ORIGINAL CONTRIBUTIONS.

murmurs (time, topography, propagation, intensity, pitch, quality); (2) made familiar with the influence of respiratory movements, of change of posture, and of pressure of the stethoscope upon certain kinds of murmurs; and (3) become thoroughly acquainted with the other changes in the heart and circulation that follow upon organic disease of the heart valves and heart muscle, and with the physical methods of examination by which these can be demonstrated, he will rarely have difficulty in recognizing the nature and significance of a murmur, so that he may place it in its proper class.

Speaking of extra cardial murmurs he said that in class A the pericardial and pleuropericardial friction sounds were usually readily recognized. They were friction rubs, to and fro sounds, scratching in character, close to the ear, often divided into parts, and might be influenced by posture and the pressure of the stethoscope. In the case of the friction sounds caused by the rubbing of the outer surface of the pericardium and the pleura, they were sometimes heard with the movements of the heart, and sometimes with respiratory movements.

With regard to class B, the cardiorespiratory murmurs, it might be said that they are not uncommon, and are sometimes mistaken for intracardial murmurs. They may be systolic or diastolic in time, though usually the former. These sounds arise in the lungs at the time of heart movement, and for this reason are spoken of as pulsatile pulmonary sounds. They are usually heard during inspiration. They cease or are muck changed by holding the breath; and they are also modified by change of posture. So far as the heart is concerned they are quite innocent.

With regard to class C, or precordial crackling sounds, it should be noted that when there is mediastinal emphysema, the air in the tissues may cause a crepitant sound. It is synchronous with systole and might be mistaken for pericardial friction.

Class D, or splashing and water-wheel sounds, are seldom encountered. They are caused by the presence of air and water near the heart, such as a cavity in the lung, distended stomach, hydropneumopericardium, or hydropneumothorax.

The intracardial murmurs Dr. Barker discusses as follows:

A. Organic Murmurs Due to Diseased Heart Valves. Here we have to deal with the murmurs that occur in stenosis and insufficiency of the aortic, mitral, pulmonary and tricuspid valves. In the examination of recruits, aortic and mitral disease will frequently be encountered, while disease of the pulmonary and of the tricuspid valves will only very rarely be met with.