



### PERSPECTIVE USING PERSPECTIVE SCALES IN SCALES

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#### Abstract

The article mainly provides information about Perspective and the use of Perspective scales.

**Keyword:** Perspective, geometric, appearance, spatial form, central projection, prism, parallelepiped.

We use various methods to always keep in mind the things that surround us. The most effective of these methods is to make a perspective image of things on a plane. Because when making a perspective of an object, we analyze its geometric elements in every way.

The best tool for perceiving the spatial form of an object with visibility is a perspective image on the plane of a picture or drawing created by the central projection method.

The fact that the things around us look different from their original state to our eyes and the reasons for this situation lead to the formation of the science of perspective. For example, the circular parts of different jugs and buckets are mutually in the state of an ellipse or a straight line parallel railway tracks appear to meet at one point as they move away from us. The distant ones of the same heights appear smaller compared to the ones at the beginning. The science of "Perspective" thoroughly explains that such events are based on some law. The reasons for revealing the deep space in the realistic works created by the artists, the fact that things in mother nature appear slightly changed to our eyes, have been studied and based on the perspective of several works.

The science of perspective studies the methods of depicting the appearance of things in nature on a plane or a surface.

Perspective is a French word, la perspektive means looking far, and perspicitor in Greek means seeing straight and clearly through a window.

The science of perspective is the science that teaches how to describe the position of things in space and their shape as they appear on the plane.

The construction of a perspective image is based on the method of central projection, which we learn in the subject "Drawing geometry" (Fig. 1).

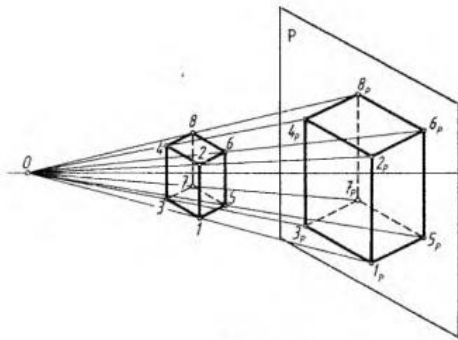


Figure 1

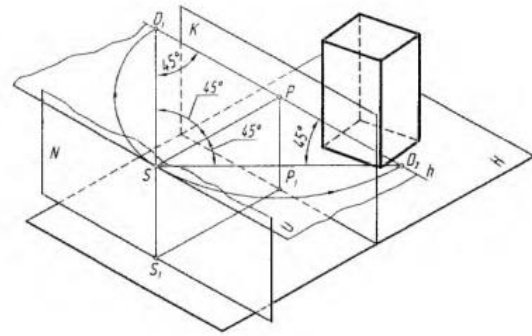


Figure 2

The essence of this method is that when projecting the view of an object in space, such as a matchbox, by simplifying it and replacing it with a parallelepiped (prism) through the center point O onto a plane P, we connect point O with prism ends 1, 2, 3, .... Then the lines 01, 02, 03, ... are the plane P intersected with  $\lambda$  at the points p, 2P, 3P, ... and formed the central projection of the prism on the plane P. (Figure 1).

Now, by replacing the point O with the eye, i.e., the point of view S, and the plane P with the picture plane K, the geometrical apparatus for making perspective images is created.

Practical use of perspective scales.

We draw scales in meters on the base and vertical side of the picture. Each meter is divided into centimeters (cm).

To determine the dimensions of sections AB and CE in perspective, we connect points A and V with P. Then, based on the picture, we will determine its real size. Since AB= 1.5 m. Cross section AB is directed to the right, intersect with OP and draw a vertical line from B to C at the level of C; we find PC, we determine its height 2.2 m through the line. The image AB is directed to the left, and we find the point A on OP. We continue by connecting the decimal point PD  $\cdot$  /2 with A, and determine that it is 1.4 m inside (Fig. 3). Point E is located 4 m inside. Figure 3 in perspective. we can determine the actual dimensions of all the objects depicted.

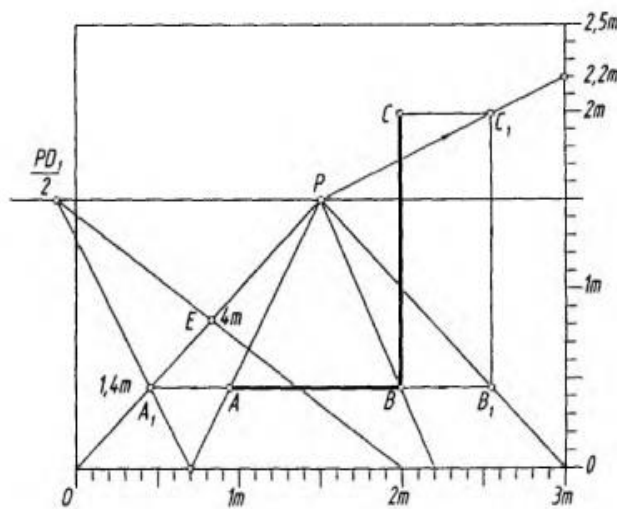


Figure 3



If one of the walls of the room is parallel to the picture (that is, to  $V$ ), it is more convenient to make its perspective using perspective scales. We call such a situation frontal perspective (or conditionally frontal interior).

For example, figure 4 shows the perspective of a room with a width of 5 m, a length of 8 m and a height of 3 m. This is why it requires the use of perspective scales.

1. We will draw the size of the picture depending on the width and height of the room, and we will set a scale of 5 m on the horizontal base and 3 m on the height. We draw the horizon line at a height of 2 m.
2. On the plane of the floor of the room, we will draw the perspective of square grids of  $1 \times 1$  m.
3. We determine the positions of the equipment, doors and windows in the room. There is a door on the left wall of the room, and a chest of drawers in the corner. We assume that there is a window on the wall on the right side of the room and a writing desk under it, and a picture hangs on the opposite wall, and we draw their perspective.
4. We make the perspective of the room and all the equipment in it using points  $P$ ,  $FD_1/2$  and  $PD_2/2$ . Picture 4.

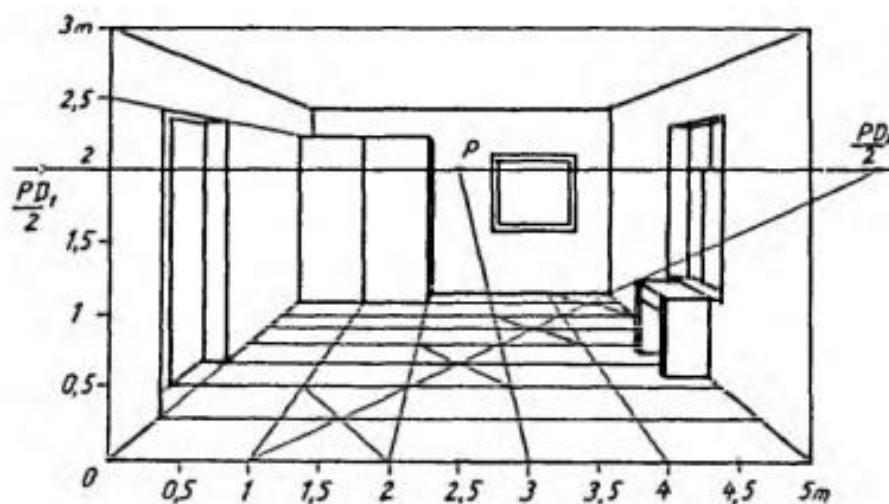


Figure 4

The width of the two-panel door is 2 m, each panel is 1 m. We can determine the sizes and locations of the rest of the room equipment using perspective scales.

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