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SCHOOL GYMNASTICS

ON THE

Swedish System.

ALLAN BROMAN.



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SCHOOL GYMNASTICS

ON THE

SWEDISH SYSTEM

*A HAND-BOOK OF PHYSICAL EXERCISES
FOR ELEMENTARY SCHOOLS*

BY

ALLAN BROMAN

*Of the Royal Gymnastic Central Institute, Stockholm ; late Organising
Master of Physical Exercises to the School Board for London*

Third Edition. Re-written. With New and many
Additional Illustrations

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PREFACE TO THE THIRD EDITION.

TWO editions of this little handbook having been exhausted a third has become necessary. Some alterations have been made in the text, which has been further amplified, and a number of new illustrations have been added. The author trusts that the book in its present form will meet with the same approval and gratifying success as the former editions.

ALLAN BROMAN.

London, April, 1902.

P R E F A C E.

" . . . For any school year beginning after the 31st August, 1895, the higher grant for Discipline and Organisation will not be paid to any School in which provision has not been made in the approved Time Table for instruction in Swedish or other drill or suitable physical exercises. . . ."—(The Education Department's Code of Regulations for Day Schools, 1895.)

To meet the requirements of the above regulation, a suitable Handbook of Gymnastics is necessary, and the author has endeavoured to supply the want in the present little work.

The exercises described are from the Swedish system.

The figures are reproductions of photographs taken from life; many of them are those of Board School children. They are not faultless, being real rather than ideal, but they give a fair idea of the movements and positions they represent.

The author's thanks are due to Messrs. Bale, Sons & Danielsson, for the careful way in which the photographs have been taken and reproduced.

Former pupils among the teachers of the School Board for London have urged the author to compile the book. And Mr. W. C. M. Wightman, of Wilton Road Board School, has greatly assisted in looking through and correcting the MS., for which the author now cordially thanks him.

ALLAN BROMAN.

10, SOUTHWICK PLACE,
LONDON, W.

October, 1895.

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SCHOOL GYMNASTICS.

I.—THE NECESSITY FOR PHYSICAL EDUCATION IN THE SCHOOL.

EVERY student of children and their ways must have been struck with their remarkable greed for movement when left in freedom and to their own devices. If healthy and allowed their natural liberty they are—except when eating or sleeping—scarcely ever still. A state of perpetual motion seems to be their principal enjoyment. To keep still, and particularly to *sit* still, is to them well-nigh impossible; and as for fixing their attention upon any one thing for any length of time, it is not to be thought of. “Constant movement and constant change” could well be their motto; and so true is this that, if a child becomes very steady and quiet, there is good reason to suspect its ill-health and to make inquiries accordingly. *Necessity for Movement.*

Movement, then, is *natural* to the child. It is a necessity, and is closely connected with the rapid physiological changes which take place in the young body during the period of growth, which cannot proceed satisfactorily without exercise.

Commencing school means a revolution in the child's life in more senses than one. That it tends to a develop-

ment of the mental powers may be taken as a matter of course; but what about the physical?

*Restraint in
School.*

From freedom the children are suddenly brought under discipline and restraint. Debarred from the free movement which their tender bodies require, they are placed on forms and told to sit still. How *irksome* this restraint must be to them, can easily be imagined. But a study of physiological laws, relating to the influence of bodily exercise upon the organic development, will show that it may also prove positively *injurious* to those subjected to it. The great danger of forcing children to lead a too sedentary life will be brought home to the minds of the thoughtful, and it will be found necessary that the deleterious influences of prolonged "sitting-still" during the period of growth, should be counter-acted by a full measure of rational physical exercises.

*Importance of
the Muscular
Sys'tem.*

Every movement in the human body is performed by muscles. It will, therefore, be useful to turn the attention to the muscular system, and briefly consider its influence for good or evil upon the body generally.

The muscles represent rather more than half of the whole weight of the body, a fact sufficient in itself to explain the importance to the entire organism of their good condition. But their active influence upon the circulation of the blood, upon the respiration and upon the nutrition, as well as their *rôle* as the principal heat generators of the body, still further enhances their importance. Being subjected to the will of the individual, *i.e.*, governed by the brain and the nerves, they stand in direct connection with the nervous system, upon which they act to mutual advantage.

The general state of the muscles—the full or deficient development of the muscular system—depends upon their frequent use and exercise. It is well known that muscles become firm, large and strong in persons accustomed to muscular work, and correspondingly flabby, small and weak in those unused to physical exertions. The truth is—of muscles as of every other organ in the animal body—that increased activity, within certain limits, induces a fuller development and consequently increased functional power; whereas inactivity as certainly arrests the development—the organs becoming stunted and withered. These results depend upon the fact that, in every organ which is put to lively activity, the blood vessels expand under the influence of the vaso-motor nerves, which expansion is equivalent to a stronger influx of blood, *i.e.*, of nourishment.

*Effects of
Activity.*

Thus is livelier activity of the muscles accompanied by increased means to further development.

In the inactive or too little active muscle, again, a comparatively small quantity of blood circulates. The nutrition, therefore, is poor and the development feeble, tending to degeneration if the lack of activity be too pronounced. Such results occur even in the full-grown individual who leads a sedentary life. That similar conditions must be incomparably more detrimental to a growing child just during the time when a natural development, assisted by muscular activity, should take place, is evident. The balance of the physical development is disturbed and the evil aggravated by the almost exclusive use of the brain powers at the same time.

*Effects of
Inactivity.*

Any injury to the muscular system naturally reacts injuriously upon other dependent portions and functions

*Muscles as
Heat
Generators.*

of the body. Muscular work is the principal source of heat in the body; and physiologists agree that the greater part of the force thus originated results in generating heat. As an example, recall an every-day experience: when feeling cold there is no better way of restoring warmth to the body than a few sharp and energetic movements, beating the arms across the chest or taking a short, brisk run. Heat is generated not only in the working muscle, but also—though to a smaller extent—in the resting one, and naturally more so in a well-developed organ. Therefore, the capability of retaining heat—keeping warm—is greater in the muscularly well-developed individual—a not unimportant argument for muscular development.

*Muscles and
Nerves.*

Every muscular movement is connected with and dependent upon some action of the *nervous* system. Exercising the muscles, therefore, means exercising the nerves. The central nerve-organs—the brain and the spinal cord—give the impulse, which is communicated through the motor nerves to the muscles, resulting in movement. From the muscles, again, impressions are conveyed by means of the sensory nerves back to the central organs, which in this way are every moment informed of the state and positions of the limbs. Thus the will dominates the movements; but the impressions that are conducted to the brain—the seat of the will—through the senses, exert a strong influence upon the will's decision for movements or their execution. In this way activity is evoked both in the central and the peripheral parts of the nervous system through muscular action, especially in combined movements—an activity differing from the ordinary brain work in study just

because it involves the peripheral parts of the nervous system. And it is through diligently utilising this part that full mastery over the body and its movements is attained. Clumsiness and awkwardness are sure signs of a want of mastery over the muscles, the servants of the will; whereas consciousness of a full command of the physical powers inspires a sense of ease, confidence and courage.

A frequent use of the muscles is also of great importance to the circulation of the blood. The blood courses—as mentioned above—more abundantly through the active muscle. When the greater part of the muscular apparatus of the body is in a state of activity—as in physical exercises—the blood is drawn to the muscles from the internal organs, which, being liable to become unduly congested during a sedentary occupation; by this means are relieved and refreshed. *Muscles and the Circulation.*

Muscular contractions materially assist the flow of the blood towards the heart. The blood-pressure in the veins is increased, and, by the valvular arrangements in those vessels, the fluid is forced in a centripetal direction. The heart, thereby stimulated to energetic action, propels the blood more quickly and strongly through the arteries to all parts of the body, which increased activity benefits the system generally and not least the circulatory apparatus itself.

The influence of bodily exercises upon *the lungs and Respiration. the act of respiration* is considerable. The working muscle consumes a greater amount of oxygen than the resting one. This is supplied in the lungs, where the red blood corpuscles absorb oxygen from the air.

With more lively muscular action the need for oxygen

SCHOOL GYMNASTICS

becomes greater and causes the quicker and stronger respirations that follow bodily exertions. These result in marked benefit to the development both of the heart and the lungs themselves, particularly in growing individuals. Upon the functional power of these organs depends, to a great extent, the capability of the body to resist external injurious influences.

Nutrition.

The nutrition of the body is stimulated by exercise. Increased interchanges take place in the working muscle, necessitating an increased supply of nutriment. This means an incentive to greater activity in the organs which affect the assimilation of the nutriment and prepare the blood. The inclination for food becomes stronger and the assimilation thereof is more perfect. A rich supply of material alone is not enough to procure perfect nutrition, even if the digestive organs appear to do their duty. It is the greater energy in the interchanges within the tissues that results in a thorough utilisation of the material supplied. Muscular exercise is an important factor in preventing and counteracting digestive disorders, a faulty preparation of the blood and other irregularities, detrimental to the internal nutrition of the body. As the physiologist, Prof. Fr. Holmgren, says: "Increased interchanges in and a livelier supply to the muscular system are paramount to improved process of nutrition generally. . . . Physical soundness and mental energy are the beautiful twin fruits of bodily exercises."

In the above is found the reason for the restless mobility of a healthy and vivacious child. Unconsciously it is working to forward its own development.

Bodily inactivity and enforced "sitting-still" are alien to its nature and act detrimentally upon the natural course of development during the growing period.

In considering the conditions of the children at school, other factors than the enforced comparative inactivity must be taken into account as well; such as, for instance, the position assumed on the forms. It is evident that if "sitting-still" in itself is irksome and injurious to the child, the evil effects thereof must be increased if the posture is bad. *Posture on the Forms.*

As a rule children have a tendency to lean forward in the desks. If these be badly constructed, as is often the case, the evil is aggravated; but even with the most perfect desks the children will bend forward, and the more so the younger they are. The mechanism of respiration is impeded in its action by this leaning posture. The most important inspiratory muscle in the body is the diaphragm, the flat muscle which divides the thorax from the abdomen. In leaning forward, the abdomen is compressed and the movement of the diaphragm hindered, causing the act of inhalation to become less deep, and the whole respiration shallow and inefficient. But the way in which the respiration is performed is of great importance to the circulation. Deep inhalations create a "negative pressure" within the chest, which effectively assists the flow of the blood towards the heart. This action is to a great extent hindered, the circulation as well as the respiration is disturbed, and the internal organs overcharged with sluggishly flowing blood, to the detriment of their functional activity. *Leaning Forward.*

Certain well-known disturbances soon manifest themselves in the physical condition of school children, through the above-mentioned influences.

Headaches. Headaches often occur. They arise as a natural consequence of the congested state of the brain during study, brought on by the above-mentioned obstacles to a free venous circulation.

Weak Chest. The development of the respiratory organs receives a marked check from the lack of bodily exercise. When during the years of growth, day after day for hours at a stretch, the act of respiration is performed with subdued power, superficially and feebly, without a full expansion of the lungs and the chest, a poor development of these organs ensues, resulting in a flat, sunken and immobile chest. This is a sign of a weakness in those parts which may even indicate a predisposition to pulmonary complaints.

Weak Heart. The disturbances in the circulation, caused by the long hours and bad postures on the school benches, are no doubt attributing causes to the irregularities in the heart's action, as well as the dilatations of the heart commonly observed in the young.

The congestions in the abdominal and pelvic organs evoked by the same causes exercise an injurious influence upon the sexual development, especially towards the age of puberty.

Spinal Curvatures. Curvatures of the spine arise as a consequence of these same conditions. Most authorities regard the sedentary life in the school as a predisposing factor to lateral curvature of the spine with all its attending evils. Badly constructed forms are here attributing causes, so that, with the modern improvements in the construction of school furniture, the danger is somewhat minimised; but it still exists.

Besides the lateral curvature there is also the kyphos,

or what is commonly known as "round shoulders." In this defect the upper part of the spine is curved to excess, the collar-bones and the shoulders stoop forwards over a very hollow chest and the head is carried in that peculiar way, with the chin sticking out, which is called the "poking chin." All the features of a poor development of the chest with its bad consequences are here present.

In a few words: The enforced physical inactivity of the children during School-life, coupled with the bad positions assumed by them on the forms, is liable to cause defects in their physical development, predisposing to serious disturbances in the health of the scholars. The question then arises: Does the School possess any means to counteract the said unfavourable conditions and so minimise or eliminate the dangers? Unhesitatingly: Yes. And these are Physical Exercises systematically carried on, not for play, nor for show, but as a part of the School Hygiene for the benefit of the children; in short, Physical Exercises so systematised as to deserve the name of Physical Education.

II.—GYMNASTICS, A MEANS TO PHYSICAL EDUCATION.

Granted the necessity for Physical Education in the school, the means to attain the same remain to be considered.

Sports and Games.

Outdoor Sports and Games provide excellent opportunities for physical development—not to mention their strongly beneficial influence upon the formation of character—but they cannot always be had. They require longer time than can be afforded out of the school-hours, particularly at the present time when so many subjects have to be taught. Large and well-arranged playgrounds or open fields are necessary for their proper enjoyment, conditions unattainable for most town-schools. They are also too exclusive to be of advantage to all the children, as they tend by their very nature to exclude the weak, just those who more than the others want exercise in order to acquire the development which they lack for one reason or other. They should, however, be practised as extensively as possible, forming, as they do, under careful supervision, a valuable means to physical development.

Gymnastics form a substitute for these kinds of exercise, and one that will meet both the educational and hygienic requirements, when practised in a suitable manner and with due regard to the end in view.

The term "Gymnastics" has the disadvantage of having been greatly used and mis-used, almost anything in the way of artificial movements or acrobatic tricks passing under this name, and it is therefore liable to be misunderstood. For use in the School the gymnastic exercises must be carefully sifted and considered from one point of view only: the physical well-being of the children.

Gymnastics is "*the science of bodily exercises and their practice in accordance with the natural laws and requirements of the human organism.*" This definition excludes every movement which has not a bearing upon and a reason for existence in those natural laws; laws which tend to the development and the maintenance of harmony between the different parts of our system, the result of which is *Health*.

*Definition of
Gymnastics.*

The aim of physical exercises in the school is therefore a harmonious development of the body, that is, "where all the different parts and organs are fully developed according to their own natural purposes and faculties, acting in co-ordination between themselves and subordinate to the will of the individual."

*Definition of
Harmonious
Development.*

To attain this the dangers of a sedentary school-life must first of all be averted. The exercises should therefore be distinctly *corrective*, so far as to widen the chest, straighten the spine, and secure a correct carriage of the head and shoulders. Great attention should be paid to their effect upon the respiratory and circulatory organs. Gymnastic movements are the means to this end; but they are not in themselves the end, for if so regarded they may lead to faulty developments and injuries to vital parts. Professional acrobats and "gymnasts,"

*Corrective
Exercises.*

who invent and practise movements for appearances' sake only, and in order to astcnish an unthinking public, are by no means amongst the healthiest of people.

*One-sided
Development.*

In further explanation of the word Harmonious as referring to physical development, some instances may be mentioned of its opposite, which may be called *one-sidedness*, that is, not only where one side of the body is more developed than the other, but where one set of muscles or other organs have been developed to excess and at the expense of other parts.

The Fencer.

As an example of a true one-sided development, sometimes amounting to real lop-sidedness, take a foil-fencer, who always handles his weapon with the right hand and lunges with the right foot. In time the muscles on the right side of the body become considerably larger and stronger than those on the left, the spine acquires a lateral curvature, and a marked difference between the two sides of his chest is apparent. So well known is this that the masters of the art used to glory in this defect, and often in their portraits had the dissimilarity of the two sides of the body carefully accentuated.

The Bicyclist.

Another example of one-sidedness is furnished by the injudicious bicyclist, with an enormous development of legs and an equally marked neglect of the rest of the body. With crooked back and sunken chest he works his way along, panting for breath, oblivious of everything except speed. The result is often a permanent injury to the heart through overstraining, and always a bad position of the body, retained even off the machine.

*The
"Gymnast."*

In the opposite way does the professional "Gymnast" succeed in deforming his body. By always exercising his

arm- and shoulder-muscles in constant, and almost exclusive, practice on the parallel and horizontal bars, the trapeze or the rings, the upper part of the body becomes too heavily and coarsely developed, compared with the lower. The pectoral muscles draw the collar-bones forward, the muscles on the back, both underneath and over the shoulder-blades, get thick and stiff, which prevents the free movement of the shoulders and arms; and in the end he resembles in appearance the weakly, undeveloped person with a flat chest, poking chin and round shoulders, instead of the type of manly beauty that might have been expected in a "Gymnast."

These different types of one-sided development show their deformity plainly enough. But a man may look ^{*The*} "Strong Man." the very picture of health and strength, with every muscle developed to the utmost, and may moreover be able to show by performing "feats of strength" that appearances are for once truthful. Some day, however, this very man, so strong and robust in appearance, is attacked by illness, breaks down, wastes away, and dies in a short time. His heart or lungs, or perhaps both, have failed. Simply another case of "one-sided" development, this time of the muscular system to the detriment and overstrain of internal organs. The heart particularly is liable to injury in this way when its natural work in propelling the blood through the body is excessively increased by an abnormal mass of muscle.

These are telling examples which occur every ^{*Deductions.*} day. At the same time it must be understood that these various modes of exercise are not to be decried—be it fencing, bicycling or "gymnastics"—nor must it

be forgotten that many derive great benefit from their practice. It is the *injudicious* use of them, when they are done for their own sake only and without any forethought as to their suitability for the system, that becomes dangerous and may lead, not only to a defective development of the body, but even to injurious deformities.

A harmonious development, the true aim of rational gymnastics, cannot be produced either by a purely muscular development or by learning to perform some mechanical movements or artificial tricks. The educator must also bear in mind that growing individuals are far more amenable to influences of the kind mentioned than grown-up persons. The natural course in growing has therefore to be taken into consideration. Attempts to "form muscle" in a child result in stunting and arresting its growth, whereas the building up and tending of the framework, the skeleton, is the first consideration with the young. To attain this development with its outward signs—a wide, healthy chest and a straight spine—is the aim of physical exercise.

III.—PHYSIOLOGICAL CONSIDERATIONS.

There is not space in a short treatise like the present of a very wide and important subject, to go into the Anatomy and the Physiology of the body at great length. But some reference must be made to these sciences in their relation to Physical exercises in order to whet the student's appetite for more thorough self-study.

The skeleton forms a general framework or scaffolding, *Skeleton.* upon which the whole configuration of the body depends. The bones serve as levers, upon which the muscles act to execute the movements commanded by the will. They must not, however, be considered as the dead, dried-up specimens seen in museums, but as living structures—with the blood, giving nourishment and carrying away waste products, coursing freely through them—amenable to changes of different kinds caused by external influences. Hence the necessity to pay attention to the bone structure and the possibility of directing its growth in a beneficial way.

On account of the physiological course of the development of the skeleton this attention is particularly important during childhood. Bone is not formed all at once in its final hardness and strength, but develops gradually from softer tissues, cartilage, &c. At birth there is scarcely a hard bone in the human body. Ossification (the formation of bone) takes place with growth and is not

completed until a later period. Thus, the thigh-bone (femur) is not completely ossified till about the 21st year; the ribs about the age of puberty; the breast-bone (sternum) not until about 30, and so forth, leaving therefore during school-life full opportunity for the directive and corrective influences of Physical exercises, judiciously carried out. Herein lies the explanation of the ease with which the bearing and carriage of children take impression from, and improve by, regulated rational gymnastics. It is also a reason why osteology should be studied by every Educationist, and particularly by those who have the Physical well-being of the children at heart.

Joints.

A knowledge of the joints is essential in determining the true course and limits of the movements. Otherwise errors may arise as to where a movement really takes place, and consequently as to its effect. For instance, on raising the arm sideways to the horizontal position (Yard-standing pos. Fig. 20) the movement takes place in the shoulder-joint; but in continuing the movement, raising the arm vertically beside the head (Stretch-standing pos. Fig. 21), there is no further movement in the shoulder-joint, the movement being executed by the rotation of the shoulder-blade (scapula) upon the back of the chest, as evidenced by its lower angle pointing outwards instead of downwards, when the movement is completed.

