

**Physical Training  
for Children by  
Japanese Methods;  
A Manual for Use in  
Schools and at Home**

**Harrie Irving  
Hancock**

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**PHYSICAL TRAINING FOR  
CHILDREN BY JAPANESE  
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# PHYSICAL TRAINING FOR CHILDREN BY JAPANESE METHODS; A MANUAL FOR USE IN...

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INTRODUCTION	

These few pages are addressed directly to those who have in charge the physical training of children, and it is urged that the subject matter be read through to the pupils themselves. Yet it has been the aim of the author to make the contents of this volume so plain and simple that the boy or girl of reasoning years will find it possible to instruct himself or herself and a companion.

Why should the Japanese physical training system, jiu-jitsu, be taught to our young people? The answer is a ready one, and easy of comprehension by one who has had

even the most ordinary opportunities for witnessing the feats of strength and endurance of Japanese athletes. Travellers have brought us, from time to time, wonderful tales—and none of them exaggerated—of the strange and marvellous system of gymnastics in vogue among the people of Japan. Some eight years ago the author began his study of jiu-jitsu under the guidance of Japanese friends in this country. Afterwards, in Japan, he studied under such famous adepts as Matsuda, Yako, and Inouye—a redoubtable triumvirate of muscle-trainers. Upon his return from Japan the author went again under Inouyes tutelage when that master came to this country for a while to lecture and to teach.

Six weeks of instruction the preliminary strength-producing training of jiu-jitsu will yield better results in muscle, endurance, and agility than will the same amount of time per week spent in a gymnasium throughout a whole school year. And the same six weeks of drilling in jiu-jitsu exercises will accomplish more than may be looked for from years spent at the light calisthenics taught in many of our schools.

If this should seem to be an extravagant claim, let us examine some facts of very recent history. In Japan every soldier, sailor, and policeman is obliged to take the government course in jiu-jitsu. When the allied armies of the civilised powers marched against Peking in the summer of 1900 it was discovered that the soldiers of our regular army were second among all the troops in point of endurance in the field. But the Japanese were first, and proved their ability, day after day, to outmarch our troops by fifty per cent. Through the earlier weeks of hostilities with Russia, in this year, Japanese troops marched twenty-five miles a day through the most bitter weather. Under the same circumstances our soldiers would consider fifteen miles a day a satisfactory average. Kibudo jiu-jitsu is the only physical training that the Japanese soldier receives it is evident that it is this system which gives him the greatest endurance to be found in the world.

The course laid down in this volume is intended to take up a school year. The feats should all of them be mastered thoroughly in less time than that, but it is advantageous to have considerable time to spend in reviewing the work. The amount of time spent in physical training during the week varies greatly in the schools. It is well worth the while to give from twenty minutes to a half an hour daily, but where this is impossible it is advised to give at least twenty minutes a day on three days in the week. This amount of time spent in instruction can be made to suffice if the pupils can be persuaded to practise out of school hours. And much can be done in the way of urging the young people to try the feats in recess time.

Necessarily many of the feats described cannot be performed in the aisles between the desks. But this need be no bar to thorough training in jiu-jitsu. Nearly every large school building has a hall in which graduating exercises and other exhibitions are given. This hall can be used by the class when training. School buildings of any size have basements that are used as indoor playgrounds in stormy weather, and here the exercises may be taught. There is plenty of space also in the broad corridors. Best of all, in the milder weather—that is, in September and October and in May and June, the young people can be marched into the school yard and there drilled to the best advantage of all in the purer out-door air.



The especial attention of the physical instructor or class teacher is directed to Chapter III., in which are given several forms of exercises that will be found of great value to children who are too weakly to enter at once into the more rigorous exercises taken up by their stronger schoolmates. Chapters VII. and X. are intended by way of brief lectures for occasional reading to the class.

As soon as one set of exercises has been mastered, and a new set taken up, it is not intended that the old feats be abandoned. On the contrary, in each practice bout some of the old movements should be taken up along with the new, giving a continuous review of all the work that has been mastered. It is suggested that the instructor will find it an excellent idea to number each of the drills in the order in which they are described. A marginal note stating the average amount of time required for a movement will be of great assistance in making a selection of the old exercises that are to be taken up with the new.

