

His pulse is rapid and perhaps irregular, his cardiac impulse violent, and may be diffused even beyond the right sternal border. Murmurs may be heard at one or more orifices \* \* \* \* \* It would take a great deal to make me reject the captain of a foot-ball team of a large school \* \* \* \* \* I have known such bruits to be looked upon as indicative of valvular disease requiring treatment by digitalis and demanding all sorts of precautions in the matter of exercise." All of us have seen examples of this class. But these murmurs may also occur in the apparently healthy, who have not been undergoing any debilitating process such as students do on the eve of examinations. Thus last week I saw the following case:—

CASE I.—A young man of healthy appearance and good build complained of palpitation on emotion but not on exertion. He was a civil engineer and lived a typically healthy, out-of-door life and neither drank nor smoked. The condition had troubled him more or less since he first entered the University several years ago. As a student he was a good boxer and could stand a great deal of knocking about without distress; but, while waiting to begin a boxing match, or in fact any physical or mental test, he was much troubled with palpitation which, however, always wore off as soon as he got well into the struggle. In the neck a well marked bruit du diable was present. The pulse was 120, but usually about 80, and varied greatly with posture. He noted this point himself and found that his pulse was 70 while lying down and 96 when standing. In the standing posture no murmur was present, but if he lay down a well marked systolic one was audible in the second and third left intercostal spaces. He was not anaemic.

One might describe such cases almost to any number but such would serve no purpose. The subject may perhaps be best dealt with from three points of view: first, a description of the murmurs which occur; second, a short summary of the views held as to the physical causes of these murmurs; and third, the diagnosis.

(1) *Description*.—Inorganic or functional murmurs may occur in any of the cardiac areas, but by far the most common position is from the second to the third left intercostal spaces close to the sternum or a little external to it. While heard loudest at this point, these murmurs may be heard over most of the precordium, as far down as the apex and even to the right of the sternum. In an individual having such a murmur there will usually be present also a bruit du diable in the veins at the root of the neck, and also murmurs in the large arteries, but with these vascular murmurs we are not now concerned. There is early and marked accentuation of the pulmonary second sound and such accentuation usually precedes the murmur.