

The Will in Physical Education

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Meaning of Terms Used.

In order to mark out with more or less definiteness the field to be worked it will be necessary to inquire into the meaning of the terms to be used. In the first place it is to be understood that the term Will means vastly more than is popularly understood by the word. The mental state of determination or resolution is but a phenomenon which may or may not accompany action of the Will in the broad sense of that term. Action based upon deliberation and rational choice is but a small fraction of Will-manifestation; although this is the highest type and is very often taken as the whole of the Will. On the other hand it is not meant that mere reflex action is all that is included in the term. Reflex action, instinct, habit, rational choice, and deliberate action have each a place in what is included in the word.

In this broad sense it may be said that Will includes all of the impulsive forces of life. The whole great multitude of impulses, helping and hindering one another, impelling or inhibiting, go to make up the Will. In this sense it will be seen that it is not a mere abstraction but is a fundamental and integral part of human life, - a part of the greatest importance. If the meaning of the term were confined to Rational Will alone, by far the greater part of life would have no definite vital connection with it. No, contrary to what seems to be a pretty common belief, a comparatively small part of what one does is deliberately chosen and definitely "willed". A consideration of the events of a day will plainly show that if he even did exist, the Will, as a mighty ruler who accepting or rejecting at pleasure the counsels of his prime minister Reason, determines the course of life, has been overthrown. The whole impulsive force of life is Will.

That there are different grades or degrees of Will is readily seen. They range from unconscious reflex action

to deliberate action governed by reason. Ribot makes a general classification which shows very well the different degrees. He classes: (1) Automatic acts, reflex acts, habits; (2) acts produced by feelings, emotions, passions; (3) acts dictated by reason. (Diseases of the Will p. 29.) This comprehensive conception gives some basis upon which to rest a study of the Will in Education; whereas under the conception that the Will is a monarch ruling according to caprice such a study would not only be fruitless but would in itself involve a contradiction.

It may be in place to give a word as to the conception of the term Education as here used. The term includes, generally speaking, much more than is contained in the idea that Education is the conscious action of one mind upon another for the purpose of moulding it according to a definite ideal. This is to be sure the center of our present educational system; but as we wish to include in the word all that training which is acquired indirectly

and seemingly unconsciously it will need a broader significance. The evolutionary idea that Education is the adaptation of the individual to his environment sets forth the broad way in which the term will here be used. It is the same thought that is otherwise stated by H. Spencer: "Education is preparation for complete living"; or as partially expressed by Plato: to give to body and to soul all the beauty and all the perfection of which they are capable. Education is not a formal process alone but is the process of forming wherever directed to human life; and instruction which is often considered the whole of Education is but a small part of it.

Physical Education is the phase of the formative process in which is most easily and clearly seen the beginning of the adaptation to environment. Physical life, whether we regard the body as the instrument of the Will or the objectification of the Will (as does Schopenhauer) affords a more or less tangible basis for a study that would otherwise be extremely theoretical and probably very hazy.

Development of Voluntary Control of the Muscular System.

The Work to be Accomplished.

At birth the child is absolutely incapable of directing intelligently a movement of a single one of its members; for it has neither idea of what it wants to do nor knowledge of the way in which to bring this about, if indeed it has any feeling that resembles a "wanting to". In striking contrast with this helplessness is the gigantic task of developing Will and of making his body the instrument of this Will. He must make a great system of muscles his servant, — a system the importance of whose development is shown by the fact that in manhood its weight is fortyeight times as great as in infancy. Not only is each separate muscle to be brought under control but groups are to be coördinated, complex movements are to be learned, — movements both successive and simultaneous. The child must learn to sit, to creep, to stand, to walk

to run, to jump. He must master the difficult arts of dressing himself and feeding himself. He must learn to speak, to read and write, to perform the work of one or several handicrafts. Besides these conventional things he will, if he be a boy of the normal type, learn a host of other things which require muscular control, — e.g. he will know how to swim "dog fashion", "sailor fashion", on his back, etc.; how to tread water; how to dive. He will learn the somersault, the handspring, the wagon wheel, and maybe the "flipflop". He will master the art of standing on his head, on his hands, or of walking on his hands. Beyond all this he will learn a multitude of games requiring great muscular control, — hide and seek, run-shops-run, dare base, baseball, football, hopscotch, pullaway, and a myriad others.

