

Special Papers.

DRAWING.*

THE fact that a subject is or is not taught does not increase or lessen its importance. If it did, Drawing, I am afraid, would occupy a position far in the background. It is a subject that is too much neglected in our Public schools. The reason cannot be that the teachers do not possess the sufficient knowledge, as the Departmental examinations require a fair knowledge of this subject. It may be difficult to teach, or it may be that it is not given sufficient prominence in our curriculum of studies. I do not mean to place drawing at the top of the list of more important subjects, but it should occupy a more prominent position than it does.

The object of teaching is to cultivate the minds of our pupils and to impart a stock of useful knowledge. To cultivate the mind—to train the boys and girls to think for themselves, should be more especially kept in view. To impart useful knowledge is a minor point.

What subject affords more excellent facilities for training the mind than Drawing? It tends to cultivate in a very great degree the observing powers, the memory, the reasoning and the imagination. It compels close attention and trains our pupils to think in an orderly manner, by its effect upon the mind, and cultivates a clearness and precision of expression. It also helps to store the mind with a knowledge of facts.

Drawing should be introduced to every new pupil. It is natural for every little boy and girl to draw. Why not take advantage of this? Have drawing a prominent subject in every class.

Begin by requiring simple drawings to be copied on slates, and as soon as possible introduce drawing from objects. Every mind has a tendency to deal with real things. Not only this, but it will pave the way for other and more difficult exercises. In the junior classes (first and second) I should suggest such exercises as the following: After placing such models as a slate, a bell, a book or a tablet before the class, require its members to make drawings on their slates, and as soon as possible introduce drawing upon paper. A great deal of care should be taken just at this stage to place such objects as require the least perspective effect. Pupils of the third class are quite capable of making a fair representation of such models as a box, a vase or a pitcher. The work, of course, should become more difficult as the pupils advance. This kind of work should be continued in all classes below the fourth. Freehand and Dictation Drawing, of course, should receive much attention in the junior classes, taking care to have the exercises properly graded.

After a pupil has been promoted into the fourth class, he should be made acquainted with the primary principles of parallel perspective. I do not recommend burdening the minds of boys and girls with a multitude of terms, their meanings, etc. I think it far more beneficial to make them thoroughly acquainted with a few of the more important facts. It is impossible for a pupil to make a good drawing of some of the objects represented in Drawing Book No. 5 unless he understands some of the principles of parallel perspective. I recommend teaching these principles and giving practice in drawing such objects as a box, a trunk, a cube, a book, etc., in a mechanical way, before requiring a pupil to attempt to sketch, freehand, the perspective drawings in No. 5.

Before attempting this the use of the proper instruments should be taught. All perspective drawing should be made as accurate as possible, and therefore the proper instruments are necessary. The pupils should be provided with two pencils (hard and soft), a pair of compasses, a ruler, a rubber and a set square. The hard pencil to be used in the marking of construction lines, and the soft one to mark the outline of the object. Both pencils should be sharpened to a wedge-shaped point—not round. A piece of sandpaper or an old file is a good thing with which to sharpen the lead. The compass ought to have one needle point, and the other so that a pencil may be attached. The ruler should be thin and marked off in inches, halves, quarters, etc. The square made of tin, pasteboard, or thin wood in the form of a triangle, having angles

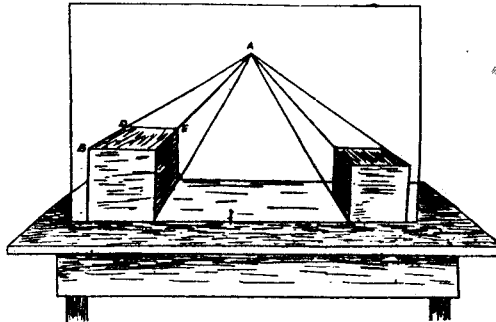
of 30, 60 and 90 degrees, and from four to six inches in length.

That the first principles should be thoroughly understood before proceeding further is true with reference to every subject, but especially true with reference to drawing. Upon this fact our success largely depends. There must be no lecturing by the teacher. He must merely act as a guide. Make the lesson conversational and as practical as possible. Facts that cannot be illustrated by reference to objects should be illustrated by means of rough drawings. Give many examples and a great deal of practice. Exercise is the grand law of development and practice makes perfect.

I should next make the pupil acquainted with the scale. This is important but easily accomplished.

My short experience teaches me that it is better to take a practical method of bringing out the points in connection with perspective, than to explain such terms as the "visual angle", the "station point", etc., etc. The method I have adopted is this, which I think can be easily understood by any fourth class pupil:—

Teach the meaning of the word "perspective." That it is derived from two Latin words signifying "to look through", which, of course, suggests that there must be a something through which to look. This something is an invisible plane supposed to be interposed between the object and the spectator. Upon this upright plane, we must suppose objects to be represented as they appear. This can be easily illustrated by means of a pane of glass placed before the pupils on a table as shown in the following sketch:



In making preparation for the experiment observe very carefully the following:—

1. The pane of glass to represent the picture-plane must be upright and parallel to the spectator.
2. The eye of the pupil must be directed towards one point and kept in one position.
3. The boxes or blocks must be placed parallel to the glass and touching it.

