

inflammation is not dependent upon the vascular system, but may occur in tissues devoid of blood-supply."\*

Thus, like so many of its predecessors, falls the nutritional theory of Virchow, which assumed that "a greatly increased flow of nutritive substances took place toward the inflamed part; that, in fact, inflammation began from the moment nutritional derangement occurred, said derangement consisting of the attraction of large quantities of nutrient substances, so that the cells of the inflamed organ received an excessive amount of nourishment at the expense of the blood-supply."

So, too, with the vascular theory of Samuels and Cohnheim, introduced by the essayist to explain the crowding, in active inflammation, of the intercellular spaces with leucocytes and red blood-corpuscles. These eminent pathologists held that "inflammation consisted essentially in a molecular lesion of the vascular walls; that the latter, modified by some injurious agency, lost its power of retaining the blood-corpuscles, which therefore, in consequence of the force acting upon them, were driven out of the vessels, and then wandered toward the part of least resistance."

Compare these theories of Virchow and Cohnheim with a few sentences from Metchnikoff, and a wide discrepancy will at once appear. He says, "The study of inflammation in cold-blooded animals teaches us that increased temperature is not a necessary factor, and that the analogous reaction in the invertebrata proves that inflammation may occur without any intervention on the part of the blood-vessels." What, it may be asked, will be the effect of this new doctrine upon the generally accepted theory of suppuration? It is to be regretted that Metchnikoff should not have gone a step further and given us a chapter on pus-formation, though his promise to do so in the near future warrants the anticipation of a rare treat in the studies of comparative pathology when the results of his labors in this direction shall have been given to us. Meanwhile it is probably safe to assume, as the essayist has done, that the initial lesion is due to micro-organisms, and that true pus is unquestionably the product of pyogenic bacteria.

I say true pus, for we cannot longer apply that term to everything having the appearance of pus; only that which contains bacteria, and is capable of propagating itself when engrafted into culture-media, is now regarded as pus. (Park.) The process by which the formation of pus is brought about is styled by Metchnikoff as a struggle between two living species, and by Virchow as "a battle of the cells." The pyogenic bacteria, which are generally if not always present in tissues of the body, make an attack

---

\* Parmenter.