Besides all this work of a positive nature he has another task vastly more difficult of accomplishment, if smaller quantitatively. This is ⁱⁿ the control of and inhibition. The child soon discovers that some reflexes are not at all times

proper and he gradually learns either to control them or to inhibit them. The impulse to cry is early brought more or less under control. The discipline of consequences teaches him to restrain his impulses to seize, to tear, to bite, etc. He acquires also the ability to disguise his feelings and to restrain his appetites and desires, the expression of which is physical (it being understood that emotion is not merely psychical but also physical). The value of this control of reflexes is not inferior to the control of the impulsive forces in directing and guiding action. Adaptation to environment through restraint and selfcontrol is no less important than that which comes through aggressive activity.

How Voluntary Control is Developed.

Having seen the stupendous extent of the task that lies before the child, let us now consider how this work is to be accomplished. The forces of heredity and instinct make difficult exactness

of statement in regard to the beginnings of voluntary action of the higher type; but it may be stated with some assurance that no simple muscular act can be performed voluntarily until it has been done accidentally or involuntarily. A normal muscle in the body does not contract except upon excitation through some nervous force. When by any means a motor stimulus causes a muscle to act the sensation caused by the contraction is carried back to the brain and is stored up. In whatever way it may have happened that the first stimulation, contraction, and sensation came about, it soon becomes possible for the idea of the motion to bring about the result. There is thus a development from mere reflex action to ideas motor action. It is only under the régime of the latter that the higher forms of voluntary action are possible.

The extent to which the idea can bring about action is of course limited, Mahomet may have the idea of the mountain coming to him and may say "Set it be so," but finally Mahomet

must go to the mountain. The extent of the power of the idea is limited even in the body itself. "Who by taking thought can add a cubit to his stature? Who by thinking of weeping can bring tears to his eyes? Or by thinking of heat can bring a tide of blood surging to the surface of his body? Or by thinking can turn a soft flabby muscle into a firm healthy one? Yet if the idea can not bring about the physical condition directly it can in a roundabout way bring about the results desired. Even though thinking will not directly bring a glow to the skin, it can bring about the means that will accomplish that result. Even in the case of tears, if they be desired the onion remains as a last refuge when other means fail. It is this indirect method of doing a thing that shows the immense complexity and marvellous adaptability of will action. The old proverb "Where there's a will there's a way" finds strong support in this indirect way of doing what is impossible directly. But it is

not with indirect action that we are here concerned as much as it is with direct muscular control.

Accepting the principle stated by James: "Voluntary movements must be secondary not primary functions of our organism. A supply of ideas of the various movements that are possible, left in ^{the} memory by experiences of their involuntary performance is thus the first prerequisite of the voluntary life; we shall proceed to a study of Physical Training. (James Psych. Exp. 487.)

The Will has but one instrument by means of which it can manifest itself. That instrument is the body. In view of this Physical Training including also Manual Training assumes vast importance; and methods of conducting the work become matters of universal interest. To be sure the Will can manifest itself with great power even through an instrument defective and weak. But this in no way invalidates the principle that, other things being equal, the better instrument will accomplish the better work.

Although there are certain conventional channels for the manifestation of the Will, especially those by which the Will is made known to others, there are few if any parts of the whole physical organism that do not have a bearing more or less direct upon the expression of the Will. A bad taste in the mouth may wreck a fine sermon. An aching toe may ruin the making of a fine painting. The deranged physical condition of a ruler may lead to the disintegration of an empire.

Ordinarily when a man first comes into a gymnasium he is as awkward as the proverbial swine on ice. He seems to be a "young-man-afraid-of-his-horses". To the onlooker it appears that he fears some danger to himself or to the apparatus. Even though he may be a man who would grace a ball room his first attempts to use the apparatus in a gymnasium are as ludicrous as those of a man who has spent his days hopping clove. The difficulty in both these cases lies not so much in the lack of ability to

use any particular muscle as in the utter inability to correlate and coördinate a group of muscles in successive motions.

Suppose we give the beginner an Indian club. Grasping with the hand, moving the forearm and whole arm, and maintaining an erect position are things that he ordinarily does without a thought. But when he grasps the club he must do it in a certain way in order that it may turn properly in his hand. He must stand in a certain position in order to avoid striking his head or his knees with the club. The movements of extension, flexion, abduction, adduction, rotation and circumduction must be done in proper time and order. Then too the club must be grasped more firmly at one time than at another or some of the arm movements will end abruptly with a veeping bruise on some part of the body. What seems a very simple thing when done by the instructor proves to be exceedingly complex when attempted by the beginner. Attention, imitation, imagination, memory, formation of

habit, correction of wrong habits, obstruction of the will, influence of fatigue; and nervousness all have a direct bearing here and should have a place in the study of Will.

Attention.

