

here again the injurious results followed almost continuous play, and not play that was interrupted during several days or weeks at a time.

In volume xviii. of "Ziemssen's Cyclopædia," Dr. A. Brayton Ball, of this city, has contributed an excellent article on "Physical Exercise," and under the division of "Results of Over-exertion" shows that, so long as muscular exertion conforms to the law of rhythmic action, it develops the muscles and augments their strength; but, if the exertion become continuous, then it decreases their power, and finally leads to atrophy, or, worse still, to degeneration. Applying this to the heart, it is not difficult to appreciate that through over-exertion we shall inevitably diminish the duration of cardiac repose by encroaching upon diastole through increased rapidity of action. Thus we approximate to a condition of almost continuous work for this organ, which must occasion the same detriment to it as it does ultimately to any one of the purely voluntary muscles which is being constantly called upon after an analogous manner. Doubtless the heart is sooner and more injuriously affected among those who are poorly fed, breathe an impure atmosphere, and are victims of alcohol, than among those who suffer from no such pernicious circumstances.

Dr. Ball makes a few forcible remarks against the senseless habit of long-distance walking which is so intensely the fashion of the moment. In it he finds a useless expenditure of reserve force, which can only be made with the certainty of causing future permanent injury to the contestants. According to this author, the best way probably to prevent bad consequences to health resulting from active physical exercise is to appoint a competent medical man in each one of our large institutions of learning, where there are many students, and, therefore, many who engage in outdoor sports, whose duty it shall be to examine each young man with respect to his physical condition. After this examination has been thoroughly made, only those of vigorous build, and who at the same time enjoy good health, shall be permitted to engage in games or contests for which just these attributes are essential, so that harm may not result from indulgence.

In regard to the treatment of all such cases of irritable heart, or of those in which debility has already shown itself by some dilatation, special importance must be attached to rest on the back; and with "heart-weary" people it is a great point gained to have them avoid just those professions which are calculated to increase their disease. Above all, let the thorough-going, typical, too rapid American be perfectly assured, as Da Costa remarks, that constant running to catch a boat or a train, or "bolting" all meals, is bound to injure his heart as much and more than the coats of his stomach. Sexual excesses are also a frequent cause of irritable heart, and functional disturbance thus caused is not the price paid only by men or women of profligate habits. Moral men—men whose duty to the state is properly shown by a vigorous and increasing family—are sufferers, and

have become so by an apparent ignorance of the fact that because indulgence is not socially censurable it is individually of possible injury to health. Such individuals (clergymen, farmers, lawyers, etc.) often owe their general lack of energy and bodily activity to irritable hearts thus occasioned. We all know many of the disastrous consequences which are the immediate outcome of drinking to excess. Among these none are more frequent than the weakened heart and soft, weak, rapid pulse of the steady drinker, or of one who frequently "makes a night of it." To some persons tobacco is relatively innocuous; to others it is a poison, even in mild and minute doses. To many, mild cigars are not injurious, but strong tobacco completely unnerves them. How many young men suffer cardiac palpitation which are attributable to no other cause? The close student is often just the one who is thus affected. After the excitement of examination is passed, then it commences to tell, and he can scarcely walk a block at a rapid pace without feeling his heart leap into his mouth. At night he hears his arteries throb, his heart beats in a very irregular manner, and sleep is prevented for several hours. To remedy this, whatever else be done, tobacco must be put aside for several months.

The green-tea drinkers of our mothers' and grandmothers' days were certainly more numerous than they are in our own day, and, I judge, must have had very irritable hearts. For even now, and when English breakfast tea is pre-eminently a lady's drink, still attacks of painful palpitations are common among them, and to remedy them we must adopt Fothergill's plan of prescribing *cocoa* as a beverage, with a doubting faith, however, lest they soon again relapse into their former pernicious habit of excessive tea-drinking. To show the influence of the mind over the action of the heart, Fothergill cites the case of a medical student who, when asked a question, the answer to which required thought, had immediately a changed cardiac rhythm and intermissions of the pulse-beat. Whenever the answer was given without thought, the action of the heart remained undisturbed. We are all of us aware how much our heart-action is influenced by emotions or temporary excitement, but we are not all aware how much control of the cardiac centre may be acquired by an effort of will. The accomplished statesman is, however, able to control every utterance which indicates emotion, and this is, perhaps, as great a proof of regularising heart-action as the others familiarly cited of the finished coquette or the winner at Creedmoor.

In his usual brilliant way, Fothergill touches the keynote of this matter in saying there are "stout-hearted" and "faint-hearted" people—those who can be relied upon in an emergency and those who cannot—those, in other words, who can control their hearts under circumstances of great excitement or impending danger, and those who then become powerless and useless.

There are many other causes of cardiac palpi-