

was received in this country as strong evidence in favour of the favourite creed. If this opinion be correct, tubercle ranks pathologically and anatomically in the same order as cancer, there being in both a specific constitutional disease, a specific exudation, and a specific or distinctive cell.

The truth or falsehood of this view will come hereafter to be examined.

2. Tubercle is a degraded condition of the nutritive material. Some pathologists, as Dr. C. B. Williams, refer tubercle to a degraded condition of the nutritive materials from which new textures are formed," and hold that tubercle differs from fibrine or coagulable lymph not in kind, but in degree of vitality and capacity for organization. Examined microscopically, tubercle contains, according to Dr. Williams, a few irregular-shaped, shrivelled cells, with imperfect nuclei, the main substance being composed of granular or amorphous matter. "No fibres are," he says, "perceptible."

3. Tubercle is composed of the products of inflammation. Reinhardt is at once the most recent and able advocate of this opinion, and the high reputation as a microscopical observer he enjoyed among those most intimately acquainted with him, recommends his statements to our attentive consideration. Reinhardt sees in tubercle only the products of chronic and repeated inflammations. In some cases of chronic pneumonia, Reinhardt found a gelatinous fluid in the cells and interstitial tissue, containing epithelium and pus. At a later period the epithelium was in a state of fatty degeneration; the interstitial tissue contracted; the cells lessened in volume; and, finally, a kind of cicatrix was formed. In various stages these states have been termed, respectively, gelatinous infiltration, gray tubercle, and tubercular cicatrix. In other cases of so-called yellow tubercle, Reinhardt found pus in the air-cells; the pus became thickened, dried up, and the nuclei disappeared. Shrivelled pus-cells, and not nuclei which have become free, form the so-called tubercle-corpuscles. Although Reinhardt considers that in some instances the tuberculous process arises from local causes—viz., hyperhæmia and recurrent inflammation; yet he admits that in many cases these indicate a state of dyscrasia.

4. Tubercle is composed of dead-tissue elements: Such is Henle's opinion. In the lungs, he says, tubercles are bloodless, dead (nekrotische) lobules, gorged with the dried-up elements of the epithelium or with pus, heaps of granules and granular cells, and these dead lobules continue in connexion with the sound pulmonary tissue, as a withered limb may with the trunk.

"The corpuscles," he says, "which are found most frequently and in the greatest number in miliary and crude soft tubercle, and which have generally been described as specific, are the corpuscles named by me 'elementary corpuscles,' and they belong to that variety of these which is rendered pale and dissolved by acetic acid. I have proved," he continues, "that such forms arise out of cytoïd corpuscles long exposed to the air." And, further on—"The microscopic analysis renders it probable that the nucleated cells arise out of the air-cells; it offers no explanation as to whether the cytoïd corpuscle, the products of the development of which we find in the air-cells, arise out of bronchial mucus, or from the pus of circumscribed inflammation, or from extravasated blood."

Tubercle corpuscles have already been stated by Gulliver to be "effete and shrunken primary cells"—a definition which might be adopted by Henle.

These views of Henle agree in the main with those propounded, in 1842, by Dr. William Addison:—"A tubercle," says Dr. W. Addison, "involves or includes in its substance the vesicular structure of the lungs: minute bloodvessels, lobular passages, and air-cells, are all capable of demonstration on the dissection of tubercle under a Coddington lens; the bloodvessels are no longer permeable, but their presence may be demonstrated." Tubercles themselves are composed of abnormal epithelial cells. Henle maintains that gray granulations are imperfectly coagulated fibrine, and if they sometimes pass into yellow tubercles cannot be considered as their first stage. He discards the idea of a specific exudation, and advocates the opinion that the first change, as far as the lungs are concerned, is coagulation of blood in,