Optical Versus Cognitive Perspective: Study of Indian Folk Paintings

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Abstract
Is painting space fundamentally perspectival? In the European Renaissance (14th to the 17th century), the painting space was thought of as having an interior of perspective where one could place an object. It took many years after the Renaissance for European art to come out of this optical or geometrical perspective and realise that the space of painting is fundamentally non-perspectival. Historically in Europe, impressionists (1860) painters are the ones who tried to break away from this optical or single-point perspective and create paintings according to *'lived perspective'*. Optical perspective is one of the visual dogmas which are believed till today; thus, it is tough to appreciate non-perspectival paintings. This paper aims to give technical reasons why painting space is fundamentally not perspectival; the first section of the paper will deal with the question 'what kind of space is painting space?', and in the second section, we will compare method of photograph and drawing to find the differences between mechanism of camera and human perception . In the last section of the paper we will use Indian folk paintings, to demonstrate how cognitive or alternative/multiple perspectives open new possibilities in painting space.

Keywords: Perspective, Optical, Cognitive, Space, Imagination, folk, Shape and Stroke.

INTRODUCTION

"The word perspective originally comes from the Latin word 'per' meaning 'through' and 'spect' (spic) which means 'to look' or 'to see'. When both the latin words are combined, they mean 'to look through' or 'to look at'" (Merriam-Webster's Collegiate Dictionary, 1999). When it comes to painting, perspective is a technique by which the artist creates the three-dimensional effect of the two-dimensional canvas, and it enhances the depth in the artwork. An artist uses this technique in the painting to create viewpoint, and it also helps to communicate the subject effectively.

"In European art, attempts to develop a system of perspective began around the fifth century B.C. in ancient Greece, as part of an interest in illusionism allied to theatrical scenery"(Erwin Panofsky,1991)However, optical perspective has come into paintings effectively from Renaissance (14th century to 17th century) onwards. It is because of the camera obscura technique: "camera obscura is a natural optical phenomenon that occurs when an image of a scene at the other side

of the screen (or, for instance, a wall) is projected through a small hole in that screen as a reversed and inverted image (left to right and upside down) on a surface opposite to the opening" (camera obscura, 2021).

In paintings, whenever we see shade or shadow, focus, angle and overlaps etc., we should remind ourselves that these are purely photographic techniques. Every photograph is a play of light and shade; if there is no light and shade, there is no photograph. Whereas, in the Indian folk painting technique, the artist never uses shade or shadow while representing the subjects. The unique way of representation reveals the true potential of the painting space. We need imagination to paint and understand the painting. Qualities of painting space and imagination have a close relation: when we imagine a thing or a person, we imagine them in a certain way (perspective) or certain aspects. We never imagine objects with angle, shade or shadow in our imagination. "The internal light is entirely different from external sunlight or some other artificial source of light" (Kandinsky 1961).

The idea of presenting or understanding 'reality' or 'true perception' through painting is subject to study for many theorists and philosophers; one among them is Merleau-Ponty. In the essay Cezanne's Doubt (1945), Merleau-Ponty highlights and celebrates Cezanne's paintings' genius. According to Merleau-Ponty, "Cézanne's paintings not only depict his personal 'way of seeing', they also describe the nature of perception in concrete form (painting)" (Smith B, 1993). Cézanne was also the one who introduced the *'lived perspective'* in his paintings, where he presented the world as he knew or as he experienced it, not as his eyes saw it. Cézanne demonstrated an alternative way of representation in visual art, but at the same time, his paintings revealed the potential of the space of painting.

METHODOLOGY

The papers main contribution is in developing a formal theory of Indian folk painting. Our formal theory not only looks into the syntactics (structure) of the painting; it also considers the semantics (meaning) that are also part of the 'form' of the painting.

In the above endeavour we have adopted a formal method, which we think will take us closer to the painting's artistic aspects which will also help us understand and appreciate Indian folk artistic excellence. The study of Indian folk painting in terms of their pure formal aspects, is a heavily under-researched subject area.

The formal method we are suggesting in this paper looks at the essential composition elements that constitute a work of art, regardless of medium, providing a practical and theoretical framework for artistic composition and expression. The essential compositional elements include line, shape, colour, and texture. The method believes that almost all the 'information' necessary to understand a painting (or any artwork) is present within the painting itself. The word in-formation means formations inside, and according to us, the study of these formations within a painting refers to its formal analysis and aids in revealing the painting to the external world.

