

The principles and practice of educational gymnastics for the use of officers and physical training instructors in His Majesty's fleet.

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THE
PRINCIPLES AND PRACTICE
OF
EDUCATIONAL GYMNASTICS.

Edgar Cayce



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THE PRINCIPLES AND PRACTICE

OF

EDUCATIONAL GYMNASTICS

FOR THE USE OF

OFFICERS AND PHYSICAL TRAINING
INSTRUCTORS IN HIS MAJESTY'S FLEET.

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P R E F A C E.

This treatise has been compiled with the object of supplying a clear and concise explanation of the principles and practice of the Swedish system of Educational Gymnastics.

A set of Tables are included for reference.

The Handbook of Physical Training contains the detailed description and diagrams of the exercises mentioned in this book.

The authorities consulted are: Mr. Allan Broman, "School Gymnastics on the Swedish System"; "Gymnastik" of Viktor Balck och O. Scherstén; "Handbok i Gymnastik för Arméen och Flottan," 1902; Baron Nils Posse, "Special Kinesiology of Educational Gymnastics," 1901.

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CONTENTS.

	Paragraphs.
I. The object and requirements of Physical Training	1 to 8
II. The Exercises Employed - - - -	9 to 11
III. Name of Exercises - - - -	12 to 16
IV. The description of the various Groups, with lists of Exercises arranged in progressive order—	
Group 1. Leg exercises - - - -	17 to 24
Group 2. Span bending exercises - -	25 to 33
Group 3. Heaving exercises - - - -	34 to 43
Group 4. Balance exercises - - - -	44 to 48
Group 5. Dorsal exercises - - - -	49 to 54
Group 6. Abdominal exercises - - -	55 to 62
Group 7. Marching - - - -	63 to 75
Group 8. Lateral exercises - - - -	76 to 87
Group 9. Jumping - - - -	88 to 103
Group 10. Breathing exercises - -	104 to 111
V. Words of Command - - - -	112 to 129
VI. Method of Conducting the Training—	
A. General Principles - - - -	130 to 138
B. Instruction and Methods of Instructing	- 139 to 147
C. Explaining and Illustrating exercises	- 148 to 155
D. Progression and Preparatory exercises	- 156 to 163
E. Faults and Correcting - - - -	- 164 to 176
F. Precautions - - - -	- 177 to 181
VII. The Combination of Movements - -	182
VIII. Apparatus, Space, and Time - - -	183 to 188
IX. Instructions for using the Tables - -	189 to 200
X. Tables.	
Appendix I. Special Corrective exercises - -	201 to 204
Appendix II. Useful abbreviations used in writing the names of positions and exercises -	205

CONTENTS

PREFACE

1	Introduction
2	1. The first part of the book is devoted to a general survey of the subject.
3	2. The second part is devoted to a detailed study of the various aspects of the subject.
4	3. The third part is devoted to a study of the various methods of the subject.
5	4. The fourth part is devoted to a study of the various applications of the subject.
6	5. The fifth part is devoted to a study of the various theories of the subject.
7	6. The sixth part is devoted to a study of the various problems of the subject.
8	7. The seventh part is devoted to a study of the various results of the subject.
9	8. The eighth part is devoted to a study of the various conclusions of the subject.
10	9. The ninth part is devoted to a study of the various suggestions of the subject.
11	10. The tenth part is devoted to a study of the various prospects of the subject.
12	11. The eleventh part is devoted to a study of the various future of the subject.
13	12. The twelfth part is devoted to a study of the various hopes of the subject.
14	13. The thirteenth part is devoted to a study of the various dreams of the subject.
15	14. The fourteenth part is devoted to a study of the various wishes of the subject.
16	15. The fifteenth part is devoted to a study of the various desires of the subject.
17	16. The sixteenth part is devoted to a study of the various needs of the subject.
18	17. The seventeenth part is devoted to a study of the various wants of the subject.
19	18. The eighteenth part is devoted to a study of the various requirements of the subject.
20	19. The nineteenth part is devoted to a study of the various necessities of the subject.
21	20. The twentieth part is devoted to a study of the various conveniences of the subject.
22	21. The twenty-first part is devoted to a study of the various comforts of the subject.
23	22. The twenty-second part is devoted to a study of the various pleasures of the subject.
24	23. The twenty-third part is devoted to a study of the various enjoyments of the subject.
25	24. The twenty-fourth part is devoted to a study of the various delights of the subject.
26	25. The twenty-fifth part is devoted to a study of the various charms of the subject.
27	26. The twenty-sixth part is devoted to a study of the various attractions of the subject.
28	27. The twenty-seventh part is devoted to a study of the various fascinations of the subject.
29	28. The twenty-eighth part is devoted to a study of the various allurements of the subject.
30	29. The twenty-ninth part is devoted to a study of the various temptations of the subject.
31	30. The thirtieth part is devoted to a study of the various seductions of the subject.
32	31. The thirty-first part is devoted to a study of the various enticements of the subject.
33	32. The thirty-second part is devoted to a study of the various inducements of the subject.
34	33. The thirty-third part is devoted to a study of the various incentives of the subject.
35	34. The thirty-fourth part is devoted to a study of the various provocations of the subject.
36	35. The thirty-fifth part is devoted to a study of the various irritations of the subject.
37	36. The thirty-sixth part is devoted to a study of the various provocations of the subject.
38	37. The thirty-seventh part is devoted to a study of the various annoyances of the subject.
39	38. The thirty-eighth part is devoted to a study of the various vexations of the subject.
40	39. The thirty-ninth part is devoted to a study of the various troubles of the subject.
41	40. The fortieth part is devoted to a study of the various sorrows of the subject.
42	41. The forty-first part is devoted to a study of the various pains of the subject.
43	42. The forty-second part is devoted to a study of the various afflictions of the subject.
44	43. The forty-third part is devoted to a study of the various calamities of the subject.
45	44. The forty-fourth part is devoted to a study of the various disasters of the subject.
46	45. The forty-fifth part is devoted to a study of the various misfortunes of the subject.
47	46. The forty-sixth part is devoted to a study of the various hardships of the subject.
48	47. The forty-seventh part is devoted to a study of the various privations of the subject.
49	48. The forty-eighth part is devoted to a study of the various deprivations of the subject.
50	49. The forty-ninth part is devoted to a study of the various losses of the subject.
51	50. The fiftieth part is devoted to a study of the various setbacks of the subject.
52	51. The fifty-first part is devoted to a study of the various reverses of the subject.
53	52. The fifty-second part is devoted to a study of the various disappointments of the subject.
54	53. The fifty-third part is devoted to a study of the various frustrations of the subject.
55	54. The fifty-fourth part is devoted to a study of the various failures of the subject.
56	55. The fifty-fifth part is devoted to a study of the various setbacks of the subject.
57	56. The fifty-sixth part is devoted to a study of the various reverses of the subject.
58	57. The fifty-seventh part is devoted to a study of the various disappointments of the subject.
59	58. The fifty-eighth part is devoted to a study of the various frustrations of the subject.
60	59. The fifty-ninth part is devoted to a study of the various failures of the subject.
61	60. The sixtieth part is devoted to a study of the various setbacks of the subject.
62	61. The sixty-first part is devoted to a study of the various reverses of the subject.
63	62. The sixty-second part is devoted to a study of the various disappointments of the subject.
64	63. The sixty-third part is devoted to a study of the various frustrations of the subject.
65	64. The sixty-fourth part is devoted to a study of the various failures of the subject.
66	65. The sixty-fifth part is devoted to a study of the various setbacks of the subject.
67	66. The sixty-sixth part is devoted to a study of the various reverses of the subject.
68	67. The sixty-seventh part is devoted to a study of the various disappointments of the subject.
69	68. The sixty-eighth part is devoted to a study of the various frustrations of the subject.
70	69. The sixty-ninth part is devoted to a study of the various failures of the subject.
71	70. The seventieth part is devoted to a study of the various setbacks of the subject.
72	71. The seventy-first part is devoted to a study of the various reverses of the subject.
73	72. The seventy-second part is devoted to a study of the various disappointments of the subject.
74	73. The seventy-third part is devoted to a study of the various frustrations of the subject.
75	74. The seventy-fourth part is devoted to a study of the various failures of the subject.
76	75. The seventy-fifth part is devoted to a study of the various setbacks of the subject.
77	76. The seventy-sixth part is devoted to a study of the various reverses of the subject.
78	77. The seventy-seventh part is devoted to a study of the various disappointments of the subject.
79	78. The seventy-eighth part is devoted to a study of the various frustrations of the subject.
80	79. The seventy-ninth part is devoted to a study of the various failures of the subject.
81	80. The eightieth part is devoted to a study of the various setbacks of the subject.
82	81. The eighty-first part is devoted to a study of the various reverses of the subject.
83	82. The eighty-second part is devoted to a study of the various disappointments of the subject.
84	83. The eighty-third part is devoted to a study of the various frustrations of the subject.
85	84. The eighty-fourth part is devoted to a study of the various failures of the subject.
86	85. The eighty-fifth part is devoted to a study of the various setbacks of the subject.
87	86. The eighty-sixth part is devoted to a study of the various reverses of the subject.
88	87. The eighty-seventh part is devoted to a study of the various disappointments of the subject.
89	88. The eighty-eighth part is devoted to a study of the various frustrations of the subject.
90	89. The eighty-ninth part is devoted to a study of the various failures of the subject.
91	90. The ninetieth part is devoted to a study of the various setbacks of the subject.
92	91. The ninety-first part is devoted to a study of the various reverses of the subject.
93	92. The ninety-second part is devoted to a study of the various disappointments of the subject.
94	93. The ninety-third part is devoted to a study of the various frustrations of the subject.
95	94. The ninety-fourth part is devoted to a study of the various failures of the subject.
96	95. The ninety-fifth part is devoted to a study of the various setbacks of the subject.
97	96. The ninety-sixth part is devoted to a study of the various reverses of the subject.
98	97. The ninety-seventh part is devoted to a study of the various disappointments of the subject.
99	98. The ninety-eighth part is devoted to a study of the various frustrations of the subject.
100	99. The ninety-ninth part is devoted to a study of the various failures of the subject.
101	100. The hundredth part is devoted to a study of the various setbacks of the subject.

I.

THE OBJECT AND REQUIREMENTS OF
PHYSICAL TRAINING.

1. The object of Physical Training is *Health*, by means of which are acquired the capacity of endurance and of resisting disease, and the manly qualities of strength, activity, courage, and presence of mind.
2. To fulfil this object the training must produce harmonious development of the body. This, which is the very essence of health, is attained when all the various parts and organs are fully developed according to their own natural purposes and powers, each doing its full share of work, and the whole acting in response to the will.
3. The exercises employed in this training must, therefore, be chosen for their effect on the body. They must be adapted to its construction and requirements, and develop equally all its parts. The practical application of these exercises is called "Gymnastics."
4. Particular attention must be paid to the development of the chest, in order to strengthen and develop the heart and lungs which lie therein, and to afford them ample space for their proper working; as it is upon the capacity and healthy action of these organs that harmony in the development chiefly depends.
5. Every exercise employed must allow of full and free breathing; for, besides the beneficial effects of this upon the development of the chest, the muscles while at work require much more oxygen and give off far more waste matter than when at rest. The oxygen is taken in and the waste matter eliminated through the lungs, and unless the breathing abundantly supplies the one and quickly removes the other, overstraining and injury to the heart will result as a consequence of the deficient cleansing of the blood.

Every exercise must, therefore, be done with due regard to free respiration, and this requirement being of

the first importance in gymnastics, should be impressed upon the men (*see par. 104*).

6. In order to produce the best results, the physical education of the body must take place during youth, because at this period the natural growth and development can be powerfully aided and directed in building up a perfectly formed and healthy body by the proper application of suitable physical exercises.

The neglect of physical education during youth very frequently results in a flat chest, round shoulders, poor physique, clumsy and ill-controlled movements; with their sequels, organic weakness, predisposition to disease, and lack of efficiency. These defects are, moreover, very little amenable to correction by physical training commenced at a later age.

The physical education must be conducted in accordance with the requirements of the young but yet weak and unformed body. It must begin with the simplest and easiest exercises, and progress by slow but continually advancing stages, keeping pace with the natural growth until complete development is attained.

It must be borne in mind that while the neglect of physical education is injurious, its improper application is equally so. The practice of exercises too advanced for the period of development reached, the progression forced too rapidly, or the attempt to get improper results, will work infinitely more harm than good.

The benefits resulting from properly conducted physical training may not be immediately apparent, especially in youth; but if the training is rightly carried out these benefits are certainly being derived. "Attempts to 'form muscle' in the young result in stunting and arresting their growth, whereas the building up and tending of the framework, the skeleton, is the first consideration. To attain this development with its outward signs—a wide, healthy chest and straight spine—is the aim of physical exercises."

7. The Swedish system of gymnastics is designed with the single object of fulfilling the requirements stated above.

Its aim is *the even development of the body*, the exercises employed are but the means to that end.

The acquisition of skill in the performance of tricks on any particular apparatus (which is the commonly but erroneously accepted meaning of the word "gymnastics") cannot give this result. Exercises of this description, conceived as an end in themselves, are adapted to the construction of the apparatus and not to that of the human body. Therefore, while the practice of such exercises *in moderation* by those of mature development is unobjectionable, their exclusive or constant practice, especially in youth, leads to the overdevelopment of one part of the body at the expense of the remainder, with risk of injury to the vital organs.

So, also, the acquirement of great muscular development, without regard to the corresponding development of the vital organs, will lead to injurious results, especially to the *heart*, through the excessive work required of it to drive the blood through the abnormal mass of muscle.

The evil effects of these different forms of defective development may not be immediately apparent, and in fact may seem to be wholly absent; but in time they will show themselves by the premature failure of some under-developed or overstrained organ to perform its appointed work.

8. It must always be remembered that the purpose of the training is the uniform development of *all* the men. The few who show exceptional ability are not to receive special attention at the expense of the remainder.

II.

THE EXERCISES EMPLOYED.

9. The exercises employed in this system of training are chosen with regard to their effects upon the human body.

Different exercises are employed to produce different effects, the whole giving a uniform and harmonious development.

10. The exercises are therefore classed in groups according to the particular effect that each group produces, and not according to any apparatus, which would give no indication of the effect of the exercises upon the system.

The groups are named as follows :—

1. Leg exercises.
2. Span bending exercises.
3. Heaving exercises.
4. Balance exercises.
5. Dorsal exercises.
6. Abdominal exercises.
7. Marching.
8. Lateral exercises.
9. Jumping and vaulting.
10. Breathing exercises.

The order in which the groups are here set down is also that in which the exercises should follow each other in the daily lesson, because in this order one exercise prepares the way for the next, and experience has shown that the exercises can be made more powerful, and therefore more effective, without injurious results.

When the training has sufficiently advanced, a second Leg exercise and a second Heaving exercise may be added between groups 8 and 9, making in all 12 groups for a full day's scheme of training.

11. The **Introductory exercises** placed at the beginning of a lesson are easy and familiar exercises used to concentrate the attention upon muscular work, to correct the carriage, and to lead up gradually to the harder exercises to follow. An exercise may also be included here which prepares for some particular exercise to follow, such for instance as the Lateral exercises, thus saving time later in the correction of awkward men.

III.

NAMES OF EXERCISES.

(TERMINOLOGY.)

General Principles.

- 12.** The names given to the exercises exactly describe the positions and movements of the body in performing them.

This method of naming the exercises has the advantage that, given the name, we know at once what must be the positions and movements of the body in order to carry out the exercise. If the exercises were named according to the apparatus employed we should have no indication of the required movement of the body. Thus: "Short circle," which means "short circle *the bar.*"

In Swedish gymnastics even the form of apparatus which may be employed is not indicated in the names of the exercises, as this is quite immaterial provided the desired effects on the body are obtained.

- 13.** It is obvious that at the commencement of any bodily exercise whatever the body must be in some particular position.

When the object of the exercise is to produce some specific effect on the body, some one particular position must be chosen from which to start the exercise, namely that from which it will be able to produce the desired effect most completely. Change the position, and the effect of the exercise is changed also.

For example: "Arms stretchings" carried out from the position of "Attention" exert a powerful influence principally upon the "heaving muscles," and thus give a good carriage of the shoulders; whereas, when carried out from the "Stoop standing position" they chiefly exert the dorsal muscles, and so straighten the spine.

The positions selected from which to start the exercises are called "Starting Positions," and are so

chosen in the Swedish gymnastics that the exercises performed from them produce the exact effects required.

It is therefore of the utmost importance that the "Starting Positions" should be perfectly correct before commencing the exercises. This is all the more important from the fact that many exercises consist of the starting position itself. In such exercises the taking and *holding* of the starting position constitutes the exercise, where the *sustained* contraction or *static activity* of the muscles is required. This holding of the starting position may or may not be combined with a movement of some part of the body to occupy the time and attention. For example, in the exercise "Wing Forward Lying: Head turning" the *exercise* is the sustained contraction of the spinal muscles holding the body in the Forward Lying position for a sensible period of time; the head turning is executed merely to occupy the time and to free the muscles of the neck from straining, and although valuable for that purpose, adds nothing to the work of the spinal muscles.

14. It will now be seen that every exercise consists of two parts:—

- (1) The Starting Position from which it is carried out.
- (2) The Exercise itself.

The names of the exercises must therefore contain these two parts in order that the exercises may be completely described. The Starting Position is given first, as this must be known before the exercise can be carried out. The names are therefore built up in the following way:—

- (1) The name of the Starting Position is given, followed by
- (2) The name of the Exercise to be done from it.

For example: "Stretch Stride Standing: Trunk bending sideways," which means that the "Stretch Stride Standing Starting position" is to be taken, and then the exercise of "Trunk bending sideways" done from it.

In order that its name may give the precise form of the exercise, the descriptions of the Starting Position and of the Exercise itself must both be exact. This is obtained in the following way:—

The name of the Starting Position expresses—

- (1) The position of the whole body, as: *Standing, Sitting, Hanging, &c.*
- (2) The positions of the various parts of the body, as: *Wing, Stride, Stoop, &c.*

The name of the Exercise expresses—

- (1) The various parts of the body that are to be moved, as: *Arms, Feet, Trunk, &c.*
- (2) How they are to be moved, as: *Bending, Stretching, Placing, Turning, &c.*
- (3) The direction in which the movement is to be made, as: *Upwards, Sideways, Forwards, Backwards, &c.*

Thus—

- (1) Arms (2) stretching (3) upwards.
- (1) Feet (2) placing (3) forwards.
- (1) Trunk (2) bending (3) backwards.

Note.—When there can be no doubt as to the direction of the movement, this is omitted in the name of the exercise as unnecessary. Thus: “Arms bending,” “Trunk turning,” in which the arms are always bent upwards, and the trunk turned always to the right and left.

An exercise carried out from a Starting Position continues until a “*finishing position*” is reached, or from this returns to the Starting Position.

Certain Starting Positions, such as Standing, Lying, Sitting, Hanging, &c., are called Fundamental Positions, as from them all other positions are derived; the simplest derived Starting Positions being the *finishing positions* of exercises carried out in the Fundamental Positions. Again, from these simple derived Starting Positions more complex Starting Positions are derived in the same way. Thus a great many Starting Positions can be obtained, each one being more complex and therefore a progression on the last.

The name of the Fundamental Position is always placed last in the names of the Starting Positions.

15. The Names of the various Starting Positions employed.

1. Positions of the whole Body.

(*Fundamental Positions.*)

Standing.—This is the first or principal position, from which all the other positions are derived, and on the correctness of which they greatly depend. It is a *working* position, and is taken on the command “Attention!” The name is usually written abbreviated thus: *St*:

Sitting.—Position sitting on the ground or bench with trunk erect.

Kneeling.—Kneeling—the knees together; Stride kneeling—the knees one foot-length apart, the body and thighs erect above the knees, the arms hanging by the sides.

Lying.—The body extended flat on the ground, back downwards, the arms by the sides.

Hanging.—The whole body suspended by the hands from some apparatus.

2. Positions of the various parts of the Body.

(*Simple derived Starting Positions.*)

(a) Those on the upper limbs:—

Wing.—Hands on the hips. Taken on the command: *Hips—firm!*

Rest.—Hands behind the neck. Taken on the command:—*Neck—rest!*

Bend.—Elbows close to the sides, fingers pointing towards the shoulders. Taken on the command: *Arms—bend!*

Yard.—Arms held straight out sideways, level with the shoulders, palms downwards. Taken on the command: *Arms sideways—stretch!* or *Arms sideways—raise!*

Reach.—Arms parallel forwards, level with the shoulders, palms inwards. Taken on the command: *Arms forward—stretch!* or *Arms forward—raise!*

Stretch.—Arms parallel upwards, palms inwards. Taken on the command: *Arms upwards—stretch!* or *Arms forward (sideways) and upwards—raise!*

(b) Those of the lower limbs:—

Close.—Inner sides of the feet close together. Taken on the command: *Feet—close!*

Stride.—Feet placed sideways two foot-lengths apart. Taken on the command: *Feet sideways—place!*

Walk (a).—One foot placed two foot-lengths outwards in its own direction. Taken on the command: *Foot outwards—place!*

Walk (b).—One foot placed two foot-lengths straight forward. Taken on the command: *Foot forward—place!*

Lunge (a).—One foot placed as in Walk (a), but *three* foot-lengths, and with the forward knee bent. Taken on the command: *Foot outwards—lunge!*

Lunge (b).—One foot placed as in Walk (b), but *three* foot-lengths, and with the forward knee bent. Taken on the command: *Foot forward—lunge!*

Crook.—The knees bent upwards, the thighs at right angles to the trunk, the legs at right angles to the thighs. Chiefly used in combination with Hanging position.

(c) Those of the trunk:—

Arch.—The back, neck, and head bent backwards in one arched curve. Taken on the command: *Trunk backwards—bend!*

Note.—A distinction must be made between the Arch and Span-bending positions. The Arch position is taken free standing; the Span-bending position is taken with the arms in the Stretch position and the hands supported on some apparatus. The Arch position is used in certain exercises as a preparatory to Span-bending.

Stoop.—The trunk leaning forward with the spine straight, and bending at the hips. Taken on the command: *Trunk forward—bend!*

Fall.—The trunk leaning forward, backward, or sideways with straight spine. Mostly used in combination, as “Stoop Falling,” “Fall Sitting,” “Fall Hanging,” &c.

Turn.—The trunk turned to one side. Taken on the command: *Trunk to the left (right)—turn!*

Those of either the Upper or Lower Limbs.

Half—means the position of a leg, arm, or knee on one side only. Written abbreviated thus: $\frac{1}{2}$.

e.g., “Crook $\frac{1}{2}$ St.,” which means that one knee is placed in the Crook position while standing on the other leg. “ $\frac{1}{2}$ Yard $\frac{1}{2}$ Stretch” means that one arm is in the Yard position while the other is in the Stretch position.

16. Combined Positions.—When two or more of the above positions are combined, the name of the resulting position is composed of the names of the separate positions, arranged so that the position is read from above downwards, and in the order of the movements for taking the position.

Thus “Stretch Stride Turn Arch Standing.” Reading from above downwards the “Stretch” and “Stride” positions are taken together, and then follow in their proper sequence the “Turn” position and the “Arch” position.

IV.

THE DESCRIPTION OF THE VARIOUS GROUPS,
WITH LISTS OF EXERCISES ARRANGED
IN PROGRESSIVE ORDER.

GROUP 1.—LEG EXERCISES.

17. **Muscles employed.**—Those of the hip, thigh, and calf.
18. **Effect.**—The name given to these exercises does not fully indicate their functional effect. They would be more correctly described as “Deflective Exercises,” because they are principally employed for their action in *deflecting* the blood from other parts of the body to the legs, and thus regulating the heart beat. Incidentally they also develop the muscles of the legs.
19. **Explanation of the effect of Deflective Exercises.**—Physiology shows that a muscle when in action contains more blood than while resting or inactive. The amount of blood which an active muscle “absorbs” is in proportion to its size. The muscles of the legs, being always the largest in the human body, must, therefore, utilise a large quantity of blood; but as there is no outside supply, the blood must be drawn or *deflected* from other parts of the body to the legs when their muscles are in action. Furthermore, the alternate shortening and lengthening of the large blood vessels of the legs during these exercises produces a *quicker flow* of blood to the legs; the resistance to the heart’s action is consequently diminished, and the frequency of its beat lessened.

These exercises are, therefore, employed at the beginning of a lesson to equalise the circulation, and to distribute the blood, which from inaction may be congested in the internal organs, towards the muscles, in this way preparing them for activity. Towards the end of the lesson they are used to quiet the heart beat which has been quickened by the violence of the preceding exercise.

They are also employed after any exercise which causes the blood pressure to become abnormally high, but it must be remembered that a leg exercise used as a deflective exercise after a heavy trunk movement or running, &c. must be a light one or the opposite effect to that desired will be obtained.

20. Not all the exercises in which the legs are principally employed, are "Leg" exercises in the sense indicated above, otherwise Balance exercises, Marching, and Jumping would be included in this group. The effect of the true Leg exercises is obtained by a slow even movement. Exercises such as Jumping and Running in which the muscles of the legs are thrown into rapid action have the opposite effect of increasing the heart beat, and are employed for another purpose.

21. The type of these exercises is: St: Heels raising and Knees bending. The first clean Leg exercises are "Heels raising" executed from the various starting positions of the legs, in which the muscles of the calves and soles of the feet are employed.

These lead to the typical Leg exercises of "Heels raising and Knees bending," in which all the muscles of the hips, knees, and ankles are brought into play. They are carried out from the different starting positions of the legs (not Close St:).

A subdivision of Leg exercises contains certain exercises in which the movements of the legs are unilateral, *i.e.*, in which one leg only is actively engaged in the exercise; they are:—

Walk (a) St: Heels raising and Knee bending.

Lunging outwards and forwards.

Lunge (a) St: Heel raising.

The exercises "St: Alternate Toe raising" and "St: Alternate Heel and Toe raising" include a passive extension of the calf muscles, and a consequent acceleration of the blood circulation through the stretched blood vessels of the legs.

The final exercises of this group consist in continuing the knee bending to the "Knee-bend Sitting" position, and in retaining the Knee-bend Standing and

Sitting positions while executing other exercises such as Head turning and Arms stretching. These final Leg exercises give "static" action in the leg muscles, *i.e.*, the muscles are maintained in a state of contraction; they have, therefore, a very powerful "deflective" effect.

It will be understood that the exercises (Head turning, Arms stretching) carried out in these positions are used merely for the purpose of occupying the time while maintaining the contraction of the leg muscles, and of adding to their work that of resisting the pull of the working muscles above.

- 22.** The true Leg exercises are closely allied to the Balance exercises, the two groups merging more or less into each other.

Leg Exercises in Progressive Order.

23. Preparatory Leg Exercises.

1. St: Feet closing and opening (Close St:).
2. St: Feet placing sideways (Stride St:).
3. St: Foot placing outwards (Walk (a) St:).
4. St: Foot placing forwards (Walk (b) St:).
5. Close St: Foot placing forward (Close Walk St:).

24. True Leg Exercises.

6. St: Heels raising.
 7. Close St: Heels raising.
 8. Stride St: Heels raising.
 9. Walk (a) St: Heels raising.
 10. Walk (b) St: Heels raising.
 11. Close Walk St: Heels raising.
 12. St: Alternate Toe raising.
 13. St: Alternate Heel and Toe raising.
 14. St: Heels raising and Knees bending.
 15. Stride St: Heels raising and Knees bending.
 16. Walk (b) St: Heels raising and Knees bending.
 17. Walk (a) St: Heels raising and Knee bending.
- (Note.—Knees bending is not done in the Close St: position.)

18. St: Foot placings outwards and forwards in succession.
19. St: Foot placings with Heels raising in succession.
20. St: Foot placings with Heels raising and Knees bending in succession,
Nos. 18, 19, and 20 are combinations of Exercises 3 and 4, 9 and 10, 16 and 17. First the "Foot placings" in two directions are continued; then "Heels raising" is added to "Foot placing" in one direction, then in two directions; and finally "Knees bending" is added in a similar manner; the movements being executed in succession, first with one foot and then with both feet, but not more than eight movements in succession are made (Handbook, Vol. I., par. 84, section b).
21. St: Heels raising and Knees bending combined with Arms stretching.
22. St: Lunging outwards and forwards [Lunge (a) and (b) St:].
23. Lunge (a) St: Heel raising, which includes at the same time knee bending.
24. Lunge (a) and (b) St: Arms stretching.
25. Knee-bend St: Head turning and Arms stretching.
26. Knee-bend sitting: Head turning and Arms stretching.
27. Stride Knee-bend St: Head turning and Arms stretching.

GROUP 2.—SPAN BENDING.

25. Span bending consists of an arching backwards of the spine, principally in the upper dorsal region,
The characteristics of the Span bending position is that the body, in Stretch Arch St: position, falls backwards with the hands supported on some apparatus, so that the weight of the body is partly carried by the arms. The body in this position forms a "span" between the hands and feet, requiring for

its maintenance a strong contraction of the muscles of the back and a corresponding stretching of the muscles on the front of the body. The chest becomes lifted and the ribs are spread apart. The bending of the spine should take place in the dorsal region, and to prevent the lumbar curve of the spine being increased, the abdominal muscles, though stretched, must be strongly contracted.

static
function
26. Span bending exercises employ nearly every muscle of the body, and their effect is to strengthen the thoracic portion of the spine, and thus to arch forward and widen the chest and increase its mobility. The contraction of the abdominal muscles brings a strong pressure on the abdominal organs and the great vessels of the trunk, and on this account the Span bending exercises have also a beneficial influence on the organs of digestion.