The decided influence of exercises and postures on the bones is well recognised by many, and a few opinions upon the subject are worth quoting. Arbuthnot Lane says:—"Not only do the forms of the bones of the human skeleton vary with such movements as are per-

formed habitually, or with such routine attitudes as are assumed by the vigorous individual, but so also do the details of the structure and the functions of the several joints.

"If an individual is habitually engaged in performing a certain movement or sequence of movements of activity, the form of skeleton varies from the normal in a degree which is proportionate to the length of the period during which the movement has been performed and to the amount of energy expended in the act. During a single performance of activity there are present numerous tendencies for the bones and joints to undergo changes in form. The constant repetition enables the tendencies to become actualities." Could any clearer indication be given for the frequent use in school of well-corrected physical exercises? On the change in the bone structure effected by muscular work Lagrange says: "The bones themselves become adapted by an increase in size and density to the more energetic work of the muscles attached to them." Brücke finally gives his opinion: "Upon the skeleton depends the beauty of the human stature."

On the importance of the muscles and muscular exercises, and the dangers of a too sedentary life, enough has been said already. A few words may be added on the general working of these organs.

The muscles act upon the levers formed by the *Muscles.* skeleton to execute the movements commanded by the will. The impulse to action is conducted from the brain through the nerves to the muscles, involving activity in the nervous as well as in the muscular system, and conducive to benefit for both.

The creation of heat in the muscles is of equal importance to their mechanical work, for it constitutes the principal source of warmth in the body. Heat is produced in the muscle even when at rest, the temperature there being higher than in the blood, carried to it by the arteries. In contraction, *i.e.*, during activity, more heat is generated, varying in proportion to the energy expended. Like all organic structure, the muscles are intimately dependent upon the state of the circulation of the blood, and upon the respiration.

Notwithstanding all that has been said about the importance of muscular exercises, they must be practised with care and judgment, so as not to cause injury instead of giving benefit. The muscles must not be overworked. Especially dangerous is this in the case of children. Dr. Lauder Brunton, speaking of the influence of muscular exertion upon the heart, says:¹ “. . . When the exertion is over-continued it may lead to permanent mischief. More especially is this the case in young growing boys, and it is not merely foolish, it is wicked to insist upon boys engaging in games or contests which demand a long-continued over-exertion of the heart, such as enforced races and paper chases extending over several miles.”

With children the skeleton, the framework of the body, is of paramount importance, but the muscles only in so far as they contribute to and affect the shaping of the whole. The development of “muscle,” in the athletic sense of the word, does not commence till a later age, a period when the child has already left school.

¹ Harveian Oration, 1894.

A boy or girl, just before the age of puberty, looks angular and loose-jointed, with a certain awkwardness of movement, whereas a few years later the shape is more rounded, the movements better balanced and the whole body knit together and united. The time for the development of muscle having arrived in its natural course, it has taken place and effected the change. But the endeavour to develop "muscle" in too young subjects results in a stunted growth, short stature, and may, as pointed out before, lead to permanent injury to the heart.

The motory apparatus of the body—the muscles and bones—acts by a stimulus supplied by the will, through the medium of the nervous system: the brain, spinal cord and the nerves. Speaking on the connection between muscular and brain-work Lagrange says: "The brain is as indispensable an organ for the performance of voluntary movements as for the accomplishment of mental work, and we must not attribute exclusively to intellectual occupations the privilege of making this organ work. Bodily exercises bring it into action every time they call for the intervention of the will." *The Nervous System.*

Thus do bodily exercises act upon both the muscular and nervous systems to mutual improvement.

When speaking about the necessity for physical education in the school the great importance of a capacious chest and sound lungs was duly emphasised. These organs deserve in their intimate connection with the circulation to be especially studied, as the systematic application of gymnastics for educational purposes largely depends upon a thorough knowledge of them. *Respiration and Circulation.* The most prominent points will here be given.

Physiology teaches that nourishment is carried to every part of the body, and waste products eliminated therefrom by and in the blood. The blood circulates through the body by means of the organs assigned to this work—the heart and the various blood vessels—the course it pursues being roughly as follows:—From the heart the blood is propelled into the system through the arteries, fresh, red, “arterial,” carrying life and nourishment to the different parts. Having fulfilled this mission it returns to the heart through another set of blood vessels—the veins—laden with waste products from the tissues, dark in colour, “venous.” It is now practically useless for the further sustenance of the body. But from the heart it is again propelled, this time to the lungs. It is here, so to speak, brought into contact with the air, whence it obtains a fresh supply of oxygen, at the same time getting rid of the waste products and the carbonic acid with which it is charged; and it then returns once more to the heart, fresh and bright in colour, fit again to supply the tissues in the remotest parts of the system with new life.

The construction of the lungs, where this revivifying process takes place, the air-cells in them with their minutely thin walls through the capillaries in which the blood flows and the exchange takes place—in fact the details of the arrangement—can be studied elsewhere and need not take up space here. Knowing the fact is sufficient to appreciate the importance of *developing these organs*, so as to afford the greatest opportunity and facility for these interchanges of air upon which life itself depends.

In order to comprehend rightly the movements and

exercises which tend to produce this desired result, the mechanical construction of the chest and the chest-walls must be gone into.

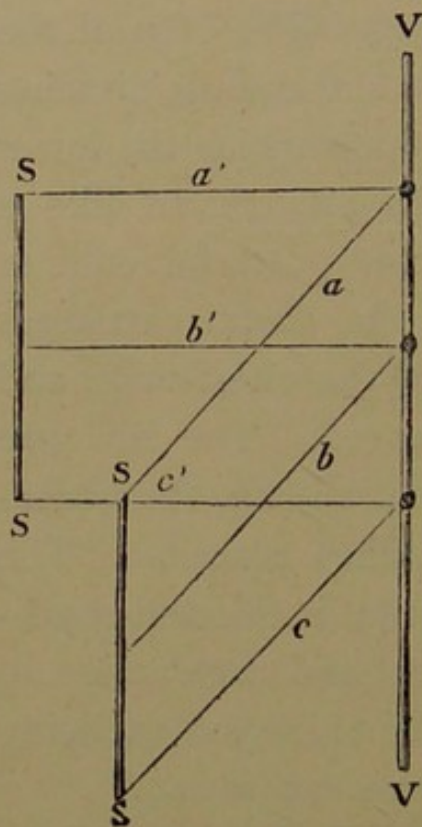
The chest forms a hollow cone with the point upwards; its back is the spine, its front the breast-bone (sternum) and its sides the ribs. It contains the heart, the large blood-vessels and the lungs. The base of the cone is formed by the diaphragm, a flat muscle dividing the chest from the abdomen and upon which the lower part of the lungs rests. The ribs are curved like a bucket-handle and affixed with their posterior ends to the sternum. In the latter case the costal cartilages intervene, whereby the elasticity of the chest-walls and the mobility of the ribs is increased. The ribs are movable, and it is through their motion that the widening and narrowing of the chest takes place. "The ingress and egress of air to the lungs is effected rhythmically by the alternate enlargement and contraction of the cavity of the chest, the act of enlargement being termed inspiration, that of contraction expiration."

*Mechanics of
Respiration.*

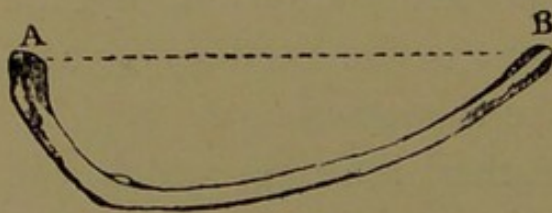
"In inspiration the chest is enlarged both in the transverse and the antero-posterior direction by the elevation of the ribs. The spine is fixed and serves as a fulcrum for the ribs, which are the levers.

"At the moment of inspiration, the ribs, which you must remember are oblique, are raised by the intercostal muscles. The centre of motion being at the spine, it is plain that the more nearly the ribs become horizontal, the greater will be the distance between the spine and the sternum. Thus let the line V V in the fig. represent the spine; the line S S the sternum, *a, b, c*, three ribs in their oblique position and *a' b' c'* the same ribs elevated.

It is obvious that by raising the ribs we increase the distance between the spine V V and the sternum S S. The same diagram proves that, when the ribs are raised, the intercostal spaces are widened; that is, a perpendicular let fall between two ribs is longer when the ribs are raised than when they are depressed.



“Now when the ribs rise, they describe a rotatory movement around an imaginary axis, as shown at A B, which unites their vertebral and sternal ends. In consequence of this rotation on its ends the external surface of the rib, which looks downwards and outwards when at rest, looks directly outwards when raised. Thus the transverse diameter is increased.”
—*Holden's Osteology*.



In addition to this comes the action of the diaphragm. This muscle when at rest forms an arch with the convexity upwards. In inspiration it contracts, becomes flattened and

thus increases the diameter of the chest from above downwards. In fact the space within the chest-walls increases in every direction during the act of inspiration. A natural expiration is effected principally by the elasticity of the lungs, the costal cartilages and the chest-walls generally.

Besides the elevation of the ribs in inspiration, other "co-ordinate" movements take place in forced breathing; the spine is straightened, the head thrown back, the shoulders braced outwards and backwards, all in order to afford the greatest mechanical advantage to the muscles performing the act.

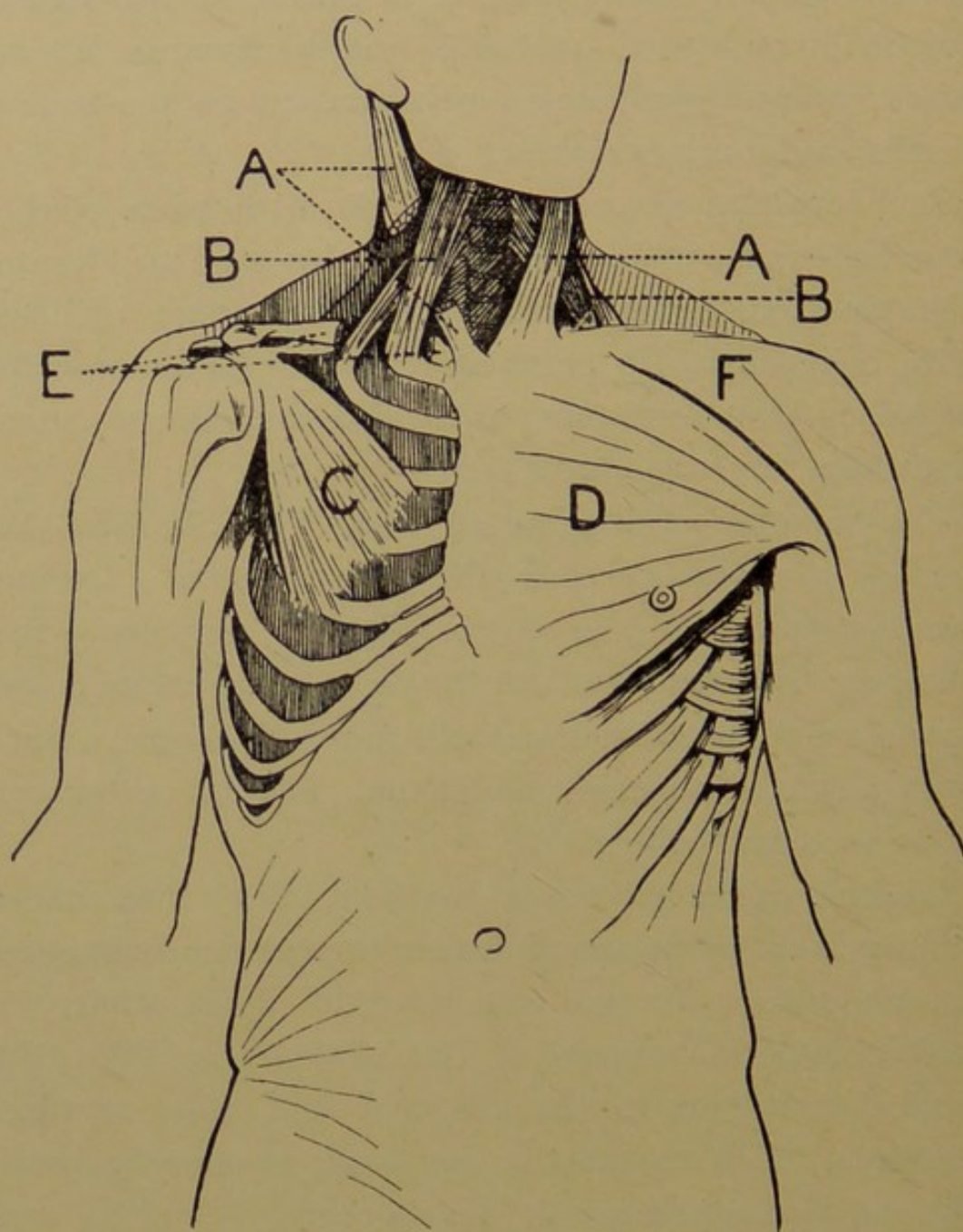
Such muscles as connect the ribs with parts of the spine above or with the shoulder-blades tend to elevate them and consequently assist in inspiration. Those again connected with parts of the spine below or with the pelvis tend to depress them and therefore assist in expiration.

The muscles of inspiration are: The Scaleni, the Levatores costarum and the Intercostals. During forced inspiration—as after physical exertion—the following muscles are also brought into action: the Sterno-cleido-mastoid, Pectoralis minor, Trapezius, Serratus posticus superior, Rhomboid, and the extensors of the vertebral column.

Looking at the position of these muscles—their origin and insertion, by means of which their action is studied and understood—it will be found to affirm what has been pointed out above. The scaleni go from the cervical vertebræ to the 1st and 2nd ribs, serving, therefore, when the *head is kept erect*, to elevate these ribs and through them the whole chest. The levatores costarum spring each from the transverse processes of a dorsal vertebra to the rib below it, acting so as to raise the posterior part thereof; and the external intercostals go from each rib above in an oblique direction forwards, downwards to the rib below.

In forced inspiration additional muscles participate and the inspiratory movements are extended.

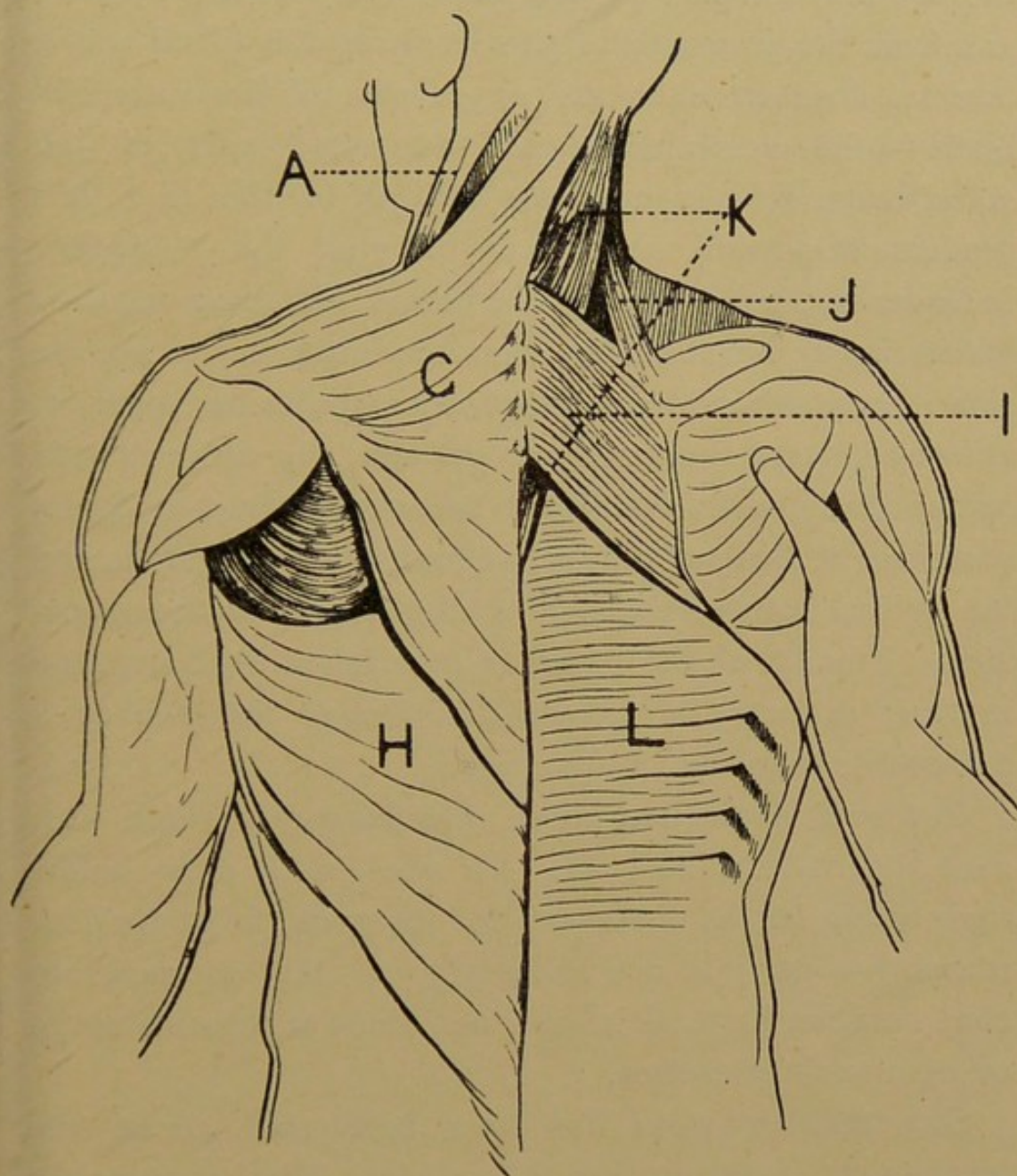
The sterno-cleido-mastoid muscles go from the mastoid process at the base of the skull—the bony pro-



A. The Sterno-cleido-mastoid muscles (cut through on the right side to show the Scaleni). B. The Scaleni. C. Pectoralis minor. D. Pectoralis major. E. Clavicle (cut away to show underlying parts). F. Deltoid.

tubercle behind the ear—slantingly forwards—downwards to the upper part of the breast-bone and the

collar-bone. They act, *when the head and neck are kept well erect*, to elevate and widen the chest. The smaller pectorals spring from the coracoid process of the



G. Trapezius. H. Latissimus dorsi. I. Rhomboid. J. Levator ang. scapulæ. K. Splenius colli. L. Serratus post. inf.

shoulder-blade and are inserted on the front of the chest upon the 3rd, 4th and 5th ribs, elevating them and expanding the chest, *when the shoulders are carried well back*.

Therefore: *keep the head up, draw the shoulders back*—two cardinal rules in gymnastics. The trapezius is situated on the back of the neck and shoulders. It originates at the lower back part of the head—the occipital ridge—and from the processes of the cervical and dorsal vertebræ; it is inserted on the upper part of the shoulder-blade—the acromion—and the outer part of the collar-bone. It is nowhere affixed to the ribs, but renders important service in drawing the shoulders backwards, thereby fixing the points for those muscles which from the shoulders act upon the ribs. To the same purpose serve: the serratus posticus superior, which connects the 2nd, 3rd, 4th and 5th ribs with the spines of the last cervical and two or three upper dorsal vertebræ; the rhomboid, between the shoulder-blade and the spine, both strengthening the action of the trapezius. Finally, all the extensor muscles of the back tend in their ordinary action of *straightening the spine* to a powerful expansion of the chest.

In forced expiration those muscles assist which connect the ribs or the chest as a whole with parts below their origin on the chest—as for instance the abdominal muscles—but it is not necessary to take this act into consideration here, as it does not come within the scope of gymnastic exercises.