There are no separate exercises for boys or girls. Both boys and girls have posed for the illustrations published herewith, but this was done merely in order to lend greater interest to the depiction of the work.

It is highly undesirable that the jiu-jitsu training should be dropped from the school course after one year of drilling. On the contrary, it should be kept up as long as the boy or girl remains at school, should be carried into the college or university, and then onward throughout life. But, after the first year of training, the student has the advantage of understanding the system, and of being able to skip about among the exercises as his inclination and his own bodily needs suggest.

Since it is likely that the term jiu-jitsu will be heard more and more in this country as time goes on, a hint is offered as to its pronunciation. It is natural to say "joo-jitsoo," but the Japanese call it jew-jitss. The accent is on the first syllable. The double "s" is given with a slight hissing sound, and the final "u" is not expressed at all.

H. Irving Hancock.

New York, April 9, 1904.

# PHYSICAL TRAINING FOR CHILDREN BY JAPANESE METHODS CHAPTER I

WHY PHYSICAL EXERCISE IS NEEDED IF ONE IS TO BE HEALTHY—  
THE JAPANESE SYSTEM OF TRAINING THE BODY—WHAT IS MEANT BY  
"RESISTANT MUSCLE" WORK—THE FIRST FEATS TO UNDERTAKE

Why should it be necessary for one to take physical exercises? Why should health and happiness depend upon doing this? If one does not care to train the muscles of his body why should he be expected to do it, and why should he suffer through not doing it?

The answer to these questions may be stated very simply.

While the needs of the body are many, the most important requirements of health—given here in their order—are air, water, food, and exercise. A human being cannot live more than a few minutes when air is denied him. He can live for a few days without water, and for a considerably longer period without food. In a mild enough climate he can live without clothing or shelter. It is possible, also, to live without physical exercise, but, in this case, the human being does not act wisely.



Training of all of the parts of the body is not merely advisable; it is necessary if the human being is to bring his body to the highest state of health. Just as air, water, and food are needed to keep the life in the body, so is exercise of the parts of the body.

It is the mission of the stomach to prepare the nourishment in food for the making of new blood. In the lungs this blood is purified by breathing in air, the oxygen in which burns out the waste material of blood. Then the heart is required to pump the purified blood through the body. This process is called the circulation of the blood. What good does the circulation of the blood accomplish? The answer is that every portion of the body is undergoing decay at every moment in life. The nourishment that the blood, vitalised by the stomach and the lungs, and pumped through the system by the heart, carries to every minutest part of the body, gives the force that enables the human, or lower, animal to remain alive.

The basis of life is the cell. This is the most minute part of animal organism. The cell forms tissue, the tissue forms fibre, and, from the start with the cell, the muscles, nerves, skin, hair, nails, bones, teeth, and all of the other parts of the body are formed and are kept alive.

It is the circulation of the blood, rich in nourishment, that accomplishes all of this continual building up of the body. Then what part does physical exercise play?

Muscular exertion of the right sort, and in not too excessive amount, forces the lungs to take in deep breaths of air. It will be noted, after examining the veins of the body—the channels through which the blood returns to the lungs—that the veins show a bluish tint. This is because the blood flowing through the veins is impure. When this blood is returned to the lungs air is gulped in, and the oxygen that is in the air burns out the impurities. The blood, purified by oxygen, and enriched by the nourishment that has been prepared by the stomach, is sent again through the body in order that it may replace more cell-decay.

The proper exercise of the body is needed in order to give the muscles of the stomach strength enough to enable them to perform their offices in digesting food and providing the blood with the nutriment, or repair material, that it must carry through the system, and to enable the digestive glands to perform their proper offices. The deep breathing that should accompany all muscular work is needed for the purpose of purifying the blood that is to be sent back to repair all waste tissue in the body.

The heart is a great mass of muscles. The heart never stops its work until life ceases. When an organ is composed of so many muscles they should receive constant training. Yet, just as one should not exercise until he has made his back or shoulder muscles lame, so one should not give the heart more exertion than it can endure without discomfort.

