

minute in various positions of unstable equilibrium, if they can continue to do these things lightly and without apparent distress for twenty or thirty minutes at a time, without ever totally suspending their labours or resorting to a clumsy position to overcome a mechanical disadvantage, we must admit that they are better than those of a Samson which can move heavy weights indeed but only through very limited spaces, and that they may retain their powers require every few seconds to be wholly relieved from tension. Nor is this all the gymnast's superiority. He not only does more but lasts longer, he perspires less, he breathes more freely, he fatigues himself much less easily and recovers his powers much more quickly. These two cases very well illustrate the superiority which hard muscles possesses over big ones. Those of our readers who saw Donald Dinnie when he visited us in 1870, and can remember how Fulton looked on the morning of the great race last year, will be able to form some idea of the difference between the kind of physique that will do for a series of short powerful efforts, and that which is required to meet the exigencies of doing one's utmost for forty minutes without intermission. These two men were equal in height, but differed in all their other dimensions by whole inches, and in weight by nearly four stone.

Training then does not specially aim at enlarging the muscles. Its object is to render them sound in quality rather than imposing in size. Any immoderate degree of growth is always associated with a deterioration in quality. Hence, if a man is to work long as well as hard he must not be too full. If the trainer goes to the other extreme and draws his man too fine, he at once detects a loss of strength and vital force. He must keep to the middle line. He must keep up strength and he must keep down weight, but he must not while pursuing either of these objects allow himself to neglect the other.

It is a common belief that physical training and the sports with which it is connected, have a tendency to exhaust the vital powers, and cause a premature decay of the system. The arguments appealed to are two: 1st, that young amateurs often injure themselves by over-exertion in open air sports and gymnastic exercises. And 2nd, that professional athletes often suffer from organic disease in their later years and usually die at an age when they ought to be in the prime and vigour of life. The holders of this view are twice in error; they misunderstand the nature and objects of training, and they confound subsequences with consequences. Their objection has two applications, one to the case of the professional athlete, and the other to that of the amateur. Each represents a large class, and it must be kept in mind that every large class affords many cases of disease arising from causes that are common to all mankind. Muscular sports therefore cannot at the very worst be held accountable for *all* the diseases of their votaries. If we dismiss from the reckoning, as we are entitled to do, all cases of disease that are not directly traceable to the exercises that produced them, we shall have left but a small remainder. Of that remainder neither sport nor training is chargeable with any fraction. The professional suffers, because when under his own con-