# Aesthetic conception of Russian Formalism: the cognitive view

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**Abstract.** At present the theory of Russian Formalism becomes actual once again owing to the rapid development of cognitive science. Aesthetic theories recently put forward within the framework of cognitive science turned out to be consonant with the Formalist's views on the general principles of artistic activity. In my paper I argue that (1) the theory of Russian Formalism contains a number of methodological assumptions that are close to a cognitive approach; (2) some of the main principles of the Formalist theory (e.g., "elimination of automatism of perception" or "the dominant") permit the reformulation into cognitive terms; (3) such reformulation is not only possible, but useful because it makes the theory more powerful for explanation of the artistic phenomena. The findings from the new field of cognitive science not only prove some Formalist theses, but deepen and specify them as well.

The theory of Russian Formalism continued to be productive during the whole twentieth century. Although the group existed for a relatively short period and in difficult political circumstances, the ideas of Formalism were put into active intellectual circulation and proved to be capable of repeated "translations" into the languages of subsequent theories.

One cannot say that this translation was always smooth and unproblematic. As W. van Peer (1996) remarks, Formalism has "not fared well in the second half of the twentieth century: it has been misinterpreted (by the Post-Structuralists), misunderstood (by the New Critics), and stigmatized (first by the Marxists, now by various schools of 'ideological' critique). It has been declared 'superseded', 'out of date', and 'dead'". The abundance of not fully adequate interpretations testifies, however, to the rich potentialities inherent to the

Formalist theory. And the view that the ideas of Formalists are "out of date" and "dead" is exactly the point I would like to discuss. In this article I will argue that at least some of the key notions of the Formalism are now obtaining one more realization, though in a quite different appearance and in a rather unexpected area: cognitive science.

Cognitive science has been a major interdisciplinary enterprise of the last few decades; among its most important components are psychology, linguistics, philosophy, neuroscience and artificial intelligence studies. Cognitive science mainly explores human mental abilities and processes. The common methodological basis for this research is the assumption that mental phenomena can be accounted for as information-processing activities.

The placement of the Formalist conception of arts into the cognitive paradigm cannot be regarded as something totally unexpected. The Formalist conception contains a number of methodological assumptions which relate it more to science than to the humanities and put it in the intermediate position between this both poles of knowledge. Let us enumerate the most important of them.

1. The separation of the research object from adjacent and interlacing areas. One of the central claims of the Formalist program was to distinguish literariness as an independent research object, to isolate it from interconnections with social, historical, etc. factors. Although this approach was criticized, for example, by Medvedev for the "underestimation of ideological values, phenomena of social reality and history" (Medvedev 1978: 26), this Formalist position can be regarded as procedure of abstraction that is normal in the natural sciences and is usually applied if the nature of the object under examination exceeds certain grade of complexity.

2. In regard to the research object itself, the Formalists tended to dissociate themselves from those of its aspects about which they couldn't say much, given the present stage of knowledge. Formalism, especially in its early period, emphasized the separation of discrete elements of the artistic construction (*priemy*) and analysis of their relationship. The problem of meaning was hard to approach by means of objective analysis and was overtly bracketed out of their research agenda. Medvedev reproaches Formalists for being scared of meaning because meaning is "not here" and "not now". He notes: "Their fear of meaning in art led the Formalists to reduce the poetic construction to the peripheral, outer surface of the work. The work lost its depth, three-dimensionality, and fullness" (Medvedev 1978: 118). However,

exactly this fear — which can be also called scientific caution — allowed the Formalists to produce exemplary analysis of the phonetic and syntactic aspects of artistic works.