Summarising what has now been said about the mechanism of respiration, it is evident that all exercises which serve to maintain the head erect, the shoulders well back and the spine straight give the greatest advantages for a full and free respiration. With a poking chin, stooping shoulders and a crooked back the power of strong and efficient breathing is gone. The in-

creased strength and efficiency of the respiratory exercises is not the only advantage, but increased mobility, elasticity and suppleness of the chest-walls result as a natural consequence. Everybody knows the advantages of supple limbs. Let it be remembered that it is equally useful to possess a "supple" chest, capable of expansion in response to the wants of heart and lungs when called for by violent or long-sustained physical efforts.

That exercises conducive to this end should be zealously practised is clear. But every gymnastic exercise should be done under conditions of full and free breathing. An exercise which does not permit this is *bad* educationally and should be eradicated. In fact, *every gymnastic exercise rightly executed is a respiratory movement.* Comp. page 86.

IV.—DESCRIPTION OF EXERCISES.

Terminology. Distinction must be made between the *names* of the movements and the *words of command*. The latter are simple directions to the pupils for the execution of exercises; the former serve as a guidance in the study of the science of Gymnastics and a help to the Gymnastic teacher, who, given the name of an exercise, will without difficulty be able to give the words of command to his pupils for the execution of the exercise. Numerous instances of this will be found in the following pages.

In order to understand the Terminology of Gymnastics a thorough knowledge of the subject is of course necessary.

The Terminology consists of certain accepted names of exercises, expressing :

(1) The position of either the whole body, as : *standing, sitting, hanging, &c.*, or of parts thereof as : *wing, close, stoop, &c.*

(2) The names of the different parts of the body to be used as : *Arms, Feet, Trunk, &c.*

(3) The actual execution of exercises, as : *bending, stretching, raising, &c.*

Every gymnastic exercise must be fully decided as to form and effect; to secure this a distinct position from

which to start is necessary. This "starting-position" changed, form and effect change likewise. It is therefore of paramount importance to have the starting-position faultlessly correct before commencing the exercise.

The first and principal position is the "Fundamental" or "Standing"-position from which the other positions are derived and upon the correctness of which they greatly depend.

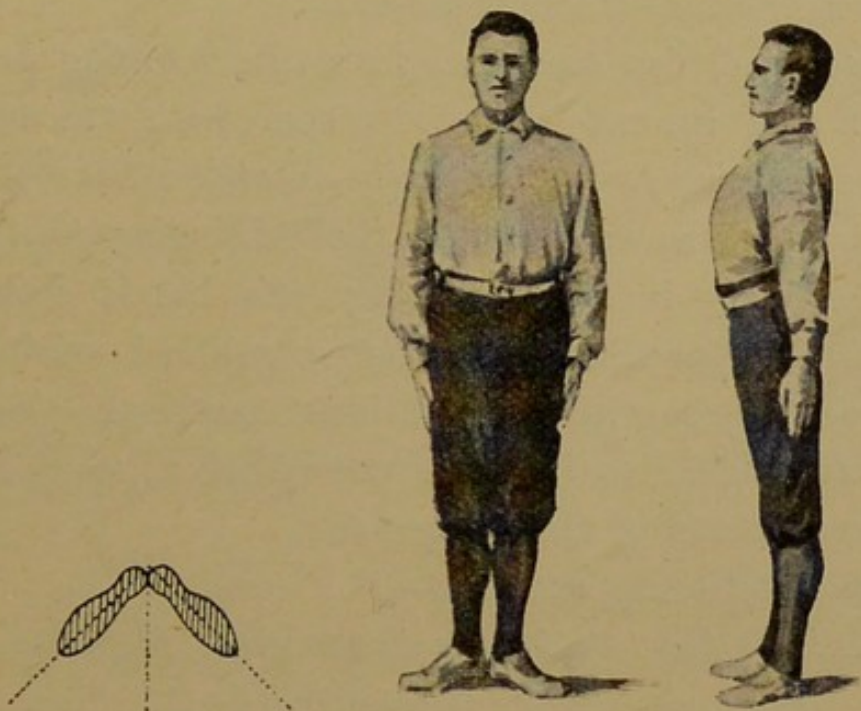


FIG. 1.
Fundamental position.
(Front- and side-view.)

Fundamental position. — The heels together, feet *Fundamental Position.* equally turned out and at right angles to each other, knees straight without stiffness, trunk right over hips, chest brought well forward, shoulders drawn back and lowered, arms left to their own weight, palms towards the thighs and lightly touching the same, fingers slightly bent and the head well up. The whole body upright, and in full balance. Fig. 1.

The command for this position is *Attention!* when commencing a lesson, or if the pupils are standing at ease; but *Position!* when the Standing position should be regained after an exercise.

The "Fundamental position" is generally referred to as "position" only, or else signified by the word "*Standing*" (*St.*). As for instance: *Standing Armstretchings* (*St. A.str.*), meaning Armstretchings executed with the body in the fundamental position.

Exercises are also executed from the "*Sitting pos.*": sitting on the ground or a low seat with the spine erect; the "*Lying pos.*": the body extended flat on the ground, back downwards; and the "*Hanging pos.*," in which the body is suspended by the hands from a bar or similar appliance. Other combined positions will be described with the various exercises. Some of the terms used to indicate the relative position of the different parts of the body are:

Referring to the upper limbs—

Wing = *Hips firm!* the hands on the hips. Figs. 2, 3, &c.

Rest = *Neck firm!* hands behind the neck. Fig. 34.

Bend = *Arms upward bend!* elbows close to the sides, fingers pointing towards the shoulders. Fig. 18.

Yard = *Arms sideways stretch!* Arms held straight out sideways, level with the shoulders, palm downwards. Fig. 20.

Reach = *Arms forward stretch!* Arms parallel forwards, level with shoulders, palms inwards. Fig. 19.

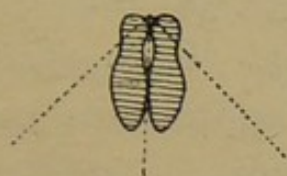
Stretch = *Arms upward stretch!* Arms parallel upwards, palms inwards. Fig. 21.

Referring to the lower limbs:

Close = *Feet close!* inner side of feet close together.

Stride = *Feet sideways place!* Feet placed sideways, two footlengths apart.

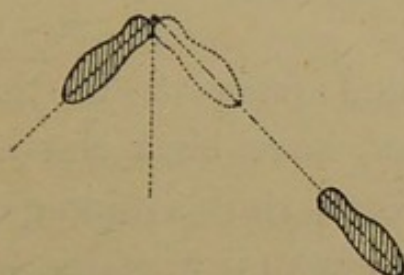
Walk (a) = *Left (or right) foot outward place!* The foot placed two footlengths outward, in its own direction.



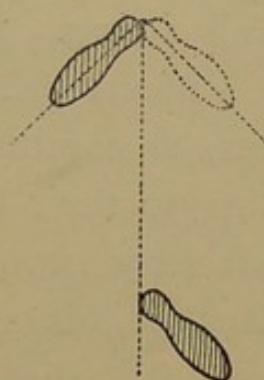
Close = Feet close!



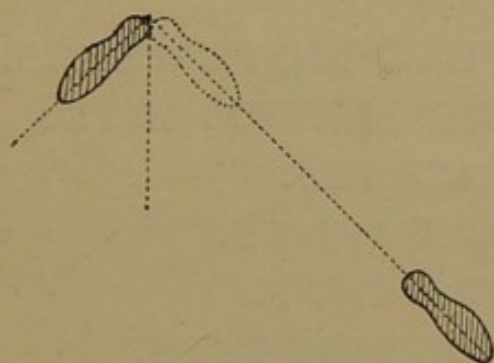
Stride = Feet sideways place!



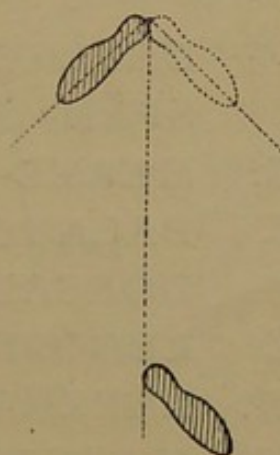
Walk (a) = Left (or right) foot outward place



Walk (b) = Foot forward place!



Lunge (a) = Lunge!



Lunge (b) = Forward lunge

Walk (b) = *Foot forward place!* The foot placed two footlengths straight forwards.

Lunge (a) = *Lunge!* The foot placed as in walk (a), but *three* footlengths.

Lunge (b) = *Forward lunge* ! The foot placed as in walk (b) but *three* footlengths.

Referring to the Trunk :

Arch = *Trunk backward bend* ! Figs. 11, 12.

Stoop = *Trunk forward bend* ! Figs. 38, 39, 40.

Turn = *Trunk to the left (or right) turn* ! Figs. 55, &c.

Fall = The body leaning without appreciable bending of the spine forwards, backwards, or sideways. Mostly used in combinations as : Stoop-falling. Fig. 47. Fall-sitting. Fig. 50.

The various exercises executed from or in these positions, or combinations thereof, have been classified according to their functional effects, thus avoiding the unsatisfactory grouping of movements according to apparatus, as dumbbell-exercises, bar-exercises, ring-exercises, &c., &c., which gives no clue whatever to the use or effect of the exercises upon the system. The names given to these classes are :

- I. DEFLECTIVE LEG MOVEMENTS.
- II. SPAN-BENDING MOVEMENTS.
- III. HEAVE MOVEMENTS.
- IV. BALANCE MOVEMENTS.
- V. DORSAL MOVEMENTS.
- VI. ABDOMINAL MOVEMENTS.
- VII. LATERAL MOVEMENTS.
- VIII. MARCHING.
- IX. JUMPING AND VAULTING.
- X. RESPIRATORY MOVEMENTS.

This also represents the order in which the exercises should follow each other in the daily lesson.

Before commencing to describe the exercises ranging

under these headings, some other exercises of mainly disciplinary value must be mentioned, which are introduced to make the instruction practicable for large numbers at a time.

Ordermovements.—A lesson always commences with some *Ordermovements*. Such are the formation of the squad on the command: *Fall in!* or some sign from the teacher, as blowing a whistle, clapping the hands, or other recognised signal; the practice of *Attention* and *Stand-at-ease*; *dressings* right and left; *marching* with one, two or three steps forwards, backwards or sideways; *turnings* in the rank; *numbering off* into twos or threes; opening of the ranks, and different formations of the squad in one, two or three ranks, in front- or flank-position, &c., as the exigencies of space or other considerations may demand.

Thus a lesson begins: (*In one, two or three ranks*) *Fall—in!* The right flank man should first be chosen and placed by the teacher, the others range themselves quickly and without pushing to the left of him.

Attention! perfect stillness in the ranks, everyone assuming Fundamental pos. Fig. 1.

Stand-at-ease! the right foot is placed a short foot-length forward and easy posture assumed. Practise *attention* and *St.-at-ease* two or three times.

Attention!

Eyes—right! all (except the right flank man) turn their heads quickly to the right, looking along the rank.

Dress! with short and quick steps the ranks are straightened and distances taken. The distance between the pupils should be a hand's breadth at the elbows. *Dressing.*

After practice the turning of the heads and the dressing are done on one command : *Right—dress !*

Eyes—front ! the heads are turned sharply forwards again.

One (two or three) step forward—march ! Beginning (as always in marching) with the left foot, take without hesitating or waiting one (two or three) step forward, counting to *two (three or four)*, viz., *one (two or three)* for the step and *two (three or four)* for the bringing up of the rear foot to the front one, *i.e.*, the *Halt*. Similarly backwards, but shorten the steps somewhat.

In this close order stepping sideways is obviously impossible, but in open order (see below), it is done on the command :

One step to the left (right)—march ! The left (right) foot is placed about two footlengths to the left (right) and the right (left) smartly brought up beside it. Two or three steps to the side simply means so many repetitions of one step, as the feet cannot pass each other, and the movement, therefore, cannot be continuous as in ordinary marching forwards or backwards.

Turnings. The ordinary military turnings may be used if preferred. Those generally practised in educational gymnastics are somewhat different, being simpler and, when well taught, smarter and quicker than the others.

Left (right)—turn ! Pivoting on the left (right) heel and supporting the body in balance with the ball of the right (left) foot, turn 90° to the left (right); this done, bring the right (left) foot smartly up to the left (right), heels together, toes pointing outward and at right angles to each other. Keep the hands still, the head erect, the shoulders square and the body upright in the turnings.

Half-left (right)—turn! Exactly similar except that the movement is only made through 45° instead of 90° .

Left (right) about—turn! On the same principles turn right round— 180° . Keep the balance.

When instructing beginners divide these turnings in two parts as indicated, thus: *Left—turn!* turn on the left heel, bringing the left foot into the new position, the right foot remaining with the toe on the ground and the heel lifted;—*two!* bring the right foot smartly up to the left, heels together and toes out at right angles. After practice the whole movement is done sharply and quickly at once without any interval between the two parts.

From the right—number! Commencing with the right flank man each one turns his head sharply to the left calling out—*one!*—*two!* alternately, whereupon the head is quickly turned forward again. This is done by the front rank only, the rear rank (or ranks) paying attention and taking the same numbers as those in front. *Numbering off.*

Right turn!

Open ranks—march! each rank takes a step to its own side. *Open order.*

Even numbers, one step to the right—march! The twos in both ranks take a step to the right. This is the simplest formation in *open order*, the squad now standing in flank position with the pupils zig-zag and with sufficient space to perform the exercises without hindering each other. Variations in formation may be made by arranging the squad in three ranks from the beginning, then opening by commanding: *first rank two steps forward, rear rank two steps backward—march!* also by numbering off in *threes* instead of in twos, by taking two steps

sideways in opening instead of one and so forth ; differences that must depend upon the size of the squad, the size or shape of the room and other circumstances in which the teacher must use his judgment. For a squad of moderate size the formation in two ranks, numbering off in *twos*, turning and opening in flank position will be found sufficiently convenient.

Some of the simplest legmovements may also be used as ordermovements, *e.g.*, No. 1, feet closing and opening ; No. 4, footplacing sideways, &c.

To close the ranks : *Left turn ! Even numbers, one step forward—march ! Rear rank, three steps forward (or Close-ranks)—march !*

I. Deflective (or Slow) Leg-Movements.—These exercises are *executed* by the muscles of the legs and the feet, principally those of the thigh and the calf. They *act* upon the large blood-vessels of the lower extremities, and through them upon the circulation generally, “deflecting” the blood-current from the neighbouring internal organs and regulating the heart-beat.

NOTE.—Not every movement of the legs is—in the Gymnastic sense—a leg-movement, or else all Balance-movements, Marching and Jumping would be grouped as such. The physiological effect of a true leg-movement should be “deflective” in the sense indicated above ; and this effect is attained by a slow, measured *tempo* in the execution of the exercise. Quick leg-movements, such as running and jumping, have the opposite effect—of increasing the frequency of the heart-beat—and find another place in the daily time-table.

PREPARATORY LEG MOVEMENTS.

1. **Standing Feet-closing and -opening** (St. F.cl. & op.) Command: *Feet—close! Feet—open!* Description: Resting upon and rotating on the heels, bring the inner side of the feet close together and out again to the right angle.

2. **Standing Foot-placing Sideways** (St. F.pl. sidew.) *Feet sideways—place! Feet together—place!* Commencing with the left, place the feet sideways, one footlength to each side. Distance between the feet = two footlengths (see p. 31).

3. **Standing Foot-placing outwards** (St. F.-pl. outw.) *Left¹ foot outward—place! Feet—change! Position!* The left foot is placed in its own direction two footlengths outward; the knees straight, the weight of the body resting equally on both legs. See p. 31. In changing: first bring the left foot back in *position*, then place the right outwards.

4. **Standing Foot-placing forward** (St. F.pl. forw.) *Left foot forward—place! Feet—change! &c.* The foot is placed two footlengths forward, the weight of the body equally on both legs (see p. 31).

TRUE DEFLECTIVE LEG MOVEMENTS.

5. **Standing Heel-raising** (St. Heel-raïs.) *Heels—raise! Heels—sink!* Keeping the heels together raise up on tiptoe and sink slowly down again. Fig. 2.

6. **Close-standing Heel-raising** (Cl.st. Heel-raïs.) A combination of the two previous movements.

¹ Always commence with the *left* in alternate movements.

7. **Stride-standing Heel-raising** (Strd.st. Heel-rais.)
Feet sideways—place! Heels raise!

8. **Walk-standing (a) Heel-raising** (Walkst. (a) Heel-raising)
Left foot outward—place! Heels—raise! Heels—sink! Change position of feet and repeat.

9. **Walk-standing (b) Heel-raising** (Walkst. (b) Heel-raising)
Left foot forward—place! Heels—raise! Heels—sink! Change and repeat.



FIG. 2.

¹ Wing-standing Heel-raising;
 or, Wing-toe-standing position.

10. **Standing Alternate Toe-raising** (St. alt. toerais.)
Alternate toeraising—begin! Halt! Keeping the heels on the floor the toes are raised alternately and smartly in marching time, beginning with the left and continuing till halt is commanded.

¹ Where there are two names to a fig., the first signifies the exercise itself, the body in motion; and the second the position in which the fig. is depicted, the body stationary.

11. Standing Alternate Heel- and Toe-raising (St. alt. Heel- and Toe-rais.) *Heel- and Toe-raising—begin!* Alternately raising the Heels and the Toes from the ground, the movement is continued till *Halt!* is given.

12. Wing-(later Rest- or Stretch-) standing Kneebending (Wingst. Kn.bend.) *Hips—firm! Heels—raise! Knees—bend! Knees—stretch! Heels—sink! Position!* The Heels



FIG. 3.

Wing-standing Kneebending ; or, Wing-courtesy-standing position. (Front view.)



FIG. 4.

Wing-standing Kneebending ; or, Wing-courtesy-standing position. (Side view.)

are raised well off the ground, the knees are bent outwards to an angle of 90° in the Kneejoint, the body in the meantime being kept quite erect over the hips. This position is called the *Courtesy* (or *Knee-bend*) standing position, and is one of the most important of all Legmovements. Figs. 3 and 4. If it is desired to bend the knees more, *i.e.*, to continue the kneebending as far as the joints allow, the command *Sit!* is given, when the

pupil is in the Courtesyst. position. The position thus attained is called the Courtesy-sitting position. Fig. 7.

13. Wing-stride-standing Knee-bending (Wingstrd.-st. Kn.bend.) *Hips—firm! Feet sideways—place! Heel-raising and Kneebending as before, retaining the distance—two footlengths—between the feet.*

14. Wing-walk-standing (b) Knee-bending (Wing-walkst. (b) Kn.bend.) *Hips—firm! Left foot forward—place! Heelraising and Kneebending as before. Change and repeat. Fig. 5. Weight of the body equally divided between the legs.*

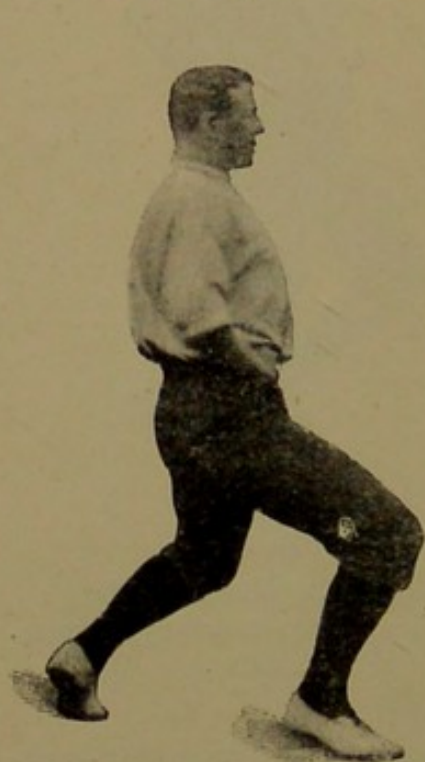


FIG. 5.
Wing-walk-standing
(b) Knee-bending;



FIG. 6.
Wing-walk-standing
(a) Knee-bending.

