

ous examinations. What consistent explanation can be given of this? It cannot be said that the murmur was anæmic and disappeared under the administration of iron, for then would it have accompanied the natural course of the blood, and been heard over the sigmoid valves. Neither could it be consistently attributed to temporary incompetence of the mitral valve, produced by engorgement of the left ventricle during the excited action of the heart, for on that supposition it ought not to have been wanting on a subsequent occasion, when such engorgement must have been increased as the dyspnoea and palpitation were. Nor was it the ordinary organic murmur of regurgitation, nor the rare one produced by friction of blood against irregularities on the endo-cardium at the base of the ventricle, whose disappearance was fairly referrible to feebleness of the central organ of propulsion, for the impulse was painfully violent and the pulse not deficient in force at the very period of the murmur's absence. Nor was it likely due to alteration in the direction of the blood, consequent upon dilatation of the left ventricle, which is now admitted as a possible cause of endo-cardial murmur, for such dilatation was not detected and did not exist, and such a murmur would be most audible at the base, not at the apex. What, then, was it? Prof. Walshe mentions the occasional occurrence of mitral systolic bruit in hypertrophy of the heart, and even in chorea, from disordered action of the papillary muscles*, and it was a knowledge of this and the above reasoning that led me, on the 27th, after examining the patient, to regard the murmur heard on the 14th, as originating in unequal closure of the mitral valve, consequent upon disordered action of the columnæ carneæ, and to refer its disappearance to the return of the physiological action of the muscular apparatus.

But I must not omit to notice here another and an opposite explanation of a similar occurrence advanced by the same close observer. Speaking of the occasional disappearance "during palpitation" of a murmur audible in a "calm state of the circulation," he remarks:—"I have only observed this in some cases of mitral regurgitation. Can it depend on irregular contractions of the wall of the ventricle, allowing of such slight and feeble regurgitation, that morbid sound cannot be generated?"† However, in my opinion, this explanation will not meet Cassiday's case; for the murmur was first discovered during an excited, not a "calm state of the circulation," and it subsequently disappeared and again reappeared under similar circumstances. May not some at least of the cases of mitral regurgitant murmur, alluded to by Prof. Walshe in the above quotation, have owed their origin to temporary

* Walshe on "The Heart, Lungs and Liver," pp. 210 and 416.

† Loc. Cit. p. 204, note.