

side, and in classification it was reckoned a sub-species in the larger class of pleurisy with effusion.

One chief variety of pleurisy with effusion had been set down as the result of exposure to cold and its onset after such exposure, often without other definite antecedent, was the chief ground of that classification—purely an argument by exclusion. Kelsch and Vaillard in 1886, however, published observations on 16 autopsies which revealed pleurisy of long standing (in some cases undergoing partial recovery) all in the highest sense typical of pleurisy *a frigore* in which smears from the surface of pleuræ and of the exudate revealed no micro-organisms, nor did inoculation of the pleural exudate into mouse, guinea-pig and rabbit yield symptoms of discomfort. Sections of the false membranes of parietal and visceral pleura, however, revealed the tubercle bacillus in abundance. The six empyemata included in their description yielded in four cases staphylococcus; in two streptococci. This investigation stands strongly in favor of the tubercular origin of cases of the primary pleuritis where no culture growth can be obtained from pleural effusion during life; there being absolutely no physical signs of tubercle infection.

Considering empyema then as a variety of pleurisy, we come to those numerous cases where the pleuræ become involved secondarily to pneumonia, and again it is in France that a distinction of some clinical importance was first drawn. This relates to the parapneumonic and metapneumonic pleurisies and empyemata. These forms differ from one another in progress, and, if recognized early, are among the most amenable to treatment, for once thorough evacuation of the effusion has been effected there seems to be a strong tendency to recovery. The onset of the pleural lesion in these cases is often so insidious as to be for a time, at least, overlooked, much damage in the meantime resulting.

Pure cultures of pneumococci are frequently to be obtained from these cases, or often associated with the staphylococcus aureus and streptococcus. The channel of pleural invasion must remain a matter of pure theorizing in most of these cases; the easiest mode of infection being the close contiguity of lung and visceral pleura. Many a case of empyema, properly belonging to this class, has been overlooked until late in its evolution, or, if symptoms were only fairly pronounced, mistaken for an unresolved pneumonia.

Any attempt at a complete classification of the various empyemata must include those in which the typhoid bacillus is found in the exudate, those following scarlatina and the infectious diseases and those occurring in pyæmia and septicæmia. Injury to the chest-