First let us inquire into the nature of attention and its bearing upon the Will. In ordinary language we speak of "directing the attention" toward anything just as we speak of directing a look or pointing a weapon; and the impression ^{quite generally} prevails that to "pay attention" to anything involves the moving of a definite thing (Attention) in a specific way by a determining reasoning external force (Will). In other words Attention is the bond slave of Will; by the latter being understood a supreme directing power enthroned within the psychical life. The teacher in the school cries "Pay attention!" to the listless; the boss in the shop yells "Take care!" to the heedless; the drill sergeant shouts "Attention!" — all, all as if Attention were something like a knife to be held

on a grindstone by some outside force. Who can say but that the captain of the football team uses the true Psychology when he cries to his men "Up on your toes!"? Let us go back to our man with the Indian Clubs now and learn what we can from him. In the first place we will assume that our man is one who is interested in club swinging in itself — not one who is putting in time for credit merely, with the hope that the hour will not bring more tedium than frail human nature can bear. In the state of Attention the first and perhaps most noticeable thing is the position of the eyes and the keenness with which they observe every motion made by the instructor. There is also a "pricking up" of the ears as it were. These two conditions however are but features of a tension, an alertness of the whole muscular system. In the highest stage of attention the whole body seems in sympathetic vibration with the thing attended to. There is a feeling of deepest responsiveness. Movements

on the part of the instructor induce similar movements by the learner. To a certain extent this state of tension interferes even with breathing. The glottis closes, holding the breath - and after a moment respiration begins again with a sound that suggests a feeling of relief. There seems to be at times too a general relaxation of tension throughout the muscular system. From which it would appear that the attention seems to go in waves - the crest being at the time of greatest muscular tension. It should be stated of course that this tension of the muscles is not produced by consciously willing it. When attentive the mind is almost if not wholly unconscious of both physical and psychical states. This refers to attention to things without; and it is hardly in place here to try to learn if it holds good in cases of introspection, - this study being occupied with Physical Education as exclusively as possible. Accompanying this fixeness of attention to any given thing is a corresponding disregard

of other things. When a man is thoroughly attentive to his work the bell may give the warning for the close of the hour without being noticed, even the loud noise of the whistle of the shops may pass unnoticed, - although such utter oblivion to all surroundings is quite rare. As a general thing the object of attention occupies a large place in the foreground while a variety of other sensations adorn the edges and back ground of consciousness.

The foregoing relates to attention when the person is attending with the purpose of doing. This is preëminently an active state. There is another state somewhat less active in which the person is attentive not with the purpose of doing but with the mere purpose of learning - if indeed there be any idea of purpose at all. In this state there is not the same degree of muscular tension although there is much of the sympathetic responsiveness to the movement observed. A frequent accompaniment of this mere observant state of attention is the open mouth or the staring eye. In this last

described condition the body seems to be a means of receiving and storing sensations; while in the former the attitude is that of receptivity and response. It appears then from the physical side at least that Attention is a condition in which all or a large part of the impulsive forces are turned for some time in a single direction, toward a single thing or group of things. Instead of going out in channels as diverse as they themselves are, the impulsive forces confine themselves to a single outlet, or pour themselves in the main through this one channel, - with some leakage of course through other openings. When the places through which the impulsive forces break become large or numerous ^{in proportion to the capacity of the stream} the state of attention changes to attention in a new direction or to a state of general inattention. The fidgeting of the inattentive is due largely to the fact that the impulsive forces are not pouring into the single channel of the matter at hand but are dissipating themselves in a number of ways. The fewer the channels for escape the greater

is the probability that the right one will be used. To this is due the value of the position of "Attention" in school or on the drill ground.

In regard to the matter of Inattention the Physical Director as well as every other teacher has a very difficult task. There are a variety of causes that occasion lack of attention. First may be mentioned adverse physical conditions, such as lack of proper heating and ventilation of the class room. An overloaded stomach or one crying for food may cause distraction of the attention; as may any other abnormal bodily condition, eg. changed circulation, improper nourishment, weariness. A further cause of inattention lies in external appeals to instinctive motions, especially when these have not been brought under good control. For example sounds or moving bodies may occasion an instinctive almost unconscious diverting of the eyes and a consequent break in attention. But the greatest cause of inattention is lack of interest; and no amount of

attention to physical conditions can of itself overcome this difficulty. Where there is lack of interest even the very things to which an attempt is made to give attention call up associations of greater interest and thus destroy at once the power of the matter at hand. Over mere physical conditions the teacher can easily obtain rule. The creation of proper physical conditions and removal of distractions ~~are~~ a matter purely mechanical. But to create interest where there is none is a much more difficult task. However the teacher has some useful aids at hand. Just the desire to make a respectable showing will cause the pupil to take some interest in his work; and a desire for physical development may also be used as an incentive. But by far the most powerful stimulus to interest is to throw the work into the form of a game or contest of some kind. Men who always shirk in a "one two one two" exercise will nearly always do good work