3. From the very beginning Formalism was characterized by the tendency to quantitative and verifiable methods, by "objective-scientific attitude toward facts" and "spirit of scientific positivism", as Ejhenbaum (1978: 7) put it. The property of verifiability or, if we look from the reverse perspective, of falsifiability, constitutes a necessary attribute of any serious scientific theory. The Formalist position in respect of this point was very clearly formulated by Ejhenbaum:

> In our scholarship we value theory only as a working hypothesis with the help of which facts are disclosed and take on meaning [...]. We establish concrete principles and adhere to them to the extent they are proved tenable by the material. If the material requires their further elaboration or alteration, we go ahead and elaborate or alter them. [...] The vitality of a science is not measured by its establishing truths but by its overcoming errors. (Ejhenbaum 1978: 3–4)

4. Lastly, some of the central notions of Formalism directly rest on linguistics and psychology, that is, on the same disciplines which afterwards became the main components of cognitive science. On the one hand, the Formalists claimed to separate the study of the artistic work from the surrounding cultural context, to break with "philosophical aesthetics and ideological theories of art" (Ejhenbaum 1978: 7). However, this isolation applied mostly to the areas that were just as (or even more) methodologically amorphous, than literary studies themselves. On the other hand, the Formalists were quite willing to use the achievements of the methodologically more consistent disciplines, like the linguistics and psychology of that time. At the beginning of the twentieth century exactly these sciences made a breakthrough to the realm of structural analysis. The key names here are de Saussure and Freud, whose methodological influence is present in the humanities till now. In the writings of Formalists we can find numerous references to linguistic and psychological works, and they use many terms borrowed from these fields. A number of central concepts of the Formalist theory are directly derived from psychological or linguistic notions: the "estrangement" essentially characterizes the alteration of the process of perception, the "dominant" refers to the selectively directed attention, the "set" (*ustanovka*) is a characteristic of the motivational sphere.

This aspect of the Formalist theory provokes the criticism on the part of Medvedev. He writes:

> [...] in severing literature from the ideological world, the Formalists turned it into some kind of stimulus for relative and subjective psychophysical states and perceptions. [...] It is necessary to state that the Formalists' psychologistic premises are very deeply lodged in the foundations of their theory. Any revision or denial of these premises must result in the complete destruction of Formalism. (Medvedev 1978: 149, 169)

Vygotskij saw this psychologism of the Formalist theory in a less critical light. He ironically compared the Formalists with Moliere's Monsieur Jourdain who didn't know he spoke in prose until he was told it by his teacher: "Actually, the Formalists are compelled to be psychologists and to speak in sometimes confused, but absolutely psychological prose" (Vygotskij 1986: 74). Nevertheless, Vygotskij considered the connection between the Formalism and psychology as natural, because, as he put it, "every particular problem of artistic form meets on a certain stage of its development with psychological problems" (Vygotskij 1986: 86).

All these methodological assumptions facilitate the placement of Formalist theory in the cognitive paradigm. Why should we do it? The point is that aesthetic theories recently put forward within the framework of cognitive science turned out to be consonant with the Formalist's views on the general principles of artistic activity. Some of the main notions of the Formalist theory can be reformulated into cognitive terms. In fact, the achievements of cognitive science and, more recently, of neuroscience, make it possible to explain the inner mechanism of principles proposed by the Formalists.

Let us briefly summarize some of the main Formalist theses. A work of art is a sum of devices (or constructive elements). These devices are relatively autonomous and usually compete with each other. The aim of all devices is to influence a process of perception in one or another way. The character of this influence is defined as impediment or deformation of the perceptual process: "The technique of art is to make objects 'unfamiliar', to make form difficult, to increase the difficulty and length of perception […]" (Shklovsky 1965: 12). In any work of art a leading device (or a group of devices) can be distinguished. This dominant governs the remaining devices and exerts a decisive aesthetic influence.

These theses are in many respects similar to aesthetic conceptions which rest on the recent findings in cognitive neuroscience, in particular, in the research on mechanisms of perception. One of the most important results of these studies was the conclusion that our perceptual system consists of a great number of areas, and each of these areas is concerned only with one definite feature of an object (such as colour, movement, form, location, etc., cf. Hubel, Wiesel 1979). The processing of these components of perception runs in parallel, is asynchronous and to a great extent autonomous; that is, these areas function as modules, independently of each other (Zeki 1998).

