

THE PLACE OF LINEAR PERSPECTIVE IN WORKS OF VISUAL ART AND PROBLEMS IN ITS TEACHING

Sulaymanova Sevarakhon Bakhodirjon kizi

Fergana state university, senior lecturer

<https://doi.org/10.5281/zenodo.10282594>

Abstract. *This article provides information on creating an image based on perspective rules and the content of perspective elements, their importance in image creation, and the basics of using image objects in perspective.*

Keywords: *perspective, image, nature, horizon line, vanishing point, picture, prism, pyramid, a cube, a table.*

Introduction. Learn perspective, and when you master it, bring it into the work, into the drawing. Never do not separate it from drawing, as they do many, i.e., draw from feeling, and then corrected by the rules of perspective, on the contrary, may your perspective always be companion of your work and guardian of allegiance.

Perspective is the science of constructing images of objects on any surface as they are perceived by the human eye.

In the visual arts, perspective is an image of objects obtained on any surface in accordance with the apparent changes in their size, clarity of their shape, and light and shade relationships that can be observed in nature.

Perspective is a special subject that is studied in higher and secondary art schools. [1]

Perspective is one of the artistic means that enhance the expressiveness of images. In drawing, perspective is used to depict an object on a canvas, a piece of paper that is two-dimensional, so that it looks three-dimensional, and not flat, like the surface on which it is painted. Perspective is used not only to make the painted object appear three-dimensional, but also to create the illusion of a distant object, as if it is closer or farther from the viewer, or to give the viewer a sense of space when looking at the picture.

Perspective is a naturally occurring event where objects closer to your eye seem larger and as they move farther away, they appear smaller. It is when an artist, using traditional or computer methods, ignores perspective rules that the artwork looks wrong. Understanding perspective is a matter of both theory and practice, and the theory of perspective becomes easier in direct relationship to the amount of practical experience you undertake. Perspective allows a designer to create the illusion of depth and dimension on a two-dimensional surface. [2]

The image of an object or person in perspective is based on a simple principle: the more you see on one side, the less on the other. And observance of the laws of perspective is the rejection of knowledge about things in favor of how we see them.

While drawing, the artist should understand that the drawing he creates is nothing but an optical illusion. Indeed, often the forms depicted in perspective seem completely unrealistic. Therefore, drawing a three-dimensional object requires knowledge not only of its external features, but also of the features of the pictorial plane, visual perception of a three-dimensional form in space, and the patterns of a perspective image.

Methods. There are some theoretical ideas in the perspective, which always complements itself at the expense of practice, and at the same time expands its practical application and brings new directions to the surface. Therefore, in the teaching process of visual arts and perspective sciences, theory and practice should be interconnected, the development of logical thinking in students, the imagination of applying knowledge to practical visual activity, the expansion of

thinking, the application of acquired knowledge in new conditions, and the implementation of modeling taking into account the components and parameters of reality and events. Helping to improve students' creative approach to each thought or painting process, especially the observation of perspective in the independent performance of fine arts tasks, is very important for formation and development. Therefore, it is important to choose the lesson or training of fine arts and perspective in a methodical way, which is important in the development of perspective in the student's independent performance of tasks from visual arts. This is a modern developmental lesson system known to teachers recently. Carrying out such a developing visual art lesson system in higher education schools, including the organization of pedagogy with attention to scientific and theoretical principles, that is:

A) organization of classes in visual arts and perspective subjects on a scientific-methodical basis, effective use of teaching-methodical and technical means of education;

B) implementation of problematic teaching methods;

D) choosing subjects that match the interests and capabilities of students while observing the perspective in the independent performance of visual art tasks, providing effective and purposeful use of nature;

E) on the basis of the efficient use of the principles of interdisciplinary communication with the principles of perspective science of fine arts, attention is paid to the teaching material and the lesson in an understandable and fluent way for students, and to the factors that ensure the development of observing the perspective in the independent performance of tasks.

