

it is generally a very homœopathic portion of the whole) which we can digest and assimilate and make to all intents and purposes our own. All the rest is useless, or rather it is worse than useless; because it tends to impair the tone and vigour of the mental faculties; just as an excess of bodily food weakens the digestive organs and impairs the physical health generally.

Second remedy for the Evil.—The second remedy for the evils of the present school system is to be found in a proper course of physical training for the pupil, including in that training (for boys) regular instruction in military or naval drill, or both.

It is almost needless to say that no system of physical education should supersede that voluntary physical training, those manly outdoor games which are the delight and glory of the school-boy: cricket, foot-ball, prisoner's base, and all such field-games, are, in many respects, the very best possible physical training that a boy can have. But there are many schools where such games cannot possibly be resorted to, and what shall we do with these? Establish a system of gymnastics for them. I am quite willing to admit that when it is impossible to procure other exercises, gymnastics may be used advantageously for boys and girls, but I think there is a tendency now-a-days to over-rate the value of artificial gymnastic exercises, and to mistake muscular strength for health; and on this point I may quote the words of a recent able writer on physiology:

"Gymnastics certainly encourage the development, and increase the power of certain muscles; and those who exercise their muscles in this way will be so far stronger than others. But it does not follow that such persons are healthier than those who take ordinary exercise. It is a remark as old as the time of Hippocrates, that men who practise gymnastics are in a dangerous state of health. They may increase the power of their muscular system, but, if they do so, it is at the expense of the rest of the body, and it was remarked of old, that the athletes and others, who practised gymnastic exercises, were subject to violent disorders, and seldom long-lived.

"It is difficult to prevent boys from taking too much exercise. During the period of growth great fatigue injures the general health. But even when gymnastic exercises are so managed as to avoid this inconvenience, and when they succeed in imparting to the boy an extraordinary degree of muscular development, I am perfectly convinced that the natural adjustment of the functions is thus prevented; for, however well fitted the frame of youth may be for feats of agility, nature has not adapted it for strength, the attainment of which she defers until the period of growth is passed; and, consequently, her plans are deranged, when muscular strength is artificially and prematurely obtained."

But admitting, as I am ready to do, that gymnastics, *under proper regulations*, may be made useful for the bodily training of youth, for teaching boys the proper use of their hands and limbs generally, a matter of no slight importance; yet it would be found costly and difficult to introduce systematized gymnastics into the schools of the poorer classes; but, further, and this is a more important consideration, their usefulness would terminate in the physical benefits derived from them. Their intellectual and moral effects would be nil.

To occupy a portion of the time taken from book-instruction, Mr. Chadwick therefore advocates the introduction of regular military or naval drill, as affording, under every aspect, the best kind of physical training for the scholars.

Evidence in favour of the plan suggested.—The paper which was submitted by Mr. Chadwick to the commissioners contains the evidence of a number of intelligent witnesses, principally school-teachers and military men, most of whom speak as to the results produced in schools, where the half-time system, accompanied by military and naval drill, had actually been tried. That evidence Mr. Chadwick triumphantly appeals to as establishing conclusively the great value of military drill, whether regarded with reference to: 1st, The present welfare of the individual pupil; or, 2nd, The interests of the nation.

As to the first head he holds that the evidence shows that the new system is attended with the following sanitary, moral, and economical benefits to the individual pupil. We quote Mr. Chadwick's words:—

1. *Sanitary.*—That the drill is good (and for defective constitutions requisite) for correction of congenital bodily defects and taints, with which the young of a very large proportion of our population, especially the young of the poorer town populations, are affected; and that for these purposes the climbing of masts, and other operations of the naval drill, and swimming, are valuable additions to the gymnastic exercises of the military drill, and when properly taught are greatly liked by boys.

2. *Moral.*—That the systematized drill gives an early initiation

to all that is implied in the term discipline, viz., duty, order, obedience to command, self-restraint, punctuality, and patience.