The integral image of the world is produced as a result of a subsequent convergence of different features extracted by the respective modules. However, this process cannot be considered as a mere mechanical summation. Before these features are transmitted to the higher associative areas they undergo a detailed preliminary processing, where the resolution into primary elements and the extraction of constants are of central importance.

The primary elements of our perception are extraordinary abstract and specific. For example, in the form perception module were found cells which respond only to horizontal or only to vertical lines. They are regarded as building blocks of form perception out of which all complex forms are constructed. There are other cells which respond maximally to a motion in one direction and don't respond at all to the opposite, or cells which are only concerned with profile vs. frontal views of human faces (cf. Zeki 1999: 91–92; Ramachandran 2001: 13).

The effective processing of ongoing information also could not be possible without the ability to extract constant features of perceptual signals. Information from the outer world accesses the brain as an amorphous and steadily changing flow of stimuli. Our brain must selectively process them to obtain only permanent and essential properties of objects. Thus, we perceive form and size of an object as constant, regardless of distance and viewing angle. Each object is categorized according to colour, although the precise composition of the light reflected from it never remains the same. The constancy of our world image is achieved owning to the intricate computational work of the neuronal mechanism which filters, selects, and fills out the primary sensory data.

These findings were recently applied to artistic phenomena. Semir Zeki, one of the leading specialists in the neurophysiology of visual

perception, argues that artistic activity follows the same principles and strategies that characterize the work of the brain. The artist and the brain both try to achieve knowledge about the world by extracting essential and constant features of objects and phenomena. Zeki writes:

> [...] the function of the visual brain - a search for constancies with the aim of obtaining knowledge about the world - is applicable with equal vigour to the function of art. I shall thus define the general function of art as a search for the constant, lasting, essential, and enduring features [...]. In this process, the artist must also be selective and invest his work with attributes that are essential, discarding much that is superfluous. [...] The function of art is therefore an extension of the function of the brain - the seeking of knowledge in an ever-changing world. (Zeki 1999: 79–80)

According to this view, the function of art consists in an additional (in comparison to the routine work of the brain) transformation of our perceptual data which selectively emphasizes some of the most characteristic and constant features. This process of an additional transformation and rearrangement of features enables a work of art to be perceived as "distorting", "alienating" the familiar picture of the world (which is a product of a "normal", "non-artistic" activity of the brain).

This view is quite near to the Formalist conception of art. Both conceptions consider the alteration of the process of perception as the driving force to produce an artistic effect. Like Zeki, the Formalists pointed out that in art regular perceptual process is redirected by the artist and "brought out of automatization". After additional processing the artistic image of an object is perceived as an "unfamiliar", "distorted" representation of its habitual appearance.

In a number of articles, another well known cognitive neuro-psychologist, Ramachandran, recently formulated his theory of art, which again recalls the Formalists. Ramachandran raises the question of general principles of art which are independent of its manifestations in different cultures and artistic styles (analogous to the universal grammar of natural language). As one such general rule Ramachandran postulates the "principle of isolation". According to this principle, the optimal artistic effect is achieved in each case through the influence of only one aspect of perceptual signal (such as form, colour, contour, etc.), other aspects being not so important or even hindering: "[...] art is most appealing if it produces heightened activity in a single dimension [...] rather than redundant activation of multiple modules" (Ramachandran, Hirstein 1999: 15). For instance, the great

expressive power of the artistic graphics is based on this effect, for in graphics all aspects of image except contour are reduced to the minimum. If we take into account the modular organization of perception, this principle can be explained as a competition of autonomous areas of the perceptual system for limited capacities of attention. The isolation of a single aspect allows us to focus attention more effectively and thus better appreciate the "priemy" of the artist.

Like Ramachandran, Zeki also emphasizes that a great number of works of art are directed mainly to one isolated perceptual module. He argues that the modular organization of the perceptual system is projected onto the arts so that the arts can be regarded as modular as well. Artists consciously or unconsciously address a limited area of a perceptual system and through this achieve the maximal artistic effect (for example Cubist art is directed to the form module, Impressionism mostly to colour areas, Malevitch to the perception of lines, cf. Zeki 1999a).

