. In the most rapidly growing and most aberrant tumors, the individual cells afford us little or no clue to the tissue of origin. It is the general arrangement of the cells that aids us in making our diagnosis, and even the general arrangement is not so much that peculiar to the fully grown tissue, as that common to connective tissues in general, or to glandular or lepidic tissues in general. We recognize a reversion to an earlier, simpler, or, we express it, embryonic type. As I have pointed out elsewhere a distinction must be recognized between the functional and the proliferative, or vegetative, activities of cells; the essential feature of the cell of the atypical tumor is the replacement of functional by vegetative activity, and the consequent loss of those features which are directly associated with the performance of function.

I would now suggest that we carry the working of this principle a little farther back. The first lining membranes to be differentiated are the epiblast and hypoblast; their differentiation, indeed, is one of the earliest events in developmental history; and this being the case, we should expect—and we find—that tissues, whether normal or neoplastic, derived in direct line from these two layers, are singularly tenacious of their properties as lining membranes, and so it is that epilepidomata and hypolepidomata always show evidences of their lepidic nature. We should not expect—and we do not find—that where this direct line has been departed from, where, for example, hypoblast has given off masses of cells to form mesoblast, and the epiblast similar masses to form the neuroblast, that, in reversion, tissues derived from mesoblast and neuroblast respectively, should again enter upon the lining membrane stage. Where in the process of development an organ or part is formed by the cells of tissue of a higher order assuming a less differentiated condition, and from this lower state proceeding to develop along special lines, we do not find that in reversion and degeneration that tissue passes beyond the less differentiated stage, and then proceeds to show characters of a primary more differentiated condition. Thus it is that the mesenchymatous tumors and sarcomata in general show no tendency to assume lining membrane or lepidic characters, even though, without exception, all these tissues have primarily arisen as derivatives from either epiblastic or hypoblastic lining membrane.

If occasionally in gliomata we find cysts lined with columnar epithelium, this is not an example of such reversion to the more primitive epiblastic characters of the glial tissue. Those who have studied cases of this order have, without exception, ascribed such conditions to inclusions of rests of embryonic tissue containing portions of the *anlage* of the central nervous canal.