27. Span bending exercises have close resemblances in their effect to the Dorsal, Abdominal, and Lateral exercises (*see* pars. 51 and 59).

28. True Span bending exercises are exercises carried out in the position described above with the hands supported on some apparatus. They are always preceded by Preparatory Span bending exercises, which consist of Free Standing Trunk bending backwards, and easy exercises carried out in the Arch Standing position. The true Span bendings should not be attempted until the Free Standing Trunk bending backwards is done in correct form. Moreover, the Span bending exercises should not be executed until the men have been prepared by properly executed Dorsal and Abdominal exercises (*see* pars. 51 and 59); for unless the pectoral muscles have become sufficiently extensible, and the shoulder-blade, spinal, and abdominal muscles are capable of strong contraction, the arms cannot be carried back in line with the trunk, the chest cannot be lifted, nor the dorsal spine bent backwards. The only bending possible will then be in the lumbar region, and this cannot be resisted by the abdominal muscles. The result is a most seriously faulty position.

It is, therefore, of the utmost importance to have the Span bending position always perfectly correct, namely with the dorsal spine well bent, the lumbar spine straight, chest forced up, pelvis drawn back, and abdomen flat. The knees should be braced well back in all but the exercises where the arms pass below the horizontal. The legs should lean slightly towards the apparatus.

- 29.** The progression of Span bending exercises is made partly by increasing the distance from the wall bars and partly by increasing the depth of the bending.

In the first exercises (Span bending starting position, Span bending : Heels raising ; and Stride Span bending : Heels raising) the support of the hands should be taken as *high* as possible, and the back only slightly bent. As the men become capable of carrying the chest well up in this position, the distance from the wall bars and the depth of the bending may be gradually increased.

A slight angle between the arms and trunk, which is a faulty attitude in Span bending, is worked away by these *slight* bendings in the Span bending position, and should always be so worked away before a deeper bending is attempted.

The exercise of Heels raising in the Span bending position increases the contraction and extension of the muscles produced by the starting position.

A further progression in the Span bending exercises is made by introducing an oblique action. By raising one leg an increased tension is thrown on the muscles of the front of the body obliquely from the hip of the raised leg to the arm of the opposite side. This arises from the circumstance that the muscles which raise and support the leg tend at the same time to pull their upper attachment (pelvis) down towards that side, and this tendency has to be resisted by the abdominal muscles.

- 30.** The strong and sustained backward bending of the trunk in Span bending exercises is liable, through pressure on the vessels and nerves, to cause spinal congestion. They must always, therefore, be followed by

a *strong* movement in the opposite direction to counteract this effect, such as "Stretch (Stretch Stride) St: Trunk bending forward and downward," "Point Stoop falling," &c.

- 31.** Span bending exercises are of the greatest value as correctives IF they are properly done. The instructor must not attempt too much, but should be satisfied with a slight curve at the commencement of the training of men and boys.

List of Span Bending Exercises in Progressive Order.

32. Preparatory Exercises.

Note.—These preparatory exercises are common to both the Span bending and Abdominal groups of exercises. (For a full discussion of these exercises, see par. 59):—

1. Wing St: Trunk bending backwards; also in Rest and Stretch St: positions, with feet in St: Close St: and Stride St: positions.
2. Stretch Stride Arch St: Arms stretching upwards.
3. Stretch Walk (b) Arch St: " " "
4. Stretch Walk (b) Arch St: Feet changing with Arms stretching; these last three exercises may be used as substitutes for the true Span bending exercises if no apparatus is available. The last exercise is a strong one.

33. True Span Bending Exercises.

5. Span bending Starting position
6. " " : Heels raising
7. Stride Span bending: Heels raising
8. Span bending: Alternate Knee up-bending.
9. " " " " " and stretching.
10. " " " Leg raising.
11. " " " " " with Heel raising.
12. Stride Span bending: Hand walk downwards.
13. " " " " " and Arms bending and stretching

WITH LIVE SUPPORT.

These depend for their proper effect almost as much on the supporting man as upon the man doing the exercise. The support must be as rigid as possible.

14. Span bending Starting position.
15. " " : Heels raising.
16. Stride Span bending : Heels raising.
17. Span bending : Alternate Knee up-bending.
18. " " " Leg raising.

Note.—The following are very useful *preliminary* Span bending exercises when a man cannot get his arms back properly. They act more on the spine, the shoulders being left to themselves, and the difficulty of keeping the arms back is not experienced. The support is given in the same way as in the preceding exercises.

19. Wing Span bending with support for head.
20. Rest (Stride) Span bending with support for elbows.
21. Stretch (Stride) Span bending with support for head or elbows. Heels raising can be carried out in these positions.

GROUP 3.—HEAVING EXERCISES.

34. Heaving exercises are exercises of hanging and climbing, the body being carried by the arms with or without the additional support of the legs.
35. **Muscles employed.**—All those which connect the shoulders and arms with the chest, and those which pull the arms to the sides. These are called the "heaving" muscles.

Those on the back: Latissimus dorsi, teres major, and long head of the triceps, which pull the arms to the sides and backwards, or, when the hands are fixed, pull the trunk forwards and upwards; trapezius and rhomboid, which pull the shoulder-blades towards the spine, and fix them in that position.

Those in front: Pectoralis major and minor, which connect the chest with the arms and shoulder-blades.

The flexors of the arms (biceps) and hands (fore-arm muscles) are used simply as *auxiliaries* to the "heaving" muscles.

36. Effects of the Heaving Exercises.—The heaving exercises increase the capacity and expansion of the chest, and facilitate a strong breathing power by strengthening the muscles concerned in that act. Incidentally they develop the flexors of the arms and hands.

37. Explanation of these Effects.—When the body is suspended from the hands in the correct hanging position a strong tension occurs in those muscles which connect the chest and arms, especially in the pectorals; that portion of the chest to which these are attached is drawn towards the fixed insertion (the arms). Consequently the chest rises and expands vertically. When the weight of the body is carried alternately by each arm (as in various arm walks, &c.) the chest is at the same time widened laterally.

All the above effects become largely augmented if the carrying muscles are brought into still further contraction by bending the arms, the pectorals acting to the greatest advantage when the elbows are kept well out.

But in order that these effects may be obtained it is absolutely essential to have the hanging position correct; that is to say, with the "heaving" muscles of the back well contracted, pulling the body up between the arms (corresponding to the arms and shoulder-blades being pulled backwards and downwards), and thus affording the pectorals a fixed point from which to act, and the greatest mechanical advantage in lifting and expanding the chest.

The proper carriage of the chest is the very essence of *all* Heaving exercises, and it is absolutely necessary that it should be perfectly correct. It does not matter in the least whether a man can pull up a dozen times or go to the top of the double ropes, so long as his *position* is correct.

38. The typical Heaving exercise is : "Overgrip Hanging : Arms bending."

39. Preparatory Heaving exercises consist of Arms bending and stretching in various directions, and form a good substitute for the true Heaving exercises when no apparatus is available. They have similar effects to the true Heaving exercises in expanding the chest, though these effects are less pronounced, because the lower ends of the muscles are comparatively stationary, whereas in the true Heaving exercises the upper ends of the muscles are fixed.

In these Arms stretchings the position of "Arms—bend" is of great importance. If properly taken the chest is free and open and well expanded. The elbows must be kept close to the sides, for by doing so the latissimus dorsi is well contracted. The forearms are turned out so as to afford the greatest leverage to the pectoral muscles. The fingers are pointed to the shoulders, for if they are pointed outwards the elbows will be pushed back and the shoulder-blades brought forward, and the expansion of the chest will be lost.

40. The *true* Heaving exercises are divided into three sub-groups:—

Sub-group 1.—In which the body is carried by the arms alone. These are called *pure* Heaving exercises.

Sub-group 2.—In which the body is carried by the arms and legs.

Sub-group 3.—In which the abdominal muscles are strongly employed.

The general progression in heaving exercises is made between these groups, going from one to the other as the class is able to do the exercises in correct form, *and not before*.

Note.—Among the Heaving exercises are included the Balance hanging position and exercises carried out from it, as the same muscles are employed, namely, those that pull (in this case those which hold) the arms to the sides and carry the body up between them. The

progression in the use of the Balance hanging position is :—

1. The position itself.
2. The position used momentarily in vaulting (*see* par. 94).
3. Exercises in Balance hanging position.
4. "Locomotion" in Balance hanging position.

Exercises in Balance hanging position should not be used too much when young, as they overdevelop the shoulder muscles, and should therefore be counteracted by Arms stretching upwards and Dorsal exercises.

In the Balance hanging position on parallel bars the shoulders are set up and prevented from moving; but while Balance hanging exercises with straight arms on this apparatus are unobjectionable, those done in the "half" or "short arm" position are *abominable*, such as "Single march forward, bent arms." They pull the shoulders forward, flatten the chest, and generally deform the body, and *nothing* is gained by them. Any slack person can get up and hang in this position, as no physical development is required in it.

List of Heaving Exercises in Progressive Order.

41. Sub-group 1.—Pure Heaving Exercises with Arms alone.

The exercises of this sub-group progress from holding the correct Hanging positions with various grips and with straight arms, to Arms bending and stretching in the Hanging position, and finally to Arm walks with straight and bent arms.

The Hanging positions with over and under grips should be taken on horizontal apparatus.

Arms bending should not be carried out before the men are able to "pull up" well between the straight arms in the Hanging positions.

Arms bending with over and under grips should precede Arms bending with alternate grip.

Arms bending at first, and until it can be done with good carriage of the chest, should only be carried so far that the elbows are bent to a right angle.

The Arm walks on horizontal apparatus should have somewhat advanced before those on inclined or vertical apparatus are taken up.

1. Hanging position with inward, over, under, and alternate grips. Head turning to occupy the time.
2. Hanging position with different grips: Arms bending.
3. Over (alternate) grip Hanging: Arm walk.
4. Inward grip Hanging: Arm walk.
5. Alternate grip Hanging: Arm walk with alternate heaving.
6. Inward grip Hanging: Arm walk (up and down double ropes).
7. Inward grip Hanging: Double Arm walk (up and down double ropes).
8. Overgrip Hanging: Rotary Arm walk.

42. **Sub-group 2.—In which the Legs assist the Arms.**

The exercises of this sub-group, especially those in the Fall and Arch hanging positions, are more or less preparatory to the exercises in sub-group 1, as the arms are assisted by the legs.

The climbing exercises of this sub-group are very useful Heaving exercises.

9. Fall hanging position } Head turning to occupy
10. Arch hanging position } the time.

Note.—Fall hanging starts with the beam at shoulder height, Arch hanging with the beam at head height.

11. Fall hanging } Arms bending.
12. Arch hanging }
13. Fall (b) hanging } Head turning to occupy the
14. Arch (b) hanging } time.
15. Fall (b) hanging: Alternate leg raising.
16. Arch hanging: Change between Arch and Fall hanging.

17. Fall (b) hanging } Side travelling.
 Arch (b) hanging }
18. Horizontal hanging: Climbing head first along beam. (Introductory to inclined rope.)
19. Horizontal hanging: Climbing legs first along beam.
20. " " Climbing up and down inclined rope, head *up*.
21. Stoop Horizontal hanging: Changing to Horizontal hanging.
22. " " " Climbing up inclined rope head *down*.
23. " " " Climbing up and down inclined rope, head *down*.
24. Horizontal hanging: Change walk up inclined rope.
25. Inward grip hanging: Climbing vertical rope.
26. " " " Climbing vertical rope, and descend without feet.
27. " " " Making fast on rope.
28. " " " Descending head first.
29. Balance hanging position: Head turning.
30. Balance hanging: Alternate Hand lifting.
31. " " Side travelling.
32. " " Turn to side-sitting.
33. " " Side travelling with turning between the hands.
34. " " Side travelling with turning outside the hands.

The last three exercises have also a strong element of balance, and should not be attempted until the Balance exercises are somewhat advanced.

43. Sub-group 3.—In which the Abdominal Muscles are employed.

35. Crook hanging: Knees lowering and raising.
36. " " Alternate knee stretching.
37. " " Double knee stretching.

38. Crook (*b*) hanging: Leg parting.
 39. Under-grip hanging: Circling the beam.
 40. Horizontal hanging: Change walk up inclined rope.

Note.—The Crook hanging exercises of this group, although strictly Heaving exercises, are so light in this respect, and at the same time have so large an abdominal element, that they are generally used exclusively as Abdominal exercises (*see* par. 60 and Tables).

GROUP 4.—BALANCE EXERCISES.

- 44. Nature of the Exercises.**—The characteristic of the Balance exercises is their strong and prevailing element of *balance*. They are very closely allied to the Leg exercises (*see* par. 22), but differ from them in effect; for whereas in the Leg exercises the work is principally confined to the muscles of the legs, in the Balance exercises the muscles which keep the body erect are those chiefly employed.

The Balance exercises require high co-ordination and comparatively little force. During their execution, while the muscles of the legs are lightly employed, the spinal muscles are in a continual state of play, generally in small wave-like motions, in their effort to keep the spine erect and the body in full balance.

The human upright position is in itself a balance position which has become natural by habit. In order, therefore, to increase the difficulty of maintaining the balance, these exercises are carried out on a *diminished base*. (Close St., Toe St., Crook $\frac{1}{2}$ St., &c.) All Leg exercises which are performed on a diminished base, and which have become familiar by practice, are employed as Balance exercises, the Balance element being obtained by the addition of a Head or Arm exercise which tends to disturb the equilibrium.

- 45. Effects of Balance Exercises.**—The Balance exercises require an exact co-ordination of the movements and the complete control of the muscles in order to confine the movements of the exercises within their

precise limits, and to instantly check and counteract any disturbance of the balance.

This co-ordination and control is effected by the brain, which is strongly exercised in its endeavours to maintain them. Balance exercises are, therefore, powerful "brain exercises."

The execution of the Balance exercises requires at first a concentration of the attention and a continual effort of will, but by repeated practice the power of co-ordination and control is so developed that it eventually becomes automatic, and results in a consciousness of a command over the body and in an habitually easy, supple, and well-preserved carriage.

Balance exercises are divided into two sub-groups:—

- 46.** Sub-group 1.—Free standing exercises on the ground, in which the reduction of base is made only in the natural support of the feet. These exercises can, therefore, be composed of precise movements, and perfect firmness maintained in their execution. They are carried out by definite word of command.

In this group progression is obtained in two ways. The difficulty of balancing is increased either by reducing the base (from Close St: to Toe St:, and Crook $\frac{1}{2}$ St:, &c.), and thus making the *maintenance* of the balance more difficult; or by raising the centre of gravity of the body by changing the position of the arms from Wing to Rest, and then to Stretch, and thus increasing the difficulty of restoring the balance when disturbed.

This sub-group may be divided into two parts, exercises in which the base is diminished by (a) taking Close and Toe St: positions, and (b) by raising one foot, as in Crook St: position.

The exercises of this sub-group are employed concurrently with those in sub-group 2, usually coming after them in the lesson.

Sub-group 2.—Exercises on the beam, in which the support afforded by the apparatus is so much

reduced that counterbalance movements of an indefinite and perfectly free character are necessary for retaining or restoring the balance.

Progression in these exercises is made by gradually raising the height of the apparatus.

List of Balance Exercises in Progressive Order.

47. Sub-group 1.—Free Standing Exercises:—

(a) Diminished base from Close and Toe Standing positions:—

1. Wing Toe St: Head bending or Head turning.
2. Wing Close Toe St: Head bending or Head turning.
3. Stretch Close Walk St: Heels raising.
4. Wing Knee-bend St: Head turning.
5. Stretch Knee-bend St: Arms stretching.
6. Stretch Stride Knee-bend St: (Sitt:) Arms stretching.
7. Slow March (*see* par. 73).
8. Low March (*see* par. 73).

(b) Diminished base by raising one foot:—

The difficulty of these exercises is increased by raising the arms from Wing to Rest and to Stretch positions. The Wing position only is given in the following list. Rapid Balance exercises must be followed by a Leg exercise to calm the heart beat.

9. Wing St: Alternate Knee up-bending.
Done first in four motions, then in two, and finally judging the time in slow march time.
10. Wing Toe St: Alternate Knee up-bending in quick march time.
11. Toe St: Alternate Knee up-bending in double march time. To be followed by a Leg exercise.

12. Wing Crook $\frac{1}{2}$ St: Foot bending and stretching.
13. Wing St: Leg raising sideways.
14. Wing Crook $\frac{1}{2}$ St: Knee stretching backwards.
15. Wing Crook $\frac{1}{2}$ St: Knee stretching forwards.
16. Exercises 13 and 14 combined.
17. Wing Crook $\frac{1}{2}$ St: Knee placing outwards.
18. Wing Stride Toe St: Whip Jump. To be followed by a Leg exercise.

48. Sub-group 2.—Exercises on the Beam :—

19. Balance St: position.
20. Balance Side St: position.
21. Balance St: Foot placing backwards and forwards.
22. Balance St: Leg raising sideways.
23. Balance Crook $\frac{1}{2}$ St: Knee stretching backwards (forwards).
24. Balance St: (Balance Side St:) Knees bending.
25. Balance St: Balance March forward.
26. Balance St: Balance March backwards.
27. Balance St: Balance March sideways.
28. Balance St: Turning.
29. Balance St: Balance March with knee bending.
30. Balance St: Balance March with half kneeling.
31. Balance St: Rotary Balance March.

The Balance Marches on bench or beam should first be done with the whole foot to stand on, later with heels raised.

GROUP 5.—DORSAL EXERCISES.

- 49. Muscles employed.**—The muscles employed in the Dorsal exercises are, first, those of the shoulder-

blades and upper arms; and second, all the muscles along the spine from the neck to the sacrum.

- 50. Effects of the Dorsal Exercises.**—The Dorsal exercises bring a strong influence to bear upon the whole spine, and especially upon its upper or dorsal part, which is straightened and rendered supple. Under their influence the chest rises; the head is drawn back into a good position; the pectoral muscles are stretched and made more extensible, allowing the shoulders to be drawn backwards and downwards by the muscles of the shoulder-blades; and the mobility of the shoulder-blades and thus of the arms is largely increased.

The Dorsal exercises are therefore most powerfully “corrective” as regards the carriage of the head, shoulders, and upper part of the spine. They counteract the very common faults known as “poking chin,” “stooping shoulders,” and “flat chest,” which are the usual results of a lack of physical training.

The Dorsal exercises are consequently among the most important exercises, and, being much needed by the average individual, they should be assiduously practised. Great care must be taken in their execution, and the utmost exactness of which the class is capable insisted upon. Prolonged repetition of an exercise at one lesson is useless, and indeed harmful (*see par. 136*), but steady practice day after day will rapidly improve the form of the Dorsal exercises and consequently the carriage of the body.

- 51.** The progression of the Span-bending exercises depends in a large measure upon the effects of the Dorsal exercises for the reasons given in the description of that group.

- 52.** Progression in the Dorsal exercises is made principally by increasing the difficulty of correctly maintaining the starting position from which they are carried out. Those positions which produce the greatest faults in the execution of the exercises are only employed after a considerable degree of proficiency has been attained.

The progression of the starting positions is as follows:—

- Standing.
- Stoop St:
- Forward Lying.
- Lunge (b) St:
- Lunge (a) Turn St:
- Foot-hold Horizontal St:

The exercises carried out in the Standing position are *preparatory* Dorsal Exercises; those carried out in the other positions are *true* Dorsal Exercises.

List of Dorsal Exercises in Progressive Order.

53. Preparatory Exercises.

Among the preparatory exercises of this group are 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.

1. St: Hips firm.—Elbows in line with collar bones. This is a “corrective” exercise, giving good expansion of the chest and contraction of the shoulder-blade muscles.
2. St: Neck rest.—Elbows in line with collar bones. This is also “corrective,” with more powerful effects than the preceding.
3. St: Head bending backwards.
4. St: Head turning.—The chin is kept in and the head is *screwed* well round. The sternocleido-mastoid muscle should show well under the skin.
5. St: Head bending forward.—In this exercise the neck is well stretched from the second cervical vertebra. A most valuable exercise for correcting “poking chin.”
6. St: Head bending sideways.

Note.—In these Head exercises the *range* of movement is small, but the muscles should be felt

to be strongly contracted, so that the exercise is "correcting" well.

7. St: Arms shifting.—Done with the arms in various positions. Develops the power of keeping the shoulders constantly back.
8. Stretch St: Arms swinging.—Common fault is to move the body, and to prevent this all the muscles of the back are used.
9. Yard St: Arms striking.—In this exercise the muscles are working very strongly to *prevent* the shoulders coming forward.

54.

True Dorsal Exercises.

10. Wing St: Trunk bending forward.
11. Stretch St: Trunk bending forward.
12. Stretch Stride St: Trunk bending forward and downward.—The upward movement starts with the hands, and the back is hollowed to get the lift. This exercise takes in *all* the muscles along the spine.
13. Yard Stride Stoop St: Arms stretching sideways.
14. Bend (Stretch) Stride Stoop St: Arms stretching upwards.
Note.—The starting position of Exercises 13 and 14 makes the Arms stretching a Dorsal Exercise.
15. Reach Stride Stoop St: Arms swinging.
16. Wing (Bend) Forward Lying: Head turning.
In the Forward Lying position the weight of the body from the hips upwards is carried by the muscles along the spine.
17. Bend Forward Lying: Arms stretching sideways, the palms of the hands turned upwards.
18. Stretch Forward Lying Position.
19. Yard Lunge (b) St: Arms stretching sideways.
20. Bend (Stretch) Lunge (b) St: Arms stretching upwards.
21. Bend Forward Lying: Arms stretching upwards.
22. Yard Forward Lying: Arms striking.

23. Stretch Forward Lying : Trunk bending downwards.
24. Stretch Stride Stoop St: Arms swinging.—A small movement in *range*, but very strong call on back muscles, reducing *hump back*. From this Starting Position is also carried out "Arms swinging downwards and upwards."
25. Yard Stride Stoop St: Arms striking.—Much stronger effect than in St: position.
26. Stretch Lunge (b) St: Arms swinging. (Arms swing downwards and upwards.)
27. Yard Lunge (b) St: Arms striking.
28. Stretch Lunge (b) St: Trunk bending forward. This is a very difficult and very neat exercise ; the bending is done at the hips only.

The following exercises carried out from the Lunge (a) Turn St: position must not be used until the Lateral exercises from the Lunge have been well practised.

29. Bend (Stretch) Lunge (a) Turn St: Arms stretching upwards.
30. Stretch Lunge (a) Turn St: Arms swinging. (Arms swinging downwards.)
31. Yard Lunge (a) Turn St: Arms striking.
32. Stretch Lunge (a) Turn St: Trunk bending forward. See remarks to Exercise 28.
33. Bend Foot-hold Horizontal St: Arms stretching sideways (upwards).
34. Stretch Foot-hold Horizontal St: Arms swinging. (Arms swinging downwards and upwards.)
35. Yard Foot-hold Horizontal St: Arms striking.
36. Stretch Foot-hold Horizontal St: Trunk bending downwards.
37. Stretch Horizontal $\frac{1}{2}$ St: position.
38. Stretch Horizontal $\frac{1}{2}$ St: Knee bending.

GROUP 6.—ABDOMINAL EXERCISES.

- 55. Muscles employed.**—Chiefly those of the abdomen, both the rectus and oblique muscles. These are the antagonists of the muscles used in the Dorsal exercises.

56. Effects of the Abdominal Exercises.—By the contractions of the abdominal muscles in these exercises the organs lying beneath them are strongly compressed, increasing their functional activity and resulting in a more rapid digestion and more perfect elimination from the intestines.

By repeated exercise the abdominal muscles are developed; and, shortening permanently, give a firmer support to the abdominal organs, thus improving digestion and preventing “pot-belly.”

The Abdominal exercises are, moreover, “corrective” for the *lower spine*. For the tightening up of the rectus muscle lifts the pubic arch to which it is attached; the pelvis is consequently rotated forward, causing the lumbar curve of the spine to straighten, and preventing lordosis or “hollow-back.”

The Abdominal exercises are, therefore, of great importance in giving a correct carriage of the body, second only in this respect to the Dorsal exercises.

57. The Abdominal exercises prepare the way for certain Heaving exercises, such as circling the beam, climbing the inclined and vertical ropes; and for all the Sit-over vaults; as in these exercises the abdominal muscles are strongly called upon to fix the pelvis in order that the muscles which raise the legs forward may have a firm support.

In all backward bendings of the trunk it is of the first importance not to check the breathing. The men must be reminded of this by cautioning them to “Breathe freely.”

58. The Abdominal exercises are divided into four sub-groups, as follows:—

Sub-group 1. Preparatory exercises consist of Trunk bending backwards from the Standing position.

Sub-group 2. Leg raising from the Lying and Crook hanging positions.

Sub-group 3. Stoop falling exercises.

Sub-group 4. Trunk bending backwards from the Kneeling, Sitting, and Foot-hold St: positions.

The exercises of sub-group 2 are in a measure preparatory to those in sub-groups 3 and 4. Progression in the exercises of sub-groups 3 and 4 runs concurrently.

List of Abdominal Exercises in Progressive Order.

59. Sub-Group 1.—Preparatory Exercises.

These consist of Trunk bending backwards from the Standing position, and are common with the preparatory Span bending exercises (*see par. 32*).

The actual bending backwards is not abdominal, but when in the Arch position the abdominal muscles are stretched, and this forms a preparatory exercise; then to erect the body the abdominal muscles have to be contracted. The progression is made by increasing the leverage of the moving weight, *i.e.*, by raising the arms from Wing to Rest and then to Stretch; also by carrying out exercises of the arms in the Arch position when the abdominal muscles are hardened up. The position of the feet changes from St: to Close St: to Stride St: and to Walk (b) St:

Thus the progression of the starting positions is as follows:—

Wing	{	St:	{	Starting position.
Rest		Close St:		
		Stride St:		
Stretch		Walk (b) St:		

(For details of these exercises, *see par. 32*.)

These preparatory exercises are some of the most important for straightening the back and giving a good carriage; always provided they are properly executed, otherwise the very reverse will happen. They are executed from the standing position, for in this there is already a tendency to straighten the three curves of the spine.

Start with trunk bending backwards *slightly*, so as to prevent the lumbar curve being increased. Always keep the chin well in so as to keep the cervical curve

straight. Give the orders "Raise up the chest" and "Keep the stomach flat." If the stomach is allowed to come forward the lumbar curve is increased and the pelvis comes forward; therefore the abdominal muscles must be kept tense and the pelvis back.

The Wing position is the easiest. In the Stretch position the arms should be *in line* with the body. (For discussion on this point, see Span bending.)

The position assumed by weak or stiff-backed men is often faulty, and in such cases it is imperatively necessary *never* to force the bending in the wrong position; otherwise the exercise will only do *harm*. If the position assumed is wrong, begin by very slight bending in the *right* position, and increase very slowly, if necessary, for months. Use your eyes. Do not do harm by allowing men to do these exercises wrongly, *i.e.*, with knees bent, stomach out, flat chest, and chin forward.

60. Sub-group 2.—Leg Raising from the Lying and Crook Hanging Positions.

With regard to the Crook hanging exercises, see par. 43.

1. Crook hanging: Knees lowering and raising.
2. " " Alternate Knee stretching.
3. " " Double Knee stretching.
4. Crook (*b*) hanging: Leg parting.
5. Stretch Lying: Leg raising.

The raising of the legs in these exercises is done by the rectus cruris, and particularly by the iliacus muscle; but the movement becomes an Abdominal exercise because the abdominal muscles have to fix the pelvis for the leg muscles to act on. If the abdominal muscles do not fix the pelvis the lumbar curve is increased; it is therefore essential that these exercises should be properly done with the co-operation of the abdominal muscles.

61. Sub-group 3.—Stoop Falling Exercises.

The Stoop falling exercises are abdominal because the starting position is maintained by the contraction of the abdominal muscles; if these are relaxed the body falls like a hammock, and the lumbar curve is increased. For this reason it is better with weak men to allow them to keep the seat *too high* than too low, because then an increase of the lumbar curve is avoided. Such men should be allowed to *descend* gradually with practice into the correct position.

Progression in these exercises is made by raising the support of the feet, from the ground in the Stoop falling position; to the level of the shoulders in the Horizontal falling position, and from this gradually higher in the Point Stoop falling position until the Hand Standing position is reached.

The Stoop falling position is strongest in abdominal effect when the body is horizontal.

6. Stoop falling: Head turning.
7. " " Feet placing forwards and backwards.
8. " " Arms bending.
9. " " Feet placing outwards.
10. Stride Stoop falling: Alternate Arms raising.
11. Stoop falling: Alternate Leg raising.
12. Horizontal falling: Head turning.
13. " " Arms bending.
14. Point Stoop falling: Head turning.
15. " " Legs bending.
16. " " Alternate Hand lifting.
17. Hand Standing position.
18. " " : Arms bending.
19. " " : Alternate Hand lifting.
20. " " : Arm walk.

