Rational Gymnastics.

WILLIAM SKARSTROM.

(Concluded).

The corrective element in gymnastics should always be represented in each lesson, first by insisting on a good fundamental position in all movements, and secondly, by giving several movements whose mechanism is such that they call into strong action those groups of muscles which are almost wholly neglected in daily life, or whose activity consists chiefly in passive tension. This is particularly the case with the muscles of the upper part of the back, the neck and the shoulders. As the weight constantly tends to pull those parts forward and downward, hanging, as it were, on the above-mentioned muscles, the latter are working, to be sure, but in a way which does not favor their best development. Nor do the joints, over which they lie, often move to their full extent in a backward direction, anatomically known as extension. The usual occupations of daily life hardly ever call for any such movement, nor do athletic games and sports (with a very few exceptions). On the contrary, most muscular work outside of gymnastics where shortening against strong resistance occurs involves chiefly the muscles on the front of the body, and especially those on the upper part of the chest, while their antagonists, the upper back muscles, are elongated and stretched, even if they are in the physiological condition of contraction. The result of all this is that there is a universal tendency to a faulty position and carriage of the head, chest and shoulders. In the corrective movements of gymnastics all of this is reversed: the upper back and shoulder-blade muscles are made to shorten to their utmost, while those in front are stretched the full amount of extension of which the shoulder joint and upper part of the spine are capable, takes place; the chest is forcibly expanded and the shoulder blades are brought into correct apposition to the back. Such movements, moreover, train the muscular sense of the individual and get him in the habit of paying more attention to the way he carries himself. There is often associated with this tendency to round shoulders and drooping head an exaggeration of the natural forward curve in the lower part of the spine, familiarly known as “sway back,” though it very frequently occurs alone. This is apt to become more marked when efforts are made to straighten the upper part of the back or to throw out the chest. To be able to do the latter without at the same time increasing this “hollow” in the back and making the abdomen protrude requires a considerable training of several groups of muscles, but especially those which form the abdominal wall. Movements for this purpose should always be included in each lesson. Slight lateral deviations in the spine, often indicated by uneven position of the shoulders, are not at all uncommon. These are usually corrected by insisting on perfect purity and symmetry in execution of all movements, and by being careful to give an equal amount of work to each side in unilateral exercises.

The training of co-ordination is a prominent element in nearly all the exercises of the gymnastic lesson. Some classes of movements, in which there is difficulty in maintaining the equilibrium, are more marked in this respect than others. But the striving for accuracy in the doing of clearly defined movements is in itself a very good training of the muscular sense, which gradually increases the power to distinguish the finer changes in relative position of the parts of the body and to limit the muscular work to only those groups which are chiefly concerned in the production of a given movement. By doing the movements accurately and to their full extent they are also more effective as regards developing and strengthening the muscles. This is often due to the fact that the starting positions, from which movements are done, and the last part of each movement always increase the internal resistance enormously. Strong resistance as well as completeness of contraction are two of the most necessary conditions for muscular development.

The method of instruction, by which the above indicated principles are most effectively applied in class work, is by the word of command in all movements executed simultaneously by the class. This enables the teacher, better than by any other method, to control and vary the quantity, kind and rhythm of movements, to give more attention to each individual and to obtain that precision, accuracy and unison of execution without which the full effects of the movements cannot be brought out. Besides, the mental activity of the individual while doing the work in response to the command (which is simply a sort of descriptive signal) is of such a nature as to train alertness and ability instantly to concentrate all available energy in the action. Prompt, vigorous and