when something external such as
 the spirit of contest or sport brings
 an additional interest. Play appeals
 to an instinct and derives much of
 its power from that fact. This
 external aid is however but a
 temporary measure and is to be used
 to arouse interest in the thing itself
 whatever it be. A spur cannot be
 used continually without losing
 much of its effectiveness. ^{On}
 his own part the pupil may, if he
 finds himself lacking in attention,
 do something to remedy the evil. If
 the difficulty arise from something
 external ~~or~~ physical, he can in
 course of time remove the hindrance.
 To a certain extent he can inhibit
 things irrelevant and can give a
 forced attention his work. But attention
 that is forced cannot be of long
 duration nor can it be as effective
 as that which is spontaneous; for
 whatever strength is given to compelling
 attention is necessarily lost to the
 thing to which attention is directed.

If forced attention fails to develop into spontaneous it is about as valueless as the fuse which burns but fails to set off the mine:

To sum up then, Attention is not a phenomenon of mere consciousness. It either exists as an accompaniment of the impulsive forces or is a condition of these forces. And from our study thus far it appears that the latter is the case, — that Attention is but a condition of the Will (in its broad sense) in which the impulsive forces turn in a certain direction, making it possible for the sensorial organs to receive sensations from the thing or things to which attention is given.

Imitation,

Imitation seems to play a larger part in the development of the Will than we generally suppose or would like to believe. Just as in some inexplicable way the celebrated leaf insects of Ceylon and Java have become so wonderfully coloured and veined that it is almost impossible to distinguish them from the food plants on which they rest; so the conduct of the human being comes to resemble in a striking degree that of his fellows. It is not meant that Imitation is the only factor in this product, but it does have an important place in determining life and conduct. And its importance varies greatly in individuals. Some people seem born to be imitators, and soak up characteristics as a blotter absorbs ink. Others, whom we call "original," seem less affected by surroundings and the conduct of others, and work out in a more noticeable way the peculiarities of their innate dispositions.

Just how early Imitation begins is hard to say. It surely cannot begin

before the child has secured some degree of voluntary control over his muscular system. But at a very early age a child will imitate movements — stretching out his arms or waving his hand in imitation of the act of some one else. In a certain very broad sense it might be said that every voluntary act is but the imitation of the like involuntary act precedent. But this meaning is rather too broad. According to such a conception all voluntary life would be based on Imitation — a conception that even the most ardent defender of Imitation would hardly care to uphold.

Walking is one of the complex acts that a child learns early in life largely through imitation. Although it seems likely that even without anyone whom he might imitate the child would eventually learn to walk, it is nevertheless quite certain that Imitation plays an important part in the learning of the process. Preyer (in his *Senses and the Will*, p. 273) supports this view by the statement that in families where several children grow up together the younger learn to walk earlier than the older ones did.

It would be interesting to know to what extent, if any, the process of learning to walk would be retarded if a child were raised where he came in contact with no one who walked. There are however so many other elements present in learning to walk that it is almost impossible to judge even the probable place of Imitation. Parents and brothers and sisters render various kinds of assistance and encouragement. The greater the force of these other elements the less will be the influence of mere imitation. In different kinds of gait the power of imitation is better seen. A boy will imitate the swagger of someone whom he admires; a girl will approximate some peculiarity of teacher or friend.

Learning to speak offers great opportunity for imitation. Even though children might formulate some kind of a language without ever having heard others speak, imitation is the force that brings about conformity to conventional methods of communication. Sight, hearing, and even feeling furnish means of guidance in correct imitation of vocal

sounds. Of these the sense of hearing undoubtedly plays the most important part; but that the others are not without some degree of influence is shown in cases where the deaf or deaf and blind learn to speak.

In a multitude of other actions Imitation acts as a strong force in the direction of the Will. For example a lad learns or tries to learn to smoke in imitation of his father. Or his imitation may take some other form; e.g., swearing, winking, making peculiar grimaces, swaggering, shrugging the shoulders —

The value of Imitation is found in the fact that it affords objective guidance for the Will, especially in the early part of life where subjective guidance is all but impossible on account of the lack of the material of experience. It enables a child to gain with increased rapidity the correct or conventional forms of action. Through Imitation it is possible to learn to perform actions the accomplishment of which seems absolutely impossible through other means. This is often shown in the gymnasium when a man who has

being tried in vain to do some trick on the apparatus succeeds almost immediately upon seeing some one else do it. The image gained through sight seems to be of special efficiency in gymnastics and athletics.