. Sub-group 4.—Trunk Bending and Falling Backwards, from $\frac{1}{2}$ Kneeling, Kneeling, Sitting, and Foot-hold St: Positions.

In this sub-group the "Fall" should first be taught, that is, a *falling* backwards of the trunk, which remains

from head to seat as in the position of attention. Afterwards the trunk is bent backwards in the dorsal region, as taught in Handbook, Vol. I., par. 76, and then the fall is carried out, keeping the *Arch* in the spine. Later the "Fall" is taken and then the "bending" is carried out with the body in the "Fall" position. In rising up come up gradually with the chest leading, and do *not* buckle up the abdominal muscles with the head coming up first.

Progression is made also by increasing the leverage of the Arms by raising them from Wing to Rest and then to Stretch; and also by carrying out exercises of the Arms in Fall $\frac{1}{2}$ Kneeling, Fall Kneeling, Fall Sitting and Foot-hold Fall St: positions, then in Arch Fall $\frac{1}{2}$ Kneeling, Arch Fall Kneeling, Arch Fall Sitting, and Foot-hold Arch Fall St: positions.

Progression in these exercises *must be slow*, with the position correct always. Do not forget the breathing in their execution.

The exercises carried out from the Sitting position are first done when sitting on a bench, as they are then easier than when sitting on the ground.

GROUP 7.—MARCHING.

63. Marching taught and practised as a gymnastic exercise during physical training is of great use afterwards. It teaches the men to use their feet and legs well. Especially advantageous in this respect is the "Slow March." Marching should not, therefore, be neglected in physical training.

64. The faults in the carriage of the body and in the moving forward and setting down of the legs and feet which occur in marching, arise most frequently from a lack of command over the body, stiffness, uneven development or lack of practice. These obstacles to an even, firm, and easy walk are more easily and better removed by employing true gymnastic exercises than by mere continuance of practice in marching.

Such gymnastic exercises are, for example, "Heels raising," "Alternate Knee up-bending in quick march

time," "Crook $\frac{1}{2}$ St: Foot bending and stretching," "Crook $\frac{1}{2}$ St: Knee stretching backwards and forwards," and other forms of Balance exercises. (Compare pars. 44 and 45. The close connection between the Balance exercises and Marching should not be lost sight of.)

- 65.** The more fatiguing forms of marching, *i.e.*, "Double March" and "March with Knee up-bending," are always to be preceded and followed by "Quick March" or "March on Toes."
- 66.** The marching may be put into the lesson either between the Abdominal and Lateral exercises; after the Lateral exercise, or before the Jumping. In no case should the marching come after the Jumping. (Compare par. 200.)
- 67.** The time devoted to marching must not be allowed to encroach upon that for the remainder of that lesson.
- 68.** The simpler and less fatiguing forms of marching, *i.e.*, "Marching on Toes," &c., may be inserted, like the Leg exercises, between other exercises in the lesson. They are so employed when Trunk exercises, Heaving exercises, Jumping, Running, and others of the more fatiguing and violent exercises follow immediately after each other.
- 69.** Marching, and especially "Double marching," should not begin or end a lesson.
- In determining the length of the Double marching, regard should be had to the exertions which preceded and those which will come after this practice; for upon these depends the longer or shorter duration or the appearance of the Double March in the lesson.
- 70.** In gymnastics the Double March is always executed on the toes.
- 71.** In practising the Double March care must be taken that—
1. The first practices are done in slower time and with shorter steps than the regulation march; their duration from $\frac{1}{2}$ to 1 minute.

2. The "time" (cadence) is gradually increased to that of the regulation march, and the duration to 2, 3, 4, and finally to 5 minutes.
3. The rule given in par. 65 is strictly followed.
4. If circumstances permit, this practice is carried out in the open air.

72. The change to "Quick march" from the other forms of marching is made on the command: *Quick—march!*

The change from "Quick march" to the other forms of marching is made on the command: *Slow—march! On the toes—march! With knee up-bending—march! Double—march!*

The Various Forms of Marching.

73. Slow March.—This is employed to teach the men to *straighten out* the knee, and to transport the weight of the body on to the forward leg with good carriage. This march gives a better opportunity than the Quick March for observing and correcting faults in the marching and carriage of the body, because these faults are more marked in the slow time.

March on the Toes.—This is used to produce a greater mobility and elasticity in the joints of the feet. It is an excellent corrective for "*flat foot.*"

March with Knee up-bending.—This is used to work away any stiffness in the hip and knee joints.

Low March.—This is employed to exercise the maintenance of the balance, and is therefore usually practised as a Balance exercise.

Double March.—This partakes strongly of the nature of the Jumping exercises, as it consists essentially of a succession of leaps from each foot. It powerfully exercises and develops all the muscles of the legs, especially the extensors.

GROUP 8.—LATERAL EXERCISES.

74. Character of the Lateral Exercises, and the Muscles employed.—The Lateral (or Lateral Trunk)

exercises consist principally of Trunk turnings and bendings sideways, and combinations of both.

They are *performed* by the lateral trunk muscles (and also by the rotators of the legs). The Side turnings are executed particularly by the Transversalis, the Internal Oblique and the internal rotators of the thigh of the same side; and the External Oblique and the external rotators of the thigh of the opposite side. The Side bendings are performed especially by the External and Internal Obliques and the lateral muscles of the back.

The characteristic of the Lateral exercise is that both sides of the body are exercised simultaneously in different ways. In order, therefore, to produce an even and harmonious development, it is necessary to perform these exercises alternately to one side and then to the other, so that both sides of the body do the same exercise an equal number of times.

This is a very large group.

75. The Effects of the Lateral Exercises.—As a whole, the Lateral exercises *act* upon the circulation (the large abdominal blood vessels) and the spine, similarly to the abdominal group. They give suppleness to the carriage of the body, and are powerfully *corrective* as regards the spine, assisting the Dorsal exercises, preventing *lateral* curvature and making the spine flexible in both the lumbar and dorsal regions.

They also affect the large glands and vessels, the liver and digestive organs, and are therefore very refreshing.

76. The Side turnings; their special effects and progression.—The Side turnings especially bring into play the Transversalis, and this becoming stronger, the internal organs are better supported.

The twisting action of the trunk decreases the circumference of the waist and abdomen, and this, combined with the contraction of the lateral muscles which produce the movement, exerts a strong pressure upon the internal organs which are lifted; the chest becomes expanded obliquely to the side of the turning,

producing an increased flow of blood towards the heart in the large veins.

If the trunk is bent backwards or forwards from the Turn position the above effects are highly emphasised.

In Side turnings, progression is made principally by gradually excluding the rotators of the thighs from the movement, so as to throw more and more of the work upon the lateral trunk muscles, and confining the turning more and more to the spine.

This is effected by changing the starting position of the feet from Close St., to Stride St., to Walk (a), and finally to Walk (b) St: The successive positions of the feet fix or "lock" the hips more and more, until in the Walk (b) St: position the hips are nearly absolutely fixed, and the turning occurs in the spine only. The standing position is not employed, as it allows the pelvis to rotate too freely (unless the Side turning is used as the starting position for some other exercise, such as Side bending or Trunk bending forwards and backwards).

In the performance of these exercises, do not give the order "Keep the hips still." In order to do this, the muscles which rotate the hips in the *opposite* direction to the movement have to be contracted. Let the standing position take care of the hips. It is not the intention in these exercises to prevent the hips turning as far as the starting position will allow. If it were necessary from the first for the hips to be immoveably fixed, this could be much more easily secured by at once using the Walk (b) St: position, than by muscular contraction. It is intended that the starting position shall in the beginning allow the rotators of the thighs to materially assist in the movement, and as the lateral trunk muscles gain power and the flexibility of the spine increases, to change the starting position in order to gradually exclude the leg muscles, eventually leaving the lateral trunk muscles to do the work unaided.

Progression is also made in Side turnings by bending backwards and forwards from the Turn position; also by raising the centre of gravity in changing the position of the arms from Wing to Rest, and then

to Stretch, so as to produce a greater effect of balance ; and finally, by remaining in the Turn or Turn Arch position while executing an exercise of the arms, and thus securing a sustained contraction of the lateral muscles.

The progression of the starting position for the Side turnings is as follows :—

Wing	{	Close St:	}	Side turning.
Rest		Stride St:		
Stretch		Walk (a) St:		
		Walk (b) St:		

77. The Side bendings ; their special effects and

progression.—If the trunk is bent to the left, with the spine *arched* sideways from neck to sacrum, the inferior vena cava (the large trunk vein of the abdomen) will be stretched, since it is situated on the right side of the spine in such a manner that it must follow the movements of the latter. Now, by moderately stretching a vein its capacity is increased ; consequently more blood will rush into the vena cava during bending to the left.

When the spine is straightened this vessel resumes its original size, and on bending to the right it becomes compressed ; so that an alternate bending to each side acts on the venous current (and the circulation generally) like a force pump.

Also, as the trunk bends to the right the liver becomes compressed, and the contents of its vessels are driven onwards ; as the trunk straightens and bends to the left these vessels refill, so that the alternate bending directly hastens the flow through the liver and increases the portal circulation, and thus stimulates digestion.

As the trunk is bent to one side the ribs of the opposite side are spread apart, and the continued practice of these exercises will result in a permanent widening of the chest.

In every Side *bending* there is a slight *turning* between the vertebræ, but this should be kept as slight as possible in gymnastics by taking care to bend directly to the side.

A common fault in these exercises, especially in “ $\frac{1}{2}$ -Stretch Close St: Side bending,” is to hollow the

back and get an exaggerated bend. If properly performed these movements *must* be small, as the ribs and hips soon meet. If the hip is allowed to drop the movement becomes a *falling* or inclining sideways, instead of an *arching* of the spine; therefore the hips must be kept still in the Side bendings. This is assisted by the starting position of the legs, which locks the hips vertically, in the same way as in the Side turnings they are locked horizontally; the progression of the starting positions being the same, except that in the Side bendings the Walk (a) St: position is not used, as in it the hips are too loose and follow the motion of the spine.

Progression in Side bending is made by diminishing the base, by increasing the lever, and by increasing the speed of motion.

78. The Side turnings and Side bendings are generally done slowly, but with a class who can do them in perfect form and strength, they may be done quickly.

79. **Turning and Bending combined.**—This produces the effects of the simple Turnings and Bendings; and in a higher degree. The ribs, since they are attached to the vertebræ, are powerfully spread apart alternately on each side, increasing the thoracic space; consequently the internal organs are powerfully affected.

Progression is made from Wing to Rest and to Stretch, as in the simple Turnings and Bendings.

80. Since the Lateral exercises have a strong effect of chest expansion, they can be used as substitutes for Heaving exercises when no apparatus is available for the latter. When so employed the Lateral exercises should be increased in number. At no time should they be neglected.

81. The previously practised Lateral exercises are very useful as Introductory exercises, especially those executed from the turn position.

On account of their influence on the circulation, the Lateral exercises are employed with advantage at the end of the more advanced lessons. They are then placed immediately after the Jumping and Vaulting

and before the Breathing exercises. The exercises so employed should be different to those appearing in the proper Lateral Group of exercises of the Tables.

82. The Lateral exercises are divided for convenience into five sub-groups:—

- Sub-group 1. Side turnings.
- Sub-group 2. Side bendings.
- Sub-group 3. Turnings and Bendings combined.
- Sub-group 4. Side falling.
- Sub-group 5. Lateral exercises from the Lunge
(a) St: position.

Progression is made concurrently between sub-groups 1 and 2. Sub-group 3 is not taken up until some degree of proficiency has been attained in the preceding sub-groups. The appearance of sub-group 4 in the training depends upon the progression of sub-group 2; while that of sub-group 5 depends upon the progression of the Leg and Dorsal exercises from which they are derived.

List of Lateral Exercises in Progressive Order.

83. **Sub-group 1.—Side turnings.**

1. Wing (Rest) (Stretch) Close St: Side turning.
2. Wing (Rest) (Stretch) Stride St: Side turning.
3. Wing (Rest) (Stretch) Walk (a) St: Side turning.
4. Wing (Rest) (Stretch) Walk (b) St: Side turning.
5. Wing (Rest) (Stretch) Close Walk St: Side turning.
6. Stretch (Bend) Close Turn St: Arms stretching upwards.
7. Stretch (Bend) Stride Turn St: Arms stretching upwards.
8. Stretch Walk (a) Turn St: Arms stretching upwards.
9. Stretch Walk (b) Turn St: Arms stretching upwards.
10. Stretch Stride St: Alternate Side turning (quickly).

84. Sub-group 2.—Side bending.

11. Close St: Side bending.
12. $\frac{1}{2}$ -Stretch Close St: Side bending.
13. Rest (Stretch) Close St: Side bending.
14. Rest (Stretch) Stride St: Side bending.
15. Stretch Stride St: Alternate Side bending (quickly).
16. Rest (Stretch) Walk (b) St: Side bending.
17. Stretch Stride St: Side to Side bending (quickly).
18. Stretch Stride St: Wheeling.

85. Sub-group 3.—Turning and Bending combined.

Note.—In order to gain correctness and precision in these exercises, the Turning is made through a half right angle only.

19. Wing Turn (Close Turn) St: Trunk bending backwards and forwards.
20. Rest Turn (Close Turn) St: Side bending.
21. Rest (Stretch) Turn St: Trunk bending backwards and forwards.
22. Stretch Close Turn St: Trunk bending backwards and forwards.
23. Wing (Stretch) Walk (a) Turn St: Trunk bending backwards and forwards.
24. Rest (Stretch) Stride Turn St: Side bending.
25. Rest (Stretch) Stride Turn St: Trunk bending backwards and forwards.
26. Stretch (Bend) Turn Arch St: Arms stretching upwards.
27. Stretch (Bend) Turn Stoop St: Arms stretching upwards.
28. Stretch (Bend) Walk (a) Turn Arch St: Arms stretching upwards.
29. Stretch (Bend) Walk (a) Turn Stoop St: Arms stretching upwards.
30. Stretch (Bend) Stride Turn Arch St: Arms stretching upwards.
31. Stretch (Bend) Stride Turn Stoop St: Arms stretching upwards.

86. Sub-group 4.—Side falling.

- 32. Wing Side falling position.
- 33. Wing Side falling : Leg parting.
- 34. $\frac{1}{2}$ -Stretch Side falling : Leg parting.
- 35. Wing (Rest) (Stretch) Foot-hold Side St: Side bending.
- 36. Stretch (Bend) Foot-hold Side-fall St: Arms stretching upwards.
- 37. Stretch Grasp Side-bend $\frac{1}{2}$ St: Leg parting.
- 38. Hand fast : Side holding.

87. Sub-group 5.—Lateral exercises from the Lunge (a) St: position.

Note.—The Lunge position is itself a Lateral exercise. These are rather difficult exercises and require a good deal of preliminary training.

- 39. Wing (Stretch) Lunge (a) St: Side turning to forward and backward foot.
- 40. $\frac{1}{2}$ -Stretch Lunge (a) St: Arms shifting with Side turning to forward and backward foot.
- 41. Stretch Lunge (a) Turn St: Arms swinging or stretching upwards.
- 42. Stretch Lunge (a) Turn St: Trunk bending forwards.

GROUP 9.—JUMPING.**Nature and Effects.**

- 88.** The exercises of this group require the utilization of nearly all the physical powers. To do them properly the body must be under the full control of the will throughout every part of the exercise.

Their execution requires a high degree of elasticity, and this quality will be developed by their practice.

The extensors of the legs are used for contractions and relaxations in rapid succession, and the speed and power of these muscles will grow in such a manner as to produce an elastic step in walking.

In these exercises almost all the muscles have to be brought simultaneously into play, and to do the exercises properly each muscle must perform its exact amount of work and at the right time. This co-ordination is effected by the brain, and, in fact, the execution of jumping depends much more upon the mental skill than upon muscular strength. The practice of jumping will therefore develop the power of localising effort and co-ordinating movement.

The Vaulting exercises bring into play much the same muscles as in Heaving exercises, but with different effects. Vaulting has a powerful influence on the development of the *bones*—"skeleton development."

The Jumping exercises also develop physical judgment, presence of mind, and resource; the ability of turning a quickly formed idea into a rapid action by the use of exactly the required amount of effort.

89. Many of these exercises also include the effects of Lateral and Abdominal exercises. In Free Jumping the lumbar muscles are strongly used to straighten up the body, and the iliacus muscle to pull up the knees. Good form in Vaulting depends largely on the strength of the Balance hanging position and on the ability to arch the body suddenly (effort of Span bending) as soon as the feet leave the ground, so as to *swing* the body forward instead of *lifting* it over the apparatus. (As regards the abdominal element of Sit-over vaults, see par. 57.)

Characteristics.

90. Jumping is divided into **Free Jumping** and **Vaulting**.

Free Jumping is carried out quite free and without the support of any apparatus.

Vaulting is characterised by the arms assisting during some part of the exercise, the hands being supported on or grasping some apparatus (or person).

91. Each Free Jump and Vault consists of a "*take-off*," the *jump* itself and the "*landing*."

The *take-off* is executed by a quick bending and immediate quick stretching of the hip, knee, and ankle joints in combination with a strong sharp pressure (stamp) of the feet on the ground, so that the whole body with gathered force is projected from the ground.

The *jump* itself begins from the moment when the body leaves the ground and continues until the feet again meet the same, at which instant the knees should be nearly (but not quite) straight, the heels together and the feet stretched downwards with the toes turned out. This is the part of a *vault* in which the arms assist.

The *landing* takes its beginning from the moment the feet again touch the ground, and is executed by means of an easy yielding in hip, knee, and ankle joints. Thereafter the knees are stretched again and the heels sink to the ground, or the jump continued.

The body must be under full control both in the *take-off*, the *jump*, and in the *landing*.

The extent of the jump depends upon the gathering together and elasticity of the body in taking off. Jumping is divided, with regard to *the nature of the "take-off,"* into jumping with "*single take-off*" (Handbook, Vol. I., par. 283), jumping with "*divided take-off*" (Handbook, Vol. I., par. 290), and jumping with "*double take-off*" (Handbook, Vol. I., par. 297; also compare pars. 299 and 301).

At the moment of landing the knees should be slightly bent and the feet stretched down, with the heels together and the toes turned out, as in this position the bones are disposed to the best advantage for resisting fracture, and the joints will give easily, thus preventing displacement of the internal organs. The longer the jump the more the knees must be bent in landing, generally, however, not more than to a right angle.

If the concussion of the fall is met by the bones alone and not by a correct use of the muscles, fractures, sprains, jarring of the spine or internal displacements

are very likely to occur. If, however, the landing has been properly done these ill effects are avoided. A mattress is then unnecessary in ordinary jumping, and indeed, its use tends to spoil the form of the exercise and to take away its best effects, namely, that of learning how to use the "natural mattress" in the joints.

The landing is consequently to receive particular attention always, no matter how far advanced the Free Jumping and Vaulting has become.

The practice of these exercises is not so much to obtain great height or distance, but to cultivate the proper *manner* of doing them, and especially how to land.

92. The run is made with short collected steps. If for height, a short run is best, just sufficient to gain muscular control, for in this the rapidity with which the last step is taken largely determines the height attained. When the run is long, as for Long Jump and certain of the Vaults, in which great horizontal momentum is needed, it begins with a walk which passes into a run, and this rapidly increases until the man arrives at the spot for taking off, when he is at full speed.

The run should not generally exceed 12 to 15 paces.

During the run the attention should be concentrated upon the spot where the take-off is to be made.

In running Vaults the hands strike later than the feet, and care should be taken not to take-off too near the apparatus, but to jump well forward.

In free long and high Jumping the exercise is facilitated by lifting or swinging the arms in the direction of the movement.

93. Vaulting is divided into six groups:—

1. Horizontal Vaults.
2. Sit-over Vaults.
3. Between Jumps.
4. Stride Jumps.
5. Hanging Jumps.
6. Hand Spring.

94. The **Balance hanging position** is preparatory to vaulting, as this is the nature of the position in all vaults, though it may be only momentary (a beat).

Never vault on the "short arm," always on the "long arm," especially in hand springs. Vaulting on the "short arm" produces a hump back and hollow chest (*see* observations on the Balance hanging position, note to par. 40).

95. The following Rules are to be observed in practising Free Jumping and Vaulting.

1. Before the "Preparatory Exercises to Free Jumping and Vaulting" have been gone through *no other jumping or vaulting is to be practised.*
2. The exercises employed to "introduce" (*see* par. 161) certain of the jumps and vaults are to be used as short a time as possible, and merely for individual men who need them in order properly to understand and correctly execute the jump or vault which the introductory exercise precedes.
3. After the "Preparatory Exercises to Free Jumping and Vaulting" *have been gone through* the free jumps and vaults of the various groups are practised concurrently, taking care that the exercises within each group are taken in the order given.
4. After some practice of the jumping and vaulting with a free run, the men do not remain in the Knee-bend Standing position after landing, but will be cautioned to remain standing still after stretching the knees and sinking the heels (unless the exercise is carried out in rapid succession), in order that the instructor may be able to control the balance, and the men to counteract the inclination to fall forward.

5. When faultiness makes its appearance in the carriage of the body, and especially with faults in the take-off and landing, some one or more of the "Preparatory exercises" which correct these particular faults should be repeated.
6. All jumping and vaulting exercises are to be practised strictly with both sides of the body equally, taking off with the left and right foot alternately, and executing each vault alternately to the left and right.
7. In practising vaulting, the instructor or some other trustworthy person is to stand ready to "receive" during the hardest part of the exercise. In this, care is to be taken that the "receiver" grasps the upper or forearm—the legs—most properly at the instant when the one doing the exercise places his hands on the apparatus; also that the "receiver," retaining his grasp of the man vaulting, follows him until landed, without thereby hindering the proper execution of the exercise.

After longer practice vaulting should be done without "receiving," but in the harder vaults one (or two) man should always stand by the apparatus ready to save a fall.

Progression.

96. Besides the directions contained in pars. 156 to 160 as to the progression of exercises in general, the following special rules apply to the progression of Jumping:—

1. The Free Jumping progresses by increasing the height or length.
2. With regard to the *run*, jumping and vaulting progress not merely by *lengthening* the run in order to gain greater speed or height, but also by *reducing* the number of steps so as to cultivate the ability of gathering force in the take-off. This ability may be increased by carrying out some of the jumps without a run.

3. With regard to the landing, jumping, and vaulting progress by remaining in the Toe St: position after the quick knee-stretching has been done, until the count for the heels sinking, or the command is made for the next man to jump.
4. After satisfactory skill in the long and high jumps has been acquired, these may be practised with two, three, or four men jumping together beside each other.
5. Vaulting progresses by raising the apparatus. An exception to this rule is the handspring and its introductions which progress by lowering the apparatus. Vaulting also progresses by increasing the distance between the mark for taking-off and the part of the apparatus on which the hands are placed.

97. Preparatory Exercises to Free Jumping and Vaulting.

The preparatory exercises to Free Jumping and Vaulting are designed to correctly practise the *most important types* of these exercises, but besides this they are the foundation for the correct execution of all Jumping.

These preparatory exercises are arranged in a connected progressive series, which indicates the most suitable method of commencing the instruction of jumping. They are therefore to be considered as a method of teaching jumping, in which each part of the jump is carried out by numbers or other word of command. The chief aim being to teach the men, by using a jump of small height or length, to make a strong and energetic take-off with or without a run, and to land in such a manner that they *can stand still* in full balance and with good carriage.

98. The following rules must be observed in the practice of these preparatory exercises:—

1. The exercises are to be carried out in ranks (opened out), so far as space and the available apparatus will allow.

2. In landing, the men are to remain in the Knee-bend St: position for corrections to be made, until a fresh word of command is given. The exceptions to this rule are given in the descriptions of the various exercises.
3. The exercises which start from the Walk St: position are to be carried out at first with *one* step, afterwards with *two* steps, and finally with *three* steps.
4. All dismounting from apparatus is to be executed by swinging the legs backwards. Other and harder methods of dismounting are not to be practised before the "Preparatory Exercises to Vaulting" have been gone through.

99. For men who find difficulty in executing "Running Free Jump in height," the following are to be used as "introductory" exercises:—

Crook hanging starting position.

Crook hanging: Knees lowering and raising.

List of Jumping and Vaulting Exercises in progressive order.

100. Preparatory Exercises to Free Jumping.

1. St: Introduction to jumping by nos.
2. St: Free jump in height by nos. (single take-off).
3. St: " " with turning to right and left, by nos. (single take-off).
4. St: " " with turning about, by nos. (single take-off).
4. St: " " with Arms flinging, by nos. (single take-off).
6. St: " " with Arms and Legs flinging, by nos (single take-off).
7. St: " forward (backward), by nos. (single take-off).
8. St: " sideways, by nos.

9. St: Free jump with 1 (2) (3) step forward, by nos. and judge time for the steps (landing by nos.) (divided take-off).
10. St: „ with 1 (2) (3) step forward and turning, by nos. and judge time (divided take-off).
11. St: „ with 1 (2) (3) step in depth (knee height), judge time for steps only.
12. St: „ with 3rd and 4th motions combined (Introduction to double take-off).
13. St: „ with 1 step forward and with 2nd and 3rd motions combined (Introduction to double take-off).
14. St: „ with 3 steps forward and with 4th and 5th motions combined.
15. St: „ with 1 (2) (3) step forward with turning, and the landing used for a second jump (double take-off), and turning back.

These exercises cultivate the control of the whole body in all positions, and the use of either foot so that it becomes indifferent which foot takes off.

101. Preparatory Exercises to Vaulting.

16. Grasp St: Introduction to Vaulting, by nos.
(Beam at or below breast height, later; horse. Remember to get the Balance hanging position correct.)
17. Grasp Side St: Introduction to Vaulting, by nos.
(Beam, later horse.)
18. Walk St: Introduction to Vaulting with 1 step, by nos.
19. Walk St: Introduction to Vaulting with 2 (3) steps, by nos.
20. Grasp Side St: Mount into saddle, by nos.

21. Walk St: Mount to ride sitting with 1 to 3 steps, judge time; dismount to side, by nos.; later, judge time.
22. Grasp St: Horizontal Vault (beam so low that *all* can get over without difficulty).
23. Walk St: Horizontal Vault over beam or low box with 1 to 3 steps.
24. Walk St: Stride Jump to ride sitting with 1 to 3 steps; dismount to side, by nos.; later, judge time.
25. Grasp St: Sit-over Vault (beam so low that *all* can get over without difficulty) (knee height).
26. Walk St: Sit-over Vault with 1 to 3 steps over beam or low box.
27. Grasp St: Introduction to Handspring. Beam not *under* shoulder height at first; by nos.

Note.—This exercise progresses by lowering the beam.

102.

Free Jumping.

28. Running Free Jump forward in height } and with
29. " " " length } turning

Note 1.—The rope is put quite low at first so as to get the correct *form* and *style*.

Note 2.—Jumping from a height (Deep Jump) may also be practised, but the height must be carefully graduated, remembering that strength does not increase for jumping from a height. A youth is able to jump with comfort from a much greater height than a man. Great care must therefore be taken to get the landing correct.

30. St: Free Jump outward with 1 step.
31. Hanging: Deep Jump. (Beam.)
32. Balance Hanging: Deep Jump backwards. (Beam.)
33. Span Hanging: Deep Jump. (Wall bars.)
34. High Sitting: Deep Jump forward. (Beam, shelf.)

Vaulting.

A.—Horizontal Vaults.

35. Running Horizontal Vault, over beam.
 36. " " over horse across.
 37. " " between double
 beams.
 38. " " over horse or box
 lengthways.

Note.—This exercise is introduced by Running Horizontal Vault to ride sitting, horse lengthways (the "half" vault).

39. Running High Vault, over double beams.
 40. " Balance Vault, horse or box across.

B.—Sit-over Vaults.

41. Running Sit-over Vault, between double beams.
 42. " " " beam or horse across.

Note.—This exercise is prepared for *on the beam* by (besides No. 25) taking the Balance hanging position, placing the inner side of the left foot on the apparatus; then with the support of the left foot and right hand, raising the body up to the "side falling" position; thereon the right leg is carried between the left leg and the apparatus, and landing is done with the left side turned to the beam.

The exercise is prepared for *on the horse* by doing the corresponding "half" vault:—Running Sit-over Vault to ride sitting. In dismounting the hands are placed *behind* the seat, and at the same time the legs are swung forwards and upwards until the seat leaves the horse, landing taking place on the opposite side to the take-off.

43. Running Sit-over Vault, over horse or box lengthways.

Note.—This exercise is introduced by the corresponding "half vault":—Running Sit-over Vault to ride sitting.

C.—Between Jumps.

44. Running Between Jump, over horse across.
Note.—Introduced by the corresponding “half vault” :—Running Between Jump to standing position on the horse.
45. Walk St: Between Jump (shoulders of two men).

D.—Stride Jumps.

46. Running Stride Jump to ride sitting on quarters (saddle) (neck) of horse lengthways.
47. “ “ to standing position on horse lengthways.
48. “ “ backwards to sit on quarters (saddle) (neck) of horse lengthways.
49. “ “ over horse lengthways (later with man up).
50. “ “ backwards over horse lengthways.
51. “ “ with living support (leap frog).
52. Running Horizontal Stride Jump over rope and box.

