

tion of a possible old endocarditis based on a previous history of scarlatina which occurred in a certain proportion of cases, and which I noted but did not eliminate.

This (17 per cent.) is a high percentage, and it will be objected to it, that without doubt many of these are really cases of organic cardiac disease of insidious onset; but when one considers that in some of the many cases rejected because there was a bare suggestion of etiology, the murmurs may have been functional, and further, that, present as this sign often is when the patient is suffering from a malady that would never suggest it, the less marked murmurs must, even in these carefully kept records, have sometimes escaped observation, it is evident that this percentage of 17 per cent. must be pretty close upon the facts.

In the subjoined classification, various plans are adopted and the effort has been made to seek a diagnosis of the underlying physical condition. In functional murmurs, this is generally admitted to be an anæmia or a toxæmia leading, possibly through the nerve centres, to lowered vascular tonus and to consequent irregularities in the blood current.

I have divided all the conditions as follows:

1. Murmurs occurring in febrile and afebrile conditions.
2. Murmurs occurring in anæmic and non-anæmic conditions.
3. Murmurs occurring in pulmonary tuberculosis. This being kept separately as here the condition includes to a marked degree, fever with cachexia and anæmia.
4. Classification according to the nature of the sound with special reference to:

(a) Site of murmur.

(b) Transmission.

(c) Condition of pulmonary second sound.

(d) Rhythm.

(e) Cardiac enlargement.

With reference to the *statistics* it is of note that:

In 466 cases with undoubted functional murmurs, 269 were in afebrile, and 163 in febrile cases.

Of the 269 afebrile cases, 185 showed anæmia; 74 none.

Of the 163 febrile cases, 85 showed anæmia; 78 none.

In 44 cases of pulmonary phthisis, 35 showed anæmia: 9 none.

The following *table* will indicate the main features it is desired to illustrate as suggested in a *few of the diseased conditions* with functional murmurs and the characteristics associated therewith. The relative frequency of murmurs in febrile and afebrile conditions and in pulmonary phthisis is also shown.