CHAPTER 3

Interaction of Perception and Imagination in Pictorial Space Experience

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1 Introduction

Amongst the multiple properties of visual artworks and in particular of paintings, one of the most prominent is the conflict between the bidimensional surface of support (e.g. canvas or paper) and the space depicted on it. As Frank Stella puts it:

after all, the aim of art is to create space—space that is not compromised by decoration or illustration, space in which the subjects of painting can live. This is what painting has always been about. (Stella 1986, 5)

From the artist’s point of view the question of how to compose a pictorial space is essential and constitutes the first step when approaching a blank canvas. The way elements are arranged in a painting determines the viewer’s reaction and directs his or hers attention to certain parts of the artwork.

The space in paintings has been an issue of debate across centuries and across different artistic currents. One of the most established way to represent a three-dimensional world on a flat surface was the linear perspective mastered during the Italian Renaissance. Based primarily on a mathematical model of perception, it allows to reproduce a veridical view of a scene conveying a suggestive sense of depth. However, it has been argued whether the linear perspective reflects the way world is viewed or just illustrates an abstract model of the surrounding world. This debate is particularly evident when contrasting Nelson Goodman’s and Ernst Gombrich’s views (Carrier 1980, 283–287). Goodman argued that the linear perspective does not take into account the binocular character of natural vision supported by constant saccadic eye movements therefore, the geometrical representation of space based on the correct viewing position with only one eye is a convention that artists use to express an idea of space. On the other hand, Gombrich rejected this form of
criticism stating that the geometric model of linear perspective reflects the functioning of the visual system.

This dispute is of particular interest as it concerns the dualism between the properties of visual system that shape perception and the internal representations of perceived objects. The Goodman—Gombrich discussion can be reinterpreted when taking into account the embodied nature of perception and—most importantly—of imagination. The interaction of these two processes is present both in everyday life where it allows to ascribe meaning to viewed stimuli as well as in an aesthetic situation. A single artwork can be perceived as a physical object evoking physiological response coherent with its properties as well as an intentional object provoking physiological reaction to imaginary states suggested by the physical properties.

The space in painting, depicted with the use of linear perspective, is a good example of this dualism. Will the eye and body act ‘as if’ the pictorial space was real or does it respond to the physical properties of the object e.g. the surface of support, the distance from the observer or the size? In this chapter the problem is discussed, proposing that an experience of imaginative, pictorial spaces provokes physiological reactions similar to the perception of real distances. In other words, perception and imagination would be subserved by a common physiological mechanism.

This question is analysed in view of the psychophysiological research on perception and imagination of space with special regard to the studies investigating the pictorial spaces. Moreover, a theoretical approach is presented that frames the results of these studies in a wider context of embodied aesthetic experience.

2 Perception and Imagination of Space

The embodied approach based on psychophysiological research offers an interesting contribution to this debate as it deals with both how the images are perceived by the subjects and what changes in the physiological structures are observed during perception.

Therefore, in general, this type of research paradigm allows the evaluation of the correlated physiological and cognitive processes such as perception and imagination and in some cases—the most informative ones—the causal relationships between the two.

Both perception and imagination are involved when experiencing art in general. In the case of paintings that with the use of linear perspective and