15. Wing-walk-Standing (a) Knee-bending (Wing-walkst. (a) Kn.bend.) *Hips firm! Left foot outward—place! Heelraising and Kneebending as before, but in the Kneebending keep the weight of the body principally on the posterior leg. Change feet and repeat. Fig. 6.*

16. Wing-standing prepare to jump (Wingst. prep. to jump). *Prepare to—jump!* The same movement as Wingst.kn.bend. (No. 12) done in quicker time, the different parts following smartly after each other. Figs. 2 and 3.

17. Wing-courtesy-standing Head-turning (Wing-court.st. H.turn.) *Hips—firm! Heels—raise! Knees—bend! Head to the left—turn! forward—turn! to the right*

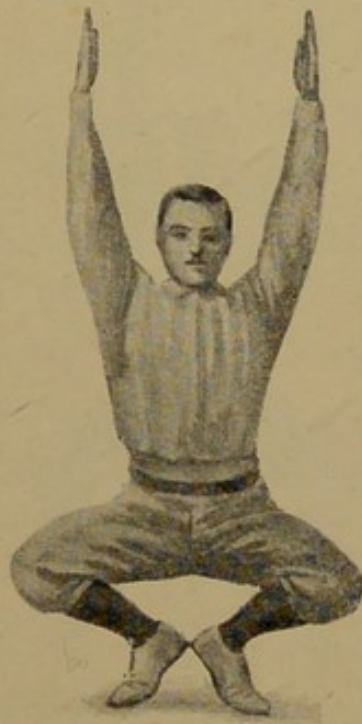


FIG. 7.

Stretch-standing deep Knee-bending;
or, Stretch Courtesy-sitting position.

—turn! forward—turn! Knees—stretch! Heels—sink! Position! The Headturning may be done slowly or quickly, but a good position of the body and full balance must be maintained during the exercise.

18. Stretch-courtesy-standing Arm-stretchings (Str. court.st. A.str.) *Arms upward—stretch! Heels—raise! Knees—bend!* Then arm-bendings and stretchings (up-

ward), after which *position* is regained by : *Knees—stretch!*
Heels—sink! Position!

19. Wing-courtesy sitting Head-turning (Wing-court.sitt. H.turning). Similar to No. 17 with deeper kneebending.

20. Stretch-courtesy-sitting Arm-stretchings (Str.court.sitt.A.str.) Similar to No. 18 with deeper kneebending. Fig. 7.

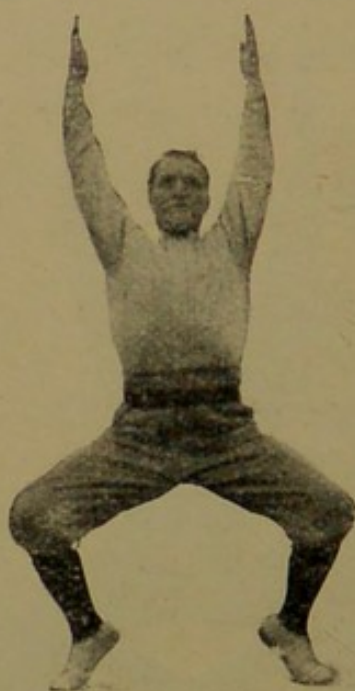


FIG. 8.

Stretch-stride-standing Knee-bending;
or, Stretch stride-courtesy-standing position.

21. Wing-stride-courtesy-standing Head-turning (Wing.strd.court.-st. H.turn.) *Hips—firm! Feet sideways—place!* then Heelraising, Kneebending and Head-turning as in No. 17.

22. Stretch-stride-courtesy-standing Arm-stretching (Str.strd.court.st. A.str.) *Feet sideways (place) and Arms upward—stretch!* Then Heelraising, Kneebending and Armstretching as in No. 18. Fig. 8.

23. **Foot-placings in Series.** A combination of movements 2—4, 7—9 and 12—15. Combine first two directions, then three. Add first Heelraisings then Kneebendings. For inst. *Footplacings forward and outward, left foot—place! On one! left foot forward, two! left foot back in position, three! left foot outward, four! left foot back in position.* Repeat with the right. Ultimately add Heelraising and Kneebending, and let the squad go through the whole series without numbering. This presupposes good co-ordination in the squad, and must be done without quickening the time unduly, as well as with full regard to perfection in form in every part of the exercise.

24. **Knee-bending with Arm-stretching** (Kn.bend.w. A.str.) *Heels raise and Arms upward—bend! Knees bend and Arms upward—stretch! Kneebending and Armstretching—one! stretch knees and bend arms simultaneously—two! bend knees and stretch arms.* The movement is done slowly at first, quickly when a good balance has been acquired.

25. **Wing-lunge-standing** (a) **Foot-changing** (Wing-lungest. (a) F.chang.) *Hips—firm! Left—lunge!* In “lunging” the distance between the feet is about three footlengths (for position of feet see p. 31); the front knee being bent to about a right angle and carrying the weight of the body; the back knee straight, body in a straight line from head to back heel. Fig. 9. *Foot-changing—one!—two! on one! the left foot goes back to position, on two! a lunge is made by the right, &c.* The lunge-st. position can also be taken by placing the foot backwards, thus *Left backward—lunge!* Left foot is placed backward-outward in the line of the right

foot, right knee bent, left knee straight; the position becomes identical with that attained when: *Right (outward) lunge!* is commanded.

26. Wing-lunge-standing (b) Foot-changing (Wing-lungest. (b) F.chang.) *Hips—firm! Left foot lungestanding forward—place! Footchanging—one!—two!* (for position of feet see p. 31). Similar to preceding movement



FIG. 9.

Wing-standing lunge;
or, Wing-lunge-standing (a) position.

except for the difference in the direction. (Compare No. 82, Fig. 42.) Also backwards.

27. Wing-lunge-standing (a) Heel-raising (Wing-lungest. (a) Heelrais.) After the lunge: *Heelraising and sinking—one!—two!* The movement is done with the front foot only, the other foot remaining firmly on the ground. Fig. 10.

28. Lunge-standing (a) Arm-stretchings upwards (Lungest. (a) A.str. upw.) After the lunge: *Armstretch-*

ings upwards—one! two! Keep the body quite steady in the lunge. Hips firm, change and repeat.

II. Spanbendings.¹—The *true* spanbendings are exercises employing almost every muscle of the body. They are difficult to perform owing to the perfect control of the body necessary for their correct execution; and they, moreover, require some sort of apparatus—a wall or living support—in order to produce their full effect, *i.e.*, the strengthening of the thoracic por-

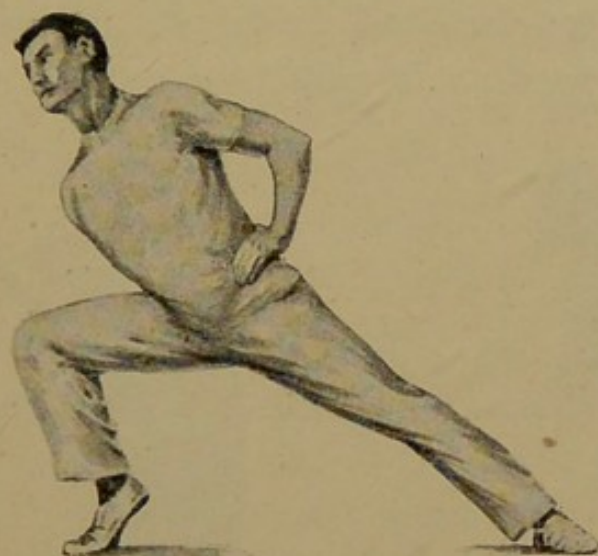


FIG. 10.

Wing-lunge-standing (a) Heelraising.

tion of the spine, with the consequent arching forward and widening of the chest. These exercises, therefore, scarcely find room in elementary gymnastics, particularly where no apparatus is available, but the *preparatory* spanbendings, *i.e.*, trunkbendings backward and easy movements executed in archstanding positions are of the greatest utility, affecting both the spine and the abdomen (compare: VI. Abdominal Movements).

¹ Also called: "Tensebendings," "Archflexions," &c.

NOTE.—Being in the nature of strong and sustained trunkbendings backward, they should always be followed by a corresponding trunkbending forward.

PREPARATORY SPANBENDINGS.

29. Wing-standing Trunk-bending backwards (Wing st. Tr.bend. backw.). *Hips—firm! Trunk backward—bend! Upward—stretch! Position!* Bend in the upper part of the spine, throwing the chest well forward: commence with a slight bending, and increase as the pupils progress. Keep the head well back during the movement. This position is called the *Arch-st. pos.* Fig. 11.



FIG. 11.

Wing-standing Trunk-bending backward; or, Wing-arch-standing position.



FIG. 12.

Stretch-stride-standing Trunk-bending backward; or, Stretch-arch-stride-standing position.

Later do the exercise from close- or stride-standing pos., and with the arms in the *rest*- or *stretch*-position on the same principles. Fig. 12.

30. **Rest-standing, Trunk-bending backwards** (Restst. Tr.bend. backw.) *Neck—firm! Trunk backward—bend! Upward—stretch! Position!* Keep the elbows well back and the chest well forward the whole time, the head drawn back, keeping the chin in. The same movement in *Reststridestanding pos.*, and in *Restwalkstanding (b) pos.*

31. **Wing- or Rest-arch-walk-standing (b) Foot-changing** (Restarchwalkst. (b) F.chang.) *Left foot forward and neck—firm! Backwards—bend!* Then retaining the bending (arch.): *Foot-changing—one!—two!* Repeat two or three times, whereupon regain *Position!*

32. **Bend-arch-stride-standing Arm-stretchings upward.** *Feet sideways and arms upward—bend! Trunk backward—bend! Arms upward—stretch! Arm-bending and stretching—one!—two! Trunk upward—stretch! Feet together and arms downward—stretch!*

33. **Bend-arch-walk-standing (b) Armstretchings-upward.** *Left foot forward and arms upward—bend! Trunk backward—bend! Arms upward—stretch! Arm-bending and stretching—one! two! Trunk upward—stretch! Change feet and repeat.*

34. **Stretch-arch-walk-standing (b) Arm- and Foot-changing** (Str.arch-walkst. (b) A. & F.chang.) *Left foot forward and arms upward—stretch! Backward—bend! Arms and feet change—one!—two! on one!* the left foot is placed back in position and the arms bent; *on two!* the right foot placed forwards and the arms stretched upward, the arch being retained the whole time. Fig. 31. Also with Foot-placing backward instead of forward.

35. **Loin - support - arch - standing Arm - stretchings**

(Loinsup.archst.A.str.) *Arms upward—stretch! Backwards—bend! Armstretchings—one!—two!* The pupils stand with their backs against a support (a bar or the hands of the rear-rank) *touching* it with their loins, but not *leaning* against it. In bending they should press against the support. Fig. 14.

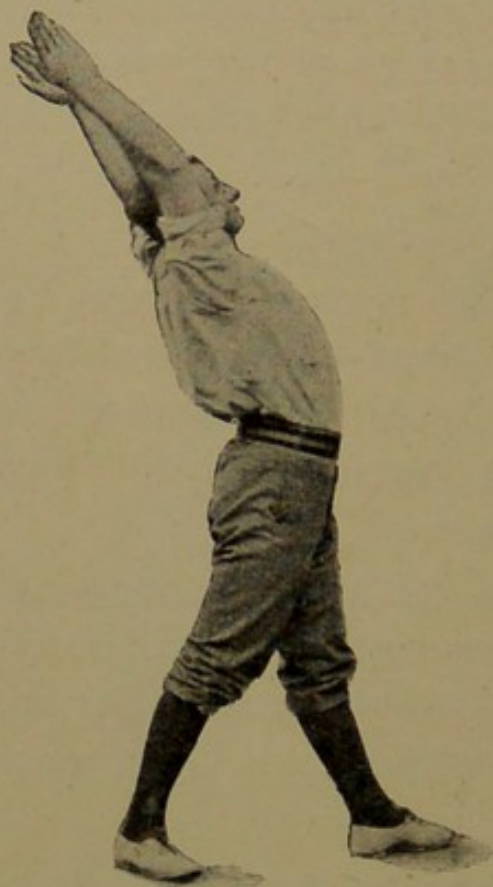


FIG. 13.

Stretch-walk-standing (b) Trunk-bending backward; or, Stretch-arch-walk-standing (b) position.

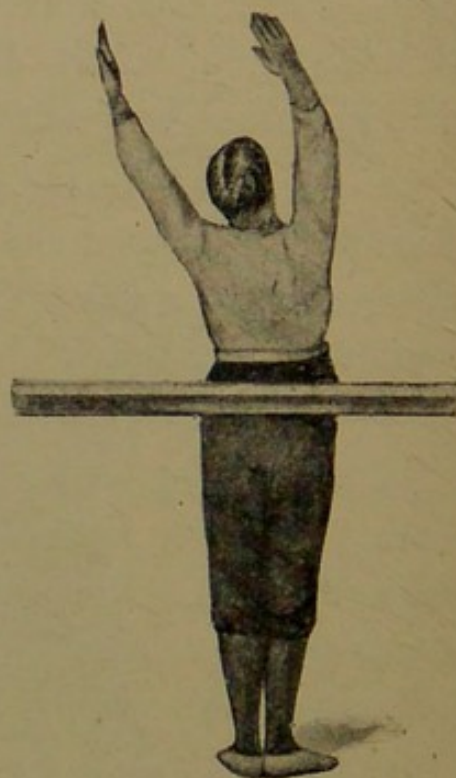


FIG. 14.

Loin - support - stretch - standing Trunk-bending backward; or, Loin-support-stretch-arch-standing position.

TRUE SPANBENDINGS.

36. Wing-span-bend-standing Heel-raising. (Wing-sp.bend.st. Heelrais.) *Hips—firm! Backwards—bend!* Bend until the top of the head touches a support—wall or the hand of the pupil placed behind as “support”—

then: *Heelraising—one!—two!* The bending should be done mainly in the upper part of the spine, keeping the chest well arched forward. Compare Fig. 16.

37. **Rest-stride-span-bend-standing Heel-raising** (Rest.strd.sp.bend.st. Heelrais.) *Feet sideways and neck—firm! Backwards—bend!* Support for elbows. Heel raising as in No. 36.



FIG. 15.

Stretch-spanbend-standing Heel-raising.

38. **Stretch-span-bend-standing Heel-raising** (Str.-sp.bendst. Heelrais.) *Arms upward—stretch! Backwards—bend! Heels—raise!* Support either for the head with the arms free (compare Fig. 16) or for the hands. Attend to correct position. Fig. 15.

39. **Stretch-stride-span-bend-standing Heel-raising** (Str.strd.sp.bendst. Heelrais.) *Feet sideways and Arms up-*

wards—stretch ! Backwards—bend ! Heels—raise ! Support the Head as in No. 36, or the hands ; gradually increase the bending as the pupils gain power. Figs. 16 and 17.

III. Heave Movements.—In the exercises under this heading are *employed* all the muscles that connect the shoulders and arms with the chest, princi-



FIG. 16.

Stretch-stride-standing Spanbending (Head-support).



FIG. 17.

Stretch-stride-standing Spanbending (Hand-support).

pally the “pectorals” in front and the “latissimus dorsi” (the so-called Heave-muscles) behind. The *aim* of these exercises is to attain, by means of these and connected groups of muscles, a perfect expansion of the chest.

NOTE.—*True* Heave-movements, as well as true Spanbendings, require for their effective execution some

sort of apparatus, but *preparatory* Heave-movements, consisting of arm-bendings and -stretchings in various directions, form a good substitute. Moreover, in most playgrounds some apparatus, such as horizontal bars, ladders or ropes, is generally to be found, and can be used to advantage. Even the forms in the school-room may be utilised.

PREPARATORY HEAVE-MOVEMENTS.

40. **Standing Arm-bending** (St. A.bend.) *Arms upwards—bend!* *Downwards—stretch!* The upper part of the arm remains in position with the elbows close to the sides, whilst the forearm is bent upwards, turned



FIG. 18.
Standing Arm-bending upward;
or, Bend-standing position.

well outwards, fingers pointing towards shoulders, the chest free. Fig. 18. This forms the first movement in all *Arm-stretchings*, which are always made in two distinct parts, *bending* and *stretching*.

41. **Standing Armstretching forward** (St. A.Str. forw.) *Arms forward—stretch!* Two parts, the bending

as previously described, then a smart stretching of the arms forward from the shoulder; elbows, wrists, and fingers straight, palms inwards and the arms parallel. Fig. 19.

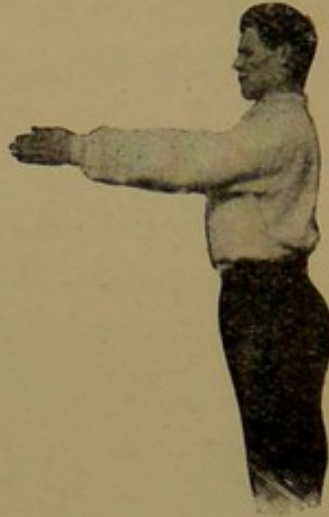


FIG. 19.
Standing Arm-stretching forward;
or, Reach-standing position.

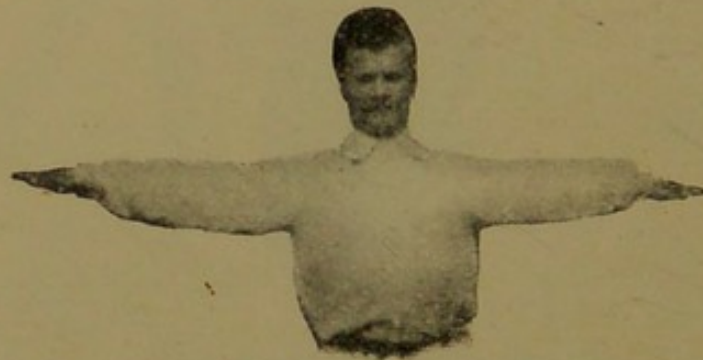


FIG. 20.
Standing Armstretching sideways;
or Yard-standing position.

42. Standing Arm-stretching sideways (St. A.str. sidew.) *Arms sideways—stretch!* The arms straight out sideways, well drawn back, level with shoulders, palms downwards. Fig. 20.

43. **Standing Arm-stretching upward** (St. A.str. up.)
Arms upwards—stretch! Arms parallel, well drawn back, palms inwards. Fig. 21. From all the A. stretchings return to fund. pos. by *Arms downwards—stretch!* on the same principles.



FIG. 21.

Standing Arm-stretching upward ;
 or, Stretch-standing position.



FIG. 22.

Fall-hanging Arm-bending.

TRUE HEAVE-MOVEMENTS.

44. **Fall-hanging Arm-bending** (Fallhang. A.bend.)
Grasp! Fallhanging—hang! Position! Standing in front of a beam (or between the forms in a schoolroom), grasp beam or forms with both hands, then let the feet slide forward so that the body at full stretch rests suspended by the arms and with the heels on the ground. *Arm-bending—one!—two!* The body is slowly raised, with the elbows well out to the sides and the chest thrown out, and lowered again in a similar way. Figs. 22 and 23.