Exercise, then—always with deep breathing—accomplishes these results: It gives exercise to the heart, the most enduring and serviceable organ of the body; it supplies the lungs with the pure air that is for burning out the waste—dead—material that is in the blood. Exercise of the body also strengthens the muscles and the digestive apparatus of the stomach, and enables that organ to perform its functions with greater effect.

At the same time, the strain upon other muscles increases their power. Even the slightest form of bodily exertion turns some material into waste. This waste is consumed by the oxygen that goes through the body with the blood. The oxygen

burns, and the blood supplies the repair. When exercise is not carried to too great an extent the result is that it kills dying cells of the body and replaces them with new ones. Thus the vitality of the body is increased. There is new life in the place of that which was passing.

From this it will be understood that any use of the muscles induces waste of the dying material in them, and that the re-vitalised blood supplies new and better material. For this reason every proper exercise makes the muscles increase in their power. Every time that muscles are used more than they should be it means that these muscles have been overworked, and that the processes of decay and repair have been used to excess. Overworked muscles do not promote health. When lame or stiff muscles result from exertion it is a certain sign that too severe work has been performed. In other words, the muscles have been abused.

Most pupils of ordinary strength are inclined to be guilty of over-exertion when performing gymnastic work. The danger signals are easily discernible. If there is palpitation or shortness of breath it is an indication that heart and lungs are being overworked. If there is lameness or stiffness of any of the muscles it must be understood that those muscles have been overtaxed. Any form of physical work that has been carried to the point where it causes palpitation, shortness of breath, or uncomfortable muscular feeling is to be used afterwards in a less degree. Sometimes it is advisable to drop a certain exercise for days. No pupil who feels bodily distress should hesitate to drop out of the class. Such action is not to be regarded as a confession of weakness, but rather as an indication of common-sense.

At least twenty-five hundred years ago the Japanese practised a system of physical exercise known as jiu-jitsu. At that time, and until very recently, the art of jiu-jitsu was known only to a privileged class of men in Japan. They were known as the samurai. They held a position corresponding to that of the knights of Europe in the Middle Ages. The samurai alone were permitted to fight, the men who were not of this noble rank being allowed to accompany an army only as carriers of burdens. As the samurai were not always employed in war, and as they could not engage in any business, much attention was devoted to the feats of physical training that would make them more efficient in battle. And so the art of jiu-jitsu happened to be invented, and was passed down to the samurai through century after century. The women of the samurai class took up the work also, so that no Japanese man could expect to be stronger than the woman of his own rank, unless he happened to be larger than she.

The essential principle in this Japanese system of physical training is to be found in what may be called the "resistance of muscles." In most of the exercises it is necessary for two pupils to work together. The pressure of one pupils muscles must be resisted by the use of similar muscles in the other pupils body.

In this volume, for the sake of convenience, one pupil will be designated often as the "assailant" and the other as the "victim." It should be understood that when the assailant is stronger he should not force the victim to a victory that will be too rapid. Nor should the victim employ strength enough to make the assailants victory impossible. The assailant should employ just enough strength to force the victim slowly to defeat; the victim should employ just enough strength to make victory difficult.

The simplest form of resistant work is to be had when two pupils stand, facing in opposite directions, at each others right sides. The arms are extended slightly, but with the clenched fists just below the waist-line. The right wrists of the two are crossed at the inside of the arm. The arms should be held as rigidly as is possible. Then the command is given:

"travel!"

At the word of command the pupil who has been chosen as aggressor should walk slowly around his victim, applying all the strength in the wrist to the task of swinging the victim around. The victim stands with his heels together. He pivots on his heels as he is forced around, but does not allow the heels to become separated. The victim does no walking, confining himself to swinging upon his touching heels as he is made to move around. The arms should be kept straight and rigid while the exercise continues. At the end of the exercise, and when both pupils have taken deep breaths, they should cross the wrists not employed before, and should swing around as before, the one who was lately the victim becoming now the aggressor.

No matter how far the pupil has advanced, this resistant wrist work should be undertaken at the beginning of every practice bout. Each pupil should be, in turn, aggressor and victim, with the wrists of both hands opposed in turn—right against right and left against left. The one who is selected as aggressor should be allowed to swing his victim around, but with great difficulty.

The exercise, just as it should be started, is shown accurately in photograph number one.

