other good microscopists in this country confirm this view, which places tubercle in the same anatomical category with cancer.

Virchow, on the other hand, considers tubercle as co-ordinate with the waxy and fatty metamorphoses, (see Würtzburg Verhandl., band ii., p. 72,) calcification, atheromatous degeneration, etc., but altogether different from cancer, suppuration, the results of inflammation or serous effusion. Tubercle, according to this author, is composed of dead tissues, which have perished in consequence of the accumulation of cells amid their vessels, by which circulation was impeded and nutrition ultimately abolished. When tuberculous metamorphosis takes place in the lungs, Virchow states that the first step consists in an increased epithelial growth in the air-cells. Subsequently these cells fall to pieces, leaving a glandular detritus, in which the shrivelled nuclei arising from the remains of cells can be observed as irregular opaque bodies.

Virchow says that these nuclei constitute the tubercle-corpuscles described by Gluge and Lebert. The tuberculous metamorphosis may effect either physiological tissues or pathological tissues, as cancers, sarcoma, the products of glanders, typhus, etc., it is everywhere produced by the accumulation in the tissues of cells of the most varied kinds, these cells usually breaking up; so that there is no peculiar element of tubercle.

We have thought it necessary to recapitulate the above views, before giving a brief notice of a later paper by Virchow on the same subject, in which the learned author insists on a difference between pulmonary tuberculosis and pulmonary phthisis.

The expression tuberculous metamorphosis by which he has previously designated the morbid modification by which tubercle is everywhere produced at the expence of the organized elements of our tissues, is now considered inappropriate by Virchow, and he proposes to substitute the term *caseous metamorphosis (kasige metamorphose)* as more characteristic.

It is wrong to regard tubercle and phthisis as identical. The cheese-like exudation of the pulmonary parenchyma, whether derived from true tubercle or from a thickening of the morbid bronchial secretion, is not a necessary condition of phthisis. Virchow seems to incline to adopt Morton's definition of phthisis:

"Phthisis pulmonalis est consumptio totius corporis cum febre, a mala affectione et ab ulceratione pulmonum tandem originem ducens. Quæ quidem est phthisis maxima famosa et præstantia dicta, de qua auctores tractare solent, tanquam nulla esset alia phthiscos species. Hæcce phthisis pulmonaris est vel originaria, quæ a mala diathesi et ulceratione pulmonum primo instante dependet, vel secondaria et symptomatica, quoties scilicet pulmones a morbis præcedentibus jam altius afficiuntur."

The lung may be ulcerated, and cheesy matter present, and there may be no tubercle after all, the case being ulceration of the bronchi, and the caseous matter only concrete pus. Reinhardt, who sees in tubercle only the results of repeated inflammations, and Carswell, have demonstrated that very many of the lesions of the lungs which are attributed to tubercular disease are only the results of suppurative pneumonia. The cheesy-looking masses which these authors have found in the bronchi and alveoli of the lungs, and which they have proved to consist of thickened pus, do not merit the name of tubercle, for we find in these very masses the true tubercle precisely like what