E.—Hanging Jumps.

53. Running Hanging Jump between double beams.

F.—Handspring.

This is never to be done on the “short arm.”

54. High Walk St: Handspring, with assistance of two men. Box lengthways, and at first at hip height.

Note 1.—The man doing the exercise stands upon the box in the Walk St: position.

Note 2.—Progression is made by gradually lowering the box to knee height, and dispensing with assistance.

Note 3.—Before the handspring is made the subject of practice the following practices should be gone through besides the “Introduction to Handspring,” viz., strong Span-bending exercises, Point Stoop falling, and Hand-standing.

55. Grasp St: Handspring with double take-off, with assistance of two men. Box across.

Note.—The man doing the exercise stands upon the ground. Progression is made as in No. 54.

56. Running Handspring. Box across.

57. „ „ Box lengthways.

Note.—Allied to the foregoing exercises, in which it is necessary to make a quick “jerk” to throw oneself from one position to another, are the following exercises, which can, if time and opportunity allow, be employed for *individuals*, or appear in a gymnastic lesson as tricks for recreation:—

(a) From *four-footed* position press the feet lightly from the ground, and almost at the same time strongly and quickly straighten the arms, and by immediately “jerking” the upper part of the body and head backwards, throw the body up to “Knee-bend St:” or “Standing” position.

(b) From *lying* position swing the legs straight upwards and backwards, and immediately swing them back; at the same time by a double “jerk” throw the body up to “Stride Knee-bend St: position” and from that to “Standing” position. The exercise is facilitated by pressing the hands on the thighs while swinging the legs.

GROUP 10.—BREATHING EXERCISES.

104. The Nature and Use of these Exercises.—

“Every gymnastic exercise that is rightly designed and correctly executed is a *breathing exercise*” in so far

that they should all be done with due regard to an unhindered, free respiration; and should serve to develop the chest organs.

This is one of the *vital principles* of a rational system of gymnastics, and should be implanted as a maxim in the mind of every instructor of gymnastics.

The Dorsal exercises, Span bending and Heaving exercises, are most particularly "breathing exercises" in this sense.

The exercises of this group are, however, those that are especially concerned with the act of respiration, and which are performed by the muscles concerned in that act. They consist of breathing movements combined and assisted by Arm exercises. They directly affect the respiration (and thereby the heart beat), regulating it and reducing it to normal quietness.

The Breathing exercises proper are therefore chiefly employed at the end of a gymnastic lesson to assist in restoring deep, quiet, and normal breathing after the somewhat violent exercises of Jumping and Vaulting, and to "prepare for rest."

105. The deflective Leg exercises, having a similar effect to the Breathing exercises on the action of the heart, are frequently combined with the Breathing exercises (see Nos. 5, 6, &c., in the following list). When, however, the exercises immediately preceding the Breathing exercises are of an especially fatiguing or violent character, a separate Leg exercise should precede the Breathing exercise.

106. The Breathing exercises can also be employed anywhere in the lesson when the breathing, hastened by some fatiguing exercise, needs to be reduced to its normal speed.

107. Effects explained.—An inhalation is made by the contractions of certain muscles which expand the walls of the chest. Thereby the pressure of air in the lungs is decreased and more air rushes into them.

The decreased air pressure in the lungs has an effect of suction on the blood in the large vein trunks (vena cavae), drawing it towards the chest and heart.

At the same time the capillaries of the lungs, expanding with the expanding air cells, draw the blood in the pulmonary artery away from the heart and into the lungs. Here it is brought into contact with the inrushing air, taking from it oxygen, and giving up to it the waste matters with which it is charged.

The result of an inhalation is therefore to purify a certain quantity of blood, and to provide it with a fresh supply of oxygen, and at the same time to reduce the blood pressure on the heart.

At exhalation an increased pressure is set up in the lungs, the air drawn in by the inhalation is expelled, carrying with it the waste matters given up by the blood.

Now the effect of a violent or fatiguing exercise is first to throw into the blood a large increase of waste matter, principally carbonic acid; and secondly to increase the blood pressure on the heart. The result is a rapid heart beat and hastened breathing. On the other hand the principal cause of fatigue after a gymnastic lesson, though none of the exercises may have been of a fatiguing character, is the presence in the blood of an abnormal quantity of carbonic acid, which the successive exercises cause to accumulate faster than it is eliminated through the lungs.

It is therefore evident that in order on the one hand to calm the heart beat and breathing accelerated by a violent exercise, and on the other to prevent fatigue after a lesson, we require to promote a more powerful respiration than that which normally occurs. For this purpose we employ exercises which powerfully assist the muscles ordinarily concerned in the act of breathing. These are chiefly exercises of the arms, in which the muscles connecting the arms and shoulder-blades with the chest are strongly pulled upon to raise and spread apart the ribs, and so to forcibly enlarge the chest capacity. In this way the lungs receive a larger volume of air; a greater quantity of blood passes through the lungs; more oxygen is absorbed into the blood and the waste matters are removed from it with greater speed; and any excess of blood pressure on the heart is largely diminished.

For the foregoing reasons it will be found that a judicious use of Breathing exercises during a lesson will make the effects of that lesson, if properly conducted, one of rest instead of fatigue.

It should be observed that while in quiet breathing the air is preferably taken through the nose, in violent exercises this is of no consequence; the all important point is then to get the air into and out of the lungs in the quickest way possible.

108. Execution of the Breathing Exercises.—The *type* of the Breathing exercises is “Arms raising and sinking.” These should be done slowly in the same rhythm as the normal breathing takes place. The inhalation is made while the arms are being raised, and the exhalation while they are sinking. The sinking of the arms should follow immediately after their raising, and a slight pause should be made before they are again raised; this being the rhythm of normal quiet breathing.

The “Arm raisings” *in the beginning*, and until they are properly understood, are carried out by numbers; after which they are executed by the class judging the time, two to four times in succession.

The “Arms strikings” used as Breathing exercises do not go in time with the Breathing, but having a powerful effect of chest expansion they are usually employed immediately before the “Arm raisings” in order to correct the carriage of the body and thoroughly expand the chest before the latter exercises are commenced.

The most common faults in the performance of Breathing exercises are—

 Holding the breath.

 Not breathing calmly and evenly.

109. Progression.—The progression of the Breathing exercises need not be strict, as they are not used for physical *development*.

List of Breathing Exercises in Progressive Order.

110. 1.—Arms raising.

Note.—When the arms are raised above the horizontal the palms of the hands are turned upwards, as in this position the arms give the pectoral muscles a better leverage for pulling the chest up.

1. St: Arms raising sideways.
2. Yard St: Arms raising upwards.
3. St: Arms raising sideways and upwards.
4. St: Arms circling.
5. St: Arms raising sideways with Heels raising.
6. Yard St: Arms raising upwards with Heels raising.
7. St: Arms raising sideways and upwards with Heels raising.
8. St: Arms circling with Heels raising.
9. St: Arms raising sideways and upwards with Heels raising and Knees bending.
10. Stretch Toe St: Arms parting with Knees bending.

111. 2.—Arms striking.

11. Arms striking is carried out from the following starting positions:—

- (a.) Yard St:
 - (b.) Yard Stride St:
 - (c.) Yard Walk (b) St:
 - (d.) Yard Arch St: (Arms struck *horizontally*).
 - (e.) Yard Stride Arch St:
 - (f.) Yard Walk (b) Arch St:
 - (g.) Yard Lunge (b) St: (Arms struck *horizontally*).
 - (h.) Yard Stride Turn St: (a Lateral element added).
 12. Yard Walk (b) St: Arms striking and Feet changing.
 13. Yard Walk (b) Arch St: Arms striking and Feet changing.
 14. Yard Marching: Arms striking.
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V.

WORDS OF COMMAND.

112. The *names* of the exercises must not be mistaken for the *words of command*. The former are employed as an aid to the Instructor in the study of gymnastics, to indicate the exact nature of the exercises. The latter are simply directions to the class for carrying out the exercises.

113. Since the performance of an exercise consists in first taking a Starting Position, and then from it doing the exercise itself, two sets of commands are necessary for carrying out the exercise; first, those for the *movements* required for taking the Starting Position; second, those for carrying out the *movements* of the exercise.

A uniform arrangement of the words of command for all movements is adopted. This is as follows:—First, the part of the body that is to be moved; second, the direction in which it is to be moved; and third, the kind of movement that is to be made. Thus: (1) *Arms* (2) *Upwards*—(3) *Stretch!* (1) *Head* (2) *Backwards*—(3) *Bend!* Consequently the Instructor, given the name of an exercise, will have no difficulty in supplying the words of command for carrying the exercise out, provided he knows this method, and remembers that whereas the *name* of a position reads from *above downwards*, the words of command for taking the positions start with the movement of the feet and *work upwards*.* For example, the commands for taking the “Stretch Stride Position” are: *Feet sideways and arms upward—stretch!* and NOT *Arms upwards and feet sideways—place!*

114. The **Word of Command** consists of two parts—

1. The Cautionary words.
2. The Executive word.

* The only exception to this rule are the words of command for taking the lunge positions when combined with arms movements.

The **Cautionary words** indicate what is to be done. They must be sufficient to make the movement required perfectly clear, but no more. They are delivered clearly, sufficiently loud, and with moderate slowness.

The **Executive word** is the signal which gives the instant when the exercise is to be commenced. If the movement is a quick one the executive word is delivered short, sharp, and in a higher tone than the cautionary words; but if the movement is a slow one the delivery of the executive word is somewhat drawn out and in a lower tone than the cautionary words. Thus the delivery of the executive word indicates the speed of the movement.

Note.—In such slow exercises as “Knees bending and stretching” where the movement is up and down, the direction of the movement is well indicated by giving the executive word in a lower tone than the cautionary words for the movement downwards, but in a higher tone than the cautionary words for the movement upwards.

As examples of words of command: *Left foot outwards* (caution)—*place!* (executive). *Arms bending upwards*, *Arms* (caution)—*bend!* (executive). In the second example the general caution *Arms bending upwards* is required, as the word *Arms* alone does not make the exercise perfectly clear.

115. It is important that all the words used should be pronounced with *perfect distinctness*. If the words of command are slurred over, precision in the execution of the movements will not be obtained.

116. The commands should be given just sufficiently loud for all the class to hear distinctly. Shouting is wholly unnecessary, and leaves the Instructor no reserve for suddenly awakening the attention of the class. All that is usually required is that the farthest man from the Instructor should be able to hear distinctly.

A quiet command can be made every bit as emphatic as a loud one, as its emphasis depends upon its *sharpness*, not upon its loudness. Continual shouting merely deafens the men and tends to destroy their

attention. Remember, however, that quietness does not mean tameness; give the commands with spirit and decision.

117. Every exercise has its own speed, and the speed or sharpness of the command should vary according to the required speed of the exercise about to be performed.

118. In the delivery of the words of command a **pause** is to be made between the cautionary and executive words equal in length to *at least* the time of two march steps, and this pause is indicated by a dash (—) in the printed words of command.

The less the men have been trained, and the greater the number exercising together, the longer must be the pause between the cautionary and executive words.

The pause is necessary in order that the men may prepare for the execution of the exercise. If the pause is unduly shortened precision in the exercise will be lost.

119. Combined Commands.—When the movements of different parts of the body are combined in one command, only one executive word is employed where possible; *e.g.*, in “Feet placing sideways” combined with “Arms stretching upwards” the command is: *Feet sideways and arms upwards—stretch!*

120. In such combined commands the movements of the feet are to be mentioned first.

Thus the command for the “Stretch Walk (a) Standing position” is *Left foot outwards and arms upwards—stretch!* and NOT *Arms upwards and left foot outwards—place!*

Note.—The same rule holds good when taking a position of this nature *in two parts*. Thus in the example given the “Walk (a)” position is taken *before* the “Stretch” position.

121. From each starting position the arms and legs can be brought direct to the position of “Attention” in *one* motion on the command: *Attention!*

Note.—An exception to this rule is the “Stride Standing” position, from which the return to the

position of "Attention" is always to be made in *two* motions. The command *Attention!* can still be used, but for the first few times when so employed it must be preceded by the caution *In two motions!*

- 122.** For exercises which require several words of command, numbers are used in the place of the executive words as soon as the exercise has become familiar. This reduces the number of words of command.

When numbers are used in place of executive words, the caution *By numbers!* must be given.

For example: "Foot placing outwards and Heels raising" is first carried out at the commands: *Left foot outwards—place! Heels—raise! Heels—sink! Left foot inwards—place!* but when executed in good form in this manner, it is carried out on the commands: *Feet placing outwards and heels raising, left foot—one! two! three! four!*

- 123.** Counting is also used for the sake of brevity in exercises carried out in strained or tiring positions, *e.g.*, "Knee up-bending and stretching in Span bending position."

- 124.** Slowly executed movements should not be done by numbers, *e.g.*, "Head bending," "Trunk bending," &c.

- 125.** When first practising an exercise consisting of several movements for which there is only one word of command, the different movements should be done "by numbers." The first movement is made on the executive word, and the remainder on the orders *two! three! &c.*

This method is to be discontinued when precision in the execution is gained, and the exercise is afterwards completely carried out on the executive word. The change from "by numbers" should be indicated by the caution: *Judging the time!*

For example: "Walk (a) St: Feet changing" is first taught by the commands: *Feet changing by numbers, feet—change! two!* later, on the command: *Judging the time, feet—change!*

At any time when decided faults arise in the performance of an exercise, either in its form or time, it should be done by numbers once or twice.

1126. The positions taken for the purpose of supporting one another while performing an exercise are taken on the command: *Support—place!*
1127. Support from apparatus by grasping it with the hands, is taken on the command: *Grasp!*
1128. On the immediate repetition of the same exercise, the order *Repeat!* i.e., *Repeat—one! two!* should take the place of the cautionary part of the command.
1129. The faults that are most commonly committed in giving words of command are:—

1. Making too short a pause between the caution and executive word.
2. Making too long a pause between the executive word on which a strained position was taken, and the following cautionary words for the return to the Starting position, e.g., in the exercise, "Stretch St: Trunk bending backwards," on the command: *Arms upwards—stretch! Backwards—bend! Upwards—stretch!* making too long a pause between the executive word *bend* and the following caution *Upwards*.

Note.—In slow movements precision will often be gained by giving the caution for the next movement before the first one has been fully completed, the position being held as long as desired by lengthening the pause before the executive word is given.

3. Delivering the executive word for an exercise in a monotonous voice or without sufficient decision.
 4. The strength of the voice not adapted to the size of the class.
 5. Shouting.
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VI.

METHOD OF CONDUCTING THE TRAINING.

A.—GENERAL PRINCIPLES.

130. The Training is to be conducted with strict attention to the exact performance of the exercises, paying particular care to the correction of mistakes. Smartness and precision must at all times be insisted upon, otherwise the training will become slovenly, and lose most of its value.

Willingness and "go" are as essential in the training as obedience and attention.

131. The Training should be conducted with care and moderation, and must not be pushed too rapidly, or it will become harmful.

132. When the Officer supervising the Training is himself taking the class, the Instructors should attend to the instruction, words of command, and time; but must also give some attention to the correction of faults, which is to be done so that the attention of others is not disturbed.

133. During exercises, such as Heaving exercises, Jumping, &c., in which all do not take part at the same time, the men who are not employed should stand easy.

134. Exercises done with only one side (arm, leg, &c.), at a time, are to be done in the same manner and the same number of times with the other side.

135. Exercises should, as far as possible, be done by word of command or in "quick rotation," *i.e.*, by the men following each other closely without word of command. An exercise must be well practised by word of command before it is done in "quick rotation."

136. The movements of Free exercises, as well as those on apparatus executed "in place," *i.e.*, in which the body is not moved away from the place where the Starting position was taken (as in Vaulting, Climbing, &c.), should not generally be repeated more than *four*

times (or twice in each direction); this will be ample if the exercise is well done, and if not well done excessive repetition will only make the faults worse.

Thus in "Crook hanging: Alternate Knee stretching," each knee should not be stretched more than four times, and then not until the class is sufficiently advanced to do the knee stretchings in perfect form throughout.

137. Exercises having a powerful effect (such as Span bending) should not be given too long duration.
138. All exercises should be done in the simplest manner, smoothly, without jerks or stiffness.

B.—INSTRUCTION AND METHOD OF INSTRUCTING.

139. The detailed descriptions of the positions and exercises given in the Handbook are intended as a *guide* to Officers and Instructors, and are not to be repeated word for word in the instruction.

The instruction is imparted principally by illustration and by short and single explanations, in conjunction with repeated practice and the correction of faults.

140. A successful Instructor must possess a real aptitude and liking for the work.
141. The instruction is to be given clearly and quietly, and the exercises that are going to be practised must be well thought over.
142. The difference between small capacity and lack of effort should be clearly recognised. Incapacity is not a fault. It is overcome by practice, and not by censure or punishment. To demand of the men that which exceeds their capacity is to undermine discipline.
143. Corrections and cautions should be made quietly, firmly, and clearly.
144. Proper control requires that the necessary corrections should be made; but on suitable occasions the Instructor should encourage men by telling them when

an exercise is well done, and thus seek to call forth their interest and exertion.

A liking and inclination for gymnastic exercises will be aroused in the men by encouragement and emulation amongst themselves, and by properly adjusted and graduated demands upon their exertions.

145. The instruction is to be conducted so that the strength of the men is not overtaxed. For this purpose the following rules must be carefully observed:—

- (a) Long explanations and corrections are to be avoided in fatiguing positions.
- (b) Stronger and more complicated exercises are not to be taken up until the men have been prepared for them by lighter and simpler exercises.
- (c) After each of the more fatiguing exercises the men are to be allowed a brief rest.
- (d) The exercises must be varied in order not to produce exhaustion in any one particular part of the body. The same exercise, therefore, must not be repeated too many times.
- (e) Exercises which exert an especially powerful influence on the breathing and heart action are to be followed, and sometimes preceded, by exercises which have a calming influence upon the heart and lungs; such as "Marching on the toes," "Quick march," or Deflective Leg exercises.

146. When any man has great difficulty in carrying out some particular exercise, the fact should be reported to the Officer supervising the instruction, and the man given individual instruction and practice in the exercise.

147. The position of the Instructor during the lesson is where he can best observe the execution of his orders.

C.—EXPLAINING AND ILLUSTRATING EXERCISES.

148. When **Explaining** and **Illustrating** a new exercise or making a detailed correction, the class is always to

stand easy, but care is to be taken that silence and attention are preserved, and that all eyes are directed upon the Instructor.

- 149.** In the teaching of an exercise, only that part of it which is new to the men should be explained. Time should not be wasted by explaining to them the parts of the exercise with which they are already familiar.

Long and wordy explanations are not to be given. In order to make explanations short, simple, and perfectly clear, the following method should be employed:—

Commence by saying what is the general movement required; then mention the particular points to be observed; and finally any special things to be avoided. Thus in teaching the exercise "Trunk bending forward" from the Wing St: position, commence by saying: "*Bend well forward at the hips*"; then, "*Keep the back straight—shoulders back—head up*"; finally, "*Don't poke the chin forward, or bend the knees.*" The following illustrates the method that is NOT to be employed:— "Without poking the chin forward, and keeping the head up and the shoulders back, and back straight, bend well forward at the hips without bending the knees," &c.

In explaining a position the same method is to be employed.

- 150.** When first teaching a new Position or Exercise first get the principal part done correctly, leaving the less important points till later, and the first explanations should be made too short rather than too long; the full explanation should be given by degrees in the form of corrections during the carrying out of the exercise.

- 151.** **Illustrating** is done in the following manner:—

The first simple exercises are shown by the Instructor himself. For this purpose he places himself where he can see and be seen by everyone, and takes the proper starting position. He then commands the exercise and carries it out in good form and with precision.

After this the illustration is repeated with one or more of the men in sight of the remainder, usually in combination with a short explanation.

If the exercise is of such a nature that the Instructor is prevented from seeing and speaking to the men while he himself does the exercise, he should illustrate only with one of the class, *i.e.*, in Span bending, &c.

In illustrating Positions and Exercises the Instructor must be careful to face in a direction that will best exhibit the posture or movements. Thus in illustrating "Stride Standing position" or "Arms raising sideways" he should stand facing the class, but to illustrate "Lunge Standing positions" or "Trunk bending backwards" he should be turned sideways to the class.

In illustrating certain exercises on apparatus, the class should be placed where they can see the correct carriage of the head and neck.

152. **Rhythm and Time** are best illustrated by the Instructor doing the exercises himself at his own commands, taking great care to give the precise time.

Counting is also employed to give the correct rhythm, each command being delivered in an even tone.

153. At the commencement of the training, and until the men understand the proper way to do the exercises, they may be occasionally directed to use their eyes in correcting faults, as, for instance, to look at their feet to correct the angle between them when at Attention, or the distance between them, and the direction of the leading foot in the Walk St: positions. After a little practice and when the sense of movement is sufficiently developed, the men should be able to know whether the exercise is properly performed without having to look.

154. Free standing exercises done with exact rhythm, and which are performed by the class working together, should be repeated (in moderation) when the rhythm is incorrect.

In order to obtain this increased precision in the repetition of an exercise, the words of command for the repetition must be given greater sharpness.

155. A short pause should generally be made after a Starting Position is taken and before the exercise is carried out, in order that the Instructor may satisfy himself that the Starting Position is correct.

D.—PROGRESSION AND PREPARATORY EXERCISES.

Progression.

- 156.** In all progression the age, ability, and development of men is to be taken into account.
- 157. How Progression is made.**—Progression is made in various ways:—
- (1) By making a slow movement quicker. Example: "Arms stretching," which is first done slowly to get the correct form, and later as quickly as possible.
 - (2) By making a quick movement slower. Example: "Knees bending," which is more difficult the slower it is performed.
 - (3) By changing and decreasing the base, thus making an exercise more difficult. Example: Lateral exercises and Balance exercises.
 - (4) By increasing the leverage of the weight by changing the position of the arms from Wing to Rest and then to Stretch position, thus making an exercise stronger.
 - (5) By increasing the range and duration of the exercise; as the bending of the trunk in "Trunk bendings" and in Span bending, the distance in Running, the height of Jumping, &c.
 - (6) By making the starting position from which an exercise is carried out more difficult, thus increasing the effect of the exercise. Example: In the Dorsal exercises "Arms swinging" is done first from Stoop Standing position, and later from the Lunge Standing positions.
 - (7) By combining two or more movements or positions. The details of this method are given in Part VII.
- 158.** Two or more of these ways of obtaining progression are frequently combined. Thus in Balance exercises

the difficulty is increased both by diminishing the base from Standing to Close St: then to Half St: and by increasing the leverage of the weight of the body round this base by changing from Wing to Rest and then to Stretch.

The manner in which progression is made in the different exercises is given more precisely in the description of each exercise or group of exercises in Part IV. and in the Handbook.

159. The chief rule to be remembered in making progression is to proceed *by degrees* from the simplest and easiest to the more combined and difficult. This is the only way to obtain rapid progression and a satisfactory development in a relatively short space of time without risk of overstraining.

160. When Progression is made.—The change from one exercise to a stronger one of the same group must not be made until the first exercise can be performed as perfectly as the general advancement of the class will allow.

If an exercise is not done properly after it has been practised some time, the exercise which preceded it should be temporarily returned to, after which the proper exercise will usually be done with greater ease.

The necessity for this return to a former exercise will be decided by the Officer supervising the instruction.

Preparatory Exercises.

161. Preparatory exercises are exercises employed to prepare the way for harder exercises. The exercises employed as preparatory to the true exercises of the various groups are given in Part IV. They principally consist of taking the different starting positions from which the true exercises are subsequently carried out, and in practising the movements of the true exercises in easier starting positions. As, for example, the preparatory Leg exercises (Foot placings, &c.) consist in taking the different starting positions of the legs from which the true Leg exercises of Heels raising and

Knees bending are carried out. And again, the exercises of "Arms striking" and "Arms swinging," which are employed in the Stoop St: position as Dorsal exercises, are first practised as preparatory exercises in the Standing position.

In some cases the preparatory exercises take the form of preparing the muscles that will be vigorously employed in the true exercises, by exercises of a milder or less difficult character; for instance, the exercises of "Arms bending and stretching" are used as preparatory to the true Heaving exercises, as the muscles employed are the same in both, but their contractions are much less vigorous in the former than in the latter, for whereas in one case the muscles have merely the weight of the arms to raise, in the other they have to raise the whole weight of the body.

Again, such preparatory exercises as those of the Jumping and Vaulting are chiefly employed to secure correct *form of execution* before passing on to the true exercises.

Some of the preparatory exercises, besides preparing the way for harder exercises, are themselves powerful means for developing the body; such, for example, are the "Arms stretchings." These preparatory exercises are, therefore, of a permanent character, and are employed throughout the training.

On the other hand, the preparatory exercises, which are used merely to "introduce" or facilitate the passage to some particular exercise, are employed as short a time as possible, and only until the harder exercises can be taken up; for instance, the Introduction to Vertical Rope Climbing. In the Tables these exercises are generally given first, to be followed "*later*" by the exercises for which they prepare the way.

162. Each exercise is prepared for at least once by merely taking its starting position, provided this position is new to the men.

163. Exercises in which the whole body is moved forward are always prepared for by similar exercises performed without moving the body forward. Thus Climbing is

prepared for by raising the legs and body only, without shifting the hands; "Marching on the toes" by "Heels raising"; "Marching with Knees up-bending" by "Alternate Knee up-bending" in quick time.

E.—FAULTS AND CORRECTING.

Faults.

164. Faults may be classed under two headings:—

- (a) General faults, which may appear in the performance of any exercise, and at any period of the training, and are not peculiar to any particular exercise or group of exercises.
- (b) The special faults, which occur in each individual exercise and are peculiar to that exercise.

165. General Faults.—The general faults which most frequently occur, and which are most harmful to the proper development of the men, are:—

- (a) The positions taken up lack sufficient firmness and precision; this is usually the result of a wrong angle or a wrong distance between the feet, and also of a faulty position of the hips.
- (b) Holding the breath in the various positions and exercises, particularly when the trunk is inclined strongly backwards.
- x) (c) Choosing a starting position which is so strained or tiring that the exercise carried out from it cannot be done with full strength or completely carried out.
- (d) Hindering the breathing by contracting the chest. This is caused by the faulty position of the head, neck, and shoulders.
- (e) Exercises done with one side at a time, not done equally with both sides.
- (f) Making a larger or smaller movement than is required by the exercise, *e.g.*, in "Arms striking," not carrying the forearms right back; in "Arms swinging," allowing the arms to swing below the horizontal.

x) belongs to 167.

- (g) Not keeping the shoulder-blades sufficiently back in the exercises in which the arms are stretched upwards or forwards; or in these and similar positions bringing the hands closer to each other than the width of the shoulders.
- (h) Not keeping the proper rhythm (time) in the performance of the exercises.
- (i) Not keeping a uniform motion in the performance of slow exercises.
- (j) Practising an exercise in such a way that the effect for which it is intended is not obtained, and not observing the necessary moderation in its use.

166. Special Faults.—The special faults, which occur in each individual exercise, are given in the description of the exercises in the Handbook, Vol. I., under the heading "*Common faults.*"

167. In imparting instruction in gymnastics **the Instructor** generally commits some of the under-mentioned faults:—

- (a) Conducts the lesson in such a way that everyone does not pay constant attention. The Instructor, therefore, does not get his commands obeyed.
- (b) Uses words of command when a short order or direction would be more suitable.
- (c) Delivers the words of command indistinctly, slackly, or in the wrong tone.
- (d) Allows the class to stand too long in a tiring position, or unnecessarily at "Attention."
- (e) Allows the class to "Stand easy" for an unnecessary length of time.
- (f) Neglects to use the so-called "smartening-up" exercises (par. 173) when the attention or carriage of the class is lost.
- (g) Forgets to allow a sufficient interval between the taking of a position and the carrying out of an exercise, and the same between two consecutive exercises.

- (h) Uses long explanations instead of illustrating.
- (i) Neglects to order "Stand easy" before illustrating an exercise or making a detailed correction.
- (j) Illustrating more of an exercise than is to be practised, such as in Climbing.
- (k) Explains in detail all the parts of a new position or exercise when some of these are already known to the class.

Example: Giving a full explanation of the "Stretch Stride St: position" when the class is already familiar with both the "Stretch position" and the "Stride position."

- (l) Neglects to carry out an exercise by ranks, as in Vaulting over beams, or in "rapid succession," as in Jumping, and Vaulting over horse and box, when it may properly be done in that manner.
- (m) Overcrowds an apparatus, thus causing the men to get in each other's way.
- (n) Not *seeing* faults.
- (o) Not *correcting* faults.
- (p) Corrects too little and talks too much.
- (q) Makes the corrections too detailed.
- (r) Stands in a position where he cannot supervise the entire class.
- (s) Stands still in the same place too long, or moves about too much.
- (t) Chooses an unsuitable formation for the class.
- (u) In the open—places the class facing the sun or wind.
- (v) Neglects to use the precautions given in Part VI., F.

168. The value of an exercise is in proportion to its effect in overcoming some particular weakness, or in correcting a particular fault of carriage.

