Abstract

Significance of neuroscience in the realization for the graphics from Neuro series based on autobiographical and metaphorical motifs

Małgorzata Jabłońska, M.F.A

A practical part of my doctoral thesis consists of twelve graphics from the *Neuro* series. Graphics (140 × 89 cm each) were made in the digital ink-jet printing technique.

In the theoretical part of my dissertation I analyze twelve graphics from *Neuro* series. This analysis aims at answering the question of the *Significance of neuroscience in the realization for the graphics from Neuro series based on autobiographical and metaphorical motifs*.

The following fields are of my main concern: *Art and Neuroscience, Autobiography and Neuroscience, Metaphor and Neuroscience, Visual Language and Neuroscience* and *The Creative Process, Response to Work of Art and Neuroscience*.

In my reflexions, I often refer to arguments and research of Vilayanur S. Ramachandran, Semir Zeki, Robert L. Solso, John Onians, Jerzy Vetulani, Włodzisław Duch and Piotr Francuz.

In the introduction, I motivate my choice of the topic among others with the interest in the functioning of the visual brain as well as the personal experience of neurological disability which was the inspiration for a significant part of the graphics from *Neuro* series.

In the *Art and Neuroscience* chapter I indicate the mutual formation of art and the brain. I mention an analogy between visual brain and the art noticed by Semir Zeki. I briefly characterize new branches of neuroscience, which are or could be related to art: neuroesthetics, neuromuseology, neuroarthistory. I refer to the artists who are particularly connected with neuroscience.

In the *Autobiography and Neuroscience* chapter I consider the limits of autobiography in art. I identify two types of autobiography – explicit and hidden. According to the assumptions of neuroarthistory early experience may influence the mature works of the artist. Therefore I search for a relation between my current approach, artistic activity and the childhood experience. Since we undertake creative activities also due to neuronal resources which have been shaped by the attitudes and works of other artists I point to the significant visual narratives of an autobiography of explicit type. Further on, I refer to my own artistic activity from a number of years by analyzing the *pictogram-me* which is my graphic comprehensive self-portrait. In the following subchapters I present a general autobiographical background, sorting twelve *Neuro* graphics in three groups which define the source of inspiration for particular graphic works. I supplement each graphic with a short poem which is a kind of haiku and its brief description.

The *Metaphor and Neuroscience* chapter concentrates on the visual brain and its function related to creative interpretation of reality. I present the theoreticians' views on the metaphor

phenomenon, focusing on the perspectives of George Lakoff and Mark Johnson, as well as on William Hirstein's and Vilayanur Ramachandran's conceptions. This is the starting point for my considerations on the characteristics of visual metaphor in fine arts and design. Next, I describe the themes which I personally perceive as metaphorical content of graphics from *Neuro* series. I assume that the metaphor generation process does not end with the moment when artist finishes the work but it continues in the viewer's mind. Referring to the theory of Vilayanur Ramachandran, I point out which part of the brain is responsible for the ability to create and understand metaphors and what are the relations between the ability to create and understand metaphors and the phenomenon of synesthesia.

The *Visual Language and Neuroscience* chapter describes the visual language within the creative space. I am referring to the idea of Wassily Kandinsky on the graphics and elements of the language of painting, stressing the analogy between the theory of this author and contemporary vector graphics, which can be exemplified by works from *Neuro* series. I present the genesis and character of the visual language of my graphics as well as explain the *insight* phenomenon in the neurobiological categories. I describe the relations between the visual language of the graphics from *Neuro* series and the visual language of the preceding realizations. Then, I analyze visual language of graphics from *Neuro* series. I specify the atomic and complex inscriptions that are presented in them based on the Monika Blanka Florek's three-level semiotic model of the piece of art. I analyze graphics from *Neuro* series referring to the Vilayanur Ramachandran's laws of the universal aesthetic experience.

In the chapter *The Creative Process, Response to Work of Art and Neuroscience* I analyze the process of creating graphics from *Neuro* series in reference to two theorists: Edward Nęcka — the psychologist of creativity and Wassily Kandinsky — the artist. I present the phases of the creation of graphics from this series, from the phase of observation and reflection to the printing phase. I discuss the creation of imaginative sketches in the context of Semir Zeki's account of brain's synthetic concepts. I also indicate the possibility of combining graphics from *Neuro* series into pairs and groups according to other than thematic criteria. I share reflections of responses to work of art in the context of *Neuro* series. Moreover I examine the problem of beauty and its neural correlates connected with current neuroesthetic research.

In the Summary, I confirm the significance of neuroscience in realization of graphics from *Neuro* series. I focus on neuroplasticity, indicating it as the basic feature of the brain influencing realization of series. Neuroplasticity is the ability to produce, under the influence of experience, new permanent neuronal connections. Thanks to it, it is possible to accumulate experiences in memory and to transform them into the art, referring to other experiences through metaphor, constructing in the imagination an yet new, ideal model of a work of art. Neuroplasticity also allows you to improve your skills, including artistic ones, as well as health recovery through neurorehabilitation, which was an important inspiration for the series of presented works.

Małgorzata Jabłońska, 2018

przekład na język angielski: Eliza Urwanowicz-Rojecka