Compliance with the laws of perspective is a necessary condition for a competent and realistic depiction of the forms of our surrounding world. Perspective is a whole science that studies changes in the shape and size of objects observed in nature, and it is also a way of 3D representation of objects on a plane. To have a clear idea of the shape of objects, you need to choose a place from where you can see them three-dimensionally, in three dimensions.

For example, seeing only one part of the cube - a square, we cannot judge its entire shape. After all, a square can be the side of a cube, and maybe the base of a pyramid or prism. The view of three faces already gives a more correct idea of the shape of the body. Perspective has many laws, but a beginner to draw from life needs to know the main provisions.

When a person looks in one direction, he sees only a part of the surrounding space. Rays of light are reflected from visible objects and, heading into the eyes, converge in the pupil. We see most clearly in the central part of the field of clear vision. Therefore, in order for the paper (or canvas) to be completely in the field of view, it must be removed from the eyes by at least twice its height. For example, if the paper format is A3, then it is recommended to draw on it at an average arm's length, if more, then you will have to move away from the easel more often in order to see the whole picture.

The nature must also be within sight, so you must stand or sit at least twice its height from it.

Perspective is an art technique for creating an illusion of three-dimensions (depth and space) on a two-dimensional (flat) surface. Perspective is what makes a painting seem to have form, distance, and look "real." The same rules of perspective apply to all subjects, whether it's a landscape, seascape, still life, interior scene, portrait, or figure painting.

Perspective in Western art is often called linear perspective and was developed in the early 15th century. The system uses straight lines to plot or figure out where things must go. (Think of it as light traveling in straight lines.) The Renaissance artist Leon Battista Alberti and architect Filippo Brunelleschi are credited with the "invention" of linear perspective. Alberti set out his

theory in his book "On Painting," published in 1435. We're still using Alberti's one-vanishing-point system today. [3]

Results and discussion

The key elements of the perspective include the following:

- *The horizon* is a distant line on which you seem to converge with the earth.
- *The vanishing point* is the section of the horizon where the railroad tracks disappear from view.
- *Eye level* is the height of your eyes regardless of your distance from the ground.
- *The object plane* is located horizontally and is meant to be unlimited. On it are the picture, the viewer and the depicted objects.
- *The picture plane* is the projection plane or picture. It is placed perpendicular to the object plane, that is, vertically. [4]

The construction of a perspective image on a flat transparent picture in the form in which the artists of the Renaissance imagined it is the basis of the modern theory of perspective. Despite the relative the considerable complexity of the method, it most fully reflects the spatial scheme of the drawing process. In this case, a single and fixed point of view (the human eye) associated with a horizontal plane is set, and a transparent picture through which various space objects located behind it are viewed.

Visually, this process can be represented as follows. Let's stand in front of the window and, without changing the position of our body and head, circle on the glass everything that we see behind it within the window sash, limited by its frame. The resulting drawing on the glass will be a perspective image of objects visible outside the window. According to this principle, scientists have developed a model of the projecting apparatus, with the help of which it is convenient to study the laws and methods for constructing perspective images of objects specified in the subject space and obtained in the picture by the central projection method.

The main change in perspective objects is that the farther away they are, the smaller they appear. When drawing, you usually have to determine the level of the horizon both in nature and in the picture. If the horizon is clearly visible in the open, then indoors it will have to be presented at the level of your eyes.

Here are some rules of linear perspective:

1. Parallel lines of nature, if they go at an angle to the picture, for example, rails that go into the distance, seem to us to converge at one point. That is how they should be drawn.
2. If the lines are parallel to the horizon plane or to an object, that is, they are horizontal, then the vanishing points of these lines will also be on the horizon line. If the lines are slanted, then the vanishing points are either above or below the horizon.
3. Straight lines perpendicular to the painting in the drawing will converge at the central vanishing point.

