

Chauveau found that leucocytes and plasma, *per se* or separately, had no power of infection, while the smallest portion of the granules which could be used caused their characteristic disease. He, however, discovered latterly that the leucocytes were the receptacles of the granules, the latter growing in the former like seeds in capsule, as granules set free by rupturing leucocytes were found to infect.

2d. THE ORIGIN OF CONTAGIA.—This is a subject I shall merely touch, but which is deserving of far greater attention than it has hitherto received, and which must be thoroughly investigated if epidemic disease is to be checked or extinguished. While admitting in the fullest sense the communicable nature of zymotic poisons, I am of opinion that they have all arisen, may all arise, and some at present do arise, *de novo*. It seems to me futile to argue against the spontaneous origin of any single zymotic malady, small-pox for instance, by saying it may always be traced to a previous case, for this reason, that the conditions under which it was generated may have ceased to exist, while those under which it disseminates still prevail. A contagium evolving spontaneously, say amidst festering accumulations of nitrogenous *debris* (the undoubted primary source of all contagia), may subsequently require, and in most cases does require, nothing more for its propagation than some peculiar condition of the body, indicating a little, if any, lowering of the health standard, and thus it may perpetuate itself after its natal conditions are extinct. In other words, some infectious viruses seem to exist in media less inimical to health than are required for their generation *de novo*. Hence zymotic explosions indicate malhygienic conditions unusually favorable for the multiplication of existing contagia, and should these conditions obtain to a higher degree in quality, time, and space, not only may existing virus be largely and rapidly reproduced, but fresh quantities spontaneously evolved. Furthermore, there are facts showing that storms of contagia, such as those of plague, relapsing fever, etc., may arise *de novo* under certain abnormal conditions of the body and surrounding media, scatter the poison profusely around with sudden alacrity, and when these conditions are removed, cease, being unable to exist unless in a comparatively exceptional nidus. Well might Dr. Richardson ask, where are the germs of the plague, sweating sickness and black death? Has improved sanitation anything to do with their absence? To which I might add, would a return to the conditions then existing, with a London death rate of about 50 per thousand, not again conjure to life