1. SPACE OF THE PAINTING

Let us understand what kind of space is the space of a painting. "For any art to come into being, it needs a material enclosure, on which imaginations, meanings, thoughts and expressions can harbour and ride autonomously, which are independent of the creator and the spectator. The variety in art forms is nothing but the variety in enclosures" (Goodmen 1976). Let us look into painting's enclosure: painting's enclosure is the 2D surface (canvas) from which all kinds of time, space and meaning can be disclosed.

Painting as a material enclosure may have a boundary (frame), but painting's semantic space does not have a clear border, the boundaries of painting is very elusive, and goes beyond the frame.

Painting is a result of an enclosure which has been accentuated by the marks (strokes) of paint by pigments on a 2D surface, and this has led to the creation of an imaginary space, where the horizon is deep inside of the painting. Painting is a heavy content, which is causally created by the surface and pigments, which are 2D. Space of painting is an involution of space, this space is between the viewer and receding horizon (deep in the painting). This space is carved, twisted and moulded through the strokes, and an artist creates semantic depth through these strokes.

Geometrical or optical perspective is a painter's technique, and it is just one among many ways of depicting subjects in the painting. In this paper, we argue that the potential of the painting space is reduced drastically because of the geometrical perspective. We have paintings (Indian, Chinese scroll paintings) with multiple, deformed, and diverging depictions. Space in general has this affordance, and one can afford to be multiple perspectival in the space of painting. Whereas, optical perspective stops that facility of space to experiment. Similarly, "our imagination and cognitions are non-perspectival; things are true to size in our imagination and cognition" (Richardson 1995). Similar explanation is given by David Marr (1982) about the nature of memory. He states "there is no particular viewpoint that we can store in our memory" (Marr 1982). Before the Renaissance, paintings were free from geometrical or optical perspectives, but those paintings were not seen as accurate or as a rational depiction of reality.

Similarly, the Indian folk paintings defy perspective and use alternative perspective and seem less realistic and awkward. One of the other reasons for this sense of awkwardness is our extensive exposure to films and photography. Our eyes are trained to expect perspective-based images typical to photography and film.

2. PHOTOGRAPH AND DRAWING

The knowledge we have of an object is a complex sum of perceptions (Rivière 1912). While we are perceiving, our eyes twist and turn reality and remove perspective and recognise only semantics that is not an integral part of painting space" (Ramachandran and Hirstwin 1999). When we carefully reflect on the act of drawing/painting, we will understand that in "the processes of creation we add, remove and fill the gaps formed by our perception" (Wagemans et al., 2012). We will explain this phenomena with the help of David Hockney's experiments with photographs.

In the experiment, Hockney tries to 'draw a human figure with the camera' (Composite Polaroid figure). When he moves the camera from one part to another on a body, he spends a few seconds to capture each part of the body. Similarly, while drawing the figure, our eye moves from one part

to another. While drawing the artist see each time one part, he cannot draw them all together at once. Till this point, drawing with a pencil and drawing with a camera is the same as an act. The difference is in the arrangement when we start arranging different parts to see the whole figure in photographs, they look distorted (see fig. 1) however, the drawing seems intact (see fig. 2). This is because of the imagination. "While drawing, the artist is not only drawing what is visible to her, she is making things visible that are invisible; we fill those gaps which are created by our eye with our imagination" (Merleau-Ponty 1993).
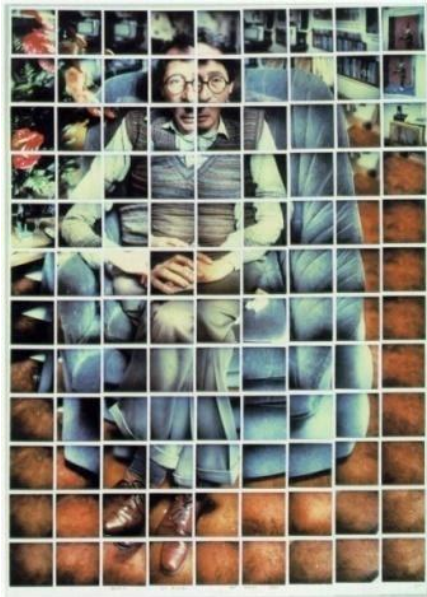

Figure 1: Composite Polaroid by David Hockney   **Figure 2: Pencil Drawing**

"Seeing cannot be reduced to an objective account of the visible, since it involves imaginary experiences of an invisible" (Merleau-Ponty 1968). We make lots of judgments in our imagination, where we arrange and rearrange parts of seen and unseen to create an appropriate whole. However, when we arrange photographs of parts to create a whole, they look distorted; this happens because of optical perspective. Each photograph of the part will have its own perspective (fig. 1), in other words, there are many single point perspective in one photograph. Whereas in drawing/painting the artist handles these multiple perspectives (optical and cognitive) seamlessly. Similarly, human perception constantly searches for stability and completeness. Gestalt psychologist explains that human perception is always of wholes or configurations. Gestalt psychologists use the term 'closure' to explain the tendency in all human perceptions to seek completeness of structure and meaning. "So long as the perception of wholeness is denied to a viewer, the viewer experiences tension, discomfort and suspense. Forms which are in some way incomplete are therefore regarded as unstable by Gestalt psychology" (Feldman 1967).