A matchbox next to you will appear larger and more distorted than, for example, a house or any other large object located at a distance from you. And yet, if you see only one of the sides of the drawn object, then one vanishing point of the lines on the horizon will be enough. And if you see the angle of the object (as in the figure at the bottom left), then to build the sides in perspective, you will need 2 vanishing points already. You may even need 3 points if you are looking at an object from above or below, that is, 2 vanishing points for horizontal lines and one point for verticals. But this happens less frequently.

By the way, the diagonals of a square or rectangle intersect in the middle (center) of these shapes. Remember geometry. This rule is observed even when the square has a flattened shape in perspective. Knowing this can be very useful when drawing surfaces with the same parts, for

example, a tiled floor that looks like a checkerboard. When drawing round shapes, it will be useful for you to know the following: the circle inscribed in a square touch the middle of each of its sides (in the figure above, on the right). The oblate circle takes the form of an oval, but will still touch the centers of the sides of the oblate square. No matter how the square changes its shape, the circle will still be an oval.

Prisms and multifaceted pyramids are built in the same way, because their base fits into a circle. Parallel edges and construction lines have a common vanishing point. The figure below shows examples of constructing a hexagon with two vanishing points (left) and three (right). Most beginners, especially children (but they are forgiven) draw, for example, a cube, a table and a chair, as in the picture on the left. That is, either the proportions of individual parts are exaggerated in relation to each other, or a reverse perspective is traced, that is, the distant parts of objects, on the contrary, expand, which is wrong.

You exaggerate the visible volume of the upper surfaces, because knowing that they are square or rectangular, and therefore strive to emphasize this in your drawing. Try to make it a habit at the initial stage to determine the exact visible volume of any distant plane with a pencil or, for example, a ruler located at eye level and at the same time measure the proportions of nature with your thumb and apply these measurements immediately to your drawing. So, you get accurate data on the various proportions of the depicted object.

Conclusion

This knowledge will be very good to apply when you start drawing body parts or a human figure, which is especially difficult. For example, you want to draw a hand or a head in perspective, but as usual you tend to draw them as they really are, and not as you see them at the time of drawing. By defining some proportions and at the same time comparing them with other parts of the body, you will be sure that the drawing will turn out as it should!

And last but not least: all receding straight lines have the same zero point (the vanishing point of the lines on the horizon). Even at school we had a task to build a street in perspective. So, when building, all objects depicted on the street obey this rule: houses, doors and windows in houses, roofs, pipes and sidewalks with cars.

These are the basic laws of constructing a linear perspective, which every beginner in drawing should firmly master. In the next lesson, we will look at chiaroscuro and tone, but for now, practice in your album to build objects of various shapes: rounded and square.

And, improving the methodology of observing the perspective is as follows:

- teaching the aesthetic perception of works to form the artistic thinking of students;
- instilling in students the skills to understand, perceive and evaluate the social essence and importance of observing the perspective in the execution of works of art, and to express an aesthetic attitude to them;
- formation of knowledge and skills related to the understanding of situations of observing perspective in the environment, existence and works of art;
- by introducing students to examples of fine and applied art, artistic crafts, architecture and design art, to educate them in their theoretical knowledge and practical skills in order to comply with the rules of perspective;
- to introduce students to the types of visual arts (painting, pencil drawing, graphics), genres (portrait, still life, landscape, etc.), the laws of perspective and the combined use of visual arts (composition, composition, rhythm, texture, light and shadow, etc.), expressive means (paint, line, texture, etc.) by introducing them to observe the rules of perspective and develop the skills of representation and creativity;

- formation of aesthetic taste, aesthetic consciousness, artistic thinking and pictorial literacy by following the rules of perspective, important components of a well-rounded personality education, through the formation of knowledge and skills about the theoretical and practical foundations of perspective.

The following indicators of improvement of the method of observing the perspective of the students in the creation of works of visual art were determined: artistic thinking, aesthetic taste, flexibility, stability, pictorial literacy, understanding, perception and evaluation of social essence and importance, aesthetic attitude to them and orientation to the goal.

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