

to be found on the school curriculum they are there to be taught not "picked up" incidentally. In this teaching then, what methods will be most helpful?

This is a question to which few really definite answers have been given. In investigating the "how" of performing a complex act many experiments have been made, one of the most interesting being that of E. J. Smith in juggling balls. The results of this investigation are given in full by Dr. Parker in "Methods of Teaching in High Schools." He also explains J. H. Bain's experiment in learning to move the ears, which accomplishment, however useful in verifying a scientific theory, is not, I believe, recommended as an exercise precisely suitable, even in this age of freedom, for use by a young and impressionable class in Junior High School! Besides they all can do it now. Try them some day and see!

The results of these investigations and others, Dr. Parker sums up as follows:

The more closely the attention can be directed to the movement to be made and the more nearly the part of the movement desired not to be made can for the time be forgotten, the more likely is the desired movement to be accomplished.

As Freeman says:

"The elimination of useless movements, or the selection of appropriate ones, is one of the fundamental processes in motor learning."

And lastly, where and how shall we apply this type of learning and methods of teaching? First considering gymnastics, which as far as ordinary school work is concerned resolves itself in physical drill and all other physical activities, how shall we best bring about the quick precision of movement for which we strive? By making use of four distinct modes of instruction, *i. e.*: Attention to good form, stressing the best known method, directing and conserving energy on the most effective as well as the most economical way. Countless examples of the efficiency of good form will immediately present themselves; take the "stand at ease" position. Its purpose is to provide a rest interval which will not undo the work of the preceding exercise. If the weight is divided evenly between the feet, the shoulders held back the head up, we have at the same time the direction of the energy towards rest and the conserving of the benefits of the work already done.

Next, *Verbal Instructions and Directions* will be found to be great aids to instructors in helping the learner "get the idea." You will perhaps remember during your drill course, the sergeant was perpetually saying "Raise the arms slowly,

slowly now." "Heels together," "Heads up." Similarly in teaching a class to knit, one can perform all the operations as slowly and as often as you will, saying "Now do this like I am," and still find one child forgetting to put the thread over or "putting" in the wrong place, if she is not at the same time "coached" in what she is to do. It is the same old story of learning to spell, some spell by sight and some by sound. So in acquiring motor control some learn by sight and some by sound but all will surely learn when both methods are presented. The third mode of instruction consists of giving *An Exact Analysis of the Movements Required*. Take for example a skipping or dance step. Imitation is in most cases impossible until a careful explanation of every movement, with illustrations, has been given. Then we find with practice the step comes automatically.

*Training in the Various Parts of a Complex Motion* is the last help toward establishing motor control. So we are taught "feet astride-place," then "arms upward-stretch." When these are familiar, it is easy to obey the command "with feet astride, arms upward-stretch."

Returning now for a moment to the other subjects where motor skill places an important part, we will realize that in the teaching of musical technique, important as motor control here is, we have a subject so unlikely to become in close relation to our school systems that we can pass it by mentioning only, for those interested, that Josef Hoffman's "Piano Playing" and D. C. Taylor's "Psychology of Singing" give a complete discussion of this subject as applied to instrumental and vocal music in such a way as cannot help but be of advantage to a student or teacher of either branch. This leaves us with the subject of Pronunciation of Foreign Languages—in which we might somewhat ironically but equally truthfully include English. Before discussing how this branch is to be taught would it not be well to ask, "Is there anything to be gained by learning to pronounce French and German, if not like a native at least like an educated Englishman, or are we right in contending that to read a foreign language is all that is required of young Canada today?" I would suggest to anyone who agrees with this present policy that he reads in any Encyclopædia of Canadian facts, just what per cent of our population does not speak English, and that having done that he asks himself whether that per cent will be greater or less after the war. Then let him try to engage a Frenchman in conversation in High School French and note the result!

(Concluded next month).