

polo. Players of the game all the world over know that it owes its origin to the Manipuris. The Rajah is a thorough sportsman of quite the right sort, was educated at the Ajmere College, and passed through the Imperial Cadet Corps. We have to thank him for a first-rate shoot, all the arrangements of which were perfect; his hospitality and kindness to us all was unbounded, and not least he is the proud possessor of that *rara avis*, a first-rate chef!

For my snapshots I have to thank Mr. Platt and Mr. Condon, both of whom are as successful in "pressing the button" as in pressing the trigger!

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## Lecture.

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### A LECTURE ON PHYSICAL TRAINING.<sup>1</sup>

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MUCH of what I have to say is really an embodiment of my personal opinions on the subject of physical training. You are therefore at liberty to agree or disagree with me as you please; but in the latter event I would ask you to remember that I am forced to leave a great deal unsaid, for it is quite impossible to elaborate on this big question in the short space of time at my disposal.

It is a curious thing that the subject of physical training should give rise to so much controversy among officers of the British Army. One might naturally conclude that the principles of physical training in our nation were as fixed as the laws of the Medes and Persians. But the reverse is the case. All sorts of weird fads and fancies and hopelessly divergent views are noised abroad, just as much by experts as by the man in the street. I retain vivid recollections of examples of this state of affairs during an eighteen months' tour of duty at the head-quarters gymnasium in Aldershot, when the Swedish system was being introduced. At that struggling period we were alternately enlivened and depressed by the visitations and discussions of all sorts and conditions of practical and theoretical physical trainers. At one time an ex-inspector of Army Gymnasia looked in to see what new-fangled ideas we were playing with, and because none of the men under instruction could perform a "grand circle" on the horizontal bar, he went off in disgust with the remark, "All silly nonsense!" These were not his exact words, but they sufficiently convey his meaning in a modified form.

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<sup>1</sup> Delivered to the officers of the garrison, Ranikhet, U. P., India, July, 1912.

On another occasion we were visited by a party of eminent professional men, who seemed to think that the Swedish system must be as injurious as the phosphorus on the Swedish match—presumably because it had the misfortune to be manufactured in Sweden. Perhaps we were wrong, but at any rate that is the only explanation we were able to arrive at in attempting to account for their (to us) extraordinary criticisms.

Now why should this be? I think the reason can be best appreciated by taking the view-point of an exponent of a particular game as a concrete example—a footballer, for instance. Before very long the fellow who plays football has had all the principles and precepts of the game knocked into him, with a degree of violence which justifies him in the belief that he has little to learn. However, when he comes to voice his views on the general subject of physical training, he forgets that they cover but a tiny, one-sided portion of that subject. Again, take the standpoint of a medical officer as an example of a different kind. He is often given to attribute various ailments to physical training, forgetful of the fact that *his* view also is apt to be circumscribed and one-sided, and—naturally, albeit unconsciously—a morbid view at that. The footballer and the doctor may hold valuable and well-founded opinions which should be listened to with all due attention and respect. But each has his limitations, and neither is more worthy of consideration as an expert in physical training than is the donkey-boy to be regarded as an exponent of horse-mastership. And so we arrive at the heart of the controversy; that is to say, we can never find a common starting-point or grounds for agreement so long as we look at the subject from the point of view of personal, practical experience only. This narrow outlook might possibly suffice if the human body were a mere machine, or even if the bodies of our soldiers all conformed to one uniform pattern of physical excellence. But alas! this is far from being the case, and so it comes about that the question of physical training must be *studied*. Although I may appear to labour the point, yet I would strongly impress upon you that it is not sufficient, though it is wise, and indeed necessary, to engage in its practice; we must also pay due consideration to its theory, while realizing that physical training is a science just as much as surgery or strategy.

What, then, does the science of physical training aim at? According to paras. 1 and 8 of our "Manual of Physical Training":—

"The object of physical training is the production of a state of health and physical fitness in order that the body may be enabled to withstand the strains of daily life, and to perform the work required of it without injury to the system." And, "The physical training of the soldier should also ensure that he is well disciplined; a good marcher; active, quick, smart, and intelligent; able to surmount obstacles in the field, and capable of withstanding the strains and hardships of active service."