These description or word of command are powerless. Imitation often makes accomplishment a simple matter. On the other hand Imitation has its dangers. It is rather more likely to place reliance without than within, to cause hesitation, lack of selfconfidence. A want of initiative is likely to be an accompaniment of excessive Imitation. To say that spontaneity and originality are in all cases crushed out would however be too sweeping a statement. As imitativeness and lack of originality are kindred qualities and may both be characteristic of a type.

Habit.

The body, the instrument of the Will, is subject to limitations similar to those of all material things. If the earth be trodden along a certain line by the feet of travellers a path is made. If a violin is played upon by a master the wood of the body of the instrument will tend more and more to sympathetic conformity with the vibrations of the strings. If a pen is used by one person continuously it assumes a form that makes its use by another awkward to say the least. A coat left hanging in the closet assumes an unmistakable droop. The human body is very much like these inanimate things. If certain nerve paths are repeatedly used whatever follows from their use soon becomes habit. And as bodily action is but the manifestation of the Will it can easily be seen that Habit has a very strong bearing on the Will. In so far as conformity to a previously accomplished act facilitates obedience to the Will Habit is a direct aid to the development of Will-life. But in so far as the doing

of an act at one time tends to the production of the same thing under similar circumstances, Habit places a barrier before the action of Will in a different direction.

In earliest childhood certain reactions follow certain stimuli but as yet no paths have been used sufficiently to make their use habitual. Some nerve paths are used more than others and the results that follow appear with greater frequency and are more noticeable. Crying, which is at first a reflex occurring irregularly, becomes quite habitual; that is upon the action of certain stimuli at regular times the child cries - and this with such regularity that the mother can tell just about when the crying will begin. Behind the crying are certain physical conditions which in accordance with the nature of the body become regular. This may be taken as a type of Habit, - a certain action or group of acts based upon regularly existing or occurring physical conditions. Different from this type of habit which "just grows" out of physical conditions are habits which are acts put together from a number of acts already under voluntary control.

Take for example the playing of the violin. In this, certain habits are to be acquired; e.g., holding the left shoulder slightly elevated, pressing down with the chin, turning the elbow in, throwing the wrist away from the body of the instrument, holding the fleshy part of the last joint of the thumb against a certain place on the neck of the violin, arching the fingers of the left hand in a certain way; and pressing each down in response to its own particular stimulus;—all these things besides what is required of the right hand and arm and the body in general. All this is to be combined, made up of separate pieces as it were and joined into one complex whole which will in time develop into habitual action.

Time after time the body assumes the required position, & compelled to do so by stimuli sent from the higher centers as direct and deliberate commands;—until ~~after~~ continued repetition assuming the proper position becomes a matter of course and requires no more direct thought than mere standing or walking. In other words by continued repetition

the physical system has suffered what happens to any other material when it is repeatedly put through a given process.

During this process Attention plays a part which gradually decreases in importance. In the beginning every separate act must receive its own particular share of attention. And as there are a great many things to be attended to, it often happens that when one is preeminent in the mind the others disappear either in part or in whole.

While an attempt is being made to place the first or some other finger in a certain position, the chin relaxes, or the bow goes crooked or the left elbow drops against the body. Then another effort must be made to "bunch things up". Gradually the lower centers assume control of the various parts of the work and the whole proceeds harmoniously. The amount of Attention given each separate part of the act gradually decreases until it approximates nil. Then the violinist can stand before his page of music and play the notes as automatically as a machine piano player. The

Attention can be directed to other things if need be; the playing will 'do itself'. Thus when a habit is formed a channel is made through which the Will can discharge itself without undue dissipation and with almost absolute certainty. And further it is a channel that does not require any supervision.

Cultivation of Habit.

Since Habit is seen to be the adjustment of physical conditions in such a way that certain reactions regularly follow their proper stimuli in an apparently automatic way; and since this means that the Will will be confined ~~very~~ largely to these conventional channels, it follows that the cultivation of Habit is a very important feature in the development of the Will. The fundamental simplicity of Habit (it depending upon mere repetition) makes its formation seem the easiest thing in the world. But it is this very fundamental simplicity that makes it difficult. The manifestation

of Mill is a very complex affair; and, disregarding natural tendencies and external forces, one set of actions is as likely to be repeated as another. It is the case indeed that hindering habits grow right up with those that are helpful. For example, in singing the habit of keeping the breathing apparatus tense is likely to be accompanied by a tension of certain muscles, especially those of the throat and jaw, which ought to be relaxed. Here is a case where too much effort is put forth. Not only the amount necessary to control breathing but enough to exert certain other muscles that are not needed is used. The remedy lies not so much in inhibition of the unnecessary action as in directing the impulse into the proper channel exclusively. Often directing effort principally to the part at fault will aggravate the defect, and it is remedied only when the effort is turned toward the proper channel to the exclusion of all others. The ordinary beginner of Violin will hold his right wrist perfectly rigid on account of the effort

made to hold the bow firmly with the fingers. A flexible wrist is gained not by inhibiting the muscles that hold the wrist rigid but rather (1) by recognizing the difference between exerting the wrist muscles and holding the fingers firm and (2) by turning the impulse solely toward holding the bow. With this comes a consequent lessening of effort and the muscles not needed are not stimulated.