Faults of carriage can be corrected or made worse by the same exercise; or, in other words, the same exercise can both benefit and injure, everything depending upon the *manner* in which it is carried out; the more numerous the faults of carriage that an exercise permits or produces the less its value.

Correcting.

169. Pay particular attention *to the manner of carrying the head, neck, and chest*, for a bad carriage of any one of these parts will cause a bad carriage of the others. Therefore, pay great attention to faults of carriage, and never neglect to correct them.

Remember, however, that when a large number of men are being exercised together the correction of individuals is not to occupy so much time that the remainder get tired and fall into a bad position.

170. In order to correct faults in the right way, the Instructor must learn to know their causes and the most suitable method of correcting them.

171. Make verbal corrections quickly and in a moderately loud voice.

“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 distract the attention of the others from the
“ movement in progress.” Manual corrections must be gentle; a touch to suggest to the man what is wanted is usually all that is required. *Never* attempt to force a man into the right position; he will instinctively resist it, and the more force applied the greater will be the resistance.

172. There are *two* ways of correcting faults which are *quite different*, and should not be interchanged:—

First. While the class is at “Attention” or is performing an exercise. Corrections are then made as quick and as short as possible; for instance, by brief directions, seldom by illustrating. The more fatiguing the position the shorter and more explicit must be the correction. Example: *Nos.*
Stretch the fingers! Sink the shoulders!

Second. While the class is standing at ease. Corrections are then made at greater length, both individually and by illustration to the class.

173. When a large number of men are exercised together, faults in the time, position, and carriage of the class generally are corrected by using certain exercises.

This method of correcting a large class tires less than repeatedly reminding of faults, and the desired result is obtained much more surely and quickly.

Always correct faults of this nature whenever they appear, using the following exercises :—

To correct a wrong angle between the feet, use “Feet closing and opening.”

To correct faulty carriage of head and neck, use “Head bending backwards” and “Head turning.”

To correct faulty carriage of the shoulders, use “Standing : Arms bending upwards” slowly, and with the shoulders sunk well down.

When the attention or the whole carriage of the body is lost, or when the time is not sufficiently precise, use exercises that will “smarten up” the class. These are of two kinds :—

First. Simple drill movements such as Turnings, taking one or two paces forward, backwards, or to the side, quick repetition between “Stand at Ease” and “Attention.”

Second. Taking a position which requires *an exact time*, such as “Stretch Stride St: position” and the return to “Attention,” “Foot placings in succession,” “Arms stretchings,” &c.

Special Corrective Exercises.

174. If any man, by reason of a bad carriage or unusually poor development, is unable to proceed as rapidly as the remainder of the class, and thereby checks the progress of the others, the Instructor should report the case to the Officer supervising the training, and with his consent may resort to exercises of a stronger or more *corrective* character for the man needing them. These corrective exercises are applied at the beginning of the training.

In Appendix I. are given corrective exercises for “Round shoulders,” Lordosis or “Hollow back,” and “Flat feet.”

175. A fault is overcome and removed by continued practice, and by attention to the instructions contained

in pars. 172 to 174, relating to the different methods of correcting.

- 176.** In practising a new exercise do not at first try to correct all the faults that appear. Take first the most harmful, and later the less important; this particularly holds good in regard to faults in the correct *form* of an exercise.

F.—PRECAUTIONS.

- 177.** The exercises are to be conducted with all due precaution, but not in such a way as to give rise to nervousness or fear. On the contrary, the men should be taught to know and to use their strength; and the principal and most important means of preventing over-exhaustion or other evil effects from this is by adhering to the proper progression of the training.

Spring boards, mattresses, and other safeguards are unnecessary, for the intention of the training is to teach the men to depend on themselves, and not upon external aids. It follows, therefore, that the *progression* should never be carried beyond the point where these aids become necessary.

- 178.** Exercise should not be taken when the men are fatigued, or immediately after a full meal.

A quarter of an hour's rest should follow the more fatiguing lessons, before taking another form of hard bodily exercise.

- 179.** Before carrying out travelling exercises on high apparatus the Instructor must satisfy himself that the men can take a firm grasp, and perform the exercise when close to the ground.

- 180.** "Receiving," *i.e.*, the act of grasping a man as he springs on to or over an apparatus, as in Vaulting, is used both to assist men in the performance of an exercise, and to prevent accidental falls.

The men must be taught how to "receive" each other when vaulting over beams by ranks, each rank receiving the other in turn.

When the horse is in use the men will assist the Instructor in receiving as necessary.

Remember in receiving that a man who falls must be grasped by the upper part of the body, *never* by the leg. As ability and confidence are required, receiving should be discontinued, and all exercises carried out without such help.

The correct manner of receiving is as follows:—

In *Horizontal Vault* (to the right). The rank receiving stands on the farther side of the beam facing to the right, with the right side close to the beam. As the next rank vaults, the men receiving grasp the left wrists of the men vaulting with the left hand, and behind the left arm just below the shoulder with the right hand. The grasp is retained until the men vaulting have landed in full balance.

In *Sit-over Vault* (to the right). The rank receiving stands on the farther side of the beam facing to the right, with the right side close to the beam. As the next rank vaults, the men receiving grasp with both hands the left wrists of the men vaulting, and as the men vaulting swing over the beam, the men receiving let go the wrists with their right hands and follow the wrist with their left, retaining the grasp of the left hand until the men vaulting have landed in full balance.

In *Balance Vault* (to the left). The Instructor stands on the farther side, and close to the right-hand end of the box, and places the left foot upon the top of the box. In this position he can reach over the box with his left hand.

As the man doing the exercise places his hands on the box, the Instructor places the palm of his left hand under the abdomen, and his right hand with fingers to the front under the shoulder. The Instructor can then assist the upward motion of the body with his left hand, and support the head and shoulders, and at the same time turn them to the right with his right hand.

In *Handspring* over box. Two men stand on the further side of the box facing each other in the Stride position, and place their inside hands palm upwards on

the box. The man whose right hand is on the box grasps with his right hand with thumb turned forward the left wrist of the man vaulting, and places his left hand under the left shoulder, the thumb to the rear. The man whose left hand is on the box grasps the right wrist and shoulder of the man vaulting, in the opposite way.

As the man vaulting swings over, the men receiving, retaining their grasp, follow his motions until he has landed in full balance.

- 181. Dress.**—During gymnastics the men should not wear clothing which interferes with the free action of any of the muscles or presses upon internal organs. Belts are unnecessary. Plenty of clothing should be removed. Shoes should be worn in a gymnasium.

VII.

THE COMBINATION OF MOVEMENTS.

182. As soon as the Starting Positions and Preparatory exercises can be done with precision when practised "by numbers" singly, they may be *combined* in the following ways:—

(a) By doing exercises with different parts of the body at the same time.

This is carried out as follows:—

- (1) When the exercises are both done in *one* motion they are executed together.

For example: "Hips firm" at the same time as "Feet close," on the command: *Feet close and hips—firm!*

- (2) When one exercise is done in *one* motion, and the other exercise is done in *two* motions; the exercise done in *one* motion is carried out with the *second* motion of the exercise done in *two* motions.

For example: "Foot placing outwards" combined with "Arms stretching upwards" on the command: *Left foot outwards and arms upwards—stretch!* The foot is kept still on "one," which thus means "Arms bending" only; but on "two" the exercise is completed by simultaneously placing the foot outwards and stretching the arms upwards.

- (3) When *both* exercises are done in *two* motions, the first motion of both are done together, then the second motion of both exercises together.

For example: "Feet placing sideways" combined with "Arms stretching upwards," on the command: *Feet sideways and arms upwards—stretch!* At "one" the left foot is carried to the left at the same time as the arms are bent; at "two" the right foot

is carried off to the right at the same time as the arms are stretched upwards.

(b) By doing the movements of exercises in succession with opposite limbs or in different directions.

For example :

- (1) "Foot placings" in succession (1—4), on the command: *Foot placing outwards by numbers, left and right foot—one! two! three! four!* or *Foot placing outwards, left and right foot—place!*
- (2) "Arms stretching" in succession, on the command: *Arms stretching, sideways, forwards, and upwards—one! two! three! four!* or *Arms stretching, sideways, forwards, and upwards—stretch!*
- (3) "Foot placings" together with "Arms stretchings," on the command: *Foot placing forward with arms stretching upwards and downwards, left and right foot—place! &c.*
- (4) "Foot placing with Heels raising" in succession, on the command: *Foot placing forward with heels raising, left (right) (left and right) foot—place! &c.*

In such combinations the following rules are to be observed:—

- (a) The movements in succession are first done "by numbers," and afterwards by the class judging the time. In judging the time precision will be gained if the men count quietly to themselves. The time must not be quickened, and every part of the exercise must be done in correct form.
- (b) A succession of movements should never consist of more than eight motions. If movements are employed in succession too early their correct form is very easily lost.

- (c) **By making two movements which are opposite in direction, follow each other as rapidly as possible.**

For example:—

“Feet closing” and “Feet opening,” on the command: *Foot closing and opening—onetwo! Arms striking—onetwo! &c.*

VIII.

APPARATUS, SPACE, AND TIME.

Apparatus and Space.

183. The Tables given in this book are designed for use in a gymnasium provided with Beams, Wall-Bars, inclined and vertical Ropes, Jumping Stand, Horse and Box.

184. They can, however, be made equally serviceable where no apparatus is available by merely substituting the corresponding or alternative Free-standing exercises for those on apparatus. Thus the true Span-bending exercises on wall-bars will be replaced by the preparatory Free-standing exercises and the alternative Span-bending exercises with living support. The Heaving exercises on apparatus will be replaced by Arms stretchings and Lateral exercises (*see* par. 80), and so on. Vaulting, however, cannot be done without some form of apparatus (except "Leap frog").

185. It must, nevertheless, be remembered that the particular *form* of the apparatus is of no importance provided the desired *physical effects* are derived from its use. It would, therefore, be quite exceptional if *nothing* was at hand that could be used as apparatus. A wall can be used for Span-bending; a few low benches are usually procurable or are easily made; a rope, with which a great many of the most valuable Heaving exercises are possible, is generally at hand. If to these can be added a long beam that can be raised and lowered, the stock of apparatus will go a long way to meet all requirements. With a horse all the Vaulting exercises can be carried out.

In fact *a competent Instructor is never at a loss for suitable apparatus.* By using his ingenuity the Instructor should be able to overcome all obstacles arising from want of special apparatus or space, and if these wants are advanced as reasons for indifferent results, the Instructor merely proclaims his own incompetence.

Time.

186. When the time available does not admit of going through a complete Table, certain of the exercises should be omitted in the manner described in par. 199.

When time is short, do not waste too much time on the first exercises, but remember that due time must be had for the subsequent and finishing exercises. Do not waste time in starting.

187. When the time at disposal is only sufficient for carrying out a few exercises, not for a regular gymnastic lesson, as, for example, when a number of fully trained men are to be given a short practice, all the rules necessary in the proper conduct of regular *training* need not be too strictly adhered to.

The exercises employed in such short practices must almost necessarily be all Free-standing. At least one exercise in each group should be given, and in the proper order of the groups. No group should be omitted, so that every part of the body may receive its due attention.

In selecting the exercises to be practised, the Instructor will be governed by the age, strength, and amount of previous training of the men; taking care that the strength of the different exercises is properly balanced, not making some very light and others very strong. The exercises should be changed daily, so as to prevent monotony.

In these short practices every minute must be utilized to the best advantage. The utmost smartness in falling in must be insisted upon, the opening of the ranks done as quickly as possible, and the work started at once. Then if the exercises have been properly arranged, no pause need be made before the end of the practice. For this purpose care must be taken to avoid placing together all the harder exercises which increase the breathing and heart action. If the breathing and heart action be found increased after the more fatiguing exercises, a Leg or Breathing exercise should be introduced between them. Thus by a proper interchange of exercises the work can be made

continuous from start to finish, and the frequent use of the time-consuming "Stand easy" (essential in practice for any length of time) can be dispensed with.

The Instructor will find much assistance in getting through the work smartly, smoothly, and without loss of time, by writing the exercises which he is going to practise on a small card which he holds in the palm of his hand for reference during the practice, but a good Instructor will always commit his Table to memory before commencing the work, only keeping his card handy in case he should forget, thus avoiding "dead points," and insuring the continuity of the Table.

1188. It is to be observed that brief *daily* periods of physical exercise such as indicated above, while they cannot fulfil the requirements of regular *training*, are much better than no exercise at all, or a much longer period once a week.

A well spent quarter of an hour at gymnastics every day will preserve the men in good health and activity.

IX.

INSTRUCTIONS FOR USING THE TABLES.

189. The following progressive set of Tables are included for reference. It should be noted that they are rather long, and that their progression is somewhat rapid, as they are designed for use in training Physical Training Instructors.

190. The Tables are to be employed in the order given, each Table being used for one week, and, subject to par. 199, the sequence of the exercises in each Table is to be followed.

191. The exercises in Tables 1, 2, and 3, consisting chiefly of Starting positions, are of small value as regards their functional effects upon the body, but are of very great value from an educational and disciplinary point of view. They must, therefore, be carefully learned by the class.

The importance of a thorough grounding in these Starting positions at the outset of the training will be understood when it is remembered that they are employed in the true exercises of the subsequent Tables, and that these exercises depend for their value upon the correctness of the Starting positions from which they are carried out.

Care at the beginning in teaching these Starting positions will be, therefore, well repaid later in the training, as the progression will be more even, and can be made more rapid.

192. From and with Table 4 the exercises are arranged in groups.

193. Explanation of Terms and Abbreviations employed in the Tables.

When two exercises in a group are set down to be done *alternately with* (alt. with :) each other, they are to be employed alternately in the order given, only one being used at a lesson. Such exercises are distinguished by the letters (a) and (b) placed respectively before

their names in the Tables. When there are three or more exercises set down in a group, two of which are employed alternately with each other, these two are distinguished by the letters (a) and (b), and are also bracketed together. The other exercises not so bracketed are to be employed at each lesson. When there are four exercises given in a group, and the first two are to be employed alternately with each other, and the last two are to be used alternately with each other, the first pair and the second pair are bracketed together respectively, and the first exercise of each pair is to be used on the first day, and the second exercise of each pair on the second day, and so on.

When an exercise is set down to be employed *later*, it is to be taken up as soon as the exercise which preceded it is done in correct form. The earlier exercise is thus the introduction to the exercise employed later.

The direction that an exercise is to be *followed by* another exercise, means that the "following" exercise is to be done immediately after the exercise it follows, or after a brief rest only. When two alternate exercises are shown to be *followed by* another exercise, each of the alternate exercises is to be followed by the exercise given.

When the name of an exercise is followed by (H.F.), it means that the exercise is to be done first with arms in the position of "Attention," and that later "Hips Firm" may be taken *before* the exercise is commenced.

When the name of an exercise is followed by "with H.F.," it means that "Hips Firm" is to be taken *previous* to the commencement of the exercise, *e.g.*, "Stride Standing; Heels raising, with H.F.," on the commands: *Hips—firm! Feet sideways—place! &c.*, and not *Feet sideways and hips—firm! &c.*

When the name of an exercise is followed by "by w.o.c.," it means that the exercise is to be done by *word of command*.

When the name of an exercise is followed by "by nos.," it means that the exercise is to be done *by numbers*.

When the name of an exercise is followed by "judge time," it means that the exercise is to be carried out by *the class judging the time*.

When the name of an exercise is followed by : 1—4, 1—2, &c., it means that the exercise is to be done in 4, 2, &c. motions. If the name of an exercise is followed by : 1—4 (1—2), the exercise is to be done first in four motions, and when properly performed in this manner, it is to be done in two motions.

When an alternative Position or Movement is given in an exercise it is placed between brackets, and either of the two positions or movements given may be employed at the discretion of the Instructor, but both are not to be used at the same lesson, *e.g.*, "Stretch (Rest) St: Knees bending," or "Wing St: Foot placing forwards (outwards)."

"S.P. and Ex. as before," indicates that the Starting position is to be taken and the exercise carried out in the manner previously practised.

194. Angle between the Feet.—A lesson is always commenced with "Feet closing and opening," in order that the Instructor may be certain that the men start with the proper angle between the feet.

This exercise is also used during the lesson directly faults are observed in the angle between the feet, and it is usually employed immediately before taking Walk (a) Standing and Lunge (a) Standing positions.

195. Exchange of Exercises.—The change from one Table to the next is to be made gradually—exercise by exercise—and not abruptly, Table for Table at the beginning of each week.

As soon as the Instructor sees that an exercise is satisfactorily performed, he is to change it for the corresponding exercise in the next Table. In this way exercise after exercise is exchanged, until one Table has completely merged into the next one. This Table is then used until its exercises are gradually dropped for those in the next, and so on. In this way a very even progression is obtained, the exercises giving better results.

The Instructor should avoid teaching and practising too many new exercises on the same day.

The rules governing the passage from one exercise to another in the same group are given in par. 160.

196. The Instructor.—Before commencing the lesson, the Instructor is to prepare himself by refreshing his memory as to the order of the exercises and words of command to be employed.

Should his memory fail him during the lesson, he is permitted, while the class stands easy, to take a rapid glance at the Table to remind himself of the order of the exercises or the words of command for the next exercise.

The Instructor should carefully observe that the Tables are so arranged that they begin with easy exercises; that the exercises gradually increase in strength till the middle or towards the end of the Table, and then diminish by degrees in duration and strength.

197. Height of Apparatus.—The directions for the height of apparatus, *e.g.*, knee, hip, shoulder height, &c., mean that the upper edge of the apparatus is to be placed on a level with the named part of the body.

198. Additions.—For correcting the time and sharpening the attention of the class, *Positions* in the taking of which a precise time is necessary, can be employed where required in the lesson (*see* par. 173).

Immediately after unusually exhausting exercises, Marching, Marching on the toes, or Deflective Leg exercises are used for calming the action of the heart. These are also occasionally followed by a Breathing exercise. The Officer supervising the training will determine when it is necessary to employ such exercises (*see* par. 145 (*e*)).

The exercises inserted merely to correct faults in the general carriage of the body, or in the position of any part of it, are given in par 173.

199. Occasional Omissions.—When time is limited and the whole of the Table cannot be gone through, from and with Table 4, the Free-standing Balance exercises may first of all be omitted; then, if necessary, the second

Leg and Heaving exercises, and the Marching placed before the Jumping, or omitted; and if a further reduction is required the Jumping may be shortened.

200. Permissible Changes in the Sequence of the Exercises.—In order to save time when large numbers are being instructed in one class, and the space or available apparatus does not admit of the whole class working together, or completing an exercise in a reasonably short time, the class should be divided into two parts, each part performing an exercise from a different group at the same time, and afterwards the parts change places and exercises.

For this purpose the Span-bending and Heaving exercises may change places, one part of the class doing a Span-bending exercise while the other part does a Heaving exercise. A similar change can be made between the Dorsal and Abdominal exercises, or between the Abdominal and Lateral exercises.

The Marching can be introduced between the Abdominal and Lateral exercises, or before the Jumping. It must be remembered that when there is much Doubling it should be preceded and followed by Quick March or March on toes.

The Jumping and Vaulting exercises should be done by as many at a time as the apparatus will accommodate, and when permissible a further saving of time is made by doing these exercises in "rapid succession."

X.

TABLES.

TABLE 1.

1. (a) **Position of Attention.**
 (b) **Standing at Ease.**
 (c) **Dressing.**
 (d) **Numberng.**
 (e) **Opening the Ranks.**
 (f) **Turnings, by nos.**
 (g) **Marching Forward and Backward with
 1—3 steps.**
 (h) **Side step with 1—2 steps.**
2. **Close St: Starting position.**
Feet—close! Feet—open!
3. **Wing St: Starting position.**
Hips—firm! Attention!
4. **Walk (a) St: Starting position.**
*Left (right) foot outwards—place! Inwards
 —place!*
5. **Bend St: Starting position.**
*Arms upwards—bend! Arms downwards—
 stretch!*
6. **Stride St: Starting position (H.F.).**
*(Hips—firm!) Feet sideways—place! two!
 Feet together—place! two! (Attention!)*
7. **Yard St: Starting position.**
*Arms sideways—raise! Arms downways—
 sink!*
8. **Standing: Heels raising (H.F.).**
*(Hips—firm!) Heels—raise! Heels—sink!
 (Attention!)*
9. **Wing St: Trunk bending backwards
 (slightly).**
*Hips—firm! Trunk slightly backwards—
 bend! Upwards—stretch! Attention!*
10. **Wing St: Trunk bending forwards.**
*Hips—firm! Trunk forwards—bend! Up-
 wards—stretch! Attention!*

TABLE 1.

11. **Marching**, quick, double $\frac{1}{2}$ minute, quick.
12. **Hanging Starting position with over, under, or alternate grip.**
With overgrip (undergrip) [left (right) hand undergrip, right (left) hand overgrip] — up! Down!
- (a) **Fall hanging Starting position.***
Grasp! Fall hanging—place! Attention!
 Later:
- (b) **Fall hanging: Arms bending to right angle.**
Grasp! Fall hanging—place! To right angle, arms—bend! Stretch! Attention!
13. **Close St: Heels raising (H.F.)**
(Hips—firm!) Feet—close! Heels—raise! Heels—sink! Feet—open! (Attention!)
14. **Reach St: Starting position.**
Arms forwards—raise! Arms downwards—sink!
15. **Stretch St: Starting position.**
Arms forwards and upwards—raise! Arms forwards and downwards—sink.

* Progression is made by lowering the beam gradually from shoulder to hip height.

TABLE 2.

1. (a) **Dressing with intervals, Opening ranks, &c.**

(b) **Turnings, Marching forward (backward) (to side),** with named number of steps.

2. **Walk (a) St: Feet changing (H.F.)**—by nos. Later: judge time.

(Hips—firm!) Left foot outwards—place! Feet—change! two! Right foot inward—place! (Attention!)

3. **Walk (b) St: Starting position (H.F.).**

(Hips—firm!) Left foot forwards—place! Backwards—place! repeat with the right. (Attention!)

4. **St: Arms stretching upwards and downwards**—by w.o.c. (quite slow at first to get good positions throughout). Later: by nos.

Arms—bend! Upwards—stretch! Arms—bend! Downwards—stretch!

Later:

Arms upwards—stretch! two! Arms downwards—stretch! two!

5 **Stride St: Heels raising with H.F.**

Hips—firm! Feet sideways—place! Heels—raise! Heels—sink! Feet together—place! Attention!

6. (a) **Wing St: Trunk bending backwards and forwards.**

Hips—firm! Trunk backwards—bend! Upwards—stretch! Forwards—bend! Upwards—stretch! Attention!

Alt. with:

(b) **Stride St: Trunk bending backwards and forwards with H.F.**

Hips—firm! Feet sideways—place! Trunk backwards—bend! Upwards—stretch! Forwards—bend! Upwards—stretch! Feet together—place! Attention!

TABLE 2.

7. **Marching**: Quick, on toes, double $\frac{1}{2}$ minute, quick.

8. **Walk (a) St: Heels raising with H.F.** by w.o.c.

*Hips—firm! Left foot outwards—place!
Heels—raise! Heels—sink! Feet—change!
two! Heels—raise! Heels—sink! Right
foot inwards—place! Attention!*

9. **Fall hanging: Arms bending to right angle.**

(a) **As in Table 1.**

Arch hanging Starting position. (Beam at head height.)

*Grasp! Arch hanging—place! Attention!
two!*

Alt. with:

(b) **Crook hanging Starting position, by nos.**
Crook hanging—up! two! Down! two!
Later:
Crook hanging: Knees lowering and raising, by w.o.c.

*Crook hanging—up! two! Knees—lower!
Knees—raise! Down! two!*

10. **Wing St: Heels raising and Knees bending, by w.o.c.**

*Hips—firm! Heels—raise! Knees—bend!
Knees—stretch! Heels—sink! Attention!*

11. **St: Head bending backwards.**

Head backwards—bend! Head upwards—stretch!

12. **Close St: Side bending.**

*Feet—close! Trunk to the left—bend!
Upwards—stretch! To the right—bend!
Upwards—stretch! Attention!*

TABLE 2.

13. **St: Arms stretching sideways and downwards**, by w.o.c. Later, by nos.

Arms—bend! Sideways—stretch! Arms—bend! Downwards—stretch!

Later:

Arms sideways—stretch! two! Arms downwards—stretch! two!

14. **Close Walk St: Starting position with H.F.**, by w.o.c.

Hips—firm! Feet—close! Left foot forward—place! Backward—place! Right foot forward—place! Backward—place! Feet—open! Attention!

15. **St: Arms raising sideways**, by w.o.c.

Arms sideways—raise! Arms downwards—sink!

TABLE 3.

1. (a) **Stretch Stride St: Starting position,**
by nos.

*Feet sideways and arms upwards—stretch!
two! Feet together and arms downwards—
stretch! two!*

Alt. with:

- (b) **Walk (b) St: Heels raising with
H.F.,** by w.o.c.

*Hips—firm! Left foot forwards—place!
Heels—raise! Heels—sink! Feet change!
two! Heels—raise! Heels—sink! Right
foot backwards—place! Attention!*

2. **St: Arms stretching forwards and down-
wards,** by w.o.c. Later: by nos.

*Arms—bend! Forwards—stretch! Arms—
bend! Downwards—stretch!*

Later:

*Arms forwards—stretch! two! Arms down-
wards—stretch! two!*

3. (a) **Wing St: Trunk bending backwards,
forwards, and downwards.**

*Hips—firm! Trunk backwards—bend!
Upwards—stretch! Forwards—bend! Down-
wards—bend! Forwards—stretch! Upwards
—stretch! Attention!*

Later:

- (b) **Stretch St: Trunk bending backwards
and forwards.**

*Arms upwards—stretch! two! Trunk back-
wards—bend! Upwards—stretch! Forwards
—bend! Upwards—stretch! Arms down-
wards—stretch! two!*

4. **Wing St: Heels raising and Knees bending,**
by w.o.c.

As in Table 2.

TABLE 3.

5. **Fall hanging: Arms bending to right angle.** Later: **Fall (b) hanging: Head turning,** by w.o.c.

As in Table 1.

Later:

- (a) *Grasp! Fall hanging—place! Arms—bend!
Head turning, to the left—turn! Forward—
turn! To the right—turn! Forward—turn!
Arms—stretch! Attention!*

- Arch hanging: Arms bending to right angle,** by w.o.c. (Beam first at head height and lowered gradually to breast height.)

Grasp! Arch hanging—place! To right angle arms—bend! Arms—stretch! Attention!

Alt. with:

- (b) **Over (Under) grip Hanging: Arms bending,** by w.o.c.

*Over (under) grip—up! Arms—bend!
Arms—stretch! Down!*

6. **St: Introduction to Jumping,** by nos.

Prepare to—jump! two! three! four!

7. **St: Head bending backwards.**

As in Table 2.

- St: Head bending forwards.**

*Head forwards—bend! Head upwards—
stretch!*

8. **Crook hanging: Knees lowering and raising.** 1—2: by nos.

*Crook hanging—up! Knees lowering and
raising—one! two! Down.*

9. **Marching:** quick, on toes, double 1 minute, quick, slow.

TABLE 3.

10. **St: Foot placing outwards with H.F.**

1—4; by nos. Later: judge time.

Hips firm! Foot placing outwards, begin with left—one! two! three! four! Attention!

Later:

Hips—firm! Foot placing outwards, left and right foot—place! Attention!

11. **St: Head turning**, by w.o.c. (slow at first).

*Head to the left—turn! Forward—turn!
To the right—turn! Forward—turn!*

12. $\frac{1}{2}$ **Stretch St: Arms shifting**, by nos.

Left arm upwards—stretch! two! Arms—change! two! Arms—change! two! Attention!

13. **St: Free Jump in height**, by nos.

Later: **With turning to left and right**, by nos.

Free Jump in height—one! two! three! four! five! Repeat.

Later:

Free Jump in height with turning left—one! two! three! four! five! Repeat with turning to the right.

14. **Yard St: Arms striking**, slowly, by nos.

Arms sideways—raise! Arms striking—one! two! Arms downwards—sink!

15. **St. Foot placing forward**. 1—4, by nos.

Later: judge time.

Foot placing forward, begin with the left—one! two! three! four!

Later:

Foot placing forward, left and right foot—place!

16. **St: Arms raising sideways**, by w.o.c.

Later: twice in succession, judge time.

As in Table 2.

Later:

Arms raising sideways, twice judging the time—commence!

TABLE 4.

INTRODUCTORY EXS.

Stretch Walk (a) St: Heels raising, by w.o.c.

Left foot outwards and arms upwards—stretch! two! Heels—raise! Heels—sink! With arms stretching, feet—change! two! Heels—raise! Heels—sink! Attention!

Alt. with :

Stretch Walk (b) St: Heels raising, by w.o.c.

Commands the same as for preceding exercise, except that foot is placed forward.

Rest St: Starting position.

Neck—rest! Attention!

St: Head turning, by w.o.c.

As in Table 3.

St: Arms stretching in two directions. 1—4.

by nos. Later: judge time.

Arms stretching sideways and upwards—stretch! two! three! four! Arms sideways and downwards—stretch! two! three! four! Or other combinations.

Later:

Arms stretching sideways and upwards—stretch! Arms sideways and downwards—stretch!

LEG EXS.