The first part of the above definition is universally applicable, and the second is narrowed down for military purposes. It is a good definition, and if we admit its correctness and study it closely, I think we shall find that it is impossible to carry out its provisions unless we have a scientific framework on which to build our practical methods. However, this is by no means universally admitted, and the opponents of this view may be placed in one of three classes.

First of all may be mentioned those who still uphold the old Army gymnastic training. These people have my sympathy, but not my patience. No one deplors the decadence of the old Army gymnastics more than I do—partly because of personal participation in them, and partly because one naturally regrets the disappearance of the old feats of grace and strength which used to be such delightful and stimulating features of our gymnasia. But when one has said that, one has said everything; the fact remains that the physical development of a man who can do a "tiger balance," or a "forward planche," is not that of a good marcher or climber. And who but a lunatic or a circus performer wishes to lift a grand piano in one hand? Nevertheless, men will spend years, and probably damage fine constitutions, in attempting to carry out similar inane achievements. The feats of strength of the old system demanded *over*-development, and represented such supreme concentration of effort and energy that they could only be sustained for a very few minutes, and—without harmful results—only by those who were physically gifted by Nature. Now we do not want a system which will turn out a proficient acrobat, or a muscular monstrosity; but we do require a training which will fit the average recruit and soldier to put forth sustained effort in the field. Hence, a revival of the old system could only be justified if we were able to compel the pick of the nation's manhood to serve.

The second class of critics comprises those who wish to carry out physical training by means of an organized system of British games and sports. I think these people fall into the initial error of forgetting that the average recruit has not the same upbringing and training as his officer; he starts on a different physical plane altogether. Still (and despite the fact that we do not live in Utopia) there is much to be said for this view, provided certain difficulties could be overcome. For instance, it would be very difficult to acquire sufficient ground for playing fields large enough to exercise all the men; the financial difficulties need hardly be enlarged upon; and, finally, there is the difficulty of avoiding specialism, whereby adepts at one particular form of athletics are encouraged to pursue their special bent to the detriment of their own all-round training, and of the training of their less proficient comrades. As you know, this goes on in a modified way at the present moment; far better have a unit of good general practitioners than one composed of a few eminent specialists attended by a crowd of passive spectators.

Nor can I agree with the members of the third class, who would entirely abolish physical training as such, replacing it by ordinary military work, e.g., route-marching, running drill, &c. These evolutions are not carried out under the eyes of men who understand anything at all about the theory of physical training, and while such a system (or rather lack of system) might suffice in the case of foreign service units without any harm being done, it cannot at the same time produce a high, uniform physical standard in the recruits and young soldiers of the home units. Probably you will agree with me in this, particularly when you remember the great diversity of physical types which enter our service.

Then if I am right in deducing that under the circumstance a scientific system of physical training is necessary, the question arises, What system should we adopt? I have neither the time nor the inclination to discuss the merits and demerits of any of the so-called "systems" of the present day. After having studied a large number of them, I have so far found that they are all just as much open to destructive criticism as are the academic qualifications of the "professors" who invent them. In fact, up to date I only know of one system which has stood the test of time, which has outlived its originator and flourished as the years pass, and which is really deserving of the name—the one popularly called "The Swedish System of Physical Training." Broadly speaking, the practical application of this system is confined to Sweden, Denmark, and, to a limited extent, to Great Britain. I should like to make comparative references to military physical training in other countries, and notably in Germany, France, and Japan, but time will not permit. However, I cannot in fairness allow the American's work to pass without a short comment. Until our adoption of the Swedish system, the Americans were far ahead of us in the scientific application of physical training. They tackled the subject with all their customary energy and enthusiasm, and their results were, and still are, astonishingly good. Not that there really is any "American system"; the different centres in which physical training is in vogue are much too original and independent to tolerate any common system; each centre has its own particular method. On one occasion the director of athletics of a certain university in the United States—a doctor with Edinburgh qualifications—came to Aldershot for a couple of days to study our methods. In about one-hour he had imbibed all we were able to impart; so he spent the remainder of his stay teaching *us* how to weigh and measure in decimals, what sort of diet to give a weight lifter, the kind of tonics to prescribe for a jumper, and how much electricity and massage should be applied to a sprinter, &c. The detail was extraordinary; but his university apparently existed for the primary purpose of establishing world's athletic records; academic distinctions seemed to be conferred as a matter of course, and to be regarded as of secondary importance.