When a runner has the bad habit of trailing his feet along behind him, the trainer cures him not by telling him to quit trailing his feet but by turning his effort in a different direction. The runner is told to bring his knees up in front and shoot his foot far out forward immediately after bringing his knee well up. The more effort the man puts into the new motion the sooner the old fault will disappear. But there is little need to multiply instances. The principle is clear that an undesirable habit is to be eliminated not so much through turning effort directly against

it as by turning effort into a different channel, - thus leaving the old channel to fill up because of disuse. A good reason lies behind this seeming inconsistency of remedying a fault by failing to cut it off by direct act of the Will. The total of the impulsive force is a pretty regular whole. The amount may vary from hour to hour but the amount for any given short period of time is practically constant. Hence if it has become customary to discharge a certain amount of impulsive force through some particular channel it will be wiser to divert the force into some other course than to seek to repress it - to dam it up. If a large part of the whole is directed with more or less violence toward some particular point to the neglect of other directions, it will follow that the possibility of a discharge in an undesirable channel will be decreased in proportion to the amount of effort turned in the new direction. With repetition the new channel becomes the one habitually used and

the old one ceases to be an annoyance as it sinks into disuse. However it is doubtful if a habit once thoroughly formed ever disappears so completely that there is not some danger of repetition of the act even at unexpected times; as for example when a man under excitement substitutes the inelegant language of his youth for the conventional forms acquired in later years. The extent to which Habit is subject to change or rearrangement varies with the individual. Some people seem to acquire a new habit as readily as a garment assumes a new crease, while others acquire or lose a habit about as easily as granite wears away beneath the dripping of water.

Value of Habit.

What would life be without Habit? The repetition of an act the thousandth time would be as difficult and uncertain as was the original act. None of the complex acts that go to make up our daily round of life.

would ever be possible for their complexity makes it impossible to attend to more than a small fraction of the whole at one time. It is difficult to imagine the case of a student who, instead of going to class as a matter of habit, has to go through the complex process of turning his attention to the matter, considering, deciding, and executing. But it is much more difficult to think of a case where it would be necessary to attend to every single part of an intricate action - for example a man who every time he laced his shoe would be compelled to think out every separate motion of the process instead of starting his fingers to work and letting them go as they have been accustomed through habit. Thus we see in the first place that Habit makes a complex life possible for it frees the mind from attending to a myriad of the details of ordinary life and leaves it free to turn to different things, thus giving vastly greater diversity to life. Habit has too a direct bearing

upon the very life and health of the body. Sitting, standing, or lying in a certain position is nothing but a matter of Habit. Eating, sleeping, taking exercise, bathing, &c. come in the same class. And upon proper habits in these things depends not only health but, to a large degree, life itself.

Puritan, Habit reduces the amount of energy expended to a minimum. Contrast the vast amount of ~~effort~~ on the part of a child learning to write, with the ease with which he does the same work after the habit has been acquired. At first his whole body is in a state of tension. There is distortion of even the muscles of his face and tongue (which can have no possible part in making letters). But as the work becomes a matter of habit all or nearly all unnecessary effort is cut off and the labor is reduced to the smallest possible amount. Habit makes a definite course of life possible; and by reducing irregularity and its consequent losses raises the effective power of life to a maximum.

Application of Present Theory of Will to Education.

Out of this conception of the Will as the entire impulsive life, including automatic acts, reflex actions, habits, acts produced by feelings, emotion and passion, and the higher forms of action generally conceived as volition proper, there grow some important considerations for the teacher. In this paper general pedagogic principles will be disregarded and only such as pertain to Physical Training, will be considered.

As the body is the instrument of the Will the fundamental principle of Physical Training is that the body shall be developed in such a way that it will be a positive help and not a hindrance to the expression of the Will. Or stated in another way the aim of physical education is to produce for the service of the Will an instrument that shall be as thoroughly responsive and reliable as the limitations of natural endowment will permit. A conception such as this

shows the importance of the work of the Physical Director and places it not in the catalog of necessary evils but in that of things positively good.

