NOTE ON FUNCTIONAL MURMURS AND IRREGULARITIES OF THE HEART.

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THAT the War Office should have issued a memorandum on "The significance of abnormal signs in the recruit's heart," from the pen of Sir James Mackenzie, is a very wise and useful move, that may be expected to be of great assistance to all those engaged in the examination of recruits, and not alone to them—it will be a help to many at work in general practice. It must often have been a matter of knowledge to many, quite unconnected with the present war, that many a young, healthy man, eager for service, and apparently well fitted for it, was too often refused for a quite unimportant murmur.

In the course of years I have several times had a *quasi*-impersonal tussle with a medical board for rejecting a candidate for an imperfect heart who had nothing of that sort the matter with him, and I doubt if the candidate has ever been successful. Once or twice I have even encouraged an appeal, only to hear that it has ended in costing the appellant a fee of several guineas for the special board, the original verdict being sustained. I do not altogether dissent from this attitude of army boards, for they need to look at an individual from many points of view, and on them is the responsibility if one, who ultimately proves unequal to the strain, be accepted. Nor is it, indeed, confined to examinations for the army: a very similar thing happens, and happens frequently, in the business of life insurance, and many a life has been loaded that had no cause for any such impost, and no doubt a great injustice is sometimes done thereby to young men just entering life.

The question to be decided is one needing experience and judgement, and though we may all give the best we have, we cannot dispense what we have not got. I have often wished that it were possible in all cases of doubt to introduce the element of civil experience upon the boards; it would surely add to the weight of the opinion and tend to a real adjustment of any inequalities of judgement.

Nothing could be better than Sir James Mackenzie's memorandum, whether it deals with murmurs or irregularities or the effects of excitement, as temporarily disturbing the action of the heart. I would have some of his dicta scored in red and handed not only to a special section of us, but to every one. To remember that "physiological murmurs are always systolic in time and may be situated at apex or base or between," would alone save many a mistake when considered in conjunction with such other points as are here wisely brought to our notice. In the matter of irregularities of the heart, however, we except the quite young, there are indeed sometimes real difficulties that may well cause even the seasoned one to be at fault, and which there might just now, when men are so wanted, be a tendency even unduly to belittle.

This is where my own doubts have crept in, and perhaps it may help some one else if I say so: the heart is in this or that case, as I think, physiologically sound—that is its valves and muscle. Except in the case of the young recruit, to whom chiefly, and sufficiently, the memorandum refers, would it be safe to pass such irregularities of action even though such are admittedly often quite innocent?

Let me mention two cases in point:

A man over 50 had never been ill in his life till taken, out at the front, with appendicitis, and after that with something else, two separate operations being necessitated. He recovered from these quite well, and remained so for two or three months, when his heart "began to jump," as he expresses it, and now it is sometimes very irregular, the systole frequently failing to give a radial pulse. The heart in its better moods is apparently quite sound, there being neither murmur nor dilatation nor short-windedness, and in civil life I should send him away and make little of it. There are many such cases where the heart's action is disturbed; it may be persistently rapid, apart from any ticketable malady; or slow, as after severe shock or other depressing influence; or there may be irregularity from digestive disturbances. In all these the heart may appear to be sound, and the fault some failure in the

cerebral nerve drive—not much, one might think, to keep a man back. Yet is such a one safe if allowed to return? I think one must say No. He is not as yet able to stand the impact of emergencies, and he is unfit, not by reason of actual disease of valves or muscle, but from a general want of stamina, from which the heart suffers in common with all our other members. A further possibility also would seem to attach to this form of irregularity, that as middle age approaches the heart's action may never again recover its proper stability, although capable of many years of useful if not of excessive work.

The second case is very similar, but in a younger man, only just over 40. He was evidently a very nervous man, so that I was rather prepossessed in favour of making little of his complaints; yet, on careful consideration, there seemed good ground for believing that the irregularity of the heart's action was due to faulty cerebral control, for he had been working twenty-four hours round, and needed rest for the taking in fresh supplies of energy.

There must be many who have come into touch with cases like this—cases where the outlook is encouraging, yet where it cannot be said to be devoid of possibilities, and where decision may be difficult.

THE RECRUIT'S HEART.

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HAVING, during the progress of the present war, had to consider, both in hospital and private practice, the suitability of officers and men for military service, on account of some cardiac condition or anomaly, I have read with care Sir James Mackenzie's memorandum on the recruit's heart, which appeared in the BRITISH MEDICAL JOURNAL for October 16th. As it is issued at the desire of the Army Medical Service, evidently with a view of preventing the rejection of as many recruits as may be considered safely possible, whose cardiac state does not satisfy examiners, I should hesitate to comment upon it. But the matter is important, and the paragraphs of which the memorandum consists require, in my opinion, both amplification and qualification to be safely used as guides by examiners, who must of necessity vary considerably in their experience of the conditions dealt with in them.

The first suggestion of the memorandum is, that before examining the heart by the usual methods, its efficiency should be gauged by ascertaining the history of past exertion and the behaviour of the patient under strenuous effort. A judgement, favourable or unfavourable, might be based upon the data thus gathered, but a favourable judgement might have to be qualified by the discovery of local error in the mechanism of the heart, and an unfavourable judgement on this point should not necessarily lead to the rejection of a recruit who was found on examination to have a mechanically perfect heart which, in training, might, like his whole muscular system, somatic and visceral, gain power by exercise.

The next paragraph of the memorandum, however, which deals with murmurs, and which, like all of them, has the merit of a brevity which might with advantage and without prolixity have been expanded, offers a certain amount of argument in its closing lines. "It is manifest," it reads, "that, if the cause which produces the murmur hampers or embarrasses the heart in its work, the size of the embarrassed chamber will increase, and its functional efficiency be impaired."

The "size," however, of a heart with even an organic valvular lesion, as determinable by the methods employed at a recruiting office, may not be found to be increased, and the past history of behaviour on the part of an organically affected heart may be good. The prognosis of future behaviour under the conditions of military life would, however, not safely be thus calculable. The nature of the mechanical defect would therefore require careful diagnosis before the future stability of the heart could be estimated.

It may be stated in general terms that the heart which manifests an endocardial bruit after the exertion of coming to the recruiting office and after having been given exercise there to determine its persistence, is either