The next exercise that is to be undertaken is where two pupils stand at each others right (or left) sides. They face in opposite directions. If at the right sides, the pupils "hook" each others arms at the elbows, as is shown in photograph number two. At the command "TRAVEL!" the one who has been selected as the aggressor walks slowly around the victim,

#### No. 2. HOOKED ELBOWS, RESISTANT—"TRAVEL" AND "PIVOT."

forcing the latter to turn. All the while the victim pivots on his toes. The victim yields gradually; he must give enough resistance, but must not defeat the assailant.

The number of times that the victim may be turned around will depend upon the strength of the average contestant. When the instructor is satisfied he gives the command "HALT!" Then the pupils take several deep breaths. At the command "resume!" the pupils hook elbows again. This time they use the arms not employed in the first performance of the feat. Thus, if right elbows were hooked the first time, the left elbows are used the second time. The work is to be performed with as much resistance as the victim is capable of; but the aggressor, if much stronger, should not employ more force than is needed for victory.

Each pupil, in a practice bout, should employ both arms in "travelling" and in "pivoting." This will give four bouts in all, and this one form of exercise will take up much of the instruction time given in one days lesson. Between each attack the pupils are expected to breathe heavily and deeply.

Next in order simple holds are to be considered, along with simple swaying movements. Photograph number three shows one of the back or side holds, but it affords an accurate idea of all of the work of this nature. The two pupils stand either at each

others right or left sides, and facing each other. The assailant clasps his hand over the victims side that is farther from him. The clasped hands should rest at the waist-line. Now the victim bends over as far as is possible to the side on which the aggressors hands are clasped. At this point the assailant does little more than to support the bending victim.

When the victim has bent over as far as may be, against the rather slight resistance of the aggressor, the command "Up!" is given, and the victim tries to resist being pulled to erect position. Both strength and weight should be employed in this resistance on the part of the victim. If the work is done properly, under the eye of a careful instructor, aggressor and victim will share about equally in the benefit to be derived from this form of exertion. In this exercise rapidity of movement will defeat

### No. 3. BACK-HOLD FOR RESISTANT SENDING.

the result that is desired. The bend should be a slow one, with but little difference in the amount of resistance between the pupils. The assailant should let the victim over very slowly, and with straining of muscles on the part of each. The victim should not allow the aggressor to pull him up to standing position without considerable effort.

Now, it will be well, after deep breathing of course, for the two to change places, and the victim becomes assailant. It is well also to change sides. Thus, if the victim in the former case was allowed to go over to the right side, on the second attempt the new victim should be allowed to go over to the left.

After a study of the foregoing descriptions it will not be difficult to understand how the holds for backward and forward bendings are to be employed. With the backward hold the victim is clasped around the waist, the assailant holding his fingers interlaced at the small of the victims back. The victim bends backward as far as he can without losing his balance. The aggressor resists as much as is needed. At the command "Up!" the assailant tries to bring his companion to erect position, the victim resisting with muscle and weight.

Another form of this work is to be found when the two pupils stand facing in the same direction, but with one directly back of the other. The one at the rear, who is to act as the assailant, throws his arms around the victim and clasps his hands in front of the latters abdomen. From an erect position the victim should bend slightly backward without resistance. When this position has been taken the victim begins to bend forward, the assailant employing resistance enough to make the motion difficult. But the assailant, no matter how strong, must take care not to defeat the victim. When the latter has bent forward as far as he can go the assailant should bring the victim back and over to a bend backward, the victim resisting with strength and the use of his weight.

At all times, in all of these exercises, the pupil must remember the need of slow, resistant work. There must be no hurry, nor can there be any lazy use of the muscles. Every muscle employed must be used with considerable strength, the only care taken being that the stronger student does not make victory impossible for the weaker. When this caution is observed the weaker pupil has a good chance of bringing his muscular development gradually up to the standard of strength possessed by his opponent.

Where private schools or gymnasiums are equipped with baths it is well for the student, very soon after the end of the lesson, to go to the shower or the swimming

pool. The bath following exercise should be a cold one. It is best, first of all, to take a rapid sponging under the shower. This should be followed by a plunge and a short swim. After that drying, through the means of brisk towelling, is in order. Not all young people can endure the shock of the cold bath. In that case the bath will have to be of the temperature demanded by the condition of the individual student.