External Considerations

The first and most important consideration is not the development of any one particular part of the body but is the care of the body as a whole. There would be no reason for making this perfectly trite statement if it were not for the fact that there is constant danger that in training some parts of the body others may be neglected or overstrained. The sprinter is in constant danger of taping his heart too much. The man who fences much is likely to develop one side of his body disproportionately. The man who swings the Indian club is likely to develop the upper part of his body at the expense of the lower. Even the man who works the wall weights is likely to get into a rut and work a certain set of muscles to the exclusion of all others. Another thing

that has to do with the development of the physique as a whole is the matter of the place in which exercise should be taken. The correct principles for gymnasium construction and regulation are so well known that it seems absurd to mention them. Nevertheless the fact remains that in regard to heating, lighting, and ventilation ~~any~~ many gymnasia are like barns to be wellventilated in summer with never a breath of fresh air in winter except at the risk of someone's life. Consequently the Physical Director has a very difficult task to keep his gymnasium in a condition that will make possible the maximum of work and benefit.

Use of Instinct.

The potency, the apparent simplicity and directness of action of the lower forms of Will especially those of instincts and habitual acts make them a very important feature in the work of physical training. There is in the ordinary human being an instinctive desire not only

to "see things go 'round" but to make them go. The various modifications of the game of ball show how deep seated this instinct is. The boy at marbles, the youth at baseball or foot ball, the professional man at golf alike show the inherent attractiveness of a round moving object. Another instinct that the Physical Director can use to advantage is Emulation or Rivalry.

This appears in every kind of game and is a powerful incentive to action. Often when other means fail to enliven class work the proper introduction of an occasion for competition will give a snap and a dash that are remarkable.

This is a stimulus however which is to be used with extreme caution because of the danger from overexertion. Often a man who is very weak physically will have an exceptionally great stock of this instinct; and in his intense efforts to surpass his rival (who is perhaps better equipped physically) will overtax his own physical powers. However in class exercises in which the maximum of

exertion is small or in which the point of rivalry involves not strength but skill, grace, or form in general, Emulation may occasionally be used to good advantage.

Pugnacity is closely related to Rivalry and like it should be used with extreme caution. Boxing, wrestling, fencing, depend upon this for their attractiveness. Unless Pugnacity is tempered with a large supply of good-nature and generosity toward one's opponent it should be barred from the gymnasium and athletic field.

The instinct which is preeminent in the work of Physical Training is Play. The wise Physical Director will use this to give life to dulls and class exercises that are inclined to be dry and uninteresting. Much depends upon the attitude of the teacher himself. If he is inclined to be slow and dull it will be impossible to put snap and vigor into a class by suggesting play. The play instinct will manifest itself but it will be in unexpected and undesired channels. But if the teacher himself throws into his work a

goodly quantity of the spirit of play directing at the same time the efforts of the class he will be able to remove a very large part of the burden of slogging that ordinarily accompanies drill or mechanical class work. Consequently instead of making work on the horizontal or parallel bars, on the horse or on the mats merely so much work the skilful director will invent simple games for use in connection with these things, - thus utilizing the play instinct and relieving class work of the burden due to dislike of uninteresting "work".

Imitation

Another instinct with which the Physical Director has close relations is that of Imitation. In the preceding study of this instinct we saw what is its value as a directing and modeling force. There are one or two questions that need to be considered here. The first thing is the relation of the Physical Director to the class in his capacity of leader. Shall he conduct by word of command or by

example? Shall he merely tell what is to be done or shall he do it thus showing how it ought to be done? The answer of course depends upon the comparative efficiency of the two methods. In favor of the latter course may be urged all the benefits that come from imitation (pp. 25). On the contrary however are some very important considerations. In the first place if the Director attempts to perform all the work that his classes do daily he will find that he has a very heavy amount of physical work to perform, an amount that is likely to exceed his strength. The teacher will be so busy with the work itself that he will find it impossible to turn attention to the work of individual members of the class. Faults that a word might correct may grow up despite the presence of a good example to be imitated. But if instead of doing the work himself the teacher directs his efforts solely to seeing that his pupils perform their work correctly, he will find that he has opportunity to help members of the class individually and correct faults that

may arise. If it seems necessary to have some one do work to serve as a basis of imitation for the class the teacher may have some member of the class act as leader for the time; or the teacher may himself show the proper form and then proceed with class direction.

Another question that arises in connection with the use of the instinct of Imitation is "How can the teacher use Imitation and yet develop originality, ingenuity, self reliance?" In reply to this about all that can be said without going into^a detailed discussion of individual characteristics and different gymnastic exercises is ① that the importance of Imitation should be minimized, ② that the pupil should be given work that will make varied and numerous demands upon his own resources, ③ that the work should be advanced to a grade of difficulty that will make it impossible to use imitation as anything more than a bare beginning.