One cannot escape perspectives in photographs, it comes by default because of optics. Many great photographers try to get rid of this default perspective in their photographs. They use varieties of techniques to create humanistic and meaningful image. The camera only captures light and shade/shadow; the point of view (single) is fixed. Whereas painting space is non-perspectival, artists involute this space through line/strokes of paint or other pigments to express their imagination. In the Renaissance (14th to the 17th century), perspective was used as a tool to

communicate some specific ideas. However, the contemporary artists use the optical/geometrical perspective without reflection or purpose in their painting. Because of this, artists are somewhere limiting or are not able to explore the potential of the painting space in its fullest.

3. COGNITIVE PERSPECTIVE

The perspective which we see in the Indian folk painting is cognitive perspective. Indian folk paintings does not represent things as our eyes see (optical); instead, they represent things as we know them. We are using the term 'Cognitive perspective' to explain this particular representation technique.

Let us compare cognitive and optical perspective. In optical perspective, the forms placed to a distance seem to diminish in size and lose their clarity. They appear to blur their sharpness, and its clarity reduces. Further, forms also lose their intensity of colour. Colour values become lighter with extra distance. Even the textural quality becomes less prominent, and details appear indistinct. On the other hand, forms that appear close by are seen with distinctness. They appear sharp, the lines are defined with intense colours with precise details and textures. Such a change in the experience of forms at different distances are easily understood, as it can be witnessed in reality.

Contrary to it, the forms in cognitive perspective can be represented through different viewpoints in the same painting, and often combine reverse perspective in certain forms. For example, many Chinese artists have used reverse or wide perspective in their scroll paintings where the forms converge as they approach the spectator.

4. A CASE STUDY OF INDIAN FOLK PAINTING

As mentioned in the above section, "a cognitive perspective is a graded system of representing people or things in a painting to give relative importance, and this is very different from the optical perspective and contradictory to how we see the space in reality" (Hockney 2009). Over the centuries, artists have tried various methods to emphasise the protagonist figure in their paintings, highlighting a particular area of visual significance in the artwork. One of the simplest methods would be placing the chief figure in the centre of the composition, making the viewer recognise the subject or the event matter easily. For example, in the Phad scroll painting of Rajasthan, India (fig. 3), King Pabuji is always represented in the centre of the composition. In the Phad, the figures' scale is hierarchical, the important figures are drawn more prominently than the others.

Figure. 3 Pabuji ki Phad by Shrilal Joshi, Gouache on cotton cloth,   584 cm x 149 cm, Sarmaya Collections