(a.) **Wings St: Heels raising and Knees bending.** Slowly—twice in succession, by nos.

Later: judge time.

Hips—firm! Heels raising and knees bending—one! two! three! four! one! two! three! four! Attention!

Later:

Hips—firm! Heels raising and knees bending, twice, judging the time—commence! attention!

Alt. with :

TABLE 4.

- (b) **Wing Stride St: Heels raising and Knees bending**, by w.o.c.

Feet sideways and hips—firm! two! Heels—raise! Knees—bend! Knees—stretch! Heels—sink! In two motions—Attention!

SPAN BENDING.

- (a) **Stretch St: Trunk bending backwards and forwards.**

Arms upwards—stretch! two! Trunk backwards—bend! upwards—stretch! Forwards—bend! upwards—stretch! Attention!

Later:

- (b) **Stretch St: Trunk bending backwards, forwards, and downwards.**

As in Table 3.

LEG EXS.

- Lunge (a) St: Starting position with H.F.**

Later: **with Feet changing**, by nos.

Hips—firm! Lunging, left foot outwards—lunge! Left foot inwards—place! Right foot outwards—lunge! Right foot inwards—place! Attention!

Later:

Hips—firm! Lunging, left foot outwards—lunge! Feet—change! two! Feet—change! two! Attention!

HEAVING EXS.

- Fall (b) hanging: Alternate Leg raising.**

1—4, by nos.

- (a) *Grasp! Fall hanging—place! Arms bend! Alternate leg raising—one! two! three! four! Arms—stretch! Attention!*

- Arch (b) hanging: Head turning.** 1—4, by nos.

Grasp! Arch hanging—place! Arms—bend! Head turning—one! two! three! four! Arms—stretch! Attention!

Alt. with:

TABLE 4.

(b) **Over (Under) (Alternate) grip Hanging:**
Arms bending, by w.o.c.

As in Table 3.

BALANCE EXS.

Wing Knee-bend St: Head turning, by nos.

*Hips—firm! Heels—raise! Knees—bend!
 Head turning—one! two! three! four!
 Knees—stretch! Heels—sink! Attention!*

DORSAL EXS.

$\frac{1}{2}$ **Stretch $\frac{1}{2}$ Yard St: Arms shifting**, by nos.

Later: judge time.

*Left arm upwards and right arm sideways
 —stretch! two! Arms—change! two!
 Arms—change! two! Arms downwards—
 stretch! two!*

Later:

*Left arm upwards and right arm sideways
 —stretch! Arms—change! Arms—change!
 Arms downwards—stretch!*

ABDOMINAL EXS.

(a) **Rest Stride St: Trunk bending backwards.**

*Feet sideways and neck—rest! Trunk back-
 wards—bend! Upwards—stretch! Attention!*

Alt. with:

(b) **Crook hanging: Alternate Knee stretching.**

1—4, by nos.

*Crook hanging—up! Alternate knee stretch-
 ing—one! two! three! four! Down!*

MARCHING.

Quick, on toes, double 1 minute, quick, slow.

LATERAL EXS.

$\frac{1}{2}$ **Stretch Close St: Side bending**, by w.c.

*Feet close and left arm upwards—stretch!
 two! Trunk to the right—bend! Upwards—
 stretch! Arms—change! two! To the left—
 bend! Upwards—stretch! Attention!*

LEG EXS.

Introduction to Jumping, by nos.

As in Table 3.

HEAVING EXS.

- (a) **Horizontal hanging Starting position.**
(Beam at Stretch height). Later: **Introduction to climbing head first (Beam)**
by shifting legs only, 1—2, by nos.

*Left hand in front—grasp! Left leg—up!
Down! Right hand in front—grasp! Right
leg—up! Down!*

Later:

*Grasp! up! Leg changing—one! two!
Down!*

Alt. with:

- (b) **Introduction to Inward grip Hanging:
Climbing**, by nos. (Vertical rope.)

*Grasp! Prepare to climb—one! two!
Hands change! Prepare to climb—one! two!*

JUMPING.

**St: Free Jump in height with turning
about**, by nos.

- (a) *Free Jump in height, with turning about—
one! two! three! four! five!*

**St: Free Jump in height with Arms
flinging**, by nos.

*Free Jump in height with arms flinging—
one! two! three! four! five!*

Later:

- (b) **St: Free Jump forward**, by nos.

*Free Jump forward—one! two! three!
four! five!*

TABLE 4.

BREATHING EXS.

Stretch Close St: Side turning, by w.o.c.

*Feet close and arms upwards—stretch! two!
Trunk to the left—turn! Forward—turn!
To the right—turn! Forward—turn! Attention!*

Yard St: Arms striking, by nos.—slowly at first.
As in Table 3.**Wing St: Foot placing outwards with Heels raising**. 1—4, by nos.

*Hips—firm! Foot placing outwards with
heels raising, left foot—one! two! three!
four! Right foot—one! two! three! four!
Attention!*

Yard St: Arms raising upwards, by nos.

Later: twice in succession—Judge time.

*Arms sideways—raise! Arms raising up-
wards—one! two! Arms downwards—sink!*

Later:

*Arms sideways—raise! Arms raising up-
wards twice, judging the time—commence!
Arms downwards—sink!*

TABLE 5.

INTRODUCTORY EXS.

Stretch Walk (b) St: Heels raising, by w.o.c.

Left foot forward and arms upward—stretch! two! Heels—raise! Heels—sink! With arms stretching, feet—change! two! Heels—raise! Heels—sink! Attention!

Wing St: Head turning, quickly. 1—4, by nos.

Hips—firm! Head turning—one! two! three! four! Attention!

Alt. with :

Wing St: Head bending sideways, by w.o.c.

Hips—firm! Head to the left—bend! Upwards—stretch! To the right—bend! Upwards—stretch! Attention!

St: Arms stretching in three directions (or twice in two directions). 1—6, judge time.

Arms stretching upwards, sideways, and downwards—stretch! or other combinations (or Arms stretching upwards and downwards, twice—stretch! or other combinations).

LEG EXS.

Wing Stride St: Heels raising and Knees bending, by w.o.c. Later: twice in succession—judge time.

Feet sideways and hips—firm! Heels—raise! Knees—bend! Knees—stretch! Heels—sink! Attention!

Later :

Feet sideways and hips—firm! Heels raising and knees bending, twice judging the time—commence! Attention!

TABLE 5.

SPAN BENDING EXS.

- (a) **Span bending Starting position, without grasp, one foot length from bars.**
 Followed by:
Stretch St: Trunk bending forwards and downwards.
Arms upwards—stretch! Trunk backwards—bend! Upwards—stretch! Forwards—bend! Downwards—bend! Forwards—stretch! Upwards—stretch! Attention!

Alt. with:

- (b) **Stretch (Stretch Stride) St: Trunk bending backwards, forwards, and downwards.**

As in Table 4.

LEG EXS.

- (a) **Lunge (b) St: Starting position with H.F.**
Hips—firm! Lunging, left foot forward—lunge! Left foot backwards—place! Right foot forward—lunge! Right foot backwards—place! Attention!

Later:

- (b) **Wing Lunge (b) St: Feet changing, by nos.**
Hips—firm! Lunging, left foot forward—lunge! Feet change! two! Feet—change! two! Attention!

Alt. with:

- Wing Lunge (a) St: Feet changing, judge time.**

Hips—firm! Lunging, left foot outwards—lunge! Feet—change! Feet—change! Attention!

HEAVING EXS.

Fall (b) hanging: Side travelling.

(a) *Grasp! Fall hanging—place! Arms—bend! To the left—march! Halt! To the right—march! Halt! Arms—stretch! Attention!*

Arch hanging: Changing between Arch and Fall hanging, by nos.

Grasp! Arch hanging—place! Change between arch and fall hanging—one! two! Attention!

Alt. with:

(b) **Alternate grip Hanging: Arms bending,** by w.o.c.

Left hand under grip, right hand over grip—up! Arms—bend! Arms—stretch! Down! Repeat with grip of hands reversed.

BALANCE EXS.

(a) **Balance Side St: Starting position.** (Beam right down.)

Balance side standing—up! Down!

Alt. with:

(b) **Balance St: Starting position.** (Beam right down.) Later: **Foot placing backwards and forwards.**

Balance standing—up! Down!

Later:

Balance standing—up! Left (right) foot backwards—place! Forward—place! Right (left) foot forward—place! Backward—place! Down!

Wing Toe St: Head bending backwards and forwards (or Head turning), 1—4, by nos.

Hips—firm! Heels—raise! Head backwards—bend! Upwards—stretch! Head forwards—bend! Upwards—stretch! Heels—sink! Attention!

TABLE 5.

DORSAL EXS.

- (a) **Reach St: Arms swinging**, slowly at first,
by nos.

*Arms forwards—stretch! Arms swinging
one! two! Attention!*

Alt. with:

- (b) **Wing (Bend) Forward Lying position.**

Later: **Head turning.** Later still: **Change
between Wing and Rest.**

*Forward lying! With hips firm! (With
arms bending upwards!) Place! Rest!
Attention!*

Later:

*Forward lying! With hips firm! Place!
Head turning—one! two! three! four!
Rest! Attention!*

Later still:

*Forward lying! With hips firm! Place!
Neck—rest! Hips—firm! Rest! Attention!*

ABDOMINAL EXS.

Stoop falling Starting position. Later: **Head
turning**, by nos.

*Stoop falling—place! two! Attention!
two!*

Later:

*Stoop falling—place! two! Head turning
one! two! three! four! Attention! two!*

- (a) **Wing Setting: Trunk bending back-
wards.** (On bench) (slightly at first, then
to $\frac{1}{2}$ right angle).

*Sitting position—place! Hips—firm!
Trunk slightly backwards (Trunk backwards)
bend! Upwards—stretch! Attention!*

Alt. with:

- (b) **Crook hanging: Alternate knee stretch-
ing.** 1—2, by nos.

*Crook hanging—up! Left knee—stretch!
Alternate knee stretching—one! two! Right
knee—bend! Down!*

MARCHING.

Quick, on toes, double 2 minutes with increasing and decreasing speed, quick (short rest), slow.

LATERAL EXS.

- (a) **Stretch Close St: Side turning**, 1—4, by w.o.c.

*Feet close and arms upwards—stretch!
Trunk to the left—turn! Forward—turn!
To the right—turn! Forward—turn! Attention!*

Alt. with :

- (b) **Wing (Stretch) Stride St: Side turning**, 1—4, by w.o.c.

Feet sideways and hips—firm! (Feet sideways and arms upwards—stretch!) Then as in preceding exercise.

LEG EXS.

- (a) **Introduction to Jumping**, judge time.

Prepare to—jump!

Alt. with :

- (b) **Wing Walk (b) St: Heels raising and Knees bending**, by w.o.c.

*Left foot forward and hips—firm! Heels—raise! Knees—bend! Knees—stretch!
Heels—sink! Feet—change! Heels—raise!
Knees—bend! Knees—stretch! Heels—sink! Attention!*

HEAVING EXS.

- (a) **Horizontal hanging: Climbing Head first (along beam)**, by nos.

*Grasp! Up! Climb—one! two! one!
two! &c., Halt! Down!*

Alt. with :

TABLE 5.

(b) **Inward grip Hanging: Climbing**, by nos.
(vertical rope).

*Inward grip—up! Climb—one! two! &c.,
Halt! Return!*

JUMPING.

**St: Free Jump in height (with turning)
(with Arms flinging) (forward).**

As in Table 4.

**St: Free Jump in height with Arms and
Legs flinging**, by nos.

*Free Jump in height, with arms and legs
flinging—one! two! three! four! five!*

St. Free Jump with 1 (2) (3) steps forward,
by nos. Later: judge time.

*Free Jump with one (two) [three] step, begin
with the left—one! two! three! four!
(five)! [six!] Begin with the right—one!
two! three! four! (five!) [six!]*

Later:

*Free Jump with one (two) [three] steps,
begin with the left—jump! Begin with the
right—jump!*

(a) **Grasp St: Introduction to Vaulting**, by nos.

*Grasp! Mount! onetwo! Dismount—
threefour! five! six!*

Later:

(b) **Grasp Side St: Introduction to Vaulting**,
by nos.

Commands for mounting the same as for
preceding exercise; for dismounting: *Dis-
mount right—threefour! five! six!*

BREATHING EXS.

Rest Close St: Side bending, by w.o.c.

*Feet close and neck—rest! Trunk to the
left—bend! Upwards—stretch! To the right
—bend! Upwards—stretch! Attention!*

(a) **Yard St: Arms striking**, by nos.

*Arms sideways—stretch! Arms striking—
one! two! Attention!*

Alt. with :

(b) **Yard Stride St: Arms striking**, by nos.

*Feet sideways and arms sideways—stretch!
Arms striking—one! two! Attention!*

Wing St: Foot placing forward with Heels raising, 1—4, by nos.

*Hips—firm! Foot placing forward and
heels raising, left foot—one! two! three!
four! Right foot—one! two! three! four!
Attention!*

(a) **Yard St: Arms raising upwards**, judge time.

As in Table 4.

Later :

(b) **St: Arms raising sideways and upwards**.
by w.o.c. Later : by nos.

*Arms sideways and upwards—raise! Arms
sideways and downwards—sink!*

Later :

*Arms raising sideways and upwards and
sinking sideways and downwards—one!
two!*

TABLE 6.

INTRODUCTORY EXS.

Introduction to Jumping, judge time.

As in Table 5.

Toe St: Head turning, quickly. 1—4, by nos.

*Heels raise! Head turning quickly—one!
two! three! four! Heels—sink!*

St: Arms stretching, 1—6, judge time (3 directions).

As in Table 5.

LEG EXS.

Stretch (Rest) St: Heels raising and Knees bending, by w.o.c.

S.P. and Ex. as before.

SPAN BENDING EXS.

- (a) { **Span bending position with grasp**, distance, two foot-lengths or over, from bars.
Followed by:
Stretch St: Trunk bending forwards and downwards.

Arms upwards—stretch! Backwards—bend! Grasp! Upwards—stretch! Forwards and downwards—bend! Upwards—stretch! Attention!

Alt. with :

- (b) **Stretch Walk (b) St: Trunk bending backwards, forwards, and downwards.**

Left foot forwards and arms upwards—stretch! Trunk backwards—bend! Upwards—stretch! Forward—bend! Downward—bend! Forward—stretch Upward—stretch! With arms stretching, feet—change! Repeat.

LEG EXS.

TABLE 6.

Wing Lunge (b) St: Feet changing, judge time.

*Hips—firm! Lunging, left foot forward—
lunge! Feet—change! Feet—change!
Attention!*

HEAVING EXS.

(a) **Over (Under) (Alternate) grip Hanging: Arms bending.**

As in Tables 3 and 5.

Alt. with:

(b) **Inward grip Hanging: Arms bending.**
(Double ropes).

*Inward grip—up! Arms bend! Stretch!
Down!*

BALANCE EXS.

(a) **Balance St: Balance March forward.**

(Beam at knee height.)

Balance standing—up! Forward—march!

Halt! Down!

Alt. with:

(b) **Balance Side St: Knees bending.** (Beam at knee height.)

*Balance side standing—up! Knees bend!
Knees—stretch! Down!*

Wing St: Alternate Knee up-bending, 1—4,
by w.o.c. Later: by nos. After some practice: 1—2, by nos.

*Hips—firm! Left knee upwards—bend!
Downwards—place! Right knee upwards—
bend! Downwards—place! Attention!*

Later:

*Hips—firm! Alternate knee up-bending—
one! two! three! four! Attention!*

After some practice:

*Hips—firm! Alternate knee up-bending—
one! two! &c. Right foot downwards—
place! Attention!*

TABLE 6.

DORSAL EXS.

(a) **Reach St: Arms swinging**, by nos.

As in Table 5.

Alt. with :

(b) **Bend Forward Lying: Arms stretching sideways**, slowly at first, by nos.

Forward lying! With arms bending upwards! Place! Arms stretching sideways—one! two! Rest! Attention!

ABDOMINAL EXS.

Stoop falling: Feet placing forwards and backwards, by nos.

Stoop falling—place! two! Feet placing forwards—one! two! Attention! two!

(a) **Wing Sitting: Trunk bending backwards and downwards**. (On bench.)

Sitting position—place! Hips—firm! Trunk backwards—bend! Downwards—bend! Upwards—stretch! Attention!

Alt. with :

(b) **Stretch Lying: Legs raising**, by w.o.c.

Slight at first, then to $\frac{1}{2}$ right angle, and finally to right angle.

Lying position—place! Arms upwards—stretch! Slightly (to half right angle) (to right angle) legs—raise! Sink! Attention!

MARCHING.

Marching as in Table 5.

LATERAL EXS.

Stretch Stride St. Side turning, by w.o.c.

As in Table 5.

Rest Stride St: Side bending, by w.o.c.

S.P. and Ex. as before.

LEG EXS.

- (a) **Wing Walk (a) St: Heels raising and Knees bending**, by w.o.c.

Left foot outwards and hips—firm! Heels—raise! Right knees—bend! Upwards—stretch! Heels—sink! Feet—change! Heels—raise! Left knees—bend! Upwards—stretch! Heels—sink! Attention!

Alt. with:

- (b) **Wing St: Foot placing forward (outward) with Heels raising**, 1—4, by nos. Later: judge time.

Hips—firm! Foot placing forwards (outward) with heels raising, left foot—one! two! three! four! Right foot—one! two! three! four! Attention!

Later:

Hips—firm! Foot placing forwards (outwards) with heels raising, left foot—place! Right foot—place! Attention!

HEAVING EXS.

- (a) **Horizontal Hanging: Climbing Head first**, by nos. (Inclined rope.)

*Up! Climb—one! two! one! two! &c.
Halt! Return—one! two! one! two! &c.
Halt! Down!*

Alt. with:

- (b) **Inward grip Hanging: Climbing**, by nos. (Vertical rope.)

As in Table 5.

TABLE 6.
JUMPING.

A. **Walk St: Introduction to Vaulting, 1—3 steps**, by nos. (Beam.) Later—Dismount without grasp of beam.*

(a) *Left foot back! With one (two) (three) step, mount—onetwo! Dismount—three four! five! six!* Repeat with right foot back.

Later:

Side St: Mount into saddle, by nos. (Horse across.)

Grasp! Mount—onetwo! Into saddle—three! Dismount to right—onetwo! three! four!

Alt. with:

(b) **Balance hanging: Dismount and mount quickly**, by nos. (2 or 3 times.) (Beam.)

Grasp! Mount! Dismount and mount—onetwo! onetwo! Dismount—three four! five! six!

B. **St: Free Jump with 1—3 steps forward and turning**, by nos.

Free Jump, with one (two) [three] step and turning, begin with the left—jump! Begin with the right—jump!

After some practice, also:

Running Free Jump forward in height (length) off named foot. Land and remain in Knee-bend St:

Off the left foot and remain with knees bent—go! two! three! repeat taking off the right foot.

* *Note.*—If two (three) steps are taken, the men are placed at *three (four)* paces from the apparatus.

BREATHING EXS.

(a) Yard Walk (b) St: Arms striking.

Left foot forward and arms sideways—stretch! Arms striking—one! two! onetwo! With arms striking, feet—change! two! Arms striking—one! two! onetwo! Attention!

Alt. with:

(b) Yard Arch St: Arms striking.

Arms sideways—stretch! Trunk backwards—bend! Arms striking—one! two! onetwo! Trunk upwards—stretch! Attention!

St: Arms circling, by w.o.c. Later: by nos.

Arms forwards and upwards—raise! Sideways and downwards—sink!

Later:

Arms circling—one! two!

TABLE 7.

INTRODUCTORY EXS.

Introduction to Jumping, judge time.

As in Table 5.

St: Arms stretching, 1—6, judge time.

(3 directions.)

As in Table 5.

Wing Stride Stoop St: Head turning, quickly.

1—4, by nos.

*Feet sideways and hips—firm! Trunk
forward—bend! Head turning—one! two!
three! four! Trunk upwards—stretch!
Attention!*

LEG EXS.

(a) **Stretch Stride St: Heels raising and
Knees bending**, by w.o.c.

S.P. and Ex. as before.

Alt. with:

(b) **Stretch St: Heels raising and Knees
bending**, twice in succession, judge time.

*Arms upwards—stretch! Heels raising
and knees bending, twice, judging the time
—commence! Attention!*

SPAN BENDING EXS.

(a) **Span bending: Heels raising.**

*Arms upwards—stretch! Backwards—
bend! Grasp! Heels—raise! Heels—sink!
Upwards—stretch! Feet sideways—place!
Trunk forward—bend! Downward—bend!
Forward—stretch! Upward—stretch! Atten-
tion!*

Alt. with:

(b) **Stretch Stride Arch St: Arms stretching
upwards**, by nos.

*Feet sideways and arms upwards—stretch!
Trunk backwards—bend! Arms stretching*

TABLE 7.

upwards—one! two! Trunk upwards—stretch! Forwards—bend! Downwards—bend! Forwards—stretch! Upwards—stretch! Attention!

Followed by:

Stretch Stride St: Trunk bending forward and downward.

HEAVING EXS.

(a) **Over grip Hanging: Arm walk.** (Beam.)

Overgrip—up! Arms—bend! To the left (right)—march! Halt! Arms—stretch! Down!

Alt. with:

(b) **Alternate grip Hanging: Arm walk.**
(Beam.)

Left (right) hand under grip, right (left) hand over grip—up! Arms—bend! To the left (right)—march! Halt! Arms—stretch! Down!

BALANCE EXS.

(a) **Balance St: Balance March forward.**
(Beam at hip height.)

As in Table 6.

Alt. with:

(b) **Balance St: Balance March sideways**
(Beam at knee height.)

Balance side standing—up! To the left—march! Halt! To the right—march Halt! Down!

(a) **Wing St: Alternate Knee up-bending**
(in succession), judge time.

Hips—firm! With knee up-bending, on the spot—march! Halt! Attention!

Alt. with:

(b) **Wing Crook $\frac{1}{2}$ St: Foot bending and stretching,** by nos.

TABLE 7.

*Hips—firm! Left knee upwards—bend
Foot bending and stretching—one! two! Feet
—change! Foot bending and stretching—
one! two! Right foot downwards—place!
Attention!*

DORSAL EXS.

Stretch Forward Lying Starting position.

Later: **Bend Forward Lying: Arms stretching upwards**, by nos.

Forward lying! With arms raising forward and upward! Place! Rest! Attention!

Later:

Forward lying! With arms bending upwards! Place! Arms stretching upwards—one! two! Rest! Attention!

Alt. with:

(b) **Yard Stride Stoop St: Arms stretching sideways**, by nos.

*Feet sideways and arms sideways—stretch!
Trunk forward—bend! Arms stretching sideways—one! two! Trunk upwards—stretch!
Attention!*

ABDOMINAL EXS.

Stoop falling: Arms bending and stretching
—by w.o.c. Finish with: **Feet placing forwards and backwards**, by nos.

Stoop falling—place! Arms bend! Arms—stretch! Feet placing - - - &c.

(a) **Wing Sitting: Trunk bending backwards**
(slightly at first, then to half right angle, and finally down to horizontal) (on the ground).

*Sitting position—place! Hips—firm!
Trunk slightly backwards (backwards) (backwards and downwards)—bend! Upwards—stretch! Attention!*

Alt. with:

(b) **Crook hanging: Double knees stretching**
by w.o.c.

TABLE 7.

*Crook hanging—up! Both knees—stretch!
Bend! Down!*

MARCHING.

Marching as in Table 6, except: double three minutes with increasing and decreasing speed.

LATERAL EXS.

Stretch Stride St: Side bending, by w.o.c.

S.P. and Ex. as before.

Later:

Rest Walk (b) St: Side bending, by w.o.c.

Left foot forward and neck—rest! Trunk to the left—bend! Upwards—stretch! Feet—change! Trunk to the right—bend! Upwards—stretch! Attention!

Wing Walk (a) St: Side turning, by w.o.c.

Left foot outwards and hips—firm! Trunk! to the left—turn! Forward—turn! Feet—change! Trunk to the right—turn! Forward—turn! Attention!

LEG EXS.

(a) Wing Lunge (a) St: Heel raising, by w.o.c.

Hips—firm! Lunging, left foot outwards—lunge! Heel—raise! Heel—sink! Feet—change! Heel—raise! Heels—sink! Attention!

Alt. with:

(b) Stretch Walk (a) St: Feet and Arms changing, by w.o.c.

Left foot outwards and arms upwards—stretch! With arms stretching, feet—change! Feet—change! Attention!

TABLE 7.

HEAVING EXS.

- (a) **Horizontal Hanging: Climbing Head first.** (Up inclined rope.)

*Up! Climb! Halt! Return! Halt!
Down!*

Alt. with:

- (b) **Inward grip Hanging: Climbing,** by nos.
(Vertical rope.)

As in Table 6.

JUMPING.

- A. **Walk St: Mounting to ride sitting with 1—3 steps.** (Horse across).*

Left foot back! With one (two) (three) step, mount into saddle, left—go! Dismount—onetwo! three! four! Repeat with right foot back, and then with legs to the right.

- Walk St: Sit-over Vault to ride sitting with 1—3 steps.** (Horse across).*

Left foot back! With one (two) (three) step, sit-over into saddle, left—go! Dismount—onetwo! three! four! Repeat with right foot back, and then with legs to the right.

- Grasp St: Horizontal Vault,** by nos. (Beam $1\frac{1}{2}$ feet from ground.)

Grasp! Legs to the left—vault! two! three!

Repeat with legs to the right.

- Grasp St: Introduction to Handspring** (beam at shoulder height) by nos.

Grasp! Mount—onetwo! three! four! five! Attention!

* See Note to Table 6, Jumping Exs.

B. St: Free Jump with two or three steps forward and turning, judge time.

Free Jump with two (three) steps and turning, begin with the left—jump! Begin with the right—jump!

Running Free Jump in length (height).

As in Table 6, but farther (higher).

BREATHING EXS.

(a) **Yard Walk (b) St: Arms striking.**

As in Table 6.

Alt. with:

(b) **Yard Arch St: Arms striking.**

As in Table 6.

St: Arms circling, by nos.

As in Table 6.

TABLE⁸.

INTRODUCTORY EXS.

Wing Walk (a) St: Heels raising and Knees bending, by w.o.c.

As in Table 6.

$\frac{1}{2}$ -**Yard** $\frac{1}{2}$ -**Reach St: Arms shifting,** by nos.

Left arm sideways, right arm forward—stretch! two! Arms—change! two! Arms change! two! Arms downwards—stretch! two!

Wing Close Turn St: Trunk bending backwards and forwards, by w.o.c.

Feet close and hips—firm! Trunk to the left—turn! Trunk backwards—bend! Upwards—stretch! Forwards—bend! Upwards—stretch! Trunk forwards—turn! To the right—turn! Repeat to the right.

LEG EXS.

Stretch Stride St: Heels raising and Knees bending, twice in succession, judge time.

Feet sideways and arms upwards—stretch! Heels raising and knees bending, twice—commence! Attention!

SPAN BENDING EXS.

(a) **Span bending: Heels raising.**

As in Table 7, but greater distance from bars.

Alt. with:

(b) **Stretch walk (b) Arch St: Arms stretching upwards,** by nos.

Left foot forward and arms upwards—stretch! Trunk backwards—bend! Arms stretching upwards—one! two! Trunk upwards—stretch! With arms stretching, feet—change! Trunk backwards—bend! Arms stretching upwards—one! two! Trunk upwards—stretch! Attention!

Followed by :

Stretch Stride St: Trunk bending forward and downward.

As in Table 7.

HEAVING EXS.

(a) **Inward grip Hanging: Arm walk.** (Beam.)

*With inward grip—up! Arms—bend!
March! Halt! Arms—stretch! Down!*

Alt. with :

(b) **Balance hanging: Head turning, quickly. Sink to overgrip and Arms bend.** (Beam.)

With under grip—up! Circle! Head turning—one! two! three! four! Lower! Arms—bend! Arms—stretch! Down!

BALANCE EXS.

(a) **Balance St: Balance March forward** (beam at shoulder height or below).

As in Table 6.

Alt. with :

(b) **Balance Side St: Balance March sideways** (beam at hip height).

As in Table 7.

(a) **Wing St: Leg raising sideways,** by w.o.c.

*Hips—firm! Left leg sideways—raise!
Sink! Right leg sideways—raise! Sink!
Attention!*

Alt. with :

(b) **Wing St: Alternate Knee up-bending** in succession, judge time.

Hips—firm! With alternate knee up-bending on the spot, quick—march! Halt! Attention!

TABLE 8.

DORSAL EXS.

(a) **Yard Forward Lying: Arms striking**, by nos.

Forward lying! With arms bending upward! Place! Arms sideways—stretch! Arms striking—one! two! Arms—bend! Rest! Attention!

Alt. with :

(b) **Rest Forward Lying: Change between Rest and Stretch**, by w.o.c.

Forward lying! With neck rest! Place! Arms upward—stretch! Neck—rest! Rest! Attention!

Later :

Reach Stride Stoop St: Arms swinging, by nos.

Feet sideways and arms forwards—stretch! Trunk forward—bend! Arms swinging—one! two! Trunk upwards—stretch! Attention!

ABDOMINAL EXS.

Stoop falling: Arms bending and stretching, by w.o.c.

