

The Phenomenon of Perspective via Art

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The major objective of this article is to demonstrate artistically a basic characteristic of our brain with respect to observation of depth, namely perspective visualization. An example of this characteristic is the following one. If two identical lines are located at some distance one from the other, then the far one will be reflected in the brain as shorter. Moreover, parallel lines never meet in reality, but in the brain or in a picture plane they converge on a *vanishing point* *v* demonstrated in Images 1 and 2. Artists adapt the vanishing point as a technique to create more realistic the effect of 3-D.

There are many definitions of perspective among which are [1]: 1) the ability to perceive things in their actual interrelations on a two-dimensional surface. 2) The technique of representing three-dimensional objects and depth relationships on a two-dimensional surface. Beginning of perspective was at about 25,000BC. In some cave paintings of the Old Stone Age, figures of animals one is in front of the other in different size create the impression of depth. Filippo Brunelleschi, Florentine architect in the 15th century was the first to apply perspective in paintings. In early 16th century famous artists were Da Vinci and Raphael who used linear perspective and aerial perspective to create illusion of solid figures in deep space. Western artists continued to use realistic perspective until well into the 20th century which remained an essential tool for expressing effects of 3-D in 2-D.

There are three types of perspective: one-point, two-point and three-point perspectives. The first one is so named because the 2-D drawing is characterized by a single vanishing point that is demonstrated in Images 1 to 6 marked by *v* in Images 1 and 6. Image 1, "Where Euclid Walked" [2], was painted by Rene Magritte (1898-1967), Belgium Surrealist. A close look reveals that the tower of the building has the same Euclidean shape as the boulevard that stretches to the horizon.

Moreover, the edge of the way represents exactly in an artistic way the *vanishing point* *v*. Image 2, "The Avenue at Middelharnis"[3] was painted by Meindert Hobbema (1638-1709), Dutch, Baroque style. The painting shows the village of Middelharnis in the province of South Holland where the two sides of the path almost meet at the vanishing point *v*. Roger N. Shepard (1929), an American cognitive scientist, painted Image 3 [4] where the major question is which monster is bigger where the one that hides the vanishing point looks the bigger. However, both are exactly of the same size that is revealed by eliminating the surrounding around the two monsters. Image 4 [5], "The school of Athens", that represents a one-point perspective, was painted by Raphael (1483-1520), Italian, and High Renaissance. Image 5 is a modification of the artwork "Not to be reproduced" [6] by Rene Magritte (1898-1967), Belgium Surrealist.

Here the number of images was extended from two to nine in order to demonstrate the one-point perspective as best as possible. The artwork depicts men standing in front of a mirror, but they see only the back of their head that in reality is impossible. However, this demonstrates exactly the surrealism that characterizes Magritte's artwork. Image 6 by an unknown artist is a unique surrealistic artwork that completes the set of one-point perspective.

Images 7 [7] and 8 demonstrate perspective in the absence of the vanishing point where perspective is caused by objects to be observed far or close, big or small than in reality. In Image 7 the Eiffel Tower is smaller than in reality where in Image 8, performed by the author, Sisyphus pushes Pisa Tower where he seems to be of half height of the tower.

The view in Image 9 is interesting. The decreasing width of the blue region creates a sensation of a hole with a vanishing point far downwards. However the standing man confirms that the blue area is flat and is a straight continuance of the white region. Images 10 [8] and 11[9] are artworks by the Bulgarian artist Dimitar Dimitrov (b.1928) demonstrating 2 and 3-points perspectives respectively. Image 12 [10] entitled "Tower of Babel" was painted by the Dutch graphic artist Escher MC (1898-1972)(Figure 1).

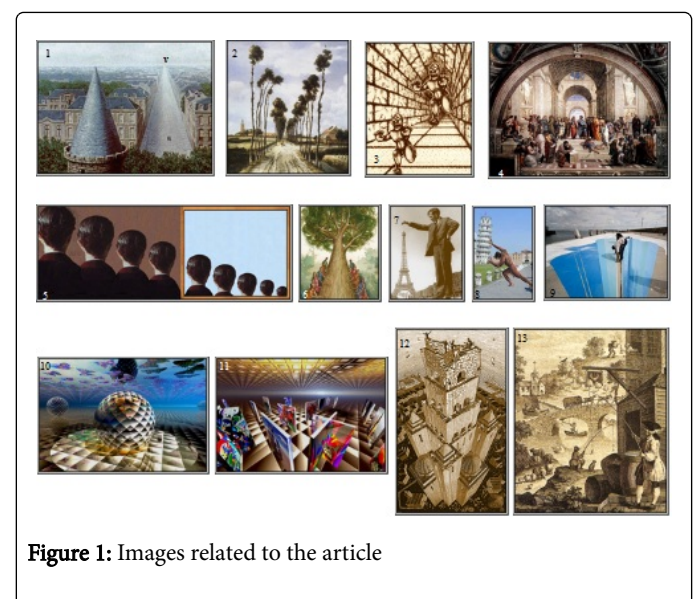


Figure 1: Images related to the article

It is extremely interesting since it may demonstrate a six-point perspective formed by the six constructions – the central one and the five peripheral ones. And finally Image 13 [11] entitled "Satire on False Perspective" painted by William Hogarth (1697-1764) a major English

painter. By deep observation at the artwork, 16 “errors” as detailed in ref. [12] and made on purpose by the artist, are revealed part of which related to perspective. The most immediately prominent once are: 1) the fishing rod’s line of the man on the R-H-S passes behind that of the sitting man. 2) The sign is moored to two buildings, one in front of the other, with beams that show no difference in depth. 3). The man climbing the hill is lighting his pipe with the candle of the woman leaning out of the upper window. In conclusion, the author believes that the artistic demonstrations make the subject clearer and more perceptible and in particular the multi-point perspective that we are not used to identify it.

References

1. <http://www.thefreedictionary.com/perspective>
2. “Magritte 1898-1967”, Ludion Press, Ghent (1998)
3. www.mezzo-mondo.com/hobbema/HOM003.htm
4. www.cs.dartmouth.edu/farid/illusions/monster.html
5. www.penwith.co.uk/artofeuropa/raphael.htm
6. www.indiana.edu/~germconf/archive/2005/
7. <http://www.majorlycool.com/item/optical-illusion-taller-than-the-eiffel-tower/catid/6>
8. www.3d-digital-graphic-art.com/
9. 3d-digital-graphic-art.com
10. <http://www.museumsyndicate.com/item.php?item=21081>
11. Jensen M (1754) Hogarth satire on false perspective. Anne Percoco.
12. William Hogarth (1754) Satire on False Perspective. Wikipedia.