

19 and 29 years of age, between 5 ft. 5 in. and 6 ft. in height, between 128 lbs. and 174 lbs. in weight, and had been in the service of the army from 2 to 12 years. The muscular increase of arms and shoulders, and the expansion of the chest was such as to have a ludicrous and embarrassing result, for before the fourth month, several of the men could not get into their uniforms, jackets and trousers, without assistance, and when they had got them on they could not get them to meet down the front by a hand's-breadth. One of these men had in four months gained five inches in growth of chest. Who shall estimate the value of that gain of five inches to the working capacity of the individual, and to his power to resist disease. It means five inches more space for the work and development of heart and lungs. This is not all. Before such a gain could be made the whole frame-work of the system must have partaken of the benefit, and every organ within the body have been proportionately strengthened. The greatest improvement occurred in those who were the youngest. McLaren adds: "There was one change—the greatest of all—to which all other changes are but means to an end, are but evidences more or less distinct that this end has been accomplished, a change which I could not record, which can never be recorded, but which was to me, and to all who had ever seen the men, most impressively evident, and that was the change in bodily activity, dexterity, presence of mind, and endurance of fatigue; a change a hundredfold more impressive than anything the tape-measure or the weighing-chair can ever reveal."

The association of the physical, mental and moral is a natural one, and unchangeable in its essential principles. It was expressed in Juvenal's well-known line, "*Mens sana in corpore sano.*" At this juncture in our educational development, when we are laying the foundations in this young nation upon which we hope to build an edifice worthy in some degree of our ancestry, and reflecting the light and influences that have come to us through the ages, the acknowledgment of the relationship which exists between the material and spiritual, the physical and mental would favor a better appreciation of the importance of health and hygiene in their widest and fullest significance, would afford the best antidote for

many of the spiritualisms that are discrediting the intelligence of the close of this century, and would remove barriers which are now standing in the way of our attainment of that full-orbed individual development which is the only basis upon which can rest national greatness. The widespread diffusion of physical culture would be one of the most potent factors for increasing the public health and longevity, diminishing disease both by prevention and cure, augmenting the world's power for work by adding to the usefulness and activity of the individual, and promoting the material prosperity, the happiness and the morality of mankind. Vigorous and systematic muscular exertion has a powerful influence in developing the entire character, it favors the exercise of self-denial, perseverance and endurance; it strengthens the will and confers a consciousness of increased power; it begets self-confidence, resolution and courage; it subdues the passions and elevates the spiritual and physical energies.

Of the 147 Cambridge men who constituted the crews of 1829-1869, 28 % attained to the highest academical distinction, showing that mind and muscle are not unequal yoke-fellows, but that they are well able to work together with mutual and reciprocal advantage. Of the aquatic champions mentioned by Dr. Morgan in his book on "*University Oars*," there were three bishops, two judges, one renowned historian, and many others of intellectual distinction. At Oxford, the general average of class-men for a given time was about 30 % at examinations, but cricketers attained 42 % and rowing men reached 45 %. The best freshmen crew that Yale ever had was made of ten men and a coxswain, only one of whom was below the first scholarship division, and he was in the second at a time when there were three divisions.

Dr. Beddon, in a paper entitled "*The Stature and Bulk of Man in the British Isles*," says: "If we examine only a single race or reputed race at a time, we shall find that wherever that race attains its maximum of physical development, it rises highest in energy and moral vigor."

Of persons who pass the age of 20 years, the average age attained at death is about 50 years; but in a list of 500 of the greatest names in history made for the purpose of finding the age at which they did their best work, it was found that the average age attained was about 62 years.