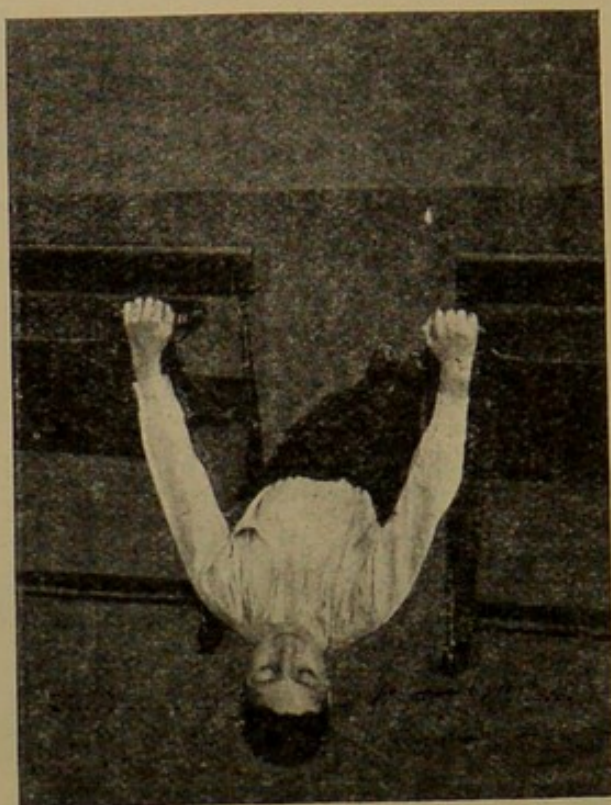


FIG. 23
Fall-hanging position (on the forms).



FIG. 24.
Prone-hanging position.

45. **Pronehanging Arm-bending** (Pronehang. A.bend.) *Grasp! Pronehanging — hang!* Similar to preceding movement, but the legs backward instead of forward. The beam should be raised rather higher for this movement than for fall-hanging. Fig. 24.

46. **Underhanging position with overgrip** (Und.hang. pos. overgr.) *With overgrip—up!* Fig. 25.



FIG. 25.

Under-hanging Arm-bending
(over-grip).



FIG. 26.

Under-hanging Arm-bending
(under-grip).

47. **Underhanging position with undergrip** (Undh. pos. undergr.) *With undergrip—up!* Fig. 26.

48. **Underhanging position with Alternate grip** (Und.hang. pos. alt. gr.) *With alternate grip—up!* These three positions are typical *Heave* positions. A simple appliance—a beam or a bar—is necessary, and should be

placed so high that the pupils, hanging by their hands, should have their feet a short distance from the ground; *overgrip* means the palms forwards, *undergrip* the palms the opposite way, and *alternate grip* one hand each way. Figs. 25, 26, 27. The distance between the hands should be *not less* than the width of the shoulders.



FIG. 27.

Under-hanging position (alternate grip).



FIG. 28.

Rope-climbing.

When the pupils are perfectly familiar with these positions, the "*Heaving*" of the body—raising the body by force of the arms—should commence.

49. Climbing on ropes or poles, using both hands and feet to grasp the appliance. Fig. 28.

If the time and the progress of the pupils allow, travelling sideways on the bar by means of the hands only and with straight or bent arms can also be practised, always taking care to maintain a correct position.

IV.—Balance Movements. — These are closely related to the deflective legmovements, but being executed from a “diminished base” (close-st., toe-st., half-st., or on a balance-board) they put into play other groups of muscles, chiefly the smaller muscles along the spine, which are in constant though almost imperceptible action in their effort to keep the spine erect and the body in full balance. A useful set of exercises requiring but small effort, but strongly conducive to a free and graceful carriage of the body.

NOTE.—All “deflective legmovements” which are executed from a “diminished base,” and which through practice have become easy, may be utilised as “balance-movements.” The preparatory movements here given may serve as examples.

PREPARATORY BALANCE-MOVEMENTS.

50. Wing-toe-standing Head-bending or Head-turning. *Hips—firm ! Heels—raise ! Head backward—bend ! Head upward—stretch ! Heels—sink ! &c.*

51. Wing-close-toe-standing Head-bending or Head-turning. *Feet close and Hips—firm ! Heels—raise ! Then Head-bending or -turning, after which return to position.*

52. Stretch-close-walk-standing Heel-raising. *Feet close and arms upward—bend ! Left foot forward and arms upward—stretch ! Heels—raise ! Heels—sink ! Change the feet and repeat the movement. See that the position of the feet is correct, the weight of the body equally divided between the legs and the heels well off the ground.*

53. Wing-courtesy-standing Head-turning (described in No. 17).

54. **Stretch-stride-courtesy-standing Arm-stretchings** (described in No. 22).

TRUE BALANCE-MOVEMENTS.

55. **Wing-standing Knee-upbending** (Wing-st. Kn. upbend.) *Hips—firm! Left knee upward—bend! Downward—place! Right knee upward—bend! Downward—place!* Keeping a steady balance the knee is raised till the thigh is at right angles to the trunk of the body,



FIG. 29.

Rest-standing Knee-upbending ; or, Rest-crook-half-standing position

with the leg hanging straight down from the knee, and the toe pointing towards the floor. This is called the Crook-half-standing pos. Fig. 29. Progression is made by changing the position of the hands to *Rest*—or *Stretch*—pos.

56. **Wing-crook-half-standing Foot-changing** (Cr.hlf. st.F.chang.) *Left knee upward—bend! Change—one!—*

two ! The changing is done quickly. Later the movement becomes continuous and is done on the command: *with knee upbending, on the spot—march !* slow, but even time, quick change, and the knee smartly brought up to *cr.hlf.st.pos.*, where a momentary pause is made before the next change of foot. Also, *with knee upbending on the spot, double—march !* which is always done on tiptoe.



FIG. 30.

Rest-crook-half-standing
Knee-stretching forward.



FIG. 31.

Rest-crook-half-standing
Knee-stretching backward.

57. Wing - crook - half - standing Foot - bending and -stretching (Wing.cr.hlf.st. F.bend & str.) *Left knee upwards—bend ! Footbending—one !—two !—on one bend the foot upwards, two point the toe downwards again.*

58. Wing - crook - half - standing Knee-stretching forward and backward (Wing.cr.hlf.st. Kn.str.) *Left knee*

upwards—bend! Forwards—stretch! Bend! Backwards—stretch! Upwards—bend! Downwards—place! Figs. 30 and 31. Keep good and steady balance; don't lean backwards in stretching the knee forwards nor forwards in stretching it backwards. Increase the difficulty by changing from *Wing* to *Rest* and *Stretch*.

59. **Standing Leg-raising sideways** (St. L.rais.sidew.)
Left leg sideways—lift! sink! Repeat the other side.



FIG. 32.

Rest-standing Leg-raising sideways.

The leg should be raised straight to the side as high as possible and without bending the body to the opposite side. The hands held in wing, rest or stretch pos. Fig. 32.

60. **Wing-standing Whip-jump** (Wingst. whip-jump.)
Feet sideways and Hips—firm! Heels—raise! Whipjump—jump! Making a light and springy jump the feet are alternately brought together to *Toest. pos.* and out again to *strd.toest.* wherefrom the movement started. The

exercise continues somewhat like *skipping* till *Halt!* is given. The movement is not properly belonging to this class (IV.), but is placed here for convenience sake. It should be followed by a slow Balance-(Leg) movement.

61. Balance-walk on a balance-board or similar appliance. Such a board should be from 2 to 3 inches wide



FIG. 33.
Balance-walk on a board.

and not more than a few inches from the ground to prevent accidents. Walk steadily along the board with a free and upright carriage of the body. Fig. 33.

V.—Dorsal Movements.¹—The muscles *employed* in these exercises are: first, those of the shoulder-blades and the upper arm; and second, all the muscles along the spine from the neck to the sacrum. The

¹ Also called Shoulder-blade exercises, Dorsal Trunk-movements, &c.

effect upon the body is strongly and particularly "corrective" as regards the bearing of the Head, Neck, and upper part of the Trunk, counteracting the "stooping shoulders," the "poking chin," &c., so common among school-children.

Through the stimulating effect upon the spinal circulation of the deep Trunk-bendings (forwards and backwards), the exercises in this group and the following are also very refreshing to the nerve centres, conducing to renewed mental activity. They must be considered as among the most important exercises.

NOTE.—Among the preparatory exercises of this group we recognise some of the most common and most useful positions of the hands and arms, used as starting positions in almost all the groups in order to secure a correct position of the shoulders.

PREPARATORY DORSAL MOVEMENTS.

62. **Standing Hips-firm** (St. Hipsfirm.) *Hips—firm!* The hands are placed smartly on the hips, the palms resting on them with the fingers to the front, the thumb behind, the elbows and shoulders well drawn back, chest free and open. *Position!* This is called the Wing-standing pos.

63. **Standing Neck-firm** (St. Neckfirm.) *Neck—firm!* *Position!* The tips of the fingers meet behind the neck, elbows drawn back, head erect and chest forward. This is called the Rest-standing pos. Fig. 34.

64. **Standing Head-bending backwards** (St. H.-bend. backw.) *Head backward—bend!* *Upward—stretch!* Keep the chin well in as the head is bent backw. Fig. 35.

65. Standing Head-turning (St. H.-Turn.) *Head to the left—turn! Forwards—turn! To the right—turn! Forwards—turn!* Keep the head erect and don't bend the neck at the same time as turning it. Shoulders kept



FIG. 34
Standing Neck-firm;
or, Rest-standing position.



FIG. 35.

Standing Head-bending backward.



FIG. 36

Standing Head-bending forward.

fixed. The movement is done slowly at first, later on sharply and quickly.

66. Standing Head-bending forwards (St. H.-bend. forw.) *Head forwards—bend! Upwards—stretch!* Keep the chin in and the body steady. Fig. 36.

67. **Standing Head-bending sideways** (St.H.-bend. sidew.). *Head to the left—bend! Head upwards—stretch!* Repeat to the right. Shoulders steady, don't turn the head in the bending.

68. **Standing Head-turning and -bending combined** (St.H.-turn. and bend. comb.) *Head to the left—turn!* In this position Head-bending is done forwards and backwards in the direction of the face. Turn forwards and repeat to the right.

69. **Half-stretch-standing Arm-shifting** (Hlf.str.st. A.shift.) *Left Arm upwards—stretch!* Bend and stretch the arm as in the ordinary *armstretching*. *Armshifting—one!—two!* Bend both arms simultaneously on *one*, on *two* stretch the *right* arm *up* and the left down. Can also be done without numbering on the command: *Arms—change!*

70. **Half-stretch-half-yard-standing Arm-shifting.**—*Left Arm upwards, right arm sideways stretch! Arms—change!*

71. **Half-stretch-half-reach-standing Arm-shifting** (Hlfstr.hlfreachst. A.shift.) *Left arm upwards, right arm forwards—stretch! Arms—change!* and other combinations.

72. **Stretch-standing Arm-swinging** (Str.st. A.swing.) *Arms upward—stretch! Armswinging—one!—two!* On *one* lower the arms to *reach.st.pos.*, on *two* raise them again smartly to *str.st.pos.* The whole movement is done in the shoulderjoint only, and within sharply defined limits.

73. **Yard-standing Arm-striking** (Yardst.A.strik.) *Arms sideways—lift!* to yardst. pos. *Arms forward—bend!* Keeping the shoulder and upper arm perfectly still, the arm is bent at the elbow, wrists and fingers straight, palms downwards. *Sideways—stretch!* resume yardst. pos. After some practice, when the correct pos. of the

arms has been gained, the command from yardst. pos.—is: *Armstriking—one!—two!* short and sharp movements.



Diagram.

FIG. 37.
Standing Arm-bending forward.

TRUE DORSAL MOVEMENTS.

74. **Wing-standing Trunk-bending forward** (Wingst. Tr.bend. forw.) *Hips—firm! Trunk forwards—bend! Upwards—stretch! Position!* Bend at the hips, keep the back straight, the shoulders back and the head up. This is called the *stoop-standing position*.

75. **Wing-stoop-standing Head-turning** (Wing-stoopst. H.turn.). *Hips—firm! Trunk forwards—bend! Head-turning (begin to the left)—one! two! &c.* Fig. 38.

76. **Stretch-stoop-standing Arm-stretchings sideways and upward.** *Arms upward—stretch! Trunk forward—bend! Arms sideways and upward—stretch! Trunk upward—stretch! Position!* Fig. 39.

77. **Yard-stoop-standing Arm-striking.** *Arms sideways—stretch! Trunk forward—bend! Arm-striking—one!—two! Trunk upward—stretch! Position!*

78. **Stretch-stoop-standing Arm-swinging** (Str.stoopst. A.swing.) *Arms upward—stretch! Trunk forward*

—*bend ! Armswinging—one !—two ! Upwards—stretch ! Position !* Compare movement 72. Short and sharp movement.

79. **Stretch-stoop-standing Arm-parting** (Str.stoopst. A.parting.) Same starting pos. as preceding. *Arm parting—one !—two !* Sink the arms outwards until level with shoulders, then raise them up again. Slow time.



FIG. 38.

Wing-stoop-standing Head-turning.



FIG. 39.

Bend-standing Trunk-bending forward ; or, Bend-stoop-standing position.

80. **Stretch-stride-standing Trunk-bending downward** (Str.strd.st. Tr.bend.downw.) *Feet sideways, arms upwards—stretch ! Trunk forwards—bend !* Keep the head and the arms well up and together. *Downwards—bend !* Continue the bending as far as possible, retaining the correct position of head and arms ; straight knees. *Forwards—stretch ! Upwards—stretch ! Position !* Figs. 40 and 41.



FIG. 40.

Stretch-stride-standing Trunk-
bending forward ;
or, Stretch-stride-stoop-standing
position.



FIG. 41.

Stretch-stride-standing Trunk-
bending downward.



FIG. 42.

Lunge-standing (b) Arm-stretching ;
or, Stretch-lunge-standing (b) position.

81. **Stretch-close-standing Trunk-bending forward** (Str.cl.st. Tr.bend.forw.) *Feet close and arms upward—stretch!* Bending forward as above, also with practice downward.

82. **Lunge-standing (b) Arm-stretchings** (Lungest. (b) A.str.) Comp. No. 26. *Hips—firm! Left foot lunge-standing forward (or backward)—place!* Then retaining a good *lungest. pos.* Armstretchings in various directions. Change lunge and repeat. Fig. 42.



FIG. 43.

Half-stretch-lunge-standing (a position.)

83. **Half-stretch-lunge-standing (a) Arm-shifting.** *Left arm upwards, right arm downwards and left—lunge!* in two parts. *One!* bend the arms, *two!* lunge out and stretch the arms simultaneously as directed, at the same time slightly twisting the body to the right, so that the shoulders come in the same plane as the lunge; then *armshifting—one!* bend the arms, at the same time twist-

ing the body to the left, so as to make it square to the lunge—*two!* stretch the right arm upward and the left downward; armshifting again, then change the lunge

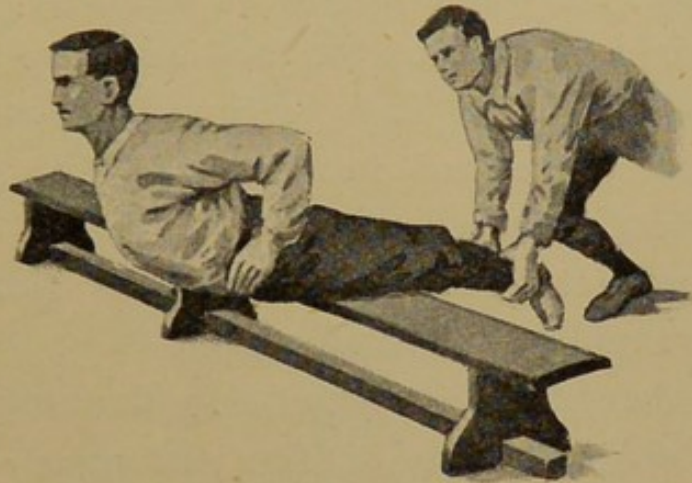


FIG. 44.
Forward-lying position.

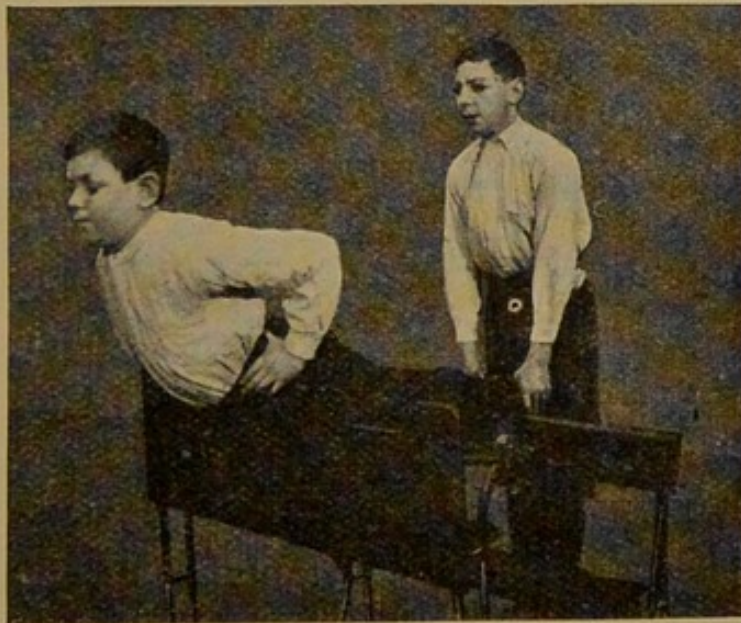


FIG. 45.
Forward-lying position (on the forms).

and repeat. Be particular to keep a correct position all through the exercise. Fig. 43.

84. Forward-lying position (Forw.lying pos.) *For-*
wardlying—place! Support—place! Hips—firm! The

thighs across a low bench, a form or similar appliance (Figs. 44 and 45), and a support on the heels to counteract the weight of the body. When *hips firm* has been taken as in the fig., the whole weight of the body, from the hips upwards, is carried by the muscles along the spine. In this position neck firm, various arm-stretchings, trunkbendings downward, headturnings, &c., should be made. A most useful exercise.

The preparatory swimming exercises (for breast-stroke) may also be used in this group.

VI.—Abdominal Movements.—The muscles *employed* are chiefly those of the abdomen, both the “recti” and “obliqui.” The *effect* of the exercises is “corrective,” and of scarcely less importance than the dorsal movements, though referring principally to the lower part of the trunk and the spine. They also act beneficially upon the digestive organs.

NOTE.—The preparatory exercises in this group are common with those in Group II., Spanbendings.

PREPARATORY ABDOMINAL MOVEMENTS.

85. **Wing-standing Trunk-bending backward** (described in No. 29). Also practised in **Rest**- and **Stretch-standing** positions, and with the feet in **Standing**, **Close-standing**, and **Stride-standing** positions. Compare with the Trunk-bendings forward in the previous group, with which these movements are closely allied.

86. **Half-kneeling Trunk-bending backward** (Hlf.kneel. Tr. bend.backw.) *On the left knee—place! Backward—bend! Upward—stretch! Position!* Place the knee on the floor at least a full footlength behind the foot re-

maining in the rank. Body well upright. Trunkbending as in No. 85. Change and repeat. Fig. 46.

87. **Kneeling Trunk-bending backwards** (Kneel. Tr.-bend. backw.) On both knees. The position can be taken in the following way: *Hips—firm! Heels—raise! Knees—bend! Sit!* The knees, now near the floor,



FIG. 46.

Half-kneeling Trunk-bending backward.

are gently lowered to it on the command: *Kneeling—place! Trunk backwards—bend!* The bending in this exercise should be somewhat like a *falling*, with the body almost straight from the knees upwards in the beginning of the movement, afterwards arching the trunk well backward.

TRUE ABDOMINAL MOVEMENTS.

88. **Stoop-falling position** (Stoopfall.pos.) *Stoopfalling—place!* Bend down and place the hands on the floor in front of the feet, width of shoulders between the hands, fingers pointing forwards and slightly inwards

—*two!* stretch the legs backwards keeping the feet together. Straight line from head to heels. From this position the four following can be done.



FIG. 47.
Stoop-falling Head-turning.



FIG. 48.
Stoop-falling position
(on forms).



FIG. 49.
Stoop-falling Arm-bending
(on forms).

89. Stoop-falling Head-turning (Stoopfall. H.turn.)
Whilst in stoopfall. pos. command Headturn. as usual.
Fig. 47.

90. Stoop - falling Knee - bending and -stretching

(Stoopfall. Kn.bend. and str.) *Knæbending and stretching—one !* pull the feet smartly up to the hands—*two !* stretch them back again, getting the body in a straight line.