When exercise is repeated at home by public-school pupils the bath, in one form or another, is always possible, and parents should enforce its use.

#### CHAPTER II The "struggle" In Its Varied Forms

Nothing gives more zest to school-room or gymnasium work than does the form of exercise named in the heading of this chapter. It is a kind of work, too, that makes quickly for strength. In one form or another the struggle should be employed in every lesson in gymnastics.

Briefly explained, the struggle is a form of work that exercises every important muscle from the top of the neck down to the feet. When properly done this style of exertion will exercise the entire body with the exception of the head. The basic principle is that the student exerts all of his bodily strength and the full force of his weight against his opponent. Of course this general statement must be modified by the warning that, if there be much difference in the strength of the contestants, the stronger must not employ his fullest powers, but must make the weaker companion work. It is permissible for the stronger pupil, when the aggressor, to use all, or nearly all, of his strength. When the weaker pupil is the assailant, the stronger must use just enough strength to make victory hard of attainment.

The simplest form of the struggle is found when two pupils face each other with arms outstretched sideways, the hands on a level with the shoulders. Now, let the two pupils clasp hands, interlacing fingers with each others. Next, each step backward, so that the bodies slant against each other. The chests should touch so that the heart of one pupil is pressed against that of the other, while the head of one is at the side of the others head.

Now spread the feet as far apart as they will go. The next step is for the one who has been designated as assailant to push the victim across the floor. The contest should be a stubborn one, the power employed to be limited only by the strength of the weaker contestant. Of course, the assailant, when stronger, should not exert undue pressure, and when the victim is the stronger the victory should be allowed through gradual yielding. When the struggle has been carried across the room there should be a pause for deep breathing. Then assailant and victim should change places and repeat the exercise.

When the struggle is done with intensity, and victory is difficult, there is a tendency to get in closer touch and to press the abdomens together. This should be forbidden at all times. There is another tendency—to get ones feet too close together. The watchful instructor will prohibit this also. Nearly all of the benefit that is to be derived from the work will come through a close observance of the directions just given, and the careful instructor in physical training will watch every detail of performance.

As children have much animal matter and a minimum of lime in their bones they are able to derive benefit from other forms of the struggle that could not be employed as well by older people. For children a very interesting and valuable form of the

work is shown in photograph number four. Here the pupils face each other and bend slightly forward. The opposing hands of the contestants are clasped, with the fingers interlaced. At the start the hands should be on a level with the waist-line, or slightly above. At the command "start!" the pupil who has been chosen as aggressor should push the victim slowly across the room. The feet should be well apart, but the contestants will discover just how far apart it is necessary to have them. The struggle should be continued until the designated distance has been covered. Then, after breathing, the struggle should be repeated back to starting point.

This exercise is one that calls for strenuous work. No harm can possibly result from the work if the instructor is on the alert to see that no pupil carries the exertion to a point that causes panting or palpitation. The benefit to the arms—to the wrists most of all—is great.

As a variation the pupils should be instructed to clasp right hands only, and to repeat the struggle. The same work is to be done also with left hands opposed. Then the right hand of one contestant should be opposed to the left hand of the other, and the push repeated. Both instructor and pupil are to remember, at all times, that the right side should never be exercised at the expense of the left. In fact, in the beginning, it is well to give the left side rather more work. The man or woman of proper physique should have as much strength in the left side of the body as in the right.

The form of the struggle just described may be duplicated in many ways. Hands may be clasped over each others heads, and the struggle may be employed. In this case the feet should be far apart, and the bodies of the pupils slanting toward each other. No parts of the bodies except the hands should touch. Then the pupils may bend over as close to the floor as they can go with comfort, and the feet a little more close together. With hands clasped as in the foregoing they may struggle, but this will be found to be rather hard work.

A form of the struggle that is difficult for people of adult age, but one that is easy of accomplishment by young people, is found in the back-to-back struggle. In this the two pupils stand with their shoulder-blades touching each others. The hands are extended sideways, on a level with the shoulders. Each contestant clasps the others opposing hands, and the fingers are interlaced. Then, with a slight backward inclination of the body of each, and with feet somewhat apart, the assailant pushes or pulls the victim across the floor. No parts of the bodies below the shoulder-blades should touch.