Surely athleticism run mad! But shortly after my initiation into American methods I had the honour of officiating at the Olympic games in London in 1907, and there it was very evident that American athletes were trained to the highest pitch of perfection by means which, although pseudo-scientific, provided a handsome crop of winners. This story was repeated, and even accentuated, at the last Olympic meeting, and has given rise to more or less perturbation in the councils of Britain's athletic community. Nevertheless, it cannot be too strongly urged upon our would-be reformers that, if ways and means are eventually found to bring certain financial and training proposals into being, the ultimate results can only gratify the "pot hunters" at the expense of national athleticism. The fatal objection to every American method is its subordination to specialism, and this is bound to spoil a good system, especially from a military point of view. Perhaps pugilism is an exception to this dictum. It may be taken for granted that a first-class high jumper or hammer thrower may be of little use at anything else, e.g., route marching or "khud climbing." But a good boxer, physically speaking, is, and must be, a good soldier. In my opinion boxing is far and away the best military sport, and it is a curious fact that the pugilistic fraternity usually know much more about the scientific side of physical training than does any other class of athletes. This is partly due to advanced American methods, and partly to instruction in the school of bitter experience. A boxing man can seldom give you the correct reasons why he does this and that in training, but his practice is generally sound all the same; indeed, it cannot afford to be otherwise.<sup>1</sup>

I now propose to put before you the main features of the modified Swedish system which has been adopted by our Army. This system represents the life work of Pehr Henrik Ling, and has been the national system of physical training in the Scandinavian countries for nearly a century. Ling was a highly-educated man—litterateur, classical scholar and soldier. He became deeply interested in physical training problems, and before he had completed his great system, and solely for its sake, he had spent nearly thirty years in the study of anatomy, physiology, hygiene, and similar allied sciences. Hence he had acquired such a masterly knowledge of the possibilities and limitations of the human body that he became in every respect well equipped for his task. Ling died in 1839, and since then his system has been carried on and (if one may be permitted to say so) perfected.

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<sup>1</sup> At the same time I feel bound to remind you that pugilism has at least one nasty stain on its character—a disgusting, loathsome habit frequently practised in the ring—namely, the custom of blowing a big mouthful of germ-contaminated water into the gasping fighter's face. Cannot our Services set a good example by strictly prohibiting this unnecessary and revolting proceeding?

The influence of Swedish gymnastics has been gradually making itself felt in England for the past twenty-five years. If you wish to see really good work of this kind, a visit to Madame Osterberg's school at Dartford is well worth undertaking. The first big steps were taken in 1902, when the system was introduced into the Royal Navy on the recommendation of the late Colonel Fox, then Inspector of Army Gymnasia. In 1906 the system was adopted by the Army, partly owing to indirect pressure from the Medical Department, and partly because of the enlightened views of the then Assistant-Inspector of Army Gymnasia, the late Major Charles Moore of the Royal Berkshire Regiment. The services of Lieutenant Langkilde, M.V.O., 5th Danish Infantry, were loaned to us by his Government; and at the same time I also had the good fortune to be attached to head-quarters. At this period the Manual of Physical Training which you now use was in course of preparation. Herr Langkilde was a splendid exponent of his system, and Major Moore had a wonderful grip of the technique of physical training. Nevertheless, and in spite of its sponsors, I do not think that the modified system eventually evolved for our Army is, in its practical application, as good as the naval. I am sure that this is due to antagonistic or—if you will kindly allow me some latitude of criticism—even faulty methods in the training of the recruit and young soldier outside the gymnasium. Hence, unless and until our centres of elementary training become thoroughly steeped in the principles laid down in the Manual of Physical Training, our Army system must fall short of the ideal standard—the standard set by Henrik Ling, and very closely approached by the naval interpretation of Ling's teachings. Much has been written and said against our traditional "setting up," smartness, and "snap"—with what effect? Little that I can yet see in the gymnasium, and still less outside; and the latter is the dominating factor in commencing, accentuating, and perpetuating these vicious disabilities. And yet it is an undoubted fact that "the Army style," as it has been called, fares badly from a physical standpoint when weighed in the balance with such naval characteristics as grace, freedom, and ease. It is very difficult to give even a rough sketch of the Swedish system in a few minutes, and still harder to avoid technicalities; I shall try to be as concise as possible:—