After everything has been properly arranged by the teacher, the pupil must be allowed to complete the experiment. He must take his position before the glass and look steadily towards a point, (A) and by means of a piece of pointed soap make a point on the glass corresponding to the apparent position of the corners of the blocks. Lines should now be drawn to represent the edges. After the tracing has been finished the following facts may be noticed:—

1. By producing the lines representing the edges that are perpendicular to the plane of the glass they will meet in a point. If the experiment has been performed with fair accuracy this point will be the point upon which the pupil's eye has been directed. Principle illustrated—all parallel retiring lines appear to meet in a point.

A horizontal line drawn through this point represents the horizon or height of the eye.

2. All horizontal and vertical lines appear the same in the picture, with the exception that they become shorter in appearance as they are farther from the spectator.

3. The lines representing the edges in contact with the picture-plane are of the same length as the edges of the cube. Measuring, therefore, should be done on the picture plane.

The bottom edge of the glass represents the ground line.

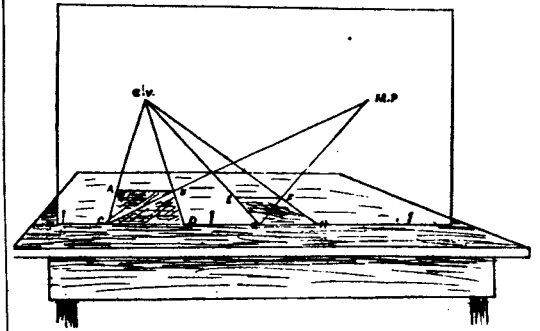
The glass may be now placed flat upon the desk and the lines transferred to paper.

Other experiments may be resorted to for the purpose of further illustrating some of these facts. For example:—Hold a pencil in the hand at arms'

length and mark the length of object at different distances from the eye—reference might also be made to the appearance of a railroad.

The next in importance is to illustrate the method of measuring, which can quite easily be done by means of another simple experiment: Horizontal and vertical lines may be measured by means of receding lines, and can be illustrated from experiment one by referring to the edges of block No. 1. D E, although appearing much shorter, is really the same length as B C.

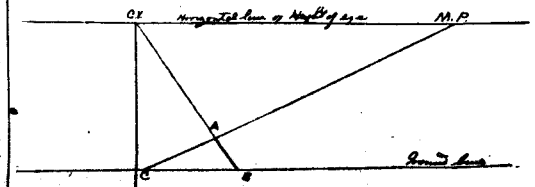
Again, place the glass upon the table, remove the blocks, and in their places put square pieces of paper or cardboard, the same precautions to be observed as in the first experiment. The following cut will show the position of the glass, etc.



In the same way as before mark the appearance of the pieces of paper, taking care to have the eye of the pupil directed towards one point, and in this case care should be taken to select a point as near to the right or left of the glass as possible. Draw the diagonals of the squares and produce them until they meet in M P. M P will be found to be in the same horizontal line with C V. By means of this point we may do all our measuring for retiring lines in parallel perspective.

The method of reasoning is this: A B C D and E F G H are squares, therefore all the sides in each are equal. B D is equal to C D in reality, although on account of the position of D B it looks to be somewhat shorter, also F H G H = G H.

As to the position of M P it will be found by actual experiment that it is the same distance from C V as the pupil's eye was when making the experiment, therefore from C V to M P represents the distance of the spectator from the picture-plane. Therefore, to measure the length of retiring lines we measure to the right or left of the line running to C V, and draw from this point to M P (which represents the distance of the spectator from the picture plane); the point where these lines intersect each other is the farther end of the retiring line. For example: The spectator is looking towards a certain point represented by C V and is a distance represented by C V to M P, from the P a straight pole is lying upon the ground to the right and perpendicular to the P P. Show its appearance—



C V A B is the direction of the appearance of the pole by measuring on the G L from B to C, the distance equal to the length of the pole, and drawing from this point to M P. The lines intersect in A, therefore A B is the appearance of the pole. Teachers should be very careful to give many problems and much drill so as to thoroughly fix these principles in the minds of his pupils. After the pupils have thoroughly understood these experiments, they will have a good foundation upon which to build a thorough knowledge of parallel perspective.

For the training of entrants I should teach these facts by experiment, then give problems to be done in a mechanical way before allowing them to make the drawings in No. 5. After they become acquainted with the principles upon which these have been made, they should be required to copy them, observing these principles. It will not only enable them to understand the work, but to make their work much more accurate and correct.

*Paper read by Sam'l J. Latta at West Huron Teachers' Association.