

THE HUNGARIAN UNIVERSITY OF FINE ARTS DOCTORAL SCHOOL

Depth is Another Width:

Models of Visual Phenomenons

DLA Thesis

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As an artist, I am interested in the depiction of the space around us, in systematic possibilities of representing the structure of space. I experiment by taking a simple theory and using it to picture space.

In my research, I seek to answer the question of what forms of representation of the outside world emerged in the field of vision studies in the 20th century. Can these be depicted and if so, will I be able to recognize them by looking? If we take a cognitive model seriously, how might it represent the world? What does the spectacle of vision mean, how is it formed, and most importantly, what form does it take?

Visual spectacle

I distinguish the visual spectacle from physical reality, as well as the image projected onto the retina. Instead, I see it as an information surface that is formed by the collaboration of incoming stimuli and the mind. My aim is to collect psychological and biological research that can provide a description of the visual world based on perception.

About Colors

In the first chapter, I use the example of colours to illustrate that there is a qualitative difference between physics and the rules of the perceived world. I present a well known model of colour that is independent of biology or physics and based solely on human perception.

The shape of forms

In the second half of the 20th century, neurobiologists and cognitive psychologists looked to the brain and the mind to describe the function and representations of vision. I describe

the form and role of images in the brain and mind. In addition, I will discuss the close relationship between imagination and the process of vision.

In the second chapter I review the studies following David Marr's methodology. What I am particularly interested in, is whether there are stages in the process of vision that can be represented. Are there even forms of representation in the mind that are representational and representable? If so, what are its possible layers and forms what shape it takes, what regularities characterise them, and how do they relate to everyday ideas.

The form of a sight is not just the result of the rigid architecture of the visual system, it is influenced by the environment. Psychologist James Gibson is primarily concerned with the perception of space. The ecological approach raises the question of a new description of space and the environment as a whole. James Gibson stresses the active role of vision. With ecological optics, he proposes a new description of vision consisting of highly structured information.

Vision as preconception

Our vision goes both directions. There are ambiguous situations where a higher level of interpretation of the mind is required to interpret the image. Hermann Ludwig von Helmholtz was well aware that vision is the result of automatic inference, which is now a generally accepted theory of the high-level functioning of perception. Sight can be influenced by the preconceptions of our innate visual system, our current perceptions age and everyday experiences.

Vision as idea

Research over the past decades has shown that everyday experience, learning and attention affect all levels of the visual system. Is it possible that everyday observations also play a role in the precise form of vision?

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