now add pneumonia, which is regarded by many as a constitutional disease. Unfortunately the form of endocarditis which accompanies it appears to be more often of a serious nature, judging at least from the evidence before us. With our present knowledge, the most, I think, that can be said on this point is, that in certain cases of inflammation of the lungs there is a tendency to ulcerative endocarditis. In a former paper * on this subject I called attention to the fact that inflammation of a diphtheritic character had been observed in other organs in pneumonia, particularly in the colon, in which region Dr. Bristowe met with diphtheritic exudation in four out of sixteen cases. There was purulent meningitis in four of the seven cases above reported, which was doubtless secondary to the endocarditis.

(*c.*) A very considerable number of all the cases of ulcerative endocarditis occur in connection with local inflammatory processes of an unhealthy type. In this group the *endocarditis puerperalis* of Virchow is most conspicuous, and not unfrequently complicates the endo- and peri-metritic disorders following parturition. It is further met with in acuto necrosis of bone, occasionally in gonorrhœa, and in pyæmic states. In some cases it is very difficult to say whether the pyæmia has excited the endocarditis, or whether the former has not been determined by the latter; indeed, the relation may be reciprocal. This form is often referred to by writers as "secondary," the exciting cause being, in most instances, obvious. There are some peculiarities in the endocardial lesions, which will be referred to later.

(*d.*) The valves of patients who die of chronic heart disease present very diverse anatomical pictures. There may be—(1.) Simple sclerotic changes with great deformity; (2.) the same with small bead-like vegetations; and (3.) sclerotic and deformed valves with recent ulcerative changes, destruction of tissue, and valvular aneurisms. Probably the great majority of ulcerative processes on the valves occur in this connection. These cases usually proceed as ordinary examples of heart disease, with little or no fever, in fact, none of the severe typhoid or pyæmic symptoms so striking in other instances. In one or two cases I have seen slight, irregular fever, or signs of extensive embolism, which may indicate the nature of the process going on, but the clinical picture is not that of the primary infectious form. It has long been recognised that ulcerative changes appear with special proneness on damaged valves. In two of the cases of pneumonia with this complication, the valves were the subject of that peculiar malformation by which two of the segments had fused together; and in two instances of chronic heart disease, with extensive ulcerations and aneurisms, the same condition of the segments was met with. Interference with the vessels and consequent defective blood supply may, as Virchow suggests, have something to do with this tendency in sclerotic valves to ulcerative changes.

It occasionally happens that ulcerative endocarditis arises as a complication of one of the acute exanthemata. According to Lancereaux † chronic malaria is also a predisposing cause.

Morbid anatomy.—I shall only deal in this place briefly with a few points in the cardiac lesions. In the great proportion of cases the affection is valvular and confined to the left side. The changes met with are by no means uniform, but a remarkable variety prevails. There may be—(1.) Superficial losses of substance, not extending much deeper than the endocardium, the surface rough, without

* *Archives of Medicine*, Feb. 1881, New York.
† *Archives Générales*, 1873.