

lence of the invading micro-organism. According to this latter factor, we may have either a chronic inflammation with few symptoms till some sudden impaction happens, or a violent outbreak of a rapidly fatal cholecystitis with cholangitis.

Much the most common of these bacterial invaders, as we might expect, is the *Bacillus coli communis* entering from the intestine, either directly as micro-organisms ascend the ureter from the bladder and cause pyelitis, or by some roundabout route through the blood. In some cases clumps of these bacilli seem to be themselves the nuclei of gall-stones, as Professor Welch has obtained living colon bacilli from the centre of gall-stones. This micro-organism seems able, under certain conditions, to travel everywhere over the body. Enteritis from any cause, especially if ulcerative, may allow it to pass through the lesion in the intestinal wall into the circulation, and set up pyrogenic inflammation in the most distant localities, for it has frequently been found in peritonitis, pleuritis, empyema, otitis, and meningitis. I think that one symptom in disease, namely, rigor, is more common as an attendant on infection by this bacillus than by any other micro-organism except that of malaria, and on that account its chills are often mistaken for ague. Thus, I have been repeatedly called in consultation in cases of typhoid fever on account of severe attacks of rigors coming on suddenly in the fourth week or later, after convalescence had seemed to begin, and in which the patient appeared to be threatened with fatal collapse. In my first case of the kind, in a young woman, the attacks came on at regular intervals of a week, and she died in the fifth attack. Two other patients, both young men, in cases apparently quite as severe, nevertheless, recovered, but lately I was called five times to a lady, sixty-five years old, who had no fewer than thirteen of these rigors, after the last of which she sank, in the seventh week of her disease. Early in my visits I suggested that a bacteriological examination of her urine be made, and the report was that it contained the *Bacillus coli communis* in enormous numbers. It is the same bacterium also which is now most generally held to be the cause of the rigors of urinary fever. A severe rigor followed by urinary suppression after operations on the bladder is now no longer ascribed to reflex nervous disturbance, but, as Guyon, Rovesing, Moullin, and others have shown, is the result of microbic infection, Guyon and his school maintaining that it is always the colon bacillus which is the offending agent. Considering, therefore, how frequently this bacterium has to do with the genesis of the catarrh which leads to the formation of gall-stones, the "hepatic chills" which so commonly attend attacks of biliary colic may reasonably