This form of struggle, being a difficult one, should be carried on only for a short distance. It is important that, after breath has been secured, the assailant and victim change places and repeat the work. The idea of the exercise, as to position, is depicted very accurately in photograph number five.

The struggle may be varied again by having the two contestants stand back to back, bodies touching from the shoulder-blades to the small of the back. Both pupils stand very nearly erect, leaning just slightly toward each other. The elbows are out at the sides; fists are clenched and held against the breasts. The feet are but a little way apart. Every muscle of legs, body, and arms is made as tense as is possible. At the command "START!" the assailant slowly pushes the victim. After the stop, and when enough breath has been inhaled, the same feat should be performed in the opposite direction.

In this last exercise the resistance should be as stubborn on both sides as is consistent with the strength of the opposing pupils. The back is greatly benefited, as are also the muscles of the leg. The outstretched elbows may be employed against those of the opponent, and the bodies of each should sway from side to side. The shoulder-blades of each should be brought well into play through a wriggling movement of the trunk.

Just by way of varying this back struggle, and making the exercise more amusing, as well as an excellent test of strength, the pupils should stand facing in opposite directions, but side by side. One presses his nearer shoulder against the others, and a struggle across the floor follows. At this time the feet cannot be

#### No. 5. THE BACK-TO-BACK STRUGGLE.

far apart; one foot must follow the other as progress across the floor is made. The trunks of the bodies of the contestants will touch somewhat, but this contact should be avoided as much as is possible. And again it is necessary to caution each student to see that the left side of his body receives at least as much of the benefit of this exertion as does his right side.

By way of change, in another practice bout, the assailant stands just behind the victim. The latter bends slightly forward, in order to be able to offer more resistance. His heels are rather close together, but not touching, and his toes are turned outward. The assailant throws his arms around the victims waist, clasping his hands at the front of the victims abdomen. Now, the assailant attempts to draw his companion backward, the latter yielding inch by inch, first on one heel and then on the other. There should be swaying of the body as one of the victims heels goes back toward the other.

Where weights are about equal the victim will have the advantage, provided the aggressor does not attempt to pull his comrade back by a sudden jerk. The work is to be done very slowly and resistantly, and no attempt at a backward jerk is to be permitted by the instructor. At all times the clasp of the assailant should be firm and the pull even. The assailant may use his feet in any position and in any form of motion that he finds to be necessary to victory, but the victim should not change from the starting position of his feet any more than is needed for letting one heel "inch" behind the other, and his toes must be pointed outward until the struggle is completed.

This task may be performed also in the reverse way, by having the assailant clasp his hands, from in front, around the small of the victims back and struggling backward, but this method of work will not be found as interesting or as beneficial. But a very good way of varying the work is found when the aggressor faces his victim at his side and clasps his hands at the victims other side. Then the struggle begins, the assailant endeavouring to pull his victim along. The latter is permitted

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to bend slightly toward the side on which the comrades hands are clasped. The struggle is to be made a slow and stubborn one, and care must be taken not to wrench the victim off his feet.

The single-hand resistant work, where the two pupils face each other, has been described already, and is shown in photograph number six, but there is another and more excellent variation of this work that should be taken up in this connection. The



contestants face each other and clasp right hands, the arms being held out nearly horizontally in front. Each contestant employs his left hand in clasping his own right wrist. Then a slow, stubborn struggle begins, the assailant doing his best to push his comrade backward across the floor. Victory must be allowed to be made possible in the end, but progress across the floor should be slow. Then the employment of the hands is reversed, so that each uses his own left hand for the clasp with the others and his right hand to encircle his own left wrist. The struggle is then repeated back to starting

Photograph number seven depicts a kind of struggle that should be employed once in a while. The aggressor crosses his arms in front of him, with the right arm over the left. With his right hand he takes a hold at the right side of the victims neck. His left arm he places at the others left side of the waist. The victim takes a similar hold. Then the victim is forced gradually to the left. After a pause, with breathing, the return struggle is made, the one who was recently victim becoming assailant now.

