

tissue, quite frequent varying this diet with small insects; the larvæ live in the water and feed on insects, snails, tadpoles, etc.

Note that two pairs of the legs of this insect are especially formed for swimming.

Two water bugs are pictured in Figure 4. The middle and hind legs of each are modified for swimming. They breath air and carry it with



FIG. 4.—Back-swimmers (A, swimming attitude) and Water-boatmen, B.

them as a thin film caught in the fine hairs which cover their bodies. The film of air gives them the appearance of carrying a shield of polished silver, when in the water.

Besides these there are many other water insects and other animal forms that are equally abundant and quite as attractive for nature study; the sponges, clams, snails, tadpoles, caddis-fly larvae in their curious little homes made of stones, sticks or a section of straw, the water-striders playing on the surface, etc., etc. And then beyond all these we have the great variety of the land insect forms, far too numerous to mention here, whose fall life seems especially favourable for nature study work.

Figures 1 and 2, copied from *Elementary Entomology*, by Sanderson and Jackson; Figures 3 and 4, *General Zoology*, Linville and Kelly, through the kindness of the publishers, Ginn & Co., Boston, Mass.

OFFERED TO MAJOR W. L. GRANT.

Major W. L. Grant, of Kingston University, Ontario, who is now with the Canadian forces at Hythe, has been offered the principalship of Upper Canada College, Toronto, in succession to Principal Auden.

COURSES OF STUDY IN THE JUNIOR HIGH SCHOOL.

Motor skill, what it is and how it may be obtained.

BY MARY JENNISON, TRURO.

(Special to the EDUCATIONAL REVIEW.)

Having considered the general definition of the Junior High School, the reasons for and against such a system and the courses of study which we may reasonably expect to find there, I would ask you to examine some of the types of learning found in the Junior High School, classified under the following heads:

- (a) Acquiring motor skill.
- (b) Associating symbols and meanings.
- (c) Acquiring the habit of reflective thinking.
- (d) Acquiring habits of harmless enjoyment.
- (e) Acquiring skill in expression.

Motor Skill. What is it? Of what importance? To which of the Junior High School subjects does it apply? How may it be taught?

First the definitions: Motor skill is such control of the nerve telegraph system putting in motion the sets of muscles required for a certain activity as will enable the pupil to perform that activity to the best advantage. This being granted the second question just asked answers itself. Just as it is important that the motor skill required in order to properly handle a knife and fork should be acquired before one eats in public so it is necessary that a similar control of the nerve centre should be taught in relation to all activities of school and home life.

Thirdly, which Junior High School subjects does this motor control chiefly affect? I think it stands to reason that although no teaching can be carried on in any department with the acquisition of motor skill appearing as a bye-product, yet the complete control of the motor nerves is most important in learning gymnastics, including dancing and all athletics, music, manual-training, domestic science and in learning the pronunciation of a foreign language.

Now all this is very well, anyone is perfectly willing to admit that it is absolutely essential to learn how to use a needle before becoming a dressmaker, or to have mastered the technique of finger exercises before adopting the role of pianist; but the point to consider is how are we best to bring about this acquisition of motor control. A child ultimately, given average intelligence, a primer, paper and pencil, will learn to read and write, given a needle and cloth will learn to sew, and so on, but if these things are