LINEAR PERSPECTIVE AND MODEL DRAWING

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A

SCHOOL AND ART-CLASS MANUAL,

WITH QUESTIONS AND EXERCISES FOR EXAMINATION,

AND

EXAMPLES OF EXAMINATION PAPERS.

BY

LAURENCE ANDERSON.

THESE lessons on Linear Perspective are intended for class use, and contain all that is necessary to give the student a complete view of the application of perspective law to the drawing, on a vertical plane, of an object in any given position.

All, or at least a large selection of the exercises on to Lesson 21, should be worked by those who are preparing for examination papers, similar to those of the Oxford and Cambridge Local Examinations; or the Second Grade papers of the Science and Art Department. To this should also be added a knowledge of the method of working shown in Lesson 30.

In the lessons on Model Drawing, the student will learn how to apply practically, to his outline sketch, the principles which he has mastered in the lessons on 'Linear Perspective. The aim here has been to induce method and awaken observation, by giving a firm hold of what is essential, and thus make the path plain as far as it extends. Careful practice will do the rest, as this ought to be the student's best instructor.

The lessons are arranged in the following order:

LINEAR PERSPECTIVE.

LESSSONS 1 to 5; 7 and 8; 10 to 14; 16 and 17; 20 to 24; 27 to 30.

MODEL DRAWING.

LESSONS 6, 9, 15, 18, 19, 25, and 26.

Ayr Academy, September, 1877.

LINEAR PERSPECTIVE AND MODEL DRAWING.

LESSON I.—Linear Perspective.

PERSPECTIVE treats of the representation of objects as they appear to the eye.

Linear perspective is that branch of Mathematics which teaches how a drawing of an object may be executed with scientific accuracy so as to convey to the eye the same appearance as the object itself; and at the same time, it elucidates the principles which must direct the hand, in making a sketch from a group of models or from nature. It is the perspective of *lines*, and treats of the representation of the form and comparative size of objects, as these are observed from a given point.

Were you to trace carefully on an upright sheet of glass, an outline of the objects seen through it, your eye the while being kept quite stationary, a correct linear perspective drawing would thereby be obtained. Suppose you were looking seawards, with this large transparent plane of glass before you. You would have tracings of the boats and figures on the beach in the foreground, on the lower part of it; the tracings of the boats and ships out at sea would be a little higher up; the tracing of the horizon would be a straight line, right across the glass on a level with the eye; and above this would be outlines of the clouds. You would be able to trace on this transparent plane, in quite accurate drawing, as much of the scene as you could see easily without turning the head. This would be about 30 degrees all round the point right opposite the eye, called the centre of vision or point of sight. That is, you could easily take in everything within 30 degrees above the horizon, 30 degrees below it; 30 degrees to the right, and 30 degrees to the left of the centre of vision; 60 degrees—twice 30 degrees—being about the size of the angle which the eye can conveniently take in. A circle of that size described on the glass plane, from the centre of vision as centre, would mark about the limit beyond which you could not carry your tracing. Were you to trace any object much beyond this circle, the drawing in this part of your work would appear distorted.

That part of the tracing below the horizon line would be a perspective representation of the entire *sea-surface* and *ground-surface* lying beyond the transparent plane. This level surface is called the ground plane, and the line where the transparent plane and the ground plane meet is called the ground line, the picture line, or the base line.

Fig. I. represents a front view of this transparent or picture plane *PGNM.* The circle represents the field of vision. *HL* is the sight line or horizontal line, called here the horizon line. *C* is the centre of vision, and *GN* the ground line.

Fig. II. is a representation of the same transparent plane, so drawn as to show *S* the station point where the spectator's eye is supposed to be. The line *SC* represents the direct distance of the spectator from the transparent plane, and is called the central line of vision or line of direction. *HL* is the horizon line, *C* the centre of vision, *GN* the ground line, where the transparent plane rest son, or intersects, the ground plane *ABDE*; and *ST* is the height of the eye above the ground.

Questions.

1. What is the horizon line? 2. What is the ground line? 3. Give another name for the ground line. 4. What is the line of direction? 5. Give another name for the line of direction. 6. What is the centre of vision? 7. Give another name for the centre of vision. 8. What is the station point? 9. What is the name of the line which extends from the station point to the centre of vision? 10. What is the relation of the transparent plane to the ground plane? 11. What does the horizon line on the transparent plane represent? 12. What does the circle on the transparent plane represent? 13. What does the centre of this circle on the transparent plane represent? 14. What angular measurement can the eye conveniently take in? 15. What is meant by the height of the eye?

Fig. II.

Fig. I.

Field of Vision

Horizon Line

Ground Line