The keynotes of the system are *progression* and *adaptability*.

The Swedes recognize three primary divisions, namely, (1) educational, (2) medical, (3) æsthetic.

As we are not concerned with medical and æsthetic movements, I shall confine my remarks to the educational portion adopted by us for military use. At the same time you must remember that the Swedish system, in its broader aspect, is absolutely elastic, and purposely designed for the training of people of both sexes and all ages and occupations; the soldier's training is only a special branch. It is

merely a question of constructing suitable tables of exercises for the particular class of pupils under instruction.

It is also important to note that the value of Swedish gymnastics cannot be estimated by observing a few isolated exercises, for it is necessary to consider the scheme as a whole and see how each part of it is dependent upon all other parts, and how without some of the parts the training is inadequate; whereas with all of them it is scientifically sound and complete.

When I hear a person say that the system is too "mild," I know that he has not grasped its principles of progression and adaptability, and that he has probably seen it imperfectly applied. It is true that there are many simple and easy exercises which benefit the beginner; but they also benefit the more advanced athlete, inasmuch as they come as a change from his more strenuous work, so that, by a judicious mixture, the desired result is attained without undue strain.

Similarly, when I hear it said that there are too many "set" exercises and not enough freedom, I know again that the system is not being properly applied. Set movements are of great value in the scheme of training for realizing such objects as correct deportment, harmonious development, and so forth. However, they are amply compensated by many movements of an essentially free and even recreational nature. As a matter of fact, the Swedish system is a firm friend of recreational exercises of all kinds. It is illogical to suppose that a system which can be adopted for universal and special training could possibly discourage indulgence in football, boxing, apparatus gymnastics, or any other health-giving pastime. Indeed, the Swedish gymnast, by virtue of his training, ought to be all the more proficient in whatever games or sports he may adopt.

The system is worked out in detail in this way: Firstly, all the available exercises are grouped together under the following headings. (1) Leg. (2) Neck. (3) Arm. (4) Span-bending. (5) Heaving. (6) Balancing. (7) Lateral. (8) Abdominal. (9) Dorsal. (10) Marching and running. (11) Jumping and vaulting.

Under these headings the corresponding exercises are arranged in progressive order, and, in the composition of the tables, these exercises are selected in such a way that each table contains at least one representative from each group. A series of tables of exercises progresses in difficulty from first to last during the period of training.

Each table commences with Introductory exercises for the purpose of arousing the attention of the class and ensuring a good carriage, balance, and muscular control. Popularly speaking a "warming-up" process, lasting from five to seven minutes, takes place.

Next come the General exercises which form the real working part of the table. They are performed in a definite, progressive order, thus: (1) Span-bending — a corrective, educational movement; taken first

because it requires to be carried out calmly and without flurry, as it may easily give rise to very bad and faulty positions if great care is not taken. It is designed to produce a slight straightening of the curve of the dorsal part of the spine, but it is impossible to describe the complicated technique of this exercise in the short time at my disposal. (2) Heaving, i.e., pulling with position—also an exercise in which “style” is everything; but it differs from span-bending in requiring hard muscular work, rather than concentration of mind and energy. (3) Balancing: this rests the body, and counteracts any tendency to stiffening-up consequent on the two foregoing exercises. (4) Trunk exercises, viz., lateral, abdominal, and dorsal. These help to secure good carriage, aid harmonious development, and are beneficial in a number of other ways which I cannot now specify. The above exercises should occupy about 15 to 20 minutes, and the marching and running, jumping and vaulting, from 20 to 25 minutes, in a table occupying about 50 minutes. The last-named “exercises on the move” are designed to be essentially practical, and the greatest care has been taken to ensure this end. Jumping and vaulting exercises as performed by the Danes are a revelation to British eyes.