Sometimes immediate recognition is avoided for specific effects, the central figure is placed off-centre or to one side, (fig. 4) and subordinate figures are carefully placed to lead the eye to the focal point gradually. There the point of climax is confronted slowly rather than instantly and directly.
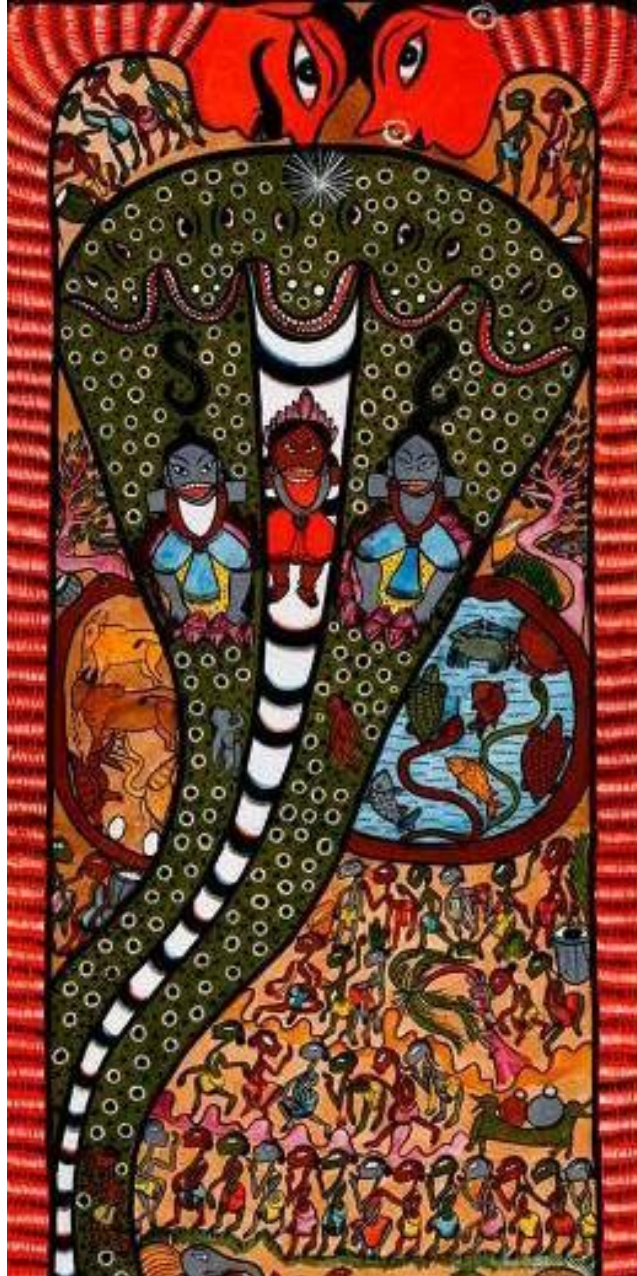
Figure 4. Tribal Life, by Swarna Chitrakar, theme of Santal inspiration.

2004-2005, Naya, Photo by Ana Varandas

4.1 Size

Figure 5. Details from Chariyala Scroll Painting from Telangana

In the above Cheriyal Scroll Painting from Telangana (fig. 26), the artist has used variations in the scale to communicate hierarchy among the characters. Here the dominance or subordination are created through size manipulation in forms. Many small figures are depicted in front of the large figure, to enhance the significance of the latter. Without knowing the story of Madivelaiah, one can understand the event only through its arrangement and scale. The artist has excellently used the combinations: many versus one and small versus large, to communicate the sense of valour. Here the important thing is that the figures' size does not conform to our cognizance of them in reality. Rather the variation in the sizes of the icons/figures in this particular painting should be understood as different timelines of the same story

4.2 Colour

Figure. 6 Madubani Painting, from Northern Bihar, India.

A similar effect can be obtained with skilful manipulation of colour scheme, where the principal figure is painted with striking colour, drawing immediate attention. Besides, by the subordination of minor elements, dominance can be placed on necessary forms. Further, manipulation and careful calculation can usher the order of importance among all the figures in the composition. The degree of emphasis on each figure can vary according to the requirements of the painting. Such devices help the eye identify dominance or subordination and trace the extent of importance in figures.

In Indian folk paintings, we can see (Fig. 7) that a limited palette of colours (Red, Green, White, Yellow, Black and Blue) are used to tell a story. Colours also play a symbolic role, but they are culture-specific, each school gives importance to different colours. For example, in Phad paintings, the blue colour is used for demons, whereas in Cheriyal scroll paintings, blue is used for god.

Figure 7. Daksha Yagya and Madel Purana form Chariya Scroll c. 1800-1810

Colours in Indian folk paintings can be seen in a formal sense - for example, in Cheriyal paintings of Telangana, one can see the colour's intended use as a background throughout the scroll. It is to bind consecutive frames into one story - here the red colour plays the role of the 'flow' which is a necessary element of any story.

CONCLUSION

In this paper, we have argued that the painting space is fundamentally non-perspectival. Optical or geometrical perspective is a technique of a painter, and it is one among many ways of depicting subjects in the painting. Geometric and photographic perspective limits the possibilities of painting experimentations. As Merleau Ponty rightly states, "perspective succeeds in 'coagulating' a series of 'monocular views' within a single, fixed, and static viewpoint that renders the 'living perceptual field' lifeless" (Smith B., 1993). We should remind ourselves that the optical perspective is nothing but the means employed by the artist to convey the idea of three-dimensional space to the viewer. The paper tried to establish that the 'scientific perspective' has no particular advantage from the aesthetic point of view. In the third section, (Cognitive Perspective) with the help of various Indian folk paintings, this paper has demonstrated how cognitive perspective opens new possibilities in the space of the painting. One needs to be aware of the true nature of a painting space to create and appreciate the artwork's richness of imagination.

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