3. *Economical.*—That it is proved, when properly conducted by suppling the joints, rendering the action prompt as well as easy, by giving promptitude in concurrent and punctual action with others, to add, at a trifling expense, to the efficiency and productive value of the pupils as laborers or as foremen in after life.

Mental gain.—As to mental gain Mr. Chadwick clearly brings out this point. "A boy," he says, "who has acquired the same amount of knowledge in one half the time of another boy, must have obtained a proportionately superior habit of mental activity." And this is found practically to be the case; the employers of labor giving the preference to "short-timers" as against "long-timers" wherever they can make the choice.

Interest of the nation in the matter.—On the second chief topic, as regards the interest of the nation; Mr. Chadwick argues that the general introduction of the drill is called for, and will be of the same use as was of old the parochial training* to the use of the bow, he holds that it is proved on practical evidence of officers engaged in the drill:—

1. That military and naval drill are more effectively and permanently taught in the infantile and juvenile stages than in the adolescent or adult stages.

2. That at school it may be taught most economically, as not interfering with productive labor; and that 30 or 40 boys may be taught naval and military drill at 1½d per week, per head, or as cheaply as one man is now taught; that the whole juvenile population may be drilled completely in the juvenile stage, as economically as the small part of it is now taught imperfectly on recruiting or in the adult stage; and that, for teaching the drill, the services of retired drill sergeants, and naval as well as military officers and pensioners, may be had economically in every part of the country.

3. That the middle and higher class schools should have, in addition to the foot drill, the cavalry drill, which the parents of that class of pupils may afford.

4. The drill when made generally prevalent (without superseding), will eventually accomplish, in a wider and better manner, the objects of volunteer corps and of yeomanry, which, as interrupting productive occupations, now becoming more absorbing, is highly expensive, rendering all volunteer forces dependent on fitful zeal, and eventually comparatively ineffective; that the juvenile drill, if made general, will accomplish better the object even of the militia; that the juvenile drill will abate diffidence in military efficiency, and will spread a wide pre-disposition to a better order of recruiting for the public service, will tend to the improvement of the ranks of the regular force, whether naval or military, and will produce an immensely stronger and cheaper defensive force than by the means at present in use or in public view.

And, finally, that the means of producing this defensive force, instead of being an expense will be a gain to the productive power and value of the labor of the country.

Influence on the Discipline of Schools.—We have not noticed, hitherto, the influence of the new system upon the morale and discipline of schools. On this head there is a singular unanimity among the masters of the schools where the experiment has been tried. They all consider the drill as an invaluable help to them in enforcing the ordinary school discipline. And they ascribe the usefulness of drill in this particular to the habits of order, punctuality, of prompt, unquestioning obedience and of respect for their superiors which the boys necessarily acquire during their lesson in drill. Indeed several instances are adduced by Mr. Chadwick's witnesses, where the military drill having been, from one cause or another, discontinued in a school, the spirit of insubordination became such that the unhappy master was compelled to reestablish the drill in order to restore the discipline of the school. It would be difficult to find a better practical commentary on the moral value of the new system.

Sir Francis Bond Head gives his opinion on the moral value of drill in very characteristic and forcible language: "The dull sounding, but magic little words of command—'Eyes right!' 'Eyes left!' and 'Stand at ease!' 'Attention!' &c., instil into the minds of a lot of little boys, the elements, not of war, but of peace. Instead of making them ferocious—to use Mr. Rarey's expression—these words 'gentle' them. By learning to be subservient not to their own will, but to the will of others, they become fit in every possible department to serve their country."

Military drill more effectually taught in Youth.—That military drill can be taught to boys at school more effectively and economically than afterwards, is a proposition which few probably will be

* Graves' "Studies in Physiology and Medicine," p. 188.

• It is perhaps not generally known that up to the end of the fifteenth century, and even later, archery formed part of the ordinary education of the boys of England, and was practised at many public schools. The last Act by which boys were required to be taught archery was passed in 1541,