Lastly, a table ends with 3 to 5 minutes’ Final exercises, during which a sort of “cooling down” process takes place.

Interspersed with these routine exercises are a number of subsidiary movements which are carried out at the discretion of the instructor as the need arises. Thus, if he sees the class “slacking” or assuming faulty positions, he may introduce a Corrective exercise such as “head-bending backwards.” Or after such a hard exercise as span-bending he may introduce a Complementary or “opposing” exercise such as “trunk bending downwards.” Similarly, a Supplementary exercise may be given in order to ensure uniform blood distribution throughout the body, after an exercise tending to cause local congestion; thus, strong heaving exercises might be followed by a short sprint.

I have purposely omitted any references to the all-important questions of circulation, respiration, digestion, &c., as they are so very technical. Nevertheless, the Swedish system does not neglect a single important organ of the human body; and although the training appears on the surface to be solely directed towards exercising muscles and joints, still it is primarily and scientifically devised for building up the musculature, and improving the functions of the internal organs. It is a maxim that muscle-building *per se* is of no importance whatever, in fact, it is harmful, and to be avoided. If the soldier is turned out with a good “wind” when taxed, it is certain that his muscular strength will suffice for his requirements and for his well-being.

The better one understands the modified system adopted by our Army, the more enthusiastic does one become up to a certain point. This point is reached when one examines our methods of application, especially as regards the training of our instructors. In the



Scandinavian countries instructors in physical training are professional gentlemen; in the case of the Army, commissioned officers. Before winning a gymnastic diploma they require to undergo a four years' university training, of which two years are spent at medical subjects and the remainder at physical training pure and simple. Compare that with our system, in which the instructors are *non-commissioned* officers who receive from four to six *months'* instruction at head-quarters. Our non-commissioned officer was an excellent instructor under the discarded "apparatus" régime, but he lacks the fundamental education necessary to enable him to grasp such a complicated and technical business as the Swedish system. And even if he did possess sufficient education to start with, he would not get a chance of exercising his powers under the present scheme. The latter remark is specially applicable to those who supervise the work, the superintendents of gymnasia; in view of the intricacies of the system, and by reason of their responsibilities, their training is absurdly inadequate both in point of time and thoroughness. Placed beside their Swedish or Danish colleagues they would simply look foolish. A knowledge of anatomy, physiology and hygiene cannot be acquired in a few weeks, and a mere smattering of these sciences may be a dangerous<sup>1</sup> thing when physical training is run on Swedish system lines. But lest I be accused of criticizing on grounds where the layman (in a medical sense) cannot join issue, I hasten to add that the ordinary medical officer is no more fitted to be a physical training expert than is his combatant comrade. The former may be a brilliant pathologist, and the latter may know how to conduct an assault-at-arms, but neither of these accomplishments will go any distance towards a proper understanding of the principles and precepts of the Swedish system. So, until we have a number of physical training officers instructed on the Scandinavian model—and there should be little difficulty about this—we must be content to hear our system decried and misjudged, and see it more or less inadequately and inefficiently applied. Why spoil a fine ship for a ha'porth o' tar?

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<sup>1</sup> Frequently it is also laughable. It was some time before I realized that our teaching of elementary science in the Head-quarters Gymnasium in Aldershot was a near approach to a joke. One day the disillusionment came when a certain very studious N.C.O. complained to me of a pain in his back. When I asked him the reason for this, he replied in all sincerity: "Well, sir, I think I've strained my renal region, and it's worrying me something awful round the splanchnic plexus!"