It has been remarked already that some one form of the struggle should be used in every tour of exercise. The particular kind should be left to the choice of the instructor, some heed being paid to the apparent preference of the pupil. But all of the struggle work herein described should be attempted during the course of a month.

When the exercises described already have been carried on for four consecutive weeks the student will be astonished at his increase in health and strength—always provided that the work has been done with zeal. Yet, while it

#### No. 7. THE POSITION FOR RESISTANT SIDE-SWAYING.

is recommended that pupils carry on the work outside of school-room or gymnasium, it is to be urged that the effort be not made to an extreme. Aching muscles show that this has been done. Lameness or soreness of any kind proves that living tissue of the body has been burned. It is the sole aim of exercising and breathing properly to burn out only the dying tissue.

Nor should the pupil forget, even once in a while, to breathe deeply and heavily between each of the exercises. It is the oxygen in the air that burns dying, and therefore useless, tissue.

A hint to the instructor will be of value in increasing the effectiveness of the work. When there is a large class it is impossible for the teacher to note the work of each pupil. The work may be slighted; or, no matter how much zeal is employed by the student, the work may be done in the wrong way. It is advised that the instructor note those of the pupils who display the most intelligence. These should be selected as monitors. In a class of fifty young people there should be at least two monitors, who are to move about through the class and see to it that every member is doing the work in the right way. There should be created a feeling of honour in being a monitor, as he who is thus selected knows that he is looked upon as being efficient in gymnastic work.

The monitor should be a young person of authority. He should move constantly in and out between the couples of contestants, and should say, for instance:

"Hold your arms straight." Or: "Resist more." "You are using too much resistance. When using that form of struggle do not allow any portions of your bodies except the

chest to touch." "Go to a window and breathe deeply." "You are panting. Stop the work, and do not return to the class until you are called."

It is in this matter of panting that monitors should be instructed to be most careful. If the panting be slight, a few deep breaths will remedy the trouble. But when there is continued trouble with the breathing the sufferer should be ordered to take a long rest. In some cases it is well to order the over-zealous pupil out of the class for the remainder of the bout. When the exercises are done properly there will be, in the case of normally healthy youth, no necessity for panting. A weak child should be allowed to take part in only a few of the exercises until strength has been developed.

Every student should be encouraged to take, at home, some of the exercises that he has been taught in the school-room or in the gymnasium. The same caution against over-exercise should be offered. If a long tour of physical work is given daily in the school more exercise at home is not needed. Play will supply the needed addition in the way of bodily exertion.

But on Saturdays and Sundays, when school is not in session, the pupil should practice with another at home, and preferably in the yard, where the air will be purer than in the house. If the exercises are taken in the house the windows of the room should be open.

When muscular work is undertaken at home it should be borne in mind that it should be begun at such a time that it will end at least an hour before the next meal is eaten. Nor should exercise be attempted until at least an hour and a half after a meal.

Proper exercise is needed every day in the week. Sunday is devoted to religious duties, but the building up of a healthy body is a proper observance of religion. We should try, at all times, to possess bodies that are strong and healthy enough to please Him in Whose image we were created.

### CHAPTER III

**THE NEED OF LIGHT EXERCISE IN ALTERNATION WITH THE HEAVIER-SAMPLE WORK OF THE LIGHTER KIND** If left to themselves, in the following out of any system of exercise that appeals to them, young people will take to, and remain at, almost invariably, the severer forms of physical work. It should be the constant aim of every instructor in a school to see to it that the severer forms of exercise are varied by the lighter ones. And it is equally the duty of the instructor to impress upon the pupil, at all times, that whatever muscle-training he attempts outside of the school should be followed along the same lines of varying light and severe feats.

Some pupils, because of natural weakness, will not be able, at first, to take up any of the severer work. These pupils should be kept wholly upon the lighter work until their gradually improving physical conditions make it possible for them to take up the severer work by very slow degrees.

In this chapter will be described lighter exercises that students in normal health may use in alternation with the harder work—work at which the weaker children should be kept at almost exclusively until greater muscular development has been acquired. These light forms of exercise will consist mainly of bending and swaying. Where the drill is taken merely as a rest from more strenuous work the students may be about evenly matched in strength. But where these exercises are employed for gradually strengthening a weaker pupil, that one should be always the victim until greater