We see that the "principle of isolation" displays clear parallels with the notion of the dominant which Jakobson characterized as "one of the most crucial, elaborated and productive concepts in Russian Formalist theory" (Jakobson 1978: 82). In this conception the artistic effect also depends on a single dominant feature which has a maximal influence on the perception. As Tynyanov put it, "without the sensation of subordination, the deformation of all the factors by the factor fulfilling the constructive role, there would be no fact of art" (Tynyanov 1924: 10). The notion of the dominant was used by the Formalists not only in respect to particular works of art, but in connection with the stylistic features of some poets as well (so called "stylistic dominant"). This is in line with Zeki's ideas about the specialization of some artists in certain perceptual modules.

Let us summarize. It can be seen that some of the main notions of the Formalist theory are supported by recent cognitive and neurologic research. The "elimination of automatism of perception" which was proclaimed by the Formalists as the main principle of the arts turns out to be comparable with Zeki and Ramachandran's conception of the deformation of an object through the extraction and emphasis of its most essential and constant features.

The discovery of the modular organization of the perceptual system throws a new light on the Formalist view on a work of art as on a totality of competing devices. It has been demonstrated that the image of the world is not a simple photographic imprint, but a filtered

and deformed representation of ongoing stimuli. Perception turned out to be a multistage and constructive process. For the artist this opens wide opportunities to manipulate, deform and impede the process of perception. Formalist theory and the cognitive conceptions of arts share the assumption that the aesthetic effect arises out of the alteration of normal, "default" course of perception.

Cognitive neuroscience also confirms the Formalist thesis that both in a particular work of art and in the whole style of an artist a dominant device with a decisive aesthetic potential can be distinguished. Resolution of perceptual data into many independent features against the background of the limited resources of our attention (which at any moment can be directed to only one of these features) explains the "principle of isolation" which is analogous to the principle of the dominant.

It is not only possible to reformulate the Formalist theory in cognitive terms — it is useful to do it. The findings from the new field not only prove some Formalist theses, but deepen and specify them as well. In spite of many interesting insights and plausible assumptions concerning the artistic process, the Formalist theory left open the question of its mechanisms and causes. In this respect the cognitive conceptions of arts possess more "explanatory power". For example, the notion of the artistic deformation that remained unspecified in Formalist theory is defined more closely if such deformation is considered as a result of an artist's effort to extract and accentuate the most characteristic features of a represented object. Artistic activity extends the functions of the perceptual system and can therefore be regarded as an adaptive process in an evolutionary sense. The Formalist view of the deformation of perception as a self-contained, "end-in-itself" process is replaced by the cognitive conclusion about the importance of biological functions in artistic activity.

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## Эстетическая концепция русского формализма: когнитивная перспектива

В настоящее время теория формализма вновь становится актуальной в связи с бурным развитием когнитивной науки. Теории искусства, развиваемые в рамках когнитивного подхода, оказываются созвучными взглядам формалистов на основные законы художественной деятельности. В статье показывается, что (1) теория формализма содержит в себе ряд методологических установок, сближающих ее с когнитивным подходом, (2) некоторые из основных положений теории формализма допускают переформулировку в когнитивные термины, (3) подобная переформулировка является полезной в познавательном плане.

## Vene formalismi esteetiline kontseptsioon: kognitiivne perspektiiv

Tänapäeval on vormikoolkonna teooria muutumas taas aktuaalseks seoses kognitiivteaduste kiire arenguga. Kognitiivse lähenemise raames arendatav kunstiteooria osutub lähedaseks formalistide vaadetele kunstitegevuse põhiseaduspärasuste kohta. Artiklis näidatakse, et (1) formalismi teoorias sisaldub rida metodoloogilisi lähtepunkte, mis lähendavad teda kognitiivsele arusaamadele, (2) mõned formalismi põhiseisukohad võimaldavad ümberformuleerimist kognitiivsetesse terminitesse, (3) taoline ümberformuleerimine on kasulik tunnetuslikus (epistemoloogilises) plaanis.