In summing up the value of the lower forms of Will action (Instinct)

in Physical Education we may say that this form of action although of a subordinate class, furnishes a much surer basis for work than the so-called higher form of deliberate rational action. That its possibilities should be magnified by the teacher is but a truism.

Attention

In view of the physical basis of Attention the teacher can make some valuable deductions in regard to class management and individual positions. Instead of a random hit or miss arrangement on the floor, a careful scientific grouping will be secured with a view both to removing danger of distraction and other hindrance and to make it difficult for the pupil to keep from being attentive. The teacher should direct his efforts not so much toward securing a voluntary forced attention as to arousing instinctive "involuntary" attention. All that has

said upon the importance of the use of Instinct applies here with equal force. The nature of the work, the method of presentation, the attitude of the teacher should be governed by a scientific knowledge of instinctive likes and dislikes, interests, tendencies. As Attention is a condition in which the impulsive forces active at the time are altogether or very largely turned into a single channel, it follows that it should be made not a state of mere passivity or receptivity but a condition of activity. Physical Education including Manual Training is notably adapted to this, especially in contrast with the more strictly intellectual studies which involve a constant pouring in, often without a corresponding activity on the part of the pupil. Those states of Attention which are not accompanied or followed by definite action of the Will are to be looked upon with some considerable degree of disfavor, as they tend to an habitual passivity of attitude rather than strong activity.

Habit.

As habit comes through the simple matter of repetition, it is an easy matter for the Physical Director to lay the foundation for correct habits of standing, walking, breathing, etc. The need for such a foundation can only be appreciated after a visit to the gymnasium when new men are going to work. The stooped shoulders, cramped chest, sagging abdomen, that street clothes hide are pitifully revealed by the gymnasium suit. It is only by continual insisting in class that grave faults in the commonest acts may be remedied. The habit of breathing correctly is the only thing that can remedy the habit of stooping or lopping. That is to say the fault is to be remedied not so much by ceasing to commit it as by beginning to do something else. Doing nothing is the hardest kind of doing; but above all is it hard when it is substituted for a condition of activity. Consequently a bad habit of physical life is to be remedied by

positive rather than negative means.

In this connection arises the interesting question of the formation of habit through compulsion; or in more concrete terms the question of compulsory Physical Training. Will required class work in Physical Training for ~~two~~ or three hours per week through the Freshman and Sophomore years result in correct physical habits especially in the ~~matters~~ of regular and sufficient exercise? According to Dr. Jas. Naismith this is a result which although it is not to be invariably expected is to be hoped for. According to his statement nearly every man who has been required to take regular Freshman and Sophomore Physical Training does during his Junior and Senior years enough work either in the gymnasium or in athletic sports to satisfy the demands of health. Occasionally the work is not regular enough to be called habit, but even in its irregular form it can be traced to the tendency toward the habit established in the Freshman and Sophomore years.

There is a danger in connection with compulsion — a danger that is increased when there is a feeling of opposition on the part of the person compelled. Under restraint the impulsive forces are for a time compelled to flow through a prescribed channel, then if the compelling force be removed before the action becomes a habit the impulsive forces break away in various directions, along the line of least resistance, and various excesses result. Often after the football season some of the men who have been in training will go into ridiculous excesses. But this is reduced to a minimum by the fact that the man who has done hard work on the team finds himself so far behind in his studies that he is compelled to exert himself mightily in order to make up what he has lost. Thus the energies are turned into a new channel and there is little opportunity for the loss that is due to indefiniteness of outlet. In the case of the prize fighter or professional athlete the lack of this defined outlet for the energies after a

course of training explains the extreme nature of his excesses. He has regularly expended a certain amount of energy in a prescribed direction and when the period of training is over there is nothing in particular toward which the regular amount of energy may be turned. The result is that the stream, not being confined, breaks through where the resistance is least.

The amount of other work has a direct bearing upon the matter of the habit of regular exercise. A great amount of study may work in either of two ways; it may lead to greater regularity in care of the body or it may tend toward irregularity, according to circumstances and the nature of the person involved. If there is any validity in the principle according to which Freshmen and Sophomores are required to take Physical Training (that a certain amount of exercise is necessary in order that the student may do the best mental work and may have strength and

health to complete his course) then all students who carry more than the regular amount of work should be required to work daily either in the gymnasium or at some athletic sport; and credit for more than the regular amount of work should be made to depend upon keeping this requirement.

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