

cases, (a) portal cirrhosis, commonly multilobular, though sometimes unilobular and fatty, and those often hypertrophic. (b) Biliary, always hypertrophic, and due either to (i) ascending cholangitis, the secondary infection being an essential in the process as well as the obstruction to the free outflow of bile, due in many cases to primary simple gastroduodenitis, or (ii) to descending cholangitis, the process being begun at the upper end of the biliary "tree" in the periphery of the lobule, and consisting mainly in proliferation of the normal bile canaliculi, under the influence of an irritant brought there by the blood. By this infection theory the liver condition is only a local manifestation of a general infection, and arguments in its favor are given by Rolleston *loc. cit.* as follows:

(a) Other irritants, *e.g.*, toluylenediamin produce it experimentally. (b) The frequency of fever. Can this not be due in very many cases to the intestinal intoxication, by ptomaines and leucomains? (c) The splenic enlargement, which sometimes precedes, and is often relatively greater than that of the liver. (d) The leucocytosis, which is not found in portal cirrhosis, as if the system were reacting as it does to other infections, *e.g.*, the pneumococcus, or in appendicitis. (e) Glandular enlargement, not only in the portal fissure but sometimes in more distant parts.

To these arguments one may add the most suggestive work of Adami, of McGill, three or four years ago, in which, while investigating the Pictou cattle disease for the Dominion Government, he isolated and grew a distinct, and constantly occurring organism.

One is tempted to accept the opposite view of an ascending cholangitis, particularly in the case of children with their frequent gastroduodenitis and catarrhal jaundice. There is little doubt in my own mind that both the children I have spoken of began in this way. Gilbert and Fournier regard the process as due to the colon bacillus with an ascending infection. They have found the colon bacillus in blood withdrawn from the liver by puncture during life, and subsequently in the liver and spleen in the same case. Hayem also found the diplococcus pneumoniae in blood aspirated from the spleen during life, in a group of cases closely associated, if not identical, with hypertrophic biliary cirrhosis, in which there were enlargement of spleen, with jaundice and recurring fever. He gave them the name "chronic infectious jaundice." And the analogy between this view and the well known origin of bronchopneumonia from an ascending bronchitis is a particularly tempting one. Of course the chronicity and the absence of suppuration make it necessary to assume that the organism cannot be a pyogenetic one.