91. Stoop-falling Arm-bending and -stretching (Stoop-fall. A.bend. and str.) *Armbending and stretching—one !* bend the arms moderately slowly—keeping the body



FIG. 50.

Wing-sitting Trunk-bending backward ;
or, Wing-fall-sitting position.

straight—till the chest nearly touches the floor—*two !* straighten the arms again. Figs. 48 and 49.

92. Stoop-falling alternate Arm-raising (Stoopfall.alt. A.raise.) *Armraising—begin with the left—one !* lift the arm smartly from the floor to stretch pos.—*two !* put it down again and continue raising the arms alternately on word of command.

93. Sitting Trunk-bending backwards (Sitt. Tr.bend. backw.). Sit on a low bench, a form or the floor with

straight knees and a support on the feet to counteract the weight of the body. *Backwards—bend! Upward—stretch!* not so much a *bending* as a *falling* backwards with spine straight, head up and chest forwards; stop at an angle of 45° . The movement can be continued downwards till the head reaches the floor, but this should be carefully led up to. The exercise can be done in *wing-*, *rest-*, or *stretch-sitting pos.* Fig. 50.

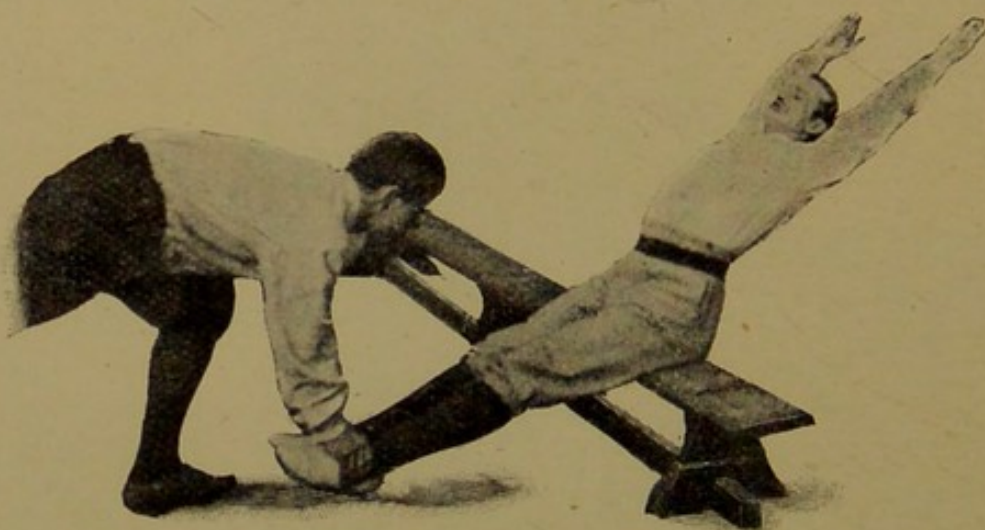


FIG. 51.

Stretch-sitting Trunk-bending backward;
or, Stretch-fall-sitting position.

94. **Stretch fall-sitting Arm-bending and -stretching** (Str.fallsitt. A. bend. and str.) Sitting position. *Arms upward—stretch! Trunk backwards—bend! to 45° . Arms bending and stretching—one!—two! keep a strict pos. with chest well forwards.* Fig. 51.

95. **Stretch-lying Leg-raising.** The pupils lie down flat on the back with the arms in the *stretch* position. *Legs—raise!—sink!* Commence by raising the legs a short distance only from the floor, and increase

gradually to the vertical position. Keep the knees straight. Fig. 52.

VII. **Lateral Trunk Movements.** — Performed chiefly by the lateral trunk-muscles, with an effect upon the circulation and the spine similar to that of the preceding class. The movements consist of bendings and turnings sideways and combinations of both.



FIG. 52.
Stretch-lying Leg-raising.

NOTE.—These movements are too often neglected. This is a mistake, especially where no apparatus is available for the Heave-movements. For in the lateral trunk-movements an alternating expansion of each side of the chest takes place, which to a great extent will compensate for the lack of the more forcible expansion effected by Heave-movements on apparatus.

96. **Close-standing Side-bending** (Cl.st. S.bend.).
Feet—close ! To the left—bend ! Upward—stretch ! Repeat to the right. Take care to bend the trunk straight to the side without twisting the body. Head in line with trunk.

97. **Half-stretch-close-standing Side-bending** (Hlf.str. cl.st. S.bend.). *Feet close and left arm upward—stretch! To the right—bend! Upward—stretch! Arms—change! To the left bend! Upward—stretch! Position! Bend to the side opposite the one of which the arm is up.* Fig. 53.



FIG. 53.

Half-stretch-close-standing
Side-bending.



FIG. 54.

Rest-stride-standing
Side-bending.

98. **Rest-close-standing Side-bending** (Restcl.st. S. bend.). Similar to preceding but with *neck—firm*. Also **Stretch-close-standing Side-bending** with the arms in *Str. pos.* Sidebendings are also done in *stridestanding pos.*, i.e., with *Feet sideways—place!* Fig. 54.

99. **Wing-close-standing Side-turning** (Wing.cl.st. S.turn.) *Feet close and Hips—firm! Trunk to the left—turn! Forwards—turn! Repeat to other side. Turn in the waist only, let the feet remain firmly on the ground*

and the head in the middle line of the body with the nose directly above centre of chest.

Turnings on the same principle are also made in *Restst.* or *Stretchst. pos.* and with the feet in *Closestanding*, *Standing* or *Stridestanding pos.* Comp. Fig. 55.



FIG. 55.

Rest-close-standing Side-turning ;
or, Rest-turn-close-standing position.

100. **Stretch-stride-turn-standing Arm-stretching**(Str. strd.turnst.A.str.). *Feet sideways, Arms upwards—stretch ! To the left—turn ! Arm bending and stretching—one !—two ! Forwards—turn ! Repeat to other side. Keep the body strictly in the turning whilst the armstretching is made.*

101. **Walk-standing (a) Side-turning** (Walkst. (a) S.turn.) *Left foot outwards—place ! To the left—turn ! Forwards—turn ! Change feet and repeat. Turn until facing the foot placed outward. Hands in wing, rest or stretch pos.*

102. **Walk-standing (b) Side-bending** (Walkst. (b) S. bend.) *Left foot forwards—place! To the left—bend! Upward—stretch! Change feet and repeat. Bend to the side which has the foot placed forward. Done in the Wing, rest, or stretch pos.*



FIG. 56.

Stretch-turn-stride-standing
Side-bending.



FIG. 57.

Wing-turn-close-standing
Trunk-bending backward.

103. **Walk-standing (b) Side-turning** (Walk-st. (b) S. turn.) *Left foot forwards—place! To the left—turn! Forwards—turn! Change feet and repeat. Turn to the side which has the foot forward. Wing, rest, or stretch.*

104. **Stretch-turn-stride-standing quick side-turning** (Str.turnstrd.st. qu. S.turn.). *Feet sideways, arms upwards stretch! To the left—turn! Quick turnings—one! Turn*

the trunk from the waist sharply round until it faces the right. Keep the arms from swinging and turn the trunk, head and arms as though they were one;—*two*! Turn smartly back again to the left. Repeat three or four times. Upright pos.

105. **Stretch-turn-stride-standing Side-bending** (Str. turn stride st. S.bend.). *Feet—sideways—place! To the left—turn!* then, retaining the turning, *To the left—bend!* in the plane of the shoulders; *Upwards—stretch! Forwards—turn!* repeat to the other side. Arms in *wing, rest, or stretch pos.* This is a combined turning and bending. Fig. 56.

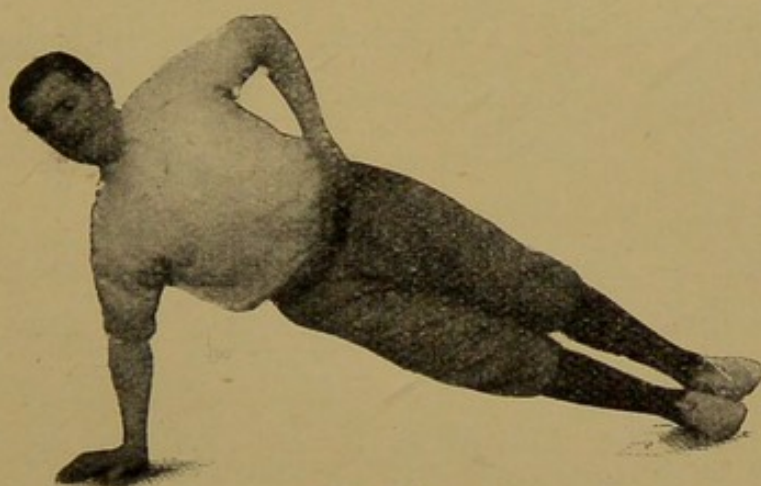


FIG. 58.
Side-falling position.

106. **Turn-close-standing Trunk-bending forwards and backwards** (Turncl.st.Tr.bend. forw. and backw.). *Feet close! To the left—turn! Forward—bend! Upward—stretch! Backward—bend! Upward—stretch! Forward—turn!* Repeat to the right. Retain the turning well and bend in the direction of the face. Hands in *wing, rest, or stretch pos.* The exercise can also be done in *Stridest. pos.* Fig. 57.

107. **Side-falling position** (S.fall.pos.). Comp. No. 88.

From *Stoopfalling pos.* command: *Side-falling, on the left side—place!* Body straight supported by the left hand and the left foot. Fig. 58. The upper hand in *wing, rest, or stretch pos.* Change—*one!* to stoopfalling,—*two!* on to the right side.

108. **Side-falling Leg-lifting** (S.fall. L.lift.) Take *side-fall. pos.* *Leglifting—one!—two!* the whole leg is raised straight up as far as it can go, and lowered again.

VIII. Marching.—A few minutes' marching is placed in a table of exercises both as a relief from the long standing in one place and as a gentle general exercise. Various times should be practised, the ordinary "quick march" as well as large steps, short steps, toe-march and the double. Be particular as to time and carriage. Marching may be taken either before or after VII. Lateral movements.

Quick march. 109. *Quick—March!* Commence with the left foot; mark the first step well by pressing the foot to the ground without stamping; carry the body erect, the head up and the shoulders back; let the arms swing naturally with the body. Keep time.

Halt. *Squad—halt!* Count to two, thus:—*one*, take one full step after the word *halt*,—*two*, bring the rear foot up to the front foot with a well-marked pressure on the ground, at the same time gaining perfect stillness with the body, as in *attention*.

When in "quick march" command:

Toemarch. *On the toes—march!* Raise up on tiptoes, continuing the march with an elastic step in the same time as before. To go back to the ordinary march command: *quick—march!* press the foot on the ground with the first step after the command is given, so as to mark

the transit. The *halt* from toemarch is as from the "quick," but on tiptoe; then sink the heels counting: *one, two*, for the halt,—*three!* for sinking the heels.

Short steps—march! Shorten the steps to half the *Short steps*, ordinary length, mark each step and straighten the knees fully each time the foot is placed on the ground. Time as in the "quick." In "long steps" increase the *Long steps*, length of the step by one-half.

Double—march! In gymnastics always on tiptoes; *The double*, from "toemarch" start off at once upon the command, bend the elbows slightly, keep the chest well forward and breathe freely during the running. To halt from the double, count: *one, . . . four*, and *five*, sink the heels. To change from the "double" to the "quick" mark the transit at the *third* step, counting: *one, two three*.

The "double" should always be followed by the "quick" or "short steps" before halt is made and other gymnastics resumed.

IX. Jumping and Vaulting.—These are exercises requiring the co-operation of almost all our physical powers. To do them properly the body should be under full control of the will both in the "take-off," in the jump itself and in the "landing." They should be practised strictly with both sides of the body equally (taking off with left and right foot alternately) and with careful attention to form. Physical judgment and resource are developed through their practice. Only the introductory movements to the jumping and vaulting are here described, as the more combined cannot be practised without an appliance of some kind.

JUMPING.

110. **Wing-standing prepare to jump** (Wingst. prep. to jump.) *Prepare to—jump! Heelraising, Kneebending, Kneestretching, and Heelsinking*; these four parts of the movement are done smartly after each other without separate command. Compare No. 12, Figs. 3 and 4.

111. **Standing high jump** (St.h.jump.) *In height—jump! Heelraising and Kneebending*; then a forcible *Kneestretching* projecting the body upwards (*taking off*), at first only three or four inches from the ground, with straight knees and toes pointing downwards; as soon as the feet touch the ground again (*landing*) bend the knees to right angle, giving elasticity and preventing any jarring of the spine; *Kneestretching* and *Heelsinking*. Count:—*one!* heelraising,—*two!* kneebending,—*three—four!* spring into the air and down again, stopping on the toes with bent knees,—*five!* kneestretching,—*six!* heelsinking. During the whole time the body must be upright, in full balance and under perfect control. When the pupils are sufficiently advanced to do this exercise without counting, the teacher may, to test their control over their bodies, call out a number, when the pupils should stop immediately in the pos. denoted by this number. For inst. *In height—jump!* the pupils having at once commenced the exercise, the teacher calls out—*four!* when the pupils stop in the *kneebending* at landing; or—*five!* in the *kneestretching* after the jump, &c. A very useful practice in itself, besides affording variation in the exercise.

112. **Standing high jump with turning** (St. h. jump w. turn.) *With turning (about) to the left, in height—jump!*

Same as preceding movt.; turn 90° (180°) in the jump and remain facing that way on landing.

113. **Standing high jump forwards** (St. h. jump forw.) *In height forwards—jump!* Same as No. 111 with a slight—only a few inches to begin with—movement forwards in the jump. A correct position and full balance must be kept in landing.

114. **Standing high jump sideways** (St. h. jump sidew.) *In height to the left—jump!* a short jump to the side—without turning—on the same principles as No. 113.

115. **Standing high jump with Arm-flinging sideways** (St. h. jump. w. A.fling. sidew.) *With Armflinging, in height—jump!* one and two as before, on three—four the arms are flung smartly from the sides sideways to horizontal pos. and as smartly brought back to the sides again in the landing; five and six as usual.

116. **Standing high jump with Arm- and Leg-flinging sideways** (St. h. jump w. A. and L. fling. sidew.) *With Arm- and Legflinging, in height—jump!* Simultaneously with the arms, the legs are brought smartly apart in the jump and together again on landing.

117. **High jump forward with one (two, three) steps start** (H. jump forw. w. start.) *One step, in height forward, begin with left—jump!* The left foot takes a step forward;—*two!* taking off from the left a short jump forwards is made, both feet brought together in the landing with the knees bent as usual—*three!* knee-stretching—*four!* heelsinking. In the same way with two or three steps apart. This is the preparation for jumping over a mark, rope or similar appliance, taking off with one foot only. Left and right foot should be used alternately.

118. High jump forward with one (two, three) steps start and turning to the side of the last foot forward. Same as preceding with the turning in the jump added. For instance, in taking two steps start beginning with the left, the turning—90°—is made to the right as in No. 112. Keep the balance.

119. Running high (or long) jump over a mark. Should be practised at first with the mark put low and three steps start. Afterwards a free run, but command the foot from which to take off, and see that it is done. Stop on the spot in landing, with the feet together, the body upright and in full balance as in No. 117.

VAULTING.

120. Grasp-standing mounting and dismounting (on a beam or wooden horse). The pupils are placed facing the beam, grasping it with both hands, arms straight. On the command: *Mount—onetwo!* press the feet sharply to the ground (stamp) and jump up on the beam, resting on both hands with straight arms, body slightly arched backward, head erect and shoulders well back (Balance-hanging position). Figs. 59 and 60. On: *Dismount—threefour!* push back from the beam and jump down, landing lightly on tiptoe with bent knees;—*five!* stretch the knees;—*six!* sink the heels.

121. Side-grasp-standing mounting. Similar to the previous one, except that the pupils stand with the side towards the beam, grasping with one hand only. Fig. 61. When “taking off” in the mounting, the body is turned smartly to face the beam, and when “landing” in dismounting turned away again. Progress by raising the beam and taking a few steps start. Afterwards

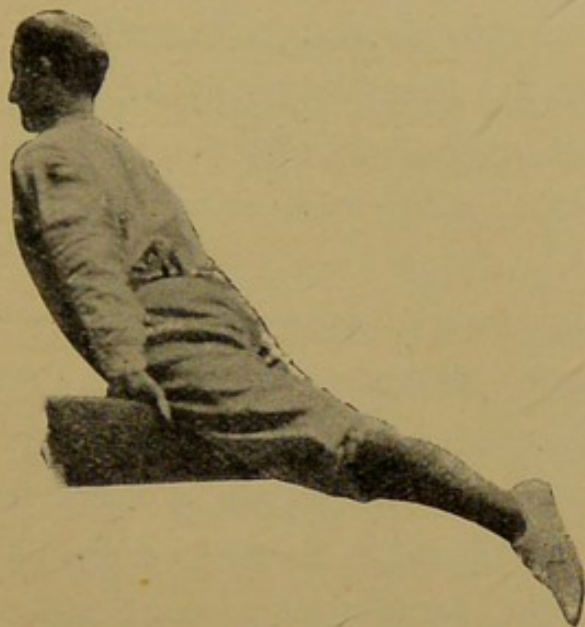


FIG. 59.
Balance-hanging position.



FIG. 60.
Balance-hanging position
(on forms).

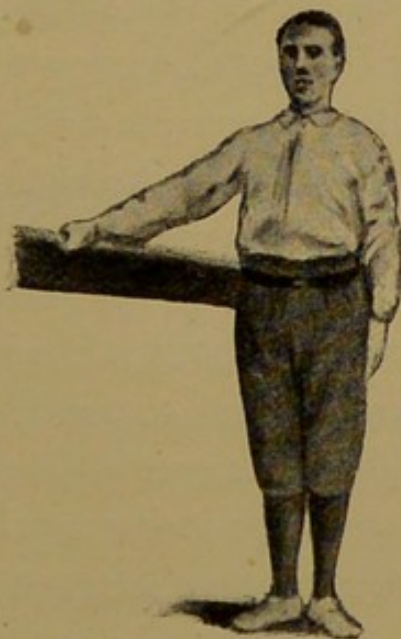


FIG. 61.
Side-grasp-standing position
(prepare to mount).

vault over. *Obs.*—For want of a beam “leapfrog” and similar games may be practised in squad by boys.

X.—Respiratory Movements.—“Every Gymnastic Exercise rightly conceived and executed is a *respiratory movement*” in so far that they should all be done with due regard to an unhindered, free respiration. This is one of the *fundamental truths* in a rational system of gymnastics.

The exercises in this class refer however more specifically to the act of respiration and are performed by the muscles concerned in this act. Compare page 21, &c. Often combined with slow legmovements these exercises are placed at the end of a day-table to restore regular and deep breathing after the somewhat violent movements of preceding group.

Owing to their beneficial effect in this respect, respiratory movements can be put in anywhere in a day-table, when the teacher considers it desirable.

NOTE.—Many of these movements are continuous, that is, should be repeated in a slow rhythm corresponding to the acts of inhalation and exhalation.

122. Standing Arm-raising forward (St.A.rais.forw.)
Arms forward—lift! Downward—sink! Arms raised straight forw. to the level of the shoulders. Straight elbows and fingers; movement in the shoulderjoint only.

123. Standing Arm-raising sideways(St.A.rais.sidew.).
Arms sideways—lift! Downward—sink! Arms raised straight out from the sides to the level of the shoulders.

124. Standing Arm-raising forward-upwards (St. A.-rais. forw.-upw.) *Arms forward-upward—lift!* Continue raising the arms to *stretchstanding pos.*, keeping them parallel and the palms turned inwards.

125. **Standing Arm-raising sidew. upwards** (St. A.rais. sidew.-upw.) *Arms sideways-upwards—lift!* Turn the palms when level with shoulders so as to be inwards when str.st. pos. is reached.

