

A Brief History of the Science of Perspective

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The fact that things around us look different from the original, and the study of the causes of this condition has led to the formation of the science of perspective. For example, the circular parts of different jugs and buckets generally appear to be elliptical or straight, while the parallel rails appear to meet at a point farther away from us. the farther away the homogeneous wires appear, the smaller the size of the heads. The science of Perspective fully illuminates the fact that such phenomena are based on a law. based on perspective.

Perspective is the study of how things in nature are depicted on a plane or on a surface. Perspective is a French word, and la perspective, in Greek, perspicitor, means to see through a mirror.

If the central projection is adapted to the requirements of human vision, the resulting image will be clear and reliable. These requirements are related to the relative position of the projected objects and the distances between them. This means that a central projection image is a perspective image that takes into account a person's vision.

Perspective is the grammar of fine art, because any work of realistic painting created is or must be based on the theory of perspective. Only then will the work be properly constructed or kept alive. If a work of art is created without following these rules, scientific observers say, "there is no perspective in this picture," and ordinary observers say, "Things in this picture are not the same." They say: The science of perspective serves as a scientific basis for creating a realistic picture and helps to describe things as we see them.

Perspective has not been followed in the miniature works of the East. They depict near objects at the bottom and distant objects at the top of the paper, but of the same size.

Bacon, Vitelo, and Pecam, 13th-century European scientists, were directly involved in optics. Roger Bacon (1214-1292) developed the theory of spectacles. The Polish architect Vitelo (1225-1280) called his ten books on optics "Perspective".

Some encyclopedic scholars, who lived a few years before our era, have contributed to the formation of perspective with their ideas. Examples include Ecclesiastes (525-456 BC), Anaxagoras (500 BC), Democritus (460-370 BC), EliodorLarnesky (400 BC), and others.

EliodorLarnesky provided preliminary data on the prospects of observation. Euclid, on the other hand,

He developed a theory of reflections from reflection mirrors and wrote a book called Optics.

Books by the Italian scientist, painter, and sculptor Leon Battista Alberti (1404-1472), such as *On Painting* and *On Architecture*, are highly regarded as the first weighty literature on perspective.

Another Italian artist, Perodella Francesco (1416-1496), also wrote a book, *Perspectives on Painting*.

Leonardo da Vinci (1452-1519), a brilliant representative of the Renaissance, developed it with his own unique new ideas, absorbing all the information formed about the perspective. Leonardo da Vinci demonstrated the first laws of linear and aerial perspectives and found that the distance

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of the edges of an object relative to the observer caused them to appear blurred. This great figure wrote in one of his works, "Perspective is the role of fine arts."

Another Italian scholar, Guido Ubaldini (1545-1607), wrote *Six Books from Perspective* in 1600. In his works, Guido Ubaldi showed the rules of drawing on the surfaces of cylinders, cones and spheres. He also solved problems such as constructing the perspective of flat shapes and determining the true size of the shapes according to this perspective image.

Another Italian architect and painter, decorator Andrea delPatsso (1642-1709), continued Ubaldi's work and enriched it with various district ideas. He painted a picture on the ceiling with a cylindrical surface, and it is advisable for the observer to observe it from a specially marked point. From this point of view, the landscape inside is very attractive. When observed from other points, the power of pleasure derived from the work decreases. So, Andrea Patsso was engaged in creating perspective images on different surfaces and showed how to choose the location of the observation point according to the purpose. His work, *The Perspective of Fine Artists and Architecture*, was published in Rome in 1693, summarizing all types of perspective. The play offers guidelines for building perspectives on objects that are complex in structure, even with less use of lines.

Paolo Uchchelo di Dino (1397-1475), with such an activity,

Petro Perujino (1446-1523), Albrecht Dürer (1471-1528), Vinola (1507-1578) and Jan Friedman Frieze (15th-16th centuries) practiced and left their own ideas in their works.

The great German scientist, mathematician, sculptor, and painter Albrecht Dürer (1471-1528) used the orthogonal projection of an object to create perspective images in a plane in his 1523 pamphlet, *Instructions for Studying with Compasses and Rules*. developed the method. Dürer developed the radial method and was the first to prove that the point of view in the perspective apparatus does not move.

Among the great figures of the Renaissance, Bramante (1444-1514), Michelangelo Buanarroti (1475-1561), and Raphael Santi (1483-1520) explored and developed linear, panoramic, and domed perspectives.

The French mathematician and architect Girard Desargue (1593-1662) published *The General Method of Describing Objects in Perspective*, published in 1636, which provided information on how to perform a perspective image using the coordinate method. His most famous book, *A Draft of Approaches to the Events of a Cone's encounter with a plane*, published in 1638, is very popular. The new rules discovered by Dezarg also show that he was the founder of projective geometry.

The Dutch mathematician Gravezandt was the man who fully elucidated the theory of shadow formation in linear perspective and created the mechanical instrument perspective, which is used to create perspective images.

The French mathematician and engineer Gaspar Monge (1746-1818) founded the science of descriptive geometry and was able to bring it to the level of a scientific science. Monge's unique work, *Geometric Descriptive*, was created in 1799 and has not lost its value to this day. This book is the first to systematize the methods of depicting figures in space in the plane. There are also the first attempts at orthogonal projection and shadow execution in perspective.

Drawing geometry developed rapidly, and new sections of perspective were formed: aerial photography, cinematography, stereoper, and others.

The English physicist Charles Whitson invented a device called a stereoscope in 1838.

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Russian artists of the 17th and 18th centuries mastered the theory of perspective and used it effectively. The first Russian professor of the Academy of Artists, A.P. Losenko (1737-1773) required his students to know human anatomy and perspective.

The famous Russian artist AG Venetsianov (1780-1847) argued that without scientific knowledge and the laws of perspective, an artist could not create a valuable work.

In 1834, the textbook "Drawing Course" by AP Sapojnikov, a military engineer and a well-known amateur artist, was published. Much of this book is devoted to the rules of perspective.

Russian pedagogue-painter NNGe (1831-1894) said that perspective is inseparable from painting, that every artist should know it, that he should not do the opposite, such as first drawing a picture and then correcting it with the rule of perspective, and perspective is a guiding star in the work of artists. wrote that it would be.

In the 19th century, descriptive geometry was introduced as an independent subject in Russian technical universities, and perspective began to be taught as a special subject in art schools.

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