

Klein's paper. This collateral evidence is open to those who search, and I shall merely say that I conceive it to be sufficient to affirm the proposition that vegetation is a constant factor in the characteristic necrosis of typhoid.

2. *If incidental, is the vegetation the cause of the disintegration?* That the masses of micrococci found by Dr. Klein in the mucosa, the bloodvessels, and elsewhere, cause the retrograde changes of the tissues ending in sloughing and ulceration, is shown, nearly to demonstration, in the text of his paper, and by the plates. That is to say, "the deposition, probably by exudation from the vessels, of a peculiar dark-colored material" (micrococci), "in connexion with and around which the tissue undergoes necrotic changes," is almost to a certainty the potential cause of the changes. For all rough purposes it is a certainty that the necrosis is the effect of the deposition of the micrococci; but the subtle distinctions drawn by controversialists in dealing with infection may be brought in here to show that the vegetation in question does not play the important part assigned to it by Dr. Klein. It is admitted that microzymes exist in vaccine lymph and in the fluids from certain infective inflammations. It is further admitted that those portions—and those portions only—of the fluids containing the microzymes have specificity. From this (and from other data) it was inferred that the microzymes are the infective agents. The opponents of the view, however, met it with the argument that, granting the facts, yet the microzymes may be merely the "carriers of infection," and not the infection itself. And this kind of argument undoubtedly admits of extension to the fungus found by Dr. Klein. Though its mycelium, gonidia, and micrococci apparently destroy the tissues, yet they may in reality be the coarse, visible sub-agents of unknown, intangible agents behind. If discussion should enter these or parallel grooves, it may run on endlessly, with exceeding gratification to men of a certain order of mind, and possibly with ultimate benefit to science. Those on a lower plain will probably content themselves with looking at what is more immediately before them. Taking this contracted view, I conceive that, so far as many present purposes are concerned, it comes very nearly to the same thing whether the vegetation described by Dr. Klein is the prime mover of the typhoid changes, or the subsidiary factor—the "base second means." For if *ubi fungus ibi disintegratio* be conceded—if the true agent in the necrosis invariably select the same vegetation as its sub-agent, and if the sub-agent be never found apart from