126. **Standing Arm-stretchings backwards** (St. A.str. backw.) *Arms backwards—stretch!* bend as usual (fig. 18); then stretch the arms downward-backward as far as possible, without changing the correct position of the body. After practice: *Armstretchings backwards—stretch!* when the bendings and stretchings are continued in a measured time till *Stop!* is given.

127. **Standing Arm-circling** (St.A.cirl.) *Arms forwards upwards—lift! Sideways downwards—sink! Repeat, arm-circling—one!—two!* Inhalation with the raising, exhalation with the sinking of the arms.

128. **Standing Arm-raising sideways with Heel-raising** (St. A.rais. sidew. with Heelrais.) *Heels raise and Arms sideways—lift!—Sink!* Later the movement is done continuously: *Armraising sideways and Heelraising—begin!—stop!* Inhalation with raising, exhalation with sinking.

129. **Yard-standing Arm-raising upward with Heel-raising.** *Arms sideways—stretch! With heelraising, Arms upward—lift! With Heelsinking, Arms sideways—sink! Repeat—one!—two! Position!*

130. **Stretch-courtesy-standing Arm-parting.** *Arms upward—stretch! Heels—raise! Knees—bend! Arm-parting—one!—two!*

131. **Stretch-courtesy sitting Arm-parting** (Str.-courtesysitt.A.part.) *Arms forward upwards—lift! Heels—raise! Knees—bend!—Sit! Arm-parting (sideways)—one!—two!*

132. **Yard-toe-standing Arm-raising upwards with Knee-bending** (Yardtoest. A.rais. upw. w. Kn.-bend.) *Heels raise and Arms sideways—lift!* (Yardtoest. pos.) *Armraising and kneebending—one!* raise the arms upward at the same time bending the knees to right angles—*two!* sink the arms sideways and stretch the knees. Repeat.—*Position!*

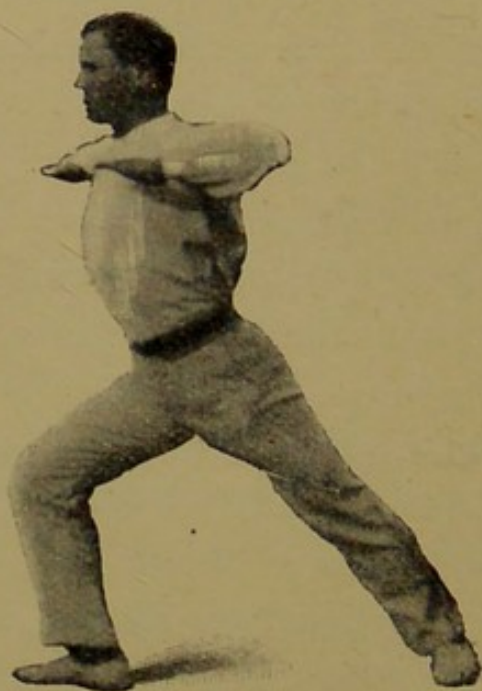


FIG. 62.

Lunge-standing (b) Arm-bending forward.

133. **Yard-lunge-standing (b) Arm-striking** (Yard-lungest. (b) A.strik.) *With armstriking, left foot lunge-standing forwards (or backw.)—place!* arm bending forward—*two!* armstriking and footplacing together; *Armstriking—one!—two!* *With Armstriking, feet—change!* arm bending forward and the feet brought together simultaneously,—*two!* armstriking and the right foot placed. Fig. 62.

134. **Slow march, with Arm striking** (Sl. march w. A.

strik.) *With Armstriking, slow—march!* Beginning the march with the left foot as usual, count—*one—two—three—one—two—three*, &c.; on *one* step with left foot and bend the arms forwards; *two* step with right, keeping the arms still, *three* step with left and armstriking sideways; on *one* again armbending and step, *two* arms still and step, *three* armstriking and step, and so on in time with the marching. March with a slow, measured step, keeping the body well upright and straightening the knee every time the foot is placed on the ground.

HINTS AND DIRECTIONS.

The Teacher of Gymnastics must take an interest in *The teacher.* his work if he wishes to make it a success. He must also use his ingenuity to overcome the obstacles placed in his way by the lack of a proper gymnasium in the School and by the limits in time and space that are imposed upon him.

Gymnastics should be practised every day in order to *Time.* meet the Hygienic wants of the School. One lesson a week simply means a waste of time. Ten minutes a day is infinitely better than half or three-quarters of an hour once a week.

The open air is the best place for the gymnastic lesson, *Space.* weather and other circumstances permitting. But even the ordinary classroom is a sufficiently good Gymnasium under a skilful teacher's management. When the lesson is given in the classroom open the windows to let in the fresh air. It is wanted by the lungs of the pupils both during and after the exercise.

Order-movements.

Sedulously practise the *Ordermovements*. Time and energy expended in the teaching of these movements in the commencement of a course of instruction in Gymnastics pay well later on, when they go almost automatically and all care can be given to the other exercises of greater Hygienic value.

The value of the *Ordermovements* is *disciplinary*, i.e., *educational* more than hygienic.

Command.

The word of command consists of two parts : (1) the words of caution, (2) the word of execution. A distinct interval should be made between the two, partly to sharpen the attention of the pupils, partly also to give time for a correct and simultaneous execution of the movements.

Give the command slowly or sharply with low or loud voice so as to correspond with the character of the movement, thus giving by the very voice an indication to the pupils for a correct execution.

Combined commands.

When two or more movements are combined in one command, employ where possible only one word of execution, *e.g.*, in Footplacing sideways combined with Arm-stretching, command : *Feet sideways and Arms upward—stretch !* When two movements with unequal number of parts are commanded together, the exercise should be *completed* in the *last* part, *e.g.*, in commanding : *left foot forward and Arms upward—stretch !* the foot is kept still on *one !* which thus means *Armbending* only ; but on *two !* the exercise is completed by simultaneously placing the foot forward and stretching the arms.

Counting aloud.

It is a good plan to let the pupils count aloud at first, when practising the marching with one, two or three steps, the halt and some of the simpler leg movements.

The different *Groups* are not too sharply defined. *Groups.* Thus, for instance, a legmovement may, when it has become quite familiar and no longer difficult to the pupil, serve simply as a starting-position in some other group. Compare as an illustration Nos. 26 and 82. Such cases are constantly occurring, and on reflection it will be found natural that it should be so. It is a part of the "progression" in movements.

Progression is attained in several ways, sometimes by *Progression.* making a slow movement quicker, as in Armstretchings, which are first practised slowly to get the correct form, but later as quickly as possible; or by making a quick movement slower, as in kneebending, which is more difficult the slower it is performed; or by changing the base, a diminished base generally increasing the difficulty of a movement. In trunkbendings progression is gained both by increasing the measure of the bending and by changing the position of the arms from *Wing-* to *Rest-* and from there to *Stretch-pos.*, thus carrying the centre of gravity higher, and making the movement stronger.

While correcting the pupils take care not to keep *Corrections.* them in tiring positions. Rather repeat the movements several times than try to get correctness by admonishing the class when in a strained position.

Give *stand at ease* frequently when instructing a class. Correct individuals by walking among the class when in open order, lifting a chin here, stretching an elbow there, without words (manual corrections) so as not to detract the attention of others from the movement in progress.

Where no apparatus is available use the furniture in *Apparatus.*

the classroom. The children can be arranged on the forms, one standing in the centre of the seat, one on the floor between two seats, alternately. This gives good room. Forwardlying : No. 84 Fallsitting : No. 93 can very well be done on the ordinary form. Fallhanging : No. 44 may easily be performed in the gangway between the seats, holding on to the front of the desks.

In the open use the wall for spanbendings. A few low benches and a long beam that can be raised or lowered are of great use and should be found in every school or in the playground.

Breathe. See that the pupils breathe freely in all the exercises. Any movement that does not allow free breathing is either wrong in itself or wrongly performed. Pay strict attention to this.

Tables. Every teacher should be able to make his own tables. The tables here given are to be considered as samples only. They are, however, so arranged as to be "progressive" from the first to the last, besides being intended to meet the wants of different standards. The squad is supposed to be in flankposition, two ranks numbered off in twos and in open order.

Positions. Pay strict attention to the "positions," and foremost among them the "fundamental position." When commencing a new movement practise the "position" first a few times.

Do not "lecture" the children on the subject of gymnastics. They are not there to learn the subject theoretically ; they are there to practise certain exercises for the benefit of their health and their physical development.

Life in the lesson. First and last : *put life in the lesson !* If the interest

of the children slackens, if they find the gymnastic lesson tedious, it is the fault of the teacher, *not* of the exercises, *nor* of the system. A teacher who has a natural aversion for this kind of instruction should endeavour to exchange with a colleague who takes a natural and lively interest therein.

Y.—TABLES.

TABLE I.

(INFANTS.)

Formations and Ordermovements. See page 33.

a. St. F. cl. & op. *Feet—close ! Feet—open ! Repeat—one !—two !*

St. Hips firm. *Hips—firm ! Position ! Repeat.*

b. Wingst. Tr. bend. backw. & forw. *Hips—firm ! Trunk backward—bend ! Upward—stretch ! Forward—bend ! Upward—stretch ! Position !*

c. St. A. bend. upw. *Arms upward—bend ! Downward—stretch ! Slowly at first, sharply later.*

d. Wingst. Heelrais. *Hips—firm ! Heels—raise ! Heels—sink ! Repeat—one !—two ! Position !*

e. St. Neck firm. *Neck—firm ! Position !*

f. Cl. st. S. bend. *Feet—close ! To the left—bend ! Upward—stretch ! To the right—bend ! Upward—stretch ! Feet—open ! or Position !*

g. Marching. See page 80.

h. St. F. pl. sidew. *Feet sideways—place ! Together—place ! in two parts at first ; commence with the left foot.*

i. St. A. rais. forw. *Arms forward—lift ! Downward—sink !*

TABLE II.

(INFANTS.)

Ordermovements. See page 33.

a. **Wingstrd. st. Heelrais.** *Hips firm ! Feet sideways—place ! Heels—raise ! Heels—sink ! Feet together—place ! Position !*

b. **Wingst. Tr. bend.** *Hips—firm ! Backward—bend ! Upward—stretch ! Forward—bend ! Upward—stretch ! Position !*

c. **St. A. str. forw. (or upw.)** *Arms upward—bend ! Forward—stretch ! Bend ! Downward—stretch ! Later command : Arms forward—stretch !—two ! Downward—stretch !—two !*

d. **Wingel. st. Heelrais.** *Hips—firm ! Feet—close ! Heels—raise ! Heels—sink ! Position ! stretch the arms down and open the feet simultaneously.*

e. **St. H. bend. backw.** *Head backward—bend ! Upward—stretch ! Repeat.*

f. **Wingel. st. S. turn.** *Feet close and Hips—firm ! To the left—turn ! Forward—turn ! To the right—turn ! Forward—turn ! Position.*

g. **Marching.** See page 80.

h. **St. F. pl. outw.** *Left foot outward—place ! Back in position—place ! Right foot outward—place ! Change—one !—two !—one !—two ! Position !*

i. **St. A. rais. sidew.** *Arms sideways—lift ! Downward—sink !*

TABLE III.

(INFANTS.)

Ordermovements. See page 33.

a. Wingwalkst. (a) Heelrais. Hips—firm ! Left foot outward—place ! Heels—raise ! Heels—sink ! Feet—change—two ! Heels—raise ! Heels—sink ! Position !

b. Wingstrd. st. Tr. bend. Feet sideways and Hips—firm ! Backward !—bend ! Upward—stretch ! Forward—bend ! (Downward—bend !) Upward—stretch ! Position !

c. St. A. str. sidew. or upw. Arms sideways—stretch !—two ! Downward—stretch !—two !

d. Rest cl. st. Heelrais. Feet close and neck—firm ! Heels—raise ! Heels—sink ! Position !

e. St. H. turn. Head to the left—turn ! Forward—turn ! Head to the right—turn ! Forward—turn !

f. Wingstrd. st. S. turn. Feet sideways and Hips—firm ! To the left—turn ! Forward—turn ! To the right—turn ! Forward—turn ! Position !

g. Marching. See page 80.

h. Wingst. Kn. bend. Hips—firm ! Heels—raise ! Knees—bend ! Knees—stretch ! Heels—sink ! Position !

i. St. A. rais. forw. & upw. Arms forward—lift ! Upward—lift ! Forward—sink ! Downward—sink !

TABLE IV.

(INFANTS.)

Ordermovements. See page 33.

a. Wingst. F. pl. forw. Hips—firm ! Left foot forward—place ! Feet—change !—two ! Position !

Reststrd. st. Heelrais. Feet sideways and neck—firm ! Heels—raise ! Heels—sink ! Repeat. Position !

b. Wingcl. st. Tr. bend. Feet—close and Hips—firm ! Backward—bend ! Upward—stretch ! Forward—bend ! (Downward—bend !) Upward—stretch ! Position !

c. St. A. str. upw. Arms upward—stretch !—two ! Downward—stretch !—two !

d. Rest Walkst. (b) Heelrais. Left foot forward and neck—firm ! Heels—raise ! Heels—sink ! Feet—change !—two ! Heels—raise ! Heels—sink ! Position !

e. St. H. bend. backw. & forw. Head backward—bend ! Upward—stretch ! Head forward—bend ! Upward—stretch !

f. Wingwalkst. (b) S. bend. Left foot forward and Hips—firm ! To the left—bend ! Upward—stretch ! Feet—change !—two ! To the right—bend ! Upward—stretch ! Position !

g. Marching. See page 80.

h. Wingst. Kn. bend. Hips—firm ! Heels—raise ! Knees—bend ! Knees—stretch ! Heels—sink ! Repeat—one !—two !—three !—four ! Position !

i. St. A. rais. sidew. & upw. Arms sideways—lift ! Upward—lift ! Sideways—sink ! Downward—sink ! later : Arms sideways-upward—lift ! Sideways-downward—sink !

TABLE V.

(STANDARDS I. & II.)

Ordermovements. See page 33.

a. **Wingst. F. pl. outw.** (series) *Hips—firm! Foot-placings-outward, begin with the left—one!—two!—three!—four! Repeat, begin with the right—one!—two!—three!—four! Position! See No. 23, page 43.*

Wingst. Kn. bend. *Hips—firm! Heelraising and Knee-bending—one!—two!—three!—four! Position!*

b. **Wingstrd. st. Tr. bend.** *Feet sideways and Hips—firm! Backward—bend! Upward—stretch! Forward—bend! Downward—bend! Upward—stretch! Position!*

c. **St. A. str.** (Two directions) *Arms forward and upward—stretch!—two!—three!—four! Arms sideways and downward—stretch!—two!—three!—four! or other combinations.*

d. **Wingcl. walkst. Heelrais.** *Feet close and Hips—firm! Left foot forward—place! Heels—raise! Heels—sink! Feet—change!—two! Heels—raise! Heels—sink! Position! The foot back, the hands down and the feet open simultaneously.*

e. **St. H. bend. sideways.** *Head to the left—bend! Upward—stretch! Head to the right—bend! Upward—stretch! Head backward—bend! Upward—stretch!*

f. **Wingwalkst. (b) S. turn.** *Left foot forward and Hips—firm! To the left—turn! Forward—turn! Feet—change!—two! To the right—turn! Forward—turn! Position!*

g. **Marching.** See page 80.

h. **St. pr. to jump.** (Compare *a. wingst. kn. bend.*)
Prepare to jump—one!—two!—three!—four! later without counting: *Prepare to—jump!*

i. **Yardst. A. bend. forw.** *Arms sideways—lift! Arms forward—bend! Sideways—stretch! Repeat—one!—two! Arms downward—sink!*

TABLE VI.

(STANDARDS I. & II.)

Ordermovements. See page 33.

a. **Wingst. F. pl. forw.** (series) *Hips—firm! Footplacings forward, begin with the left—one!—two!—three!—four! Repeat, begin with the right—one!—two!—three!—four! Position! See No. 23, page 43.*

Wingcourtesyst. H. turn. *Hips—firm! Heels—raise! Knees—bend! Headturnings, begin to the left—one!—two!—three!—four! Repeat, begin to the right—one!—two!—three!—four! Knees—Stretch! Heels—sink! Position!*

b. **Str. st. Tr. bend.** *Arms upward—stretch! Backward—bend! Upward—stretch! Forward—bend! Downward—bend! Forward—stretch! Upward—stretch! Position!*

c. **St. A. str.** (comp. Table V. c.).

d. **Rest. cl. walkst. Heelrais.** *Feet close, left foot forward and neck—firm! (do the closing of feet only)—two! (neck firm and footplacing forward). Heels—raise! Heels—sink! Feet—change! Heels—raise! Heels—sink! Position!*

e. **Hlfstr. st. A. shft.** *Left Arm upward—stretch! Arms—change!—two! Arms—change!—two! Position!*

f. **Hlfstr. cl. st. S. bend.** *Feet close and left Arm upward—stretch! To the right—bend! Upward—stretch! Arms—change!—two! To the left—bend! Upward—stretch! Position!*

g. **Marching.** See page 80.

h. **St. pr. to jump.** *Prepare to—jump! Repeat.*

i. **Yardst. A. strk.** *Arms sideways—lift! Armstriking (Arms forward bend)—one!—two!—one!—two! Position!*

TABLE VII.

(STANDARDS I. & II.)

Ordermovements. See page 33.

a. Wingst. F. pl. outw. w. Heelrais. (series) Hips—firm! Footplacings outward with heelraising, left foot—place!—two!—three!—four! Right foot—place!—two!—three!—four! later the feet follow each other, counting one! . . . —eight! Position! See No. 23, page 43.

Str. st. Kn. bend. Arms upward—stretch! Heels—raise! Knees—bend! Knees—stretch! Heels—sink! Position!

b. Str. strd. st. Tr. bend. Feet sideways and Arms upward—stretch! Backward—bend! Upward—stretch! Forward—bend! Downward—bend! Forward—stretch! Upward—stretch! Position!

c. St. A. str. See Table V. c.

Underhang. pos. w. overgrip. On a bar or similar apparatus. See No. 46, page 55.

d. Str. cl. walkst. Heelrais. Feet close, left foot forward and Arms upward—stretch! (foot-closing and A. bend upw.)—two! (foot pl. forw. and A. str. upw.) Heels—raise! Heels—sink! With Armstretching, feet—change!—two! Heels—raise! Heels—sink! Position!

e. Hlfstr. hlfyrd st. A. shft. Left Arm upward and right Arm sideways—stretch!—two! Arms—change!—two! Repeat. Position!

f. Wingst. Tr. bend. backw. and change to Restst. Hips—firm! Backward—bend! Neck—firm! Hips—firm! Change—one!—two! Upward—stretch! Position!

g. **Restwalkst.** (b) **S. turn.** *Left foot forward and—neck—firm! To the left—turn! Forward—turn! Feet—change! To the right—turn! Forward—turn! Position!*

h. **Marching.** See page 80.

i. **St. pr. to jump.** *Prepare to—jump! See Table V. h.*

St. high jump. *In height—jump!—two!—threefour!—five!—six! Repeat.*

j. **St. A. circl.** *Arms forward upward—lift! Sideways—downward—sink! Repeat—one!—two!*

TABLE VIII.

(STANDARDS I. & II.)

Ordermovements. See page 33.

a. Wingst. F. pl. forw. w. Heelrais. (series) Hips—firm! Footplacings forward with Heelraising, left foot—place!—two!—three!—four! Right foot—place!—two!—three! four!—later the feet follow each other, counting :—one!— — — — eight! Position! See No. 23, page 43.

Str. strd. st. Kn. bend. Feet sideways, arms upwards—stretch! Heels—raise! Knees—bend! Knees—stretch! Heels—sink! Position!

b. Str. cl. st. Tr. bend. Feet close and arms upward—stretch! Backward—bend! Upward—stretch! Forward—bend! Downward—bend! Forward—stretch! Upward—stretch! Position!

c. St. A. str. See Table V. c.