As in Table 7.

(a) **Crook hanging: Double knee stretching**, by w.o.c.

As in Table 7.

Alt. with :

(b) **Bend Fall Sitting: Arms stretching upwards**. (On the ground), by nos.

Sitting position—place! Arms—bend! Trunk backwards—bend! Arms stretching upwards — one! two! Trunk upwards — stretch! Attention!

MARCHING.

Quick, with knee up-bending, on toes, double three minutes with increasing and decreasing speed, quick (short rest), slow.

LATERAL EXS.

(a) **Rest Walk (b) St: Side turning**, by w.o.c.

Left foot forward and neck—rest! Trunk to the left—turn! Forward—turn! Feet—change! Trunk to the right—turn! Forward—turn! Attention!

Alt. with:

(b) **Stretch Stride Turn St: Arms stretching upwards**, by nos.

Feet sideways and arms upwards—stretch! Trunk to the left—turn! Arms stretching upwards—one! two! Trunk forwards—turn! To the right—turn! Arms stretching upwards—one! two! Trunk forward—turn! Attention!

Rest Walk (b) St: Side bending.

As in Table 7.

LEG EXS.

$\frac{1}{2}$ -**Stretch Lunge (a) St: Arms shifting**, by nos.

Lunging, left arm upwards, right arm downwards, and left foot outwards—lunge! two! Arms—change! two! Arms—change! two! With arms changing, feet—change! two! Repeat to the right.

Wing Knee-bend St: Head turning, slowly. 1—4, by nos.

Hips—firm! Heels—raise! Knees—bend! Head turning—one! two! three! four! Knees—stretch! Heels—sink! Attention!

TABLE 8.

HEAVING EXS.

- (a) **Stoop Horizontal Hanging: Changing to Horizontal Hanging**, by w.o.c. (Inclined rope.) Also: **Horizontal Hanging: Climbing Head first** (descend Vertical rope).

Left hand in front—up! Change! Left hand! Right hand! Right leg! Left leg! Down! Repeat with Right hand in front.

Alt. with :

- (b) **Inward grip Hanging: Climbing and descend without Feet.** (Vertical rope.)

Climb! Halt! Feet—off! Return!

JUMPING.*

- A. (a) **Walk St: Horizontal Vault, 3 steps**, and remain in Knee-bend St: position (Beam at hip height or low box).
- Left foot back! Horizontal vault, legs to the left—go! two! three! Repeat with legs to the right.*
- Later :
- Running Horizontal Vault**, and remain in Knee-bend St.: position. (Beam.)

* The Vaulting exercises in this and the following Tables are grouped together according to the class of Vault to which they belong, namely :—

Horizontal vaults.
Sit-over vaults.
Between jumps.
Stride jumps.
Handsprings.

The exercises of each class progress from Table to Table, and a general progression is maintained between the different classes.

It is not intended that all the Vaulting exercises given in each Table should be practised at each lesson ; but, according to the time available and the strength of the remainder of the lesson, the exercises of one or two classes should be practised. At the next lesson those of a different class or classes should be practised, and so on, maintaining a general advance among the various classes.

TABLE 8.

Horizontal vault, legs to the left—go! two! three! Repeat with legs to the right.

Running Horizontal Vault between Double Beams, and remain in Knee-bend St: position. (Lower beam at first somewhat below hip height.)

Horizontal vault, legs to the left—go! two! three! Repeat with legs to the right.

(b) **Walk St: Sit-over Vault to ride sitting, 1-3 steps.** (Horse across.)
As in Table 7.

Later :

Running sit-over Vault to ride sitting; Dismount by swinging Legs forward. (Horse across), by nos. Later: judge time.

Sit-over into saddle, legs to the left—go! Dismount—onetwo! three! four! Repeat with legs to the right.

(c) **Walk St: Stride Jump into Saddle. 1-3 steps;** Dismount to side, by nos. Later: judge time. (Horse lengthways.)

Left foot back! Stride jump into saddle, with one (two) (three) step—go! Dismount to left (right)—onetwo! three! four!

(d) **Grasp St: Introduction to Handspring**, by nos. (Beam at breast height.)
As in Table 7.

B. Running Free Jump in height (length).

As in Table 7, but by Files.

BREATHING EXS.

Yard Arch St: Arms Striking.

As in Table 6.

St: Arms raising sideways: with Heels raising, by nos. Later: judge time.

*Heels raising and arms raising sideways—
one! two!*

TABLE 8.

Later :

*Heels raising and arms raising sideways—
commence ! Attention !*

OR :

**Yard St : Arms raising upwards with Heels
raising, by nos. Later : judge time.**

*Arms sideways—raise ! Heels raising and
arms raising upwards—one ! two ! Attention !*

Later :

. . . . Commence ! Attention !

TABLE 9.

INTRODUCTORY EXS.

Wing Lunge (a) St: Heel raising, by w.o.c.

As in Table 7.

St: Arms stretching, 1—8, judge time (4 directions).

Arms stretching forwards, sideways, upwards, and downwards—stretch!

Or other combinations.

St: Head turning, quickly, 1—4; by nos.

As in Table 5.

LEG EXS.

Wing St: Foot placing outwards with Heels raising, 1—8, by nos. Later: judge time.

Hips—firm! Foot placing outwards and heels raising, left and right foot! one! eight! Attention!

Later:

Hips—firm! Feet placing outwards and heels raising, left and right foot—place! Attention!

SPAN BENDING EXS.

(a) **Stride Span bending: Heels raising.**

Feet sideways and arms upwards—stretch! Backwards—bend! Grasp! Heels—raise! Heels—sink! Upwards—stretch! Forwards—bend! Arms stretching upwards—one! two! Trunk downwards—bend! Forwards—stretch! Upwards—stretch! Attention!

Alt. with:

(b) **Stretch Walk (b) Arch St: Feet and Arms changing**, by w.o.c.

Left foot forward and arms upwards—stretch! Trunk backwards—bend! With arms stretching, feet—change! Feet—change! Trunk upwards—stretch! Attention!

TABLE 9.

Followed by :

Stretch Stride Stoop St: Arms stretching upwards, and Trunk bending downwards.

Feet sideways and arms upwards—stretch! Trunk forwards—bend! Arms stretching upwards—one! two! Trunk downwards—bend! Forwards—stretch! Upwards—stretch! Attention!

HEAVING EXS.

(a) **Inward grip Hanging: Arm Walk.** (Beam.)

As in Table 8.

Alt. with :

(b) **Balance Hanging: Alternate Hand lifting.**
Sink to overgrip. Later: **Side travelling.**

With under grip—up! Circle! Alternate hand lifting—commence! Halt! Lower! Down!

Later :

With under grip—up! Circle! Side travelling, left—commence! Halt! To the right—commence! Halt! Lower! Down!

BALANCE EXS.

(a) **Balance St: Turning to Balance Side St: and then to Balance St:** Later: **Turning about.** (Beam at hip height.)

Balance standing—up! To the left—turn! To the left—turn! To the right—turn! To the right—turn! Down!

Later :

Balance standing—up! About—turn! About—turn! Down!

TABLE 9.

Alt. with :

- (b) **Balance St: Balance March forward.**
(Beam at shoulder height.)

As in Table 6.

- (a) **Toe St: Alternate Knee up-bending with H.F.**—in quick march time (in succession), judge time.

*Hips—firm! Heels—raise! With alternate knee up-bending on the spot, quick—march!
Halt—onetwo! Heels—sink! Attention!*

Alt. with :

- (b) **Yard St: Leg raising sideways,** by w.o.c.

*Arms sideways—stretch! Left leg sideways—raise! Sink! Right leg sideways—raise!
Sink! Attention!*

DORSAL EXS.

- (a) **Reach Stride Stoop St: Arms swinging,**
by nos.

As in Table 8.

Alt. with :

- (b) **Wing** (later: **Stretch**) **Forward Lying:**
Trunk bending downwards.

*Forward lying! With hips firm! With arms raising forward and upward! Place!
Trunk downwards—bend! Upwards—stretch!
Rest! Attention!*

ABDOMINAL EXS.

- Stoop falling: Arms bending and stretching**
by w.o.c.

As in Table 7.

TABLE 9.

- (a) **Stretch Sitting: Trunk bending backwards** (slight at first, then to $\frac{1}{2}$ right angle, and finally down to horizontal) (on bench).

Sitting position—place! Arms upwards—stretch! Trunk slightly backwards (backwards) (backwards and downwards)—bend! Upwards—stretch! Attention!

Alt. with:

- (b) **Crook (b) hanging: Leg parting, 1—2, by nos.**

Crook hanging—up! Both knees—stretch! Leg parting — one! two! Knees — bend! Down!

MARCHING.

Marching as in Table 8.

LATERAL EXS.

- (a) **Stretch Walk (b) St: Side bending.**

Left foot forward and arms upwards—stretch! Trunk to the left—bend! Upwards—stretch! With arms stretching, feet—change! Trunk to the right — bend! Upwards — stretch! Attention!

Alt. with:

- (b) **Wing Side falling Starting position. Later: Wing Side falling: Leg parting, slowly 1—2, by nos.!**

Stoop falling—place! Hips firm and on the left side—turn! Forward—turn! Repeat to the right. Attention.

Later:

Stoop falling—place! Hip firm and on the left side—turn! Leg parting—one! two! Forward—turn! repeat to the right.

TABLE 9.

Stretch Walk (b) St: Side turning (alt. with:
Rest ditto) by w.o.c.

*Left foot forward and arms upwards—stretch!
Trunk to the left—turn! Forward—turn!
With arms stretching, feet—change! Trunk to
the right—turn! Forward—turn! Attention!*

LEG EXS.

$\frac{1}{2}$ **Stretch Lunge (a) St: Arms shifting with
Trunk turning**, by nos.*

*Lunging with trunk turning, left arm up-
wards right arm downwards, and left foot out-
wards — lunge! Arms shifting and trunk
turning—one! two! one! two! Feet and arms
—change! Repeat to the right.*

**St: Arms raising sideways and upwards with
Heels raising and Knees bending**, 1—4,
by nos. (quickly).

*Heels raising and knees bending with arms
raising sideways and upwards—one! two!
three! four!*

HEAVING EXS.

(a) **Stoop Horizontal Hanging: Climbing
Legs first and descending legs first.**
(Inclined rope.)

*Up! Climb! Halt! Change! Return!
Halt! Down!*

Alt. with:

(b) **Inward grip Hanging: Arm walk.** (Double
ropes.)

Up! Arms—bend! Climb! Halt! Return!

* This exercise is introduced by: **Wing Lunge (a) St: Trunk
turning to forward and backward foot.**

*Lunging, hips firm and left foot outwards—lunge! Trunk to the right—
turn! To the left—turn! To the right—turn! Feet—change! Trunk to
the right—turn! To the left—turn! Forward—turn! Attention!*

TABLE 9.

JUMPING.

- A. (a) **Running Horizontal Vault.** (Beam) as in Table 8.

Running Horizontal Vault between Double beams. As in Table 8.

- (b) **Grasp St: Sit-over Vault** over low beam (Beam at knee height.) Later: **Running Sit-over Vault**, and remain in Knee-bend St: position. (Beam.)

Grasp! Sit-over, legs to the left—vault! two! three! repeat with legs to the right.

Later:

Sit-over vault, legs to the left—go! two! three! repeat with legs to the right.

- (c) **Running Between Jump to St: Position on Apparatus.** (Box across, and at first low.)

On to the horse, between the hands—go! Off!

- (d) **Running Stride Jump to ride sitting.*** Dismount to side (or forward) and remain in Knee-bend St: position. (Horse lengthways).

Stride jump on to quarters (&c.)—go! Dismount to left (right) (forward)—one! two! three! four!

- B. **Running Free Jump in height (length) off named foot.** Land and come to Toe St: position without w.o.c., by Files.

Taking off the left foot—go! three! repeat, taking off the right foot.

Note.—The mounting is done at first on to the quarters; later, as good form is acquired, into the saddle, and finally on to the neck of the horse.

BREATHING EXS.

Yard Walk (b) Arch St: Arms striking.

*Left foot forward and arms sideways—stretch!
Trunk backwards—bend! Arms striking—one!
two! onetwo! With arms striking, feet
change! two! Arms striking—one! two! one-
two! Trunk upwards—stretch! Attention!*

- (a) **St: Arms raising side ways and upwards
with Heels raising**, by nos. Later: judge
time.

*Heels raising and arms raising sideways and
upwards—one! two!*

Alt. with :

- (b) **Yard St: Arms raising upwards with
Heels raising.**

As in Table 8.

TABLE 10.

INTRODUCTORY EXS.

Wing Stride Knee-bend St: Head turning,
quickly, 1—4, by nos.

*Feet sideways and hips—firm! Heels—raise!
Knees—bend! Head turning—one! two!
three! four! Knees—stretch! Heels—sink!
Attention!*

- (a) **St: Arms stretching,** 1—8, judge time.
As in Table 9.
Alt. with:
- (b) **St: Arms shifting,** by w.o.c.

*Left arm forward, right arm sideways—
stretch! Arms—change! Left arm upwards
right arm downwards—stretch! Arms—change!
Arms downwards—stretch! or other combina-
tions.*

Stretch Close Turn St: Arms stretching,
upwards, by nos.

*Feet close and arms upwards — stretch!
Trunk to the left—turn! Arms stretching up-
wards—one! two! Trunk forwards—turn!
To the right—turn! Arms stretching upwards—
one! two! Trunk forward—turn! Attention!*

LEG EXS.

- (a) **Yard Knee-bend St: Arms raising up-
wards,** by nos.

*Arms sideways—stretch! Heels—raise!
Knees—bend! Arms raising upwards—one!
two! Knees—stretch! Heels—sink! Atten-
tion!*

Alt. with:

- (b) **Wing St: Foot placing forwards with
Heels raising,** 1—8 by nos. Later: judge
time.

*Hips—firm! Foot placing forwards and heels
raising, left and right foot—one! . . . , eight!
Attention!*

Later :

Hips—firm ! Foot placing forwards and heels raising, left and right foot—place ! Attention !

SPAN BENDING EXS.

- (a) **Span bending : Alternate Knee up-bending,**
1—4, by w.o.c. Later : by nos.

Arms upwards—stretch ! Backwards—bend ! Grasp ! Left knee upwards—bend ! Downwards—place ! Right knee upwards—bend ! Downwards—place ! (Later : Alternate knee up - bending— one ! two ! three ! four !) Upwards—stretch ! Feet sideways—place ! Forwards—bend ! Arms swinging—one ! two ! Downwards—bend ! Forwards—stretch ! Upwards—stretch ! Attention !

Alt. with :

- (b) **Span bending : Heels raising (with living support).**

Front rank, arms upwards—stretch ! Backwards—bend ! Rear rank, support—place ! Heels—raise ! Heels—sink ! Upwards—stretch ! Feet sideways—place ! Forward—bend ! Arms swinging— one ! two ! Downwards— bend ! Upwards—stretch ! Attention ! repeat with the rear rank.

Followed by :

Stretch Stride Stoop St : Arms swinging and Trunk bending downwards.

HEAVING EXS.

- (a) **Inward grip Hanging : Arm walk.** (Beam.)

As in Table 8.

All with :

- (b) **Inward grip Hanging : Arm walk.** (Bridge ladder.)

Up Arms—bend ! March ! Halt ! Arms —stretch ! Down !

TABLE 10.

BALANCE EXS.

(a) **Balance St: Balance March backwards.**

(Beam at knee height.)

*Balance standing—up! Backwards—march!
Halt! Down!*

Alt. with :

(b) **Balance St: Knees bending; and also
Balance March sideways.** (Beam at
breast height.)

*Balance standing—up! Knees—bend! Knees
—stretch! Right—turn! To the left—march!
Halt! To the right—march! Halt! Left—
turn! Down!*

(a) **Wing Crook $\frac{1}{2}$ St: Knee stretching back-
wards, by w.o.c.**

*Hips—firm! Left knee upwards—bend!
Backwards—stretch! Upwards—bend! Down-
wards—place! Right knee upwards—bend!
Backwards—stretch! Upwards—bend! Down-
wards—place! Attention!*

Alt. with :

(b) **Wing Crook $\frac{1}{2}$ St: Knee stretching forward,
by w.o.c.**

*Hips—firm! Left knee upwards—bend!
Forwards—stretch! Bend! Downwards—
place! Right knee upwards—bend! For-
wards—stretch! Bend! Downwards—place!
Attention!*

DORSAL EXS.

(a) **Bend Stride Stoop St: Arms stretching
upwards, by nos.**

*Feet sideways and arms—bend! Trunk for-
ward—bend! Arms stretching upwards—one!
two! Trunk upwards—stretch! Attention!*

Alt. with :

- (b) **Bend Lunge (b) St: Arms stretching upwards**, by nos.

Lungeing, arms bend and left foot forward—lunge! Arms stretching upwards—one! two! Feet—change! Arms stretching upwards—one! two! Attention!

ABDOMINAL EXS.

- Horizontal falling: Head turning**, 1—4 by nos. Later: **Arms bending and stretching**. (Progression made by shifting feet higher up wall bars to Point Stoop falling position.)

Horizontal (Point) stoop falling—place! Head turning—one! two! three! four! Attention! two!

Later:

Horizontal (Point) stoop falling—place! Arms—bend! Arms—stretch! Attention!

- Crook hanging: Leg parting**, or **Double Knee stretching**.

As in Tables 9 or 7.

MARCHING.

Marching as in Table 8.

LATERAL EXS.

- (a) **Wing Side falling: Leg parting**, 1—2, by nos.

As in Table 9.

Alt. with :

- (b) **Wing Foot-hold side St: Side bending**, by w.o.c.

Hips—firm! Right foot in bars—place! Trunk to the left—bend! Upwards—stretch! Feet—change! Repeat to the right. Attention!

- Wing Stride Turn St: Trunk bending backwards and forwards.**

Feet sideways and hips—firm! Trunk to the left—turn! Trunk backwards—bend! Upwards—stretch! Forwards—bend! Upwards—stretch! Forwards—turn! Repeat to the right.

TABLE 10.

LEG EXS.

$\frac{1}{2}$ -**Stretch Lunge (a) St: Arms shifting with Trunk turning**, by nos.

As in Table 9.

St: Arms raising sideways and upwards with heels raising and Knees bending, twice in succession, by nos. Later: judge time.

As in Table 9.

HEAVING EXS.

(a) **Stoop Horizontal Hanging: Climbing Legs first, change to Horizontal Hanging and Climbing Head first** (descend vertical rope). (Inclined rope.)

As in Table 9.

Alt. with:

(b) **Inward grip Hanging: Climbing, Make fast on rope, and descend without Feet.** (Vertical rope.)

Climb! Halt! Make fast! Grasp! Feet off! Return!

JUMPING.

A. (a) **Running Horizontal Vault between Double beams.**

Running Horizontal Vault (horse or box across.)

Horizontal vault, legs to the left — go!
Repeat with legs to the right.

(b) **Running Sit-over Vault between Double beams.**

Sit-over vault, legs to the left — go!
Repeat with leg to the right.

Running Sit-over Vault. (Single beam.)

As in Table 9.

TABLE 10.

- (c) **Running between Jump.** (Box across, and at first low: later, horse or box across.)

Between the hands—go!

- (d) **Running Stride Jump on to the horse.**
(Horse lengthways.)

Stride jump on to horse—go! Off!

- Running Horizontal Stride Jump over.**
(Low box.)

Horizontal stride jump over—go!

- B. **Running Free Jump in height (length) off named foot.** Land and come to attention without w.o.c. by Files.

Taking off the left foot—go! Repeat taking off the right foot.

BREATHING EXS.

- { (a) **Rest Stride St: Side bending.**
S.P. and Ex. as before.
Alt. with:

- (b) **Rest Stride St: Side turning.**

S.P. and Ex. as before

- Yard Walk (b) St: Arms striking with feet changing,** by nos.

Left foot forward and arms sideways—stretch! Arms striking and feet changing—one! two! Attention!

- St: Arms circling and Heels raising,** by nos.
Later: judge time.

Heels raising and arms circling—one! two!

TABLE 11.

INTRODUCTORY EXS.

Stretch (Rest) Walk (a) St: Heels raising and Knees bending, by w.o.c.

As in Table 8.

(a) **St: Arms stretching,** 1—8, judge time.

As in Table 9.

Alt. with :

(b) **St: Arms shifting,** by w.o.c.

As in Table 10.

Toe St: Head turning quickly, 1—4, by nos.

S.P. and Ex. as before.

Rest Turn St: Side bending.

Neck—rest ! Trunk to the left—turn ! Trunk to the left—bend ! Upwards—stretch ; Forwards—turn ! Repeat to the right.

LEG EXS.

St: Heels raising and Arms stretching upwards and downwards, by nos. Later: judge time.

Heels raising and arms stretching upwards and downwards—one ! two ! three ! four !

Later :

Heels raising and arms stretching upwards and downwards—stretch !

SPAN BENDING EXS.

(a) **Span bending : Alternate Knee up-bending and stretching,** 1—4, by w.o.c. Later: by nos.

S.P. as before.

Left knee upwards—bend ! Forward—stretch ! Bend ! Downwards—place ! Repeat with right knee.

TABLE 11.

Later :

*Knee up-bending and stretching, left knee—
one ! two ! three ! four ! Repeat with the right
knee.*

Alt. with :

(b) **Span bending : Alternate Knee up-bending,**
1—2. by nos.

S.P. as before.

*Left knee upwards—bend ! Alternate knee
up bending—one ! two ! Right foot downwards
—place !*

Followed by :

**Stretch Stride Stoop St: Arms swinging
downwards and upwards,** by nos.

S.P. as before.

*Arms swinging downwards and upwards—
one ! two ! &c.*

HEAVING EXS.

(a) **Alternate grip Hanging : Arm walk with
alternate heaving.**

As in Table 8, but with alternate heaving.

Alt. with :

(b) **Balance hanging : Turn to Side-sitting.**

Return to under grip and Arms bend. Later :
**Side travelling with turning (between
the hands),** 1—3, by nos.

*Undergrip — up ! Circle ! Side - sitting,
between the hands, left—turn ! Forward—
turn ! Right—turn ! About—turn ! Forward
—turn ! Forward — circle ! Arms — bend !
Stretch ! Down !*

Later :

*Side travelling with turning left, between the
hands—one ! two ! three ! one ! two ! three !
Halt ! Repeat to the right. Halt ! Forward
—circle ! Down !*

TABLE 11.

BALANCE EXS.

- (a) **Balance St: Balance March forward and backward with Turning.** (Beam at shoulder height.)

As in Tables 6, 9, and 10.

Alt. with:

- (b) **Balance St: Balance March forward with Knee bending.** Also: **Turning.** (Beam at shoulder height.)

Balance standing—up! With knee bending, forward—march! Halt! About—turn! About—turn! Down!

- (a) **Wing Toe St: Alternate Knee up-bending** in quick march time, judge time.

Heels raise and hips—firm! With knee up-bending, on the spot—march! Halt! Attention!

Alt. with:

- (b) **Wing (Rest) Crook $\frac{1}{2}$ St: Knees stretching backwards and forwards,** by w.o.c.

Hips—firm! (Neck—rest!) Left knee upwards—bend! Backwards—stretch! Upwards—bend! Forwards—stretch! Bend! Downwards—place! Repeat with the right knee.

DORSAL EXS.

- (a) **Yard Stride Stoop St: Arms striking,** by nos.

Feet sideways and arms sideways—stretch! Trunk forward—bend! Arms striking—one! two! onetwo! Trunk upwards—stretch! Attention!

Alt. with:

- (b) **Stretch Lunge (b) St: Arms stretching upwards,** by nos.

TABLE 11.

Lungeing, arms upwards stretch and left foot forward—lunge! two! Arms stretching upwards—one! two! With arms stretching, feet—change! two! Arms stretching upwards—one! two! Attention!

ABDOMINAL EXS.

Stoop falling: Feet placing outwards and inwards, by nos. Later: Stride Stoop falling: Alternate Arms raising, 1—4, by nos.

Stoop falling—place! Feet placing outwards—one! two! Attention!

Later:

Stoop falling—place! Feet outwards—place! Alternate arms raising—one! two! three! four! Feet inwards—place! Attention!

(a) **Stretch Fall Sitting: Arms stretching upwards, by nos. (Bench or ground.)**

Sitting position—place! Arms upwards—stretch! Trunk backwards—bend! Arms stretching upwards—one! two! Trunk upwards—stretch! Attention!

Alt. with:

(b) **Crook hanging: Leg parting and Double Knee stretching, by w.o.c.**

As in Tables 9 and 7.

MARCHING.

Marching as necessary; double 4 minutes, followed by a short rest.

LATERAL EXS.

(a) $\frac{1}{2}$ **Stretch Side Falling: Leg parting, quickly, 1—2, by nos.**

Stoop falling—place! Right arm upwards and on the left side—turn! Right leg—raise! Legs parting—one! two! onetwo! Right leg—sink! Forward—turn! Repeat to the right.

TABLE 11.

Alt. with :

- (b) **Rest Foot-hold Side St: Side bending**, by w.o.c. Later : **Stretch** ditto.

As in Table 10.

- (a) **Stretch (Rest) Close Walk St: Side turning.**

Feet close, left foot forward, and arms upward — stretch! Trunk to the left—turn! with arms stretching, feet—change! Trunk to the right—turn! Forward—turn! Attention!

Alt. with :

- (b) **Stretch Stride Turn St: Trunk bending backwards and forwards.**

S.P. and Ex. as before.

LEG EXS.

- Rest Stride St: Heels raising and Knees bending**, twice in succession, judge time.

As in Table 8.

HEAVING EXS.

- (a) **Horizontal Hanging: Climbing Head first, change to Stoop Horizontal Hanging and climbing Head first.** (Up and down inclined rope.)

*Up! Climb! Halt! Change! Return!
Down!*

Alt. with :

- (b) **Inward grip Hanging: Arm walk.** (Double ropes.)

As in Table 9.

JUMPING.*

- A. (a) **Running Horizontal Vault.** (Horse across.)

As in Table 10.

* In the Vaulting exercises of this and following Tables, the men "land" and come to attention without word of command.

TABLE 11.

(b) **Running Sit-over Vault between Double beams.**

Running Sit-over Vault. (Horse across.)

(c) **Running Stride Jump to ride Sitting.**

Later: **Running Stride Jump over.**
(Horse lengthways.)

As in Table 9.

Later:

Stride jump over—go!

Running Horizontal Stride Jump over.
(Rope and low box.)

B. **Running Free Jump in height (length) off named foot.** In quick rotation, by Files.

In quick rotation, off the left foot—go! Off the right foot—go!

Running Free Jump in height onto Box.

Free jump onto the box—go! Off!

BREATHING EXS.

(a) **Wing Walk (b) St: Side turning.**

S.P. and Ex. as before.

Alt. with:

(b) **Rest Walk (b) St: Side turning.**

S.P. and Ex. as before.

Yard Stride Arch St: Arms Striking.

S.P. and Ex. as before.

St: Arms circling and Heels raising.

As in Table 10.

TABLE 12.

INTRODUCTORY EXS.

Wing Knee-bend St: Knees bending to Knee-bend sitting.

*Hips—firm! Heels—raise! Knees—bend!
Sit! To right angle, knees—stretch! Up-
wards—stretch! Heels—sink! Attention!*

(a) **St: Arms stretching**, 1—8, judge time.

As in Table 9.

Alt. with:

(b) **St: Arms shifting**, by w.o.c.

As in Table 10.

Wing Toe St: Head bending backwards and forwards, by w.o.c.

As in Table 5, Balance Exs.

Rest Turn St: Trunk bending backwards and forwards, by w.o.c.

S.P. and Ex. as before.

LEG EXS.

St: Foot placing outwards (forwards) with Heels raising and Arms stretching upwards and downwards, 1—4 by nos. Later: judge time.

*Foot placing outwards (forwards) with heels raising and arms stretching upwards and downwards, left foot—one! two! three! four!
repeat with right foot.*

Later:

Foot placing outwards (forwards) with heels raising and arms stretching upwards and downwards, left foot—place! Right foot—place!

SPAN BENDING EXS.

(a) **Span bending: Alternate Leg raising**, 1—4, by w.o.c. Later: by nos.

S.P. as before. *Left leg—raise! Downwards—place! Right leg—raise! Downwards—place!*

Later :

Alternate leg raising—one ! two ! three ! four !

Alt. with :

- (b) **Stride Span bending : Hand walk** (2 bars)
by w.o.c.

S.P. as before. *Hand walk downwards—
left ! right ! right ! left ! Hand walk upwards
—left ! right ! right ! left !*

Followed by :

**Stretch Stride Stoop St: Arms swinging
downwards and upwards, by nos.**

As in Table 11.

HEAVING EXS.

- (a) **Inward grip Hanging : Arm walk with
alternate heaving.**

As in Table 11.

Alt. with :

- (b) **Balance Hanging : Side travelling with
turning (between the hands), judge time.**

As in Table 11.

BALANCE EXS.

- (a) **Balance St: Balance March forward with
half kneeling.** (Beam at head height.)

*Balance standing—up ! With half kneeling,
forward—march ! Halt ! Down !*

Alt. with :

- (b) **Balance Crook $\frac{1}{2}$ St: Knee stretching for-
ward (backwards), by w.o.c.** (Beam at head
height.)

As in the Free Standing Ex.

- (a) **Toe St: Alternate Knee up-bending, in
double march time. Followed by: Wing
Knee-bend St: Knees bending to Knee-
bend sitting.**

*Heels—raise ! With knee up-bending, on the
spot double—march ! Halt—one ! two ! three !
four ! Heels—sink !*

TABLE 12.

Alt. with :

(b) **Stretch St: Leg raising sideways**, by w.o.c.

Later: by nos.

S.P. as before. Ex. as in Table 9.

Later:

Leg raising sideways, left leg—one! two! onetwo! Right leg—one! two! onetwo!

Or:

Left leg sideways—raise! Leg raising sideways—one! two! onetwo! Left leg—sink! Repeat with right leg.

Or,

(c) **Stretch Crook $\frac{1}{2}$ St: Knee stretching backwards and forwards**, by w.o.c.

As in Table 11.

DORSAL EXS.

(a) **Yard (Stretch) Stride Stoop St: Arms stretching upward, sideward, and upward (sideward, upward, and sideward)**, judge time.

Feet sideways and arms sideways—stretch! Trunk forward—bend! Arms stretching upwards, sideways, and upwards—stretch! Trunk upwards—stretch! Attention!

Alt. with :

(b) **Stretch Lunge (b) St: Arms swinging**, by nos.

Lungeing, arms upwards and left foot outwards—lunge! Arms swinging—one! two! With arms stretching, feet—change! Repeat arms swinging.

ABDOMINAL EXS.

(a) **Point Stoop falling: Arms bending and stretching**, by w.o.c.

As in Table 10.

Alt. with :

- (b) **Wing (Bend) Foot-hold St: Trunk bending backwards**, by w.o.c.

Hips—firm! (Arms—bend!) Left foot in the bars—place! Trunk backwards—bend! Trunk upwards—stretch! Feet—change! Trunk backwards—bend! Trunk upwards—stretch! Attention!

MARCHING.

Marching as in Table 11.

LATERAL EXS.

- (a) **Stretch Stride St: Alternate Side bending**, quickly, 1—4, by nos.

S.P. as before.

Alternate side bending—one! two! three! four!

Later :

Alternate side bending—onetwo! threefour!

Alt. with :

- (b) **Stretch Grasp Side-bend $\frac{1}{2}$ St: Leg parting**, by nos.

Arms upwards—stretch! With leg parting, trunk to the left—bend! Grasp! Leg parting—one! two! Upwards—stretch! About—turn! Repeat to the right.

- (a) **Stretch Stride St: Alternate Side turning**, quickly, 1—4, by nos. Later: **Side to Side turning** (quickly), 1—2, by nos.

S.P. as before. *Alternate side bending—one! two! three! four!*

Later :

Side to side turning—one! two! Forward—turn!

Alt. with :

- (b) **Wing Turn St: Side bending**, by w.o.c.

S.P. and X. as before.

TABLE 12.

LEG EXS.

- (a) **Wing Lunge (a) St: Heel raising**, by w.o.c.
As in Table 7.

Alt. with :

- (b) **Bend (Stretch) Lunge (b) St: Arms stretching upwards**, by nos.

As in Table 11.

HEAVING EXS.

- (a) **Stoop Horizontal Hanging : Climbing Head first.** (Up and down inclined rope.)

Up! Climb! Halt! Return! Down!

Alt. with :

- (b) **Inward grip Hanging : Climbing, Make fast on rope, and descend without Feet.**
Or : **Descend Head first.** (Vertical rope.)

As in Table 10.

Or :

Head first—return!

JUMPING.

- A. (a) **Running Horizontal Vault.** (Horse across.)

Running Balance Vault. (Low box across,)

- (b) **Running Sit-over Vault.** (Horse across.)

Running Sit-over Vault to ride sitting.
(Horse lengthways.)

Sit-over into saddle, legs to the left—go!
Dismount! Repeat with legs to the right.

- (c) **Running Between Jump.** (Horse or box across.)

As in Table 10.

TABLE 12.

- (d) **Running Horizontal Stride Jump over.**
(Rope and box lengthways.)

As in Table 11.

Running Stride Jump over. (Horse or box lengthways.)

- (e) **High St: Handspring.** (Box lengthways.)
Done at first with assistance of two men and box at hip height or above. Later: box lowered and without assistance.

Handspring—go!

- B. **Running Free Jump in height or length.**

As in Table 11.

BREATHING EXS.

- (a) **Rest Walk (b) St: Side bending,** by w.o.c.
S.P. and Ex. as before.

Alt. with:

- (b) **Rest Walk (b) St: Side turning,** by w.o.c.
S.P. and Ex. as before.

Yard Lunge (b) St: Arms striking, by nos.

S.P. and Ex. as before.

Yard St: Arms raising upwards, four times
in succession, judge time.

S.P. and Ex. as before.

TABLE 13.

INTRODUCTORY EXS.

Wing Walk (a) St: Heels raising and Knees bending, twice in succession, judge time.

As in Table 8.

(a) **St: Arms stretching,** 1—8, judge time.

As in Table 9.

Alt. with :

(b) **St: Arms shifting,** by w.o.c.

As in Table 10.

St: Head bending sideways, by w.o.c.

As in Table 5.

Stretch Walk (a) Turn St: Trunk bending backwards and forwards, by w.o.c.

S.P. and Ex. as before.

LEG EXS.

(a) **Bend Toe St: Knees bending and Arms stretching upwards,** quickly, by nos.
(Introduced slowly.)

Heels raise and arms—bend! Knees bending and arms stretching upwards—one! two! Attention!

Alt. with :

(b) **Wind Knee-bend Sitting: Head turning,** by nos.

Hips—firm! Heels—raise! Knees—bend! Sit! Head turning—one! two! three! four! Knees upwards—stretch! Heels—sink! Attention!

SPAN BENDING EXS.

- (a) **Stride Span bending: Hand walk and Arms bending and stretching**, by w.o.c.

S.P. as before. *Hand walk downwards—left! right! right! left! Arms—bend! Stretch! Hand walk upwards—right! left! left! right!*

Alt. with:

- (b) **Stride Span bending: Heels raising (with living support).**

As in Table 10.

Followed by:

Stretch Stride Stoop St: Arms swinging downwards and upwards, and Trunk bending downwards.

As in Table 11.

and:

Point Stoop falling: Arms bending and stretching.

As in Table 10.

HEAVING EXS.

- (a) **Over grip Hanging: Rotary Arm Walk.**

Over grip — up! Arms — bend! March Halt! Arms—stretch! Down!

Alt. with:

- (b) **Balance hanging: Side travelling with turning (outside the hands), 1—3, by nos.**

S.P. as before. *Side travelling with turning left, outside the hands—commence! Halt! To the right—commence! Halt!*

TABLE 13.

BALANCE EXS.

- (a) **Balance St: Rotary Balance march.** (Beam at shoulder height.)

Rotary balance march, turning left! Commence! Halt! Turning right! Commence! Halt! Down!

Alt. with :

- (b) **Balance St: Balance March sideways.**
Also **Knees bending.** (Beam at head height.)

Balance side standing—up! To the left—march! Halt! Knees—bend! Knees—stretch! To the right—march! Halt! Knees—bend! Knees—stretch! Down!

- (a) **Wing Crook $\frac{1}{2}$ St: Knee placing outwards,**
by w.o.c.

S.P. as before. Left Knee outwards—place! Forward—place! Feet—change! Repeat to the right.

Alt. with :

- (b) **Wing Stride Toe St: Whip Jump.** Followed by **Wing Stride St: Knees bending,** by w.o.c.

Feet sideways and hips—firm! Heels—raise! Whip jump—commence! Halt! one! two! Knees—bend! Stretch! Heels—sink! Attention!

Low March.

Heels—raise! Knees—bend! Low march forward (backward)—one! two! &c. Halt! Knees—stretch! Heels—sink!

TABLE 13.

DORSAL EXS.

- (a) **Bend Foot-hold Horizontal St: Arms stretching upwards**, by nos. (Introduced by : **Wing Foot-hold Horizontal St: Position.**)

Left foot in the bars—place ! Arms—bend ! Horizontal standing—place ! Arms stretching upwards—one ! two ! Attention ! Repeat with right foot in the bars.

Alt. with :

- (b) **Bend (Stretch) Lunge (a) Turn St: Arms stretching upwards**, by nos.

Lungeing, Arms bend and left foot outwards—lunge ! Trunk to the left—turn ! Arms stretching upwards—one ! two ! Trunk forward—turn ! Feet—change ! Repeat to the right.

ABDOMINAL EXS.

- (a) **Hand Standing position**, by nos. Later : **Hand Standing: Arms bending and stretching**, by w.o.c.

Hand standing—place ! two ! Attention !

Later :

Hand standing—place ! Arms—bend ! Arms—stretch ! Attention !

Alt. with :

- (b) **Hand Standing in Ranks**, by nos.

Front rank handstanding, Rear rank support—place ! two ! Attention ! Repeat with rear rank.

Stretch (Rest) Foot-hold St: Trunk bending backwards, by w.o.c.

As in Table 12.

TABLE 13.

MARCHING.

Marching as in Table 11.

LATERAL EXS.

- (a) **Stretch Grasp Side-bend $\frac{1}{2}$ St: Leg parting**
quickly, by nos.

S.P. as in Table 12 Ex.

Leg parting—one! two! onetwo!

Alt. with:

- (b) **Stretch Stride St: Wheeling.**

*Feet sideways and arms upwards—stretch!
Trunk to the right—bend! To the left—wheel!
Trunk to the left—bend! To the right—wheel!
Attention!*

- (a) **Stretch Foot-hold Side-fall St: Arms stretching upwards,** by nos.

Arms upwards—stretch! Right foot in the bars—place! Trunk to the left—bend! Arms stretching upwards — one! two! Trunk upwards—stretch! Feet—change! Repeat to the right.

Alt. with:

- (b) **Stretch (Rest) Stride Turn St: Side bending.**

S.P. and Ex. as before.

LEG EXS.

- (a) **Stretch Stride St: Heels raising and Knees bending,** twice in succession, judge time.

As in Table 8.

Alt. with:

- (b) **Stretch (Stretch Stride) Knee-bend St: Arms stretching upwards,** by nos.

S.P. as in Table 10. Ex. as before.

HEAVING EXS.

- (a) **Horizontal Hanging: Change Walk upwards.** (Inclined rope.)

Alt. with :

- (b) **Inward grip Hanging: Double Arm Walk.** (Double ropes.)

JUMPING.

- A. (a) **Running High Vault over Double Beams.** (Distance between the beams about two arms' lengths; upper beam at stretch height or above.)

High vault, legs to the left—go! Dismount!
Repeat with legs to the right.

Running Balance Vault. (Low box across.)

Running Horizontal Vault to ride sitting. Later: **Running Horizontal Vault.** (Horse lengthways.)

Horizontal vault into saddle, legs to the left—go! Dismount! Repeat with legs to the right.

Later :

Horizontal vault, legs to the left—go! Repeat with legs to the right.

- (b) **Running Sit-over Vault.** (Horse lengthways.)

Sit-over vault, legs to the left go! Repeat with legs to the right.

- (c) **Running Hanging Jump between.** (Double beams.)

- (d) **Running Stride Jump over.** (Horse lengthways.)

TABLE 13.

Running Stride Jump (with living support). (Leap-frog.)

*Stride jump! Front rank support—place!
Rear rank—go! Repeat with the front rank.*

- (e) **St: Handspring**, with assistance of two men. (Low box across.)

Grasp! Handspring—go!

B. Running Free Jump in Height or Length.

As in Table 11.

BREATHING EXS.

- (a) **Rest Stride St: Side bending**, by w.o.c.

As in Table 10.

Alt. with:

- (b) **Rest Stride St: Side turning**, by w.o.c.

As in Table 10.

Yard Lunge (b) St: Side striking, by nos.

As in Table 12.

- (a) **Yard St: Arms raising upwards with Heels raising**, judge time.

As in Table 8.

or:

- (b) **Stretch Toe St: Knees bending and Arms parting**, by nos.

*Arms upwards — stretch! Heels — raise!
Knees bending and arms parting—one! two!
Attention!*

TABLE 14.

INTRODUCTORY EXS.

Wing Lunge (a) St: Heel raising, by w.o.c.

As in Table 7.

{ (a) **St: Arms stretching,** 1—8, judge time.
As in Table 9.

Alt. with :

{ (b) **St: Arms shifting,** by w.o.c.

As in Table 10.

Wing stride St: Head turning, quickly, 1—2,
by nos.

*Feet sideways and hips—firm! Head turning
to left and right—one! two! Head forward
—turn! Repeat to right and left.*

Rest Walk (a) Turn St: Side bending.

S.P and Exs. as before.

LEG EXS.

**St: Heels raising and Knees bending with
Arms stretching upwards and down-
wards,** quickly, by nos. Later: judge time.

(Introduced slowly.)

*Heels raising and knees bending with arms
stretching upwards and downwards—one! two!
three! four!*

Later:

*Heels raising and knees bending with arms
stretching upwards and downwards—stretch!*

SPAN BENDING EXS.

{ (a) **Stride Span bending: Hand Walk,** 1—2, and
Arms bending and stretching.

S.P. as before. *Hand walk downwards by
alternate bars—left! right! left! right! &c.
Arms—bend! Stretch! Hand walk upwards
—left! right! left! right! &c.*

TABLE 14.

Alt. with :

- (b) **Span bending : Alternate Knee up-bending (with living support)**, 1—4, by nos.

S.P. as in Table 10. Ex. as before.

Followed by :

Stretch Stride Stoop St: Arms swinging downwards and upwards and Trunk bending downwards.

As in Table 11.

And :

- (a) **Wing Knee-bend Sitting: Head turning**, 1—4, by nos.

As in Table 13.

Alt. with :

- (b) **Stretch Stride Knee-bend St: Arms stretching upwards**, by nos.

As in Table 13.

HEAVING EXS.

- (a) **Over grip Hanging : Rotary Arm walk.**

As in Table 13.

Alt. with :

- (b) **Balance Hanging: Side travelling with turning (outside the Hands)**, judge time.

As in Table 13.

BALANCE EXS.

Balance Marches already practised as necessary (beam at stretch height).

- (a) **Low March.**

As in Table 13.

- Alt. with:
- (b) **Stretch Crook $\frac{1}{2}$ St: Knee stretching backwards and forwards, by w.o.c.**

As in Table 12.

DORSAL EXS.

- (a) **Bend Foot-hold Horizontal St: Arms stretching upwards and Trunk bending downwards.**
- As in Table 13.
- Or:
- Stretch Lunge (a) Turn St: Arms swinging, by nos.**

Lungeing, arms upwards stretch and left foot outwards—lunge! Trunk to the left—turn! Arms swinging—one! two! Trunk forward—turn! With arms stretching, feet—change! Repeat to the right.

Alt. with:

- (b) **Yard (Stretch) Lunge (b) St: Arms stretching upwards, sideways, and upwards (sideways, upwards, and sideways), judge time.**

S.P. and Ex. as before.

ABDOMINAL EXS.

- Hand Standing in Ranks: Arms bending and stretching.**

S.P. and Ex. as in Table 13.

- Stretch Foot-hold Fall St: Arms stretching upwards (Arms swinging), by nos.**

Arms upwards—stretch! Left foot in the bars—place! Trunk backwards—bend! Arms stretching upwards (Arms swinging)—one! two! Trunk upwards—stretch! Feet—change! Repeat.

MARCHING.

Marching as in Table 11.

TABLE 14.
LATERAL EXS.

- (a) **Stretch Stride St: Wheeling.**
As in Table 13.
Alt. with:
(b) **Handfast Side holding (Flag).**

Arms upwards—stretch! With leg parting, trunk to the left—bend! Grasp! Side holding—onetwo! Down! Upwards—stretch! Repeat to the right.

- (a) **Stretch Stride Turn Arch St: Arms stretching upwards, by nos.**
Feet sideways and arms upwards—stretch! Trunk to the left—turn! Backwards—bend! Arms stretching upwards—one! two! Trunk upwards—stretch! Forwards—turn! Repeat to the right.

Alt. with:

- (b) **Stretch Foothold Side-fall St: Arms stretching upwards, by nos.**

As in Table 13.

LEG EXS.

- (a) **Wing Walk (b) St: Heels raising and Knees bending,** twice in succession, judge time.

Left foot forward and hips—firm! Heels raising and knees bending, twice—commence! Feet—change! Repeat to the right.

Alt. with:

- (b) $\frac{1}{2}$ -**Stretch Lunge (a) St: Arms shifting, and Feet and Arms changing.**

As in Table 8.

HEAVING EXS.

- (a) **Horizontal Hanging: Change Walk upwards.** (Inclined rope.)

As in Table 13.

TABLE 14.

Alt. with :

- (b) **Inward grip Hanging: Arm walk upwards. Arms bending and stretching, and double Arm walk downwards.** (Double ropes.)

JUMPING.

- A. (a) **Running High Vault over double beams.**

Running Horizontal Vault. (Horse lengthways.)

- (b) **Running Stride Jump over.** (Horse lengthways with man up.)

Running Stride Jump (with living support). (Leap-frog.)

- (c) **Running Handspring.** (Low box.)

- B. **Running Free Jump in height or length.**

As in Table 11.

BREATHING EXS.

Yard Stride Turn St: Arms striking, by nos. S.P. and Ex. as before.

St: Arms circling with Heels raising, judge time.

As in Table 10.

Or :

St. Arms raising sideways and upwards with heels raising and knees bending, slowly, 1—4, by nos. Later : judge time.

Arms raising sideways and upwards with heels raising and knees bending—one! two! three! four!

APPENDIX I.

Special Corrective Exercises.

Corrective exercises are employed for removing **201.** defects of carriage of a more serious and permanent nature, and enabling men thus affected to join in and receive the benefits from the regular training, without checking the progress of others.

The Instructor should learn quickly and accurately **202.** to gauge from their shape and general appearance the physical powers and special wants of the men committed to his charge. This will be acquired by experience based on careful observation, an intimate knowledge of the human body, and a thorough understanding of how it can be influenced by exercise.

Bad cases of that common form of defective carriage **203.** known as "round shoulders" especially call for the application of these corrective exercises. The capacity for physical work and for deriving benefit from it are in direct proportion to the normal and healthy action of the lungs and heart. In the deformity referred to there is an excessive curvature of the upper part of the spine, the shoulders stoop forward over a flat chest, and the head is held in the attitude described as "poking chin."

In fact, the whole carriage denotes a cramped and immobile chest, the most unfavourable condition for taking part in the regular training.

Round shoulders are the usual accompaniment of poor physique and lack of physical training, and give a predisposition to lung complaints.

Below are given corrective exercises for "round **204.** shoulders," Lordosis or "hollow back," and "flat feet," in the application of which great care and good judgment are required.

ROUND SHOULDERS.

To correct the carriage of the head.—If the Free-standing Head bendings are not sufficient to cure the

drooping of the head and poking chin, the following exercise is applied:—

St: Head bending backwards with resistance.

The man stands facing the Instructor, who places his hands, one upon the other, behind and against the man's head, letting his forearms rest on the fore part of the man's shoulders. The man then bends his head forward and then pushes it backwards as far as it will go, the Instructor offering a moderate resistance against the backward movement, thus bringing the muscles of the neck into stronger activity.

When the head moves backwards the chin should be drawn in; this tends to lift and expand the upper part of the chest as well as to correct the carriage of the head.

The exercise is repeated five or six times in succession, and resembles the Free-standing Head bending backwards, except that the head is pushed backwards without the face being turned up.

The "movement giver" should remember that the greatest resistance should be applied in the middle, working up from slight resistance at the commencement, and reducing to slight resistance at the end of the movement.

To correct the carriage of the shoulders.—When the Dorsal exercises fail to correct the carriage of the shoulders, the following exercises are applied:—

Yard St: Arms parting with resistance.

The man stands facing the Instructor with his arms in Yard position, but with the palms of the hands turned forward. The Instructor (in Walk (b) St: position), standing close in front of the man, grasps the latter's arms near the hands (overgrip if the man is small, undergrip if he is tall), and pulls them forward into Reach position under a moderate resistance.

The man moves his arms back into Yard position under resistance from the Instructor, and when the limit of voluntary motion is reached the Instructor presses the hands just a little farther backwards.

The exercise, which is repeated five or six times, should be done evenly and not in little jerks, and the Instructor should see that the man maintains good carriage throughout the exercise.

As the man gains in strength the **Forward Lying Starting position** on the bench should be practised; later, the exercise **Forward Lying: Head turning**, and, finally, the **Stretch Forward Lying position**.

To expand the chest.—If the Heaving and Breathing exercises do not produce the desired result sufficiently rapidly the following exercises are used:—

(a) **Wing St: Heels raising with chest expanding.**

The man takes "Hips firm." Standing behind him the Instructor takes hold of his arms just above the elbows, and while the man raises his heels and inhales, the Instructor pulls his elbows backwards as far as possible without inclining him backwards. In this way the chest becomes forcibly (and passively) expanded, and holds more air. The man exhales and sinks his heels, while the Instructor lets the elbows go forward into the Starting position. The exercise is repeated five to ten times.

Care should be taken to apply the pressure neither up nor down, but at right angles to the spine, for otherwise a bad carriage of the shoulder-blades will result.

(b) **Stretch Grasp St: Chest expanding.**

The man stands with his back against the wall-bars and grasps as high as he can reach without raising the heels. The Instructor stands in front of him and, bracing himself with one foot against the bars, applies both hands to the man's back (between the shoulders).

By letting his hands slide downwards and forwards he pulls the man's trunk forward into Arch position, the man rising on the toes. During this movement the man inhales, and he exhales as the Instructor lets him fall gently back into the Starting position.

This exercise extends the whole front of the body and vaults the chest forwards.

LORDOSIS OR "HOLLOW BACK."

By this name is understood that condition of the spine where the lumbar region is too much curved forward and the pelvis inclined in proportion. It is caused by weakness of the muscles of the abdomen and those on the front of the thigh, or by weakness of the extensors of the spine. The chief aim of special corrective exercises, therefore, should be to strengthen the muscles of the abdomen and upper leg.

Consequently, when "hollow back" is combined with "round shoulders," and the ordinary Abdominal exercises are insufficient, the following exercises are added to the foregoing :—

(a) **Crook-hanging Starting position.**

Hanging position on the wall-bars is taken, and the knees are raised three or four times into the Crook-hanging position. This exercise is also one of the most effective for stretching the pectoral muscles of a flat chest.

(b) **Stoop-falling : Head bending backwards with resistance.**

In the combination of "hollow back" with "round shoulders" the "Resisted Head bending" for correcting the carriage of the head is done in the Stoop-falling position, first with hands supported on a bench, later on the ground, and finally with the hands on the ground and the feet on a bench with the body horizontal, the position increasing in strength to the horizontal.

When done in Stoop-falling position the exercise has a far more extended effect than in the Standing position, for then it is also an Abdominal exercise, a correct position calling for a strong contraction of the abdominal muscles, which contraction must increase as the head bends backwards, or the position is lost.

When the Stoop-falling position is horizontal the Instructor may, if necessary, give the man a slight

support by one hand placed under the latter's abdomen, the other hand resisting the head bending.

In the case of "hollow back" it is better to allow the man to keep the seat high than low in the Stoop-falling position, because then the increase of the lumbar curve is avoided. He should be allowed to *descend* gradually into the correct position.

FLAT FOOT.

This defect is caused by the poor development and weakness of the flexors of the toes, and their consequent inability to maintain the longitudinal arch of the foot, which accordingly sinks down under the weight of the body.

Flat Foot is cured by strengthening these muscles with **St: Heels raising** and **Marching on the toes**.

APPENDIX II.

Useful Abbreviations used when writing the names of Positions and Exercises.

205. The following abbreviations of the names of positions and exercises are used for the sake of brevity and will be found very convenient when writing tables of exercises for reference during the instruction:—

Positions.

St. = Standing.	Wlk. = Walk.
Sitt. = Sitting.	Cr. = Crook.
Kneel. = Kneeling.	S.B. = Spanbend.
Ly. = Lying.	$\frac{1}{2}$ = half.
Hang. = Hanging.	2 = both arms or
Stp. = Stoop.	legs in a
Wg. = Wing.	similar po-
Rst. = Rest.	sition or
Yd. = Yard.	moved in
Str. = Stretch.	a similar
Cl. = Close.	way.
Std. = Stride.	Pos. = Position.

Parts of the Body.

A = arm.	K = knee.
L = legs.	T = trunk.
F = foot.	H = head.

Movements, &c.

forw. = forward.	strike. = striking.
backw. = backward.	rais. = raising.
upw. = upward.	fall. = falling.
downw. = downward.	turn. = turning.
sidew. = sideways.	chang. = changing.
outw. = outwards.	pl. = placing.
bend. = bending.	bal. = balance.
swing. = swinging.	alt. = alternate.

If the following method of writing these abbreviated names is adopted, it will be found greatly to assist in their ready recognition.

Commence the name of each separate *position* and *part of the body* with a Capital Letter.

Commence the name of each *movement* or *direction* with a small letter; the same with all other words in the name of an exercise.

Examples:—

Str. Wlk. (a) St: Heels rais. and K. bend.

Yd. Std. Stp. St: A. strn. upw. and sidew.

Wg. Cl. Cr. $\frac{1}{2}$ St.: K. pl. outw.

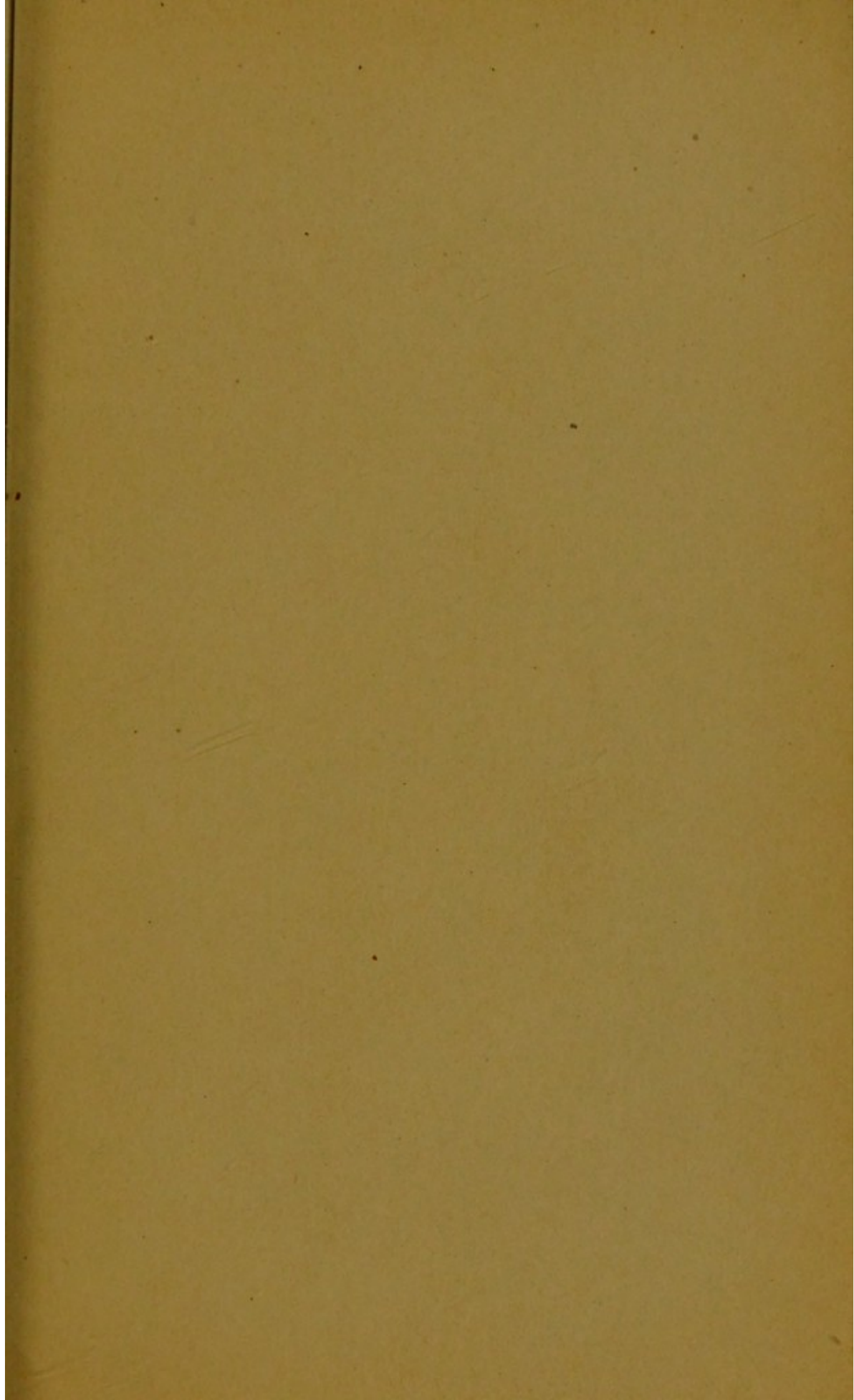
Cr. Hang: 2 K. strn.



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K. 13/6

B.

D.

L.