Underhang. pos. w. undergr. On a bar or similar apparatus. See No. 47, page 55.

d. Wingt. Kn. upbend. Hips—firm! Left knee upward—bend! Downward—place! Right knee upward—bend! Change—one!—two! Position!

e. Hlfstr. hlreachst. A. shiftn. Left arm upward, right arm forward!—stretch!—two! Arms—change!—two! Position!

f. Str. strd. archst. A. str. upw. Feet sideways, arms upward—stretch! Backward—bend! Armbending and stretching—one!—two! Upward—stretch! Position!

Restwalkst. (b) S. bend. *Left foot forward and neck—firm! To the left—bend! Upward—stretch! Feet—change! To the right—bend! Upward—stretch! Position!*

h. Marching. See page 80.

i. St. pr. to jump. See Table V. *h.*

St. High jump w. turn. *With turning to the left, in height—jump!—two!—threefour!—five!—six! Repeat to the other side.*

j. St. A. str. backw. *Arms backward—stretch! Arm-bendings and -stretchings backward—one!—two!—one!—two! Position!* Later on let the Armstr. continue in measured time, without counting, till “stop” is commanded.

TABLE IX.

(STANDARDS III. & IV.)

Ordermovements. See page 33.

a. Wingwalkst. (a) Kn. bend. *Left foot outward, Hips—firm! Heels—raise! Knees—bend! the weight of the body is mainly on the rear (right) leg; Knees—stretch! Heels—sink! Feet—change! Heels—raise! Knees bend! Knees—stretch! Heels—sink! Position!*

Str. courtesyst. A. str. upw. *Arms upward—stretch! Heels—raise! Knees—bend! Arm bending and stretching upward—one!—two!—one!—two! Knees—stretch! Heels—sink! Position!*

b. Rest-archst. A. str. upw. *Neck—firm! Backward—bend! Arms upward—stretch! Neckfirm and Armstretching upward—one!—two!—one!—two! Upward—stretch! Str. cl. st. Tr. bend. forw. Feet—close! Forward-downward—bend! Forward-upward—stretch! Position!*

c. Str. A. str. See Table V. c.

Underhang. pos. w. alternate gr. See No. 48, page 55.

d. Winger. hlfst. F. Chang. *Hips—firm! Left knee upward—bend! Change—one! place the left foot on the ground and pull the right knee up quickly to cr. hlfst. pos.—two! change again and repeat. (Left) foot downward—place! Position!*

e. Str. st. A. swing. *Arms upward—stretch! Forward—sink! Upward—lift! Then sharply: Armswinging—one!—two!—one!—two! Position!*

f. Wing. hlf. kneeling. Tr. bend. backw. Hips—firm ! half kneeling, on the left knee—place ! Backward—bend ! Upward—stretch ! Halfkneeling—change !—two ! Backward—bend ! Upward—stretch ! Position !

g. Str. strd. st. S. turn. Feet sideways, Arms upward—stretch ! To the left—turn ! Forward—turn ! To the right—turn—Forward—turn ! Position !

h. Marching. See page 80.

i. St. pr. to jump. See Table V. h.

St. high jump forw. In height forward—jump !—two ! threefour !—five !—six !—only a few inches at first. Keep the dressing in the ranks.

j. St. A. rais. sidew. & Heelrais. Heels raise and Arms sideways—lift !—sink ! Repeat—one !—two ! later the movement becomes continuous and is taken in time with deep inhalations and exhalations.

TABLE. X.

(STANDARDS III. & IV.)

Ordermovements. See page 33.

a. Wingwalkst. (b) Kn. bend. *Left foot forward, Hips—firm! Heels—raise! Knees—bend! the weight of the body equally divided on both legs; Knees—stretch! Heels—sink! Feet—change! Heels—raise! Knees—bend! Knees—stretch! Heels—sink! Position!*

Str. strd. courtesyst. A. str. upw.—*Feet sideways, Arms upward—stretch! Heels—raise! Knees—bend! Armbending and stretching upward—one!—two! Knees—stretch! Heels—sink! Position!*

b. Rest archwalkst. (b) F. chang. *Left foot forward, Neck—firm! Backward—bend! Footchanging—one!—two! Upward—stretch! Position!*

Str. strd. st. Tr. bend. forw. *Feet sideways, Arms upward!—stretch! Forward-downward—bend! Forward-upward—stretch! Position!*

c. St. A. str. See Table V. c.

Fallhang-pos. A bar placed about chest-level, or the forms in the class-room. See No. 44, page 53.

d. Winger. hlfst. F. bend. & str. *Hips—firm! Left Knee upward—bend! Footbending and -stretching—one!—two! Feet—change! Footbending and -stretching—one!—two! (Right) foot downward—place! Position!*

e. Wingstoopst. H. turn. *Hips—firm! Forward—bend! Headturning (begin to the left)—one!—two!—three!—four! Upward—stretch! Position!*

f. Rest hlfkneel. Tr. bend. backw. *Neck—firm!*

*Halfkneeling, on the left Knee—place! Backward—bend!
Upward—stretch! Feet—change!—two! Backward—bend!
Upward—stretch! Position!*

g. Str. strd. turnst. A. str. Feet sideways, Arms upward—stretch! To the left—turn! Armbending and stretching upward—one!—two! Forward—turn! To the right—turn! Armbending and -stretching—one!—two! Forward—turn! Position!

h. Marching. See page 80.

i. St. pr. to jump. See Table V. h.

St. high jump sideways. In height to the left—jump! two!—threefour!—five!—six! Repeat to the right.

j. Str. courtesyst. A. part. Arms upward—stretch! Heels—raise! Knees—bend! Armparting—one!—two! Knees—stretch! Heels—sink! Position!

TABLE XI.

(STANDARDS III. & IV.)

Ordermovements. See page 33.

a. Wingst. F. pl. outw. w. Heelrais. & Kn. bend. (Series). *Hips—firm ! With Heelraising and Kneebending, left foot outward—place !—two !—three !—four !—five !—six ! Right foot—place !— —six !—Position ! Compare No. 23. page 43.*

Wing. courtesysitt. H. turn. *Hips—firm ! Heels—raise ! Knees—bend ! Sit ! Headturning, begin to the left —one !—two !—three !—four ! Knees—stretch ! Heels—sink ! Position !*

b. Str. walkst. (b) Tr. bend. *Left foot forward, arms upward—stretch ! Backward—bend ! Upward—stretch ! Forward (downward)—bend ! Upward—stretch ! With Armstretching, Feet—change !—two ! Backward—bend ! Upward—stretch ! Forward—bend ! Upward—stretch ! Position !*

c. St. A. str. See Table V. c.

Fallhang. A. bend. See No. 44.

d. Rest. cr. hlft. F. bend. & str. *Neck—firm ! Left Knee upward—bend ! Footbending and -stretching—one !—two ! Feet—change ! Footbending and stretching—one !—two ! (Right) foot downward—place ! Position !*

e. Str. stoopst. A. str. *Arms upward—stretch ! (Trunk) Forward—bend ! Armbending and stretching upward—one !—two ! Upward—stretch ! Position.*

f. Kneeling Tr. bend. backw. *Hips—firm ! Heels—raise !*

Knees—bend ! Sit ! Kneeling—place ! Backward—bend ! Upward—stretch ! Position !

g. Str. strd. turnst. qu. S. turn. Feet sideways, Arms upward—stretch ! To the left—turn ! Quick turnings (to the right)—one !—two !—one !—two ! Forward—turn ! Position !

h. Marching. See page 80.

i. St. pr. to jump. See Table V. h.

High jump forw. w. one step start. Left foot forward, in height forward—jump !—twothree !—four !—five ! Right foot—jump !—twothree !—four !—five !

j. Str. courtesy sitt. A. part. Arms upward—stretch ! Heels—raise ! Knees—bend ! Sit ! Armparting—one !—two ! Knees—stretch ! Heels—sink ! Position !

TABLE XII.

(STANDARDS III & IV.)

Ordermovements. See page 33.

a. **Wingst. F. pl. forw. w. Heelrais. & Kn. bend.** (Series)
Hips—firm! With Heelraising and Kneebending, left foot forward—place!—two!—three!—four!—five!—six! Right foot—place! — — — six! Position! See No. 23, page 38.

Str. courtesysitt. A. str. *Arms upward—stretch! Heels—raise! Knees—bend! Sit! Armbending and stretching upward—one! — two! Knees — stretch! Heels — sink! Position! See fig. 7, page 41.*

b. **Str. archwalkst. (b) A. & F. chang.** *Left foot forward, Arms upward—stretch! Backward—bend! Foot-changing with Armstretching—one! — two!—one! — two! Upward—stretch! Position!*

Str. strd. st. Tr. bend. forw. *Feet sideways, Arms upward—stretch! Forward downward—bend! Upward—stretch! Position!*

c. **St. A. str.** See Table V. c.

Fallhang. A. bend. See No. 44, page 53.

d. **Winger. hlftst. Kn. str. forw.** *Hips—firm! Left knee upward—bend! Forward—stretch! Upward—bend! Feet—change! Right knee forward—stretch! Upward—bend! Downward—place! Position!*

e. **Str. stoopst. A. wing.** *Arms upward — stretch! (Trunk) Forward—bend! Arms forward—sink! Upward — lift! Repeat armswinging—one!—two! Upward—stretch! Position!*

f. **Stoopfalling pos.** *Stoopfalling—place!—two! Position!—two! See No. 88, page 71.*

g. **Wingturnwalkst.** (a) **S. bend.** *Left foot outward, Hips—firm! To the left—turn! To the left—bend! Upward—stretch! Forward—turn! Feet—change! To the right—turn! To the right—bend! Upward—stretch! Forward—turn! Position!*

h. **Marching.** See page 80.

i. **St. high jump w. A. outfling.** *With outflinging of Arms, in height—jump!—two!—threefour!—five—six!*

High jump. forw. w. (two or three) steps start. *Two steps, beginning with the left, in height forward—jump!—two!—threefour!—five!—six! Three steps, beginning with the right, in height forward—jump!—two!—three!—fourfive! six!—seven!*

j. **Yardtoest. A. rais. & Kn. bend.** *Heels raise and Arms outward—lift! Armraising and Kneebending—one!—two! Position!*

TABLE XIII.

(STANDARDS V. & VI.)

Ordermovements. See page 33.

a. Wing. St. pr. to jump. *Hips—firm ! Prepare to—jump ! Position !*

Winglungest. (a) F. chang. *Hips—firm ! Left—lunge ! Feet—change !—two ! Position !* See No. 25, p. 43.

b. Wingsp. bendst. Heelraising. (Support.) The squad standing in open order and flankposition, command : *Left—turn ! Even numbers, one step to the right—march !* when they (even numbers) come behind the odd numbers ready to give support, as in fig. 16, &c. *Odd numbers, hips—firm ! Backward—bend ! Even numbers support—place ! Odd numbers, Heelraising—one !—two ! Upward—stretch ! Position ! Squad, left about—turn !* after which even numbers go through the exercise, odd numbers supporting. Even numbers having regained position, command : *Left about—turn ! Even numbers, one step to the left—march !* The formation now being front position and open order proceed to next movement.

Str. st. Tr. bend. forw. *Arms upward—stretch ! Forwarddownward—bend ! Upward—stretch ! Position !* after which *right—turn* is commanded and the squad has returned to flankposition and open order.

c. St. A. str. See Table V. c.

Undhang. heaving w. overgrip. Compare No. 46, &c.

d. Wingst. whip-jump. *Feet sideways and Hips—firm ! Heels—raise ! Whipjump—jump ! Squad -halt ! Heels—sink ! Position !* See No. 60, page 60.

Rester. hlfst. Kn. str. forw. & backw. *Neck—firm ! Left Knee upward—bend ! Forward—stretch ! Upward—bend ! Backward—stretch ! Upward—bend ! Downward—place ! Repeat with the right. Position !*

e. St. stoopst. A. part. *Arms upward—stretch ! (Trunk) Forward—bend ! Arm parting—one !—two ! Upward—stretch ! Position !*

f. Stoopfalling H. turn. *Stoopfalling—place !—two ! Headturning, begin to the left—one !—two !—three !—four ! Position !—two !*

g. Rest turnwalkst. (a) S. bend. *Left foot outward and neck—firm ! To the left—turn ! To the left—bend ! Upward—stretch ! Forward—turn ! Feet—change ! To the right—turn ! To the right—bend ! Upward—stretch ! Forward turn ! Position !*

h. Marching. See page 80.

i. St. pr. to jump. See Table V. *h.*

St. high jump w. turn. *With turning (about) to the left (right-), in height—jump ! See No. 112, page 82.*

Free jump over a mark—taking off alternately with left and right and landing softly in full balance. See No. 119, page 84.

j. Yard courtesy-st. A. strk. *Arms forward—bend ! Heels—raise ! Knees—bend ! Arms sideways—stretch ! Armstriking—one !—two ! Knees—stretch ! Heels—sink ! Position !*

St. A. circl. See Table VII. *j.*

TABLE XIV.

(STANDARDS V. & VI.)

Ordermovements. See p. 33.

a. Wingst. pr. to jump. See Table XIII. a.

Winglungest. (a) Heelrais. *Hips—firm! Left—lunge! Heelraising—one!—two! (the front foot only). Feet—change! Heelraising—one!—two! Position! See Fig. 10.*

b. Reststrd. sp. bendst. Heelraising. (Support for elbows.) *Feet sideways and neck—firm! Backward—bend! (Support.) Heelraising—one!—two! Upward—stretch! Position! Compare Table XIII. b.*

Str. Strd. st. Tr. bend. ford. *Feet sideways, Arms upward—stretch! Forwarddownward—bend! Upward—stretch! Position!*

c. St. A. str. See Table V. c.

Underhang. heaving w. undergrip. Comp. No. 47.

d. Wingst. whip—jump. *Feet sideways, Hips—firm! Heels—raise! Whipjump—jump! Squad—halt! Heels—sink! Position!*

Str. or. hlfst. kn. str. *Arms forwardupward—lift! Left knee upward—bend! Forward—stretch! Bend! Backward—stretch! Upward—bend! Downward—place! Repeat with the right. Position!*

e. Hlfstr. lungest. (a) F. chang. *Left arm upward, right arm downward, left—lunge!—two! Arms and feet—change!—two! Position!*

f. Stoopfall. A. bend. *Stoopfalling—place! Armbending—one!—two!*

g. Sidefalling pos. (from Stoopfall.) On the left side—place ! Change—one !—two ! Stoopfalling—place ! Position !

Restwalkst. (b) S. turn. Left foot forward, neck—firm ! To the left—turn ! Forward—turn ! Feet—change ! To the right—turn ! Forward—turn ! Position !

h. Marching. See page 80.

i. St. pr. to jump. See Table V. h.

High jump forward (with 1, 2, or 3 steps start). See Table XII. i.

Free jump over a mark, Leapfrog, &c. See Nos. 119, 120, and 121, page 84.

j. Yardlungest. (b) A. strk. With Armstriking, left foot lungestanding backward—place !—two ! Armstriking—onetwo ! With Armstriking, Feet change !—two !—Armstriking—onetwo ! Position ! See No. 133, page 88.

St. A. circl. See Table VII. j.

TABLE XV.

(STANDARDS V. & VI.)

Ordermovements. See page 33.

a. Bend.toest. Kn. bend. w. A.str. Heels raise and Arms upward—bend! Kneebending and Armstretching—one!—two! Position! See No. 24, page 43.

Winglungest. (b) F. chang. Hips firm! Left Foot lungestanding forward—place! Feet—change! position!

b. Str. sp. bendst. Heelrais. (Support for Head as in Fig. 16 or for hands as in fig. 17.) Arms upward—stretch! Backward—bend! Heelraising!—one!—two! Upward—stretch! Position! Compare Table XIII. b.

Str. st. Tr. bend. forw. down. See Table XII. c.

c. St. A. str. See Table V. c.

Underhang. heaving w. alt. gr. Comp. No. 48.

d. Winger. hlfst. F. chang. (March—time.) Hips—firm! Left knee upward—bend! With kneebending, on the spot—march! Squad—halt! Position!

Restst. Legraising sidew. Neck—firm! Left leg outward—lift!—sink! Right leg outward—lift!—sink! Position!

e. Hlfstr. lungest. (a) A. shft. Left arm upward, right arm downward—left—lunge! Armshifting—one!—two!—one!—two! With Armstretching, Feet—change!—two! Armshifting—one!—two!—one!—two! Position! See No. 83, page 68.

f. Wingsitt. Tr. bend. backw. On a form, low bench or the floor. Fig. 50. (Odd numbers)—Sit! Hips—firm! (Even numbers)—support—place! (Odd numbers) backward—

bend ! Upward—stretch ! Position ! Odd and even numbers change and the exercise is repeated. See No. 93, page 73.

g. Sidefall pos. from the rank. Stoopfalling—place !—two ! On the left (right) side—place ! Change—one !—two ! Position !—two !—three ! See No. 107, page 79.

Yardstrd. st. S. bend. Feet sideways, Arms sideways—stretch ! To the left—bend ! Upward—stretch ! To the right—bend ! Upward—stretch ! Position !

h. Marching. See page 80.

i. Pr. to jump. See Table V. *h.*

Free jump and Leapfrog. See Table XIV. *i.*

St. high jump w. A. & L. outfl. With outflinging of Arms and Legs, in height—jump !—two !—threefour !—five !—six ! See No. 116, page 83.

j. Slow march w. A. strk. With Armstriking, slow—murch ! Squad—halt ! See No. 134, page 88.

St. A. circl. See Table VII. *j.*

TABLE XVI.

(STANDARDS V. & VI.)

Ordermovements. See p. 33.

a. Wingst. pr. to jump. See Table XII. a.

Str. Lungest. (a) A. str. *Left lunge and Arms upward—stretch! Armstretching—one!—two! With Armstretching, feet—change!—two! Armstretching—one!—two! Position!* See No. 28, page 44.

b. Str. strd. sp. bendst. Heelrais. Support for hands.) *Feet sideways, Arms upward—stretch! Backward—bend! (support) Heels—raise!—sink! Upward—stretch! Str. strd. st. Tr. bend. forw. Forwarddownward—bend! Upward—stretch! Position!*

c. St. A. str. See Table V. c.

Climbing on ropes. See No. 49, page 56.

d. Wingtoest double march w. kn. upbend. *Hips—firm! Heels—raise! With kneeupbending, on the spot, double—march! Squad—halt! Heels—sink! Position!*

Str. st. Legrais. Sidew. *Arms forwardupward—lift! Left leg outward—lift!—sink! Right leg outward—lift!—sink! Position!*

e. Forwardlying pos. On the form or a low bench. See No. 84, page 69.

f. Restsitt. Tr. bend. backw. Comp. Table XV. f. *Sit! Neck—firm! Support—place! Backward—bend! Upward—stretch! Position!*

g. Sidefall. Leglift. *Sidefalling on the left side—place—two!—three! Right leg—lift!—sink! Change—two!—three! Left leg—lift!—sink! Position!—two!—three!*

Str. Strd. turnst. A. str. *Fect sideways, Arms upward—stretch! To the left—turn! Armstretching—one!—two! Forward—turn! To the right—turn! Armstretching—one!—two! Forward—turn! Position!*

h. Marching. See page 80.

i. Pr. to jump. See Table V. *h.*

Free jump and Vaulting. See Table XIV. *i.*

St. high jump w. A. & L. outfl. See Table XV. *i.*

j. Slow march w. A. strk. See Table XV. *j.*

A. rais. sidew. upw. w. kn. bend. *Heels raise and Arms sideways—lift! Knees bend and Arms upward—lift! Knees stretch and Arms sideways—sink! Heels sink and Arms downward—sink! Repeat—one!—two!—three!—four!*

St. A. circl. See Table VII. *j.*









