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## **Editor’s Introduction**

### **Empirical Study of Consciousness**

This issue of the *Journal of Russian and East European Psychology* presents research carried out mainly in the Department of Psychology of St. Petersburg State University.<sup>1</sup> The university is currently among the 200 top universities of the world and perhaps the most international academic institution in Russia. During the Soviet period B.G. Ananiev headed the psychology department for a long time. He introduced the concept of a “functional system” and gave direction to the psychological research carried out in the department. His memory is kept alive through the organization of research conferences called “Ananiev lectures.”

The Department of Psychology has traditionally carried out empirical research on themes that have been of particular interest in Western psychology as well. The framework for the articles presented here consists of three research projects led by V.M. Allakhverdov. These are “The Role of Consciousness in Human Cognitive Activity,” “The Appearance of Errors in Cognitive Activity,” and “Recognition as a Cognitive Process and Its Role in Social Interaction.” The articles in this issue have their point of departure in Allakhverdov’s theoretical elaboration of the concept of consciousness and his methodological approach to empirical research on consciousness. The articles report the results of experimental research carried out using well-known methods of Western psychological research. The theoretical framework and methodological generalizations will be reported in a future thematic issue of the journal.

An integrating aspect of the empirical research projects presented in this issue is the study of the relationship between conscious and nonconscious phenomena. Subliminal stimulus material often affects cognitive activity and

may become conscious. The relationship between conscious and nonconscious information is complicated and full of paradoxes. Based on empirical research, all information (including nonconscious information) should enter consciousness so that what should become conscious can be selected. Allakhverdov asks (Allakhverdov and Kulikov, 2008) why then does consciousness disregard parts of information? Furthermore, how is consciousness able to select important information for the future from information incoming at the moment?

Another phenomenon of empirical research, which is closely connected with the previous one, is mistakes and errors that happen between nonconscious and conscious activity. Nonconscious, subliminal perception may have negative effects on cognitive activity. In the early 1970s Allakhverdov found a mysterious and striking phenomenon called the “aftereffect of nonconscious negative choice” and its existence was verified in various experiments. The aftereffect of negative choice is a strong tendency toward being unaware of facts that were previously unconsciously perceived.

The first article, by N.V. Grishina, presents the classic methodological dilemma of dualism in psychology and introduces the attempts of Lewin and Vygotsky to avoid it. The author presents a general conclusion about the interpretation of situations according to which strictly structured situations lead to similar interpretations and reactions from different people and less well-defined situations provoke a wider range of interpretations and reactions. In Allakhverdov’s framework the problem is formulated more radically—how can a person be sure that he has truthful information regarding the world and himself? The main results and general conclusions of several empirical Russian studies into the perception of situations are presented and related to Western studies.

A.Iu. Agafonov’s (Samara State University) article focuses on the priming effect and reports experimental studies comparing the degree of influence of previously consciously perceived and previously nonconsciously perceived information on conscious perception. The influence of different types of priming on the perception of an ambiguous figure (Rubin’s figure) is investigated. The study indicates that conscious visual perception in the experimental situations that were created was the result of a nonconscious decision to consciously perceive. A comparative analysis of the results of the experiments showed that previously consciously perceived prime stimuli exert a stronger influence on the effects of conscious perception of an ambiguous figure.

V.Iu. Karpinskaia and N.P. Vladykina focus on decision making in simple psychophysical tasks of detection and discrimination. The experiments showed that it is possible to discriminate stimuli in a nondiscrimination zone and

that different threshold values can exist for identical stimuli simultaneously. Any signal under the appropriate conditions can exceed the threshold and be consciously perceived or, conversely, recede into the subthreshold zone of nondiscrimination. The threshold of conscious perception of a signal plays a highly important role in the regulation of signal detection and discrimination processes.

E.Iu. Voskresenskaia's experimental study was designed to reveal the patterns of manifestation of the generation effect (which is normally understood to mean the higher level of memorization of elements that test subjects create themselves versus what is simply shown them) in memory tasks. The generation effect is explored as a result of the operation of the mechanisms of consciousness in cognitive tasks. The hypothesis was that the generation effect might manifest itself when test subjects perform a task involving perception and thought. It was discovered that the generation of stimuli in advance promotes faster identification and a more accurate evaluation of them, and speeds up the solving of anagrams made up from them. The study of memory activity found a manifestation of the generation effect when test subjects worked with stimuli that could neither be memorized nor forgotten—elements of a limited set.

M.B. Kuvaldina continues the study of “aftereffect of nonconscious negative choice” by Allakhverdov. She presents an assumption that there is a mechanism that makes a decision about what and what not to consciously perceive. The purpose of this experiment was to test the hypothesis that making a task more difficult influences the probability of a repeated error. The experiment once again confirmed the existence of negative-choice aftereffect in the regular, everyday task of typing a text.

In her study, N.V. Moroshkina asks to what extent are the processes of preserving/changing a task volitional? In certain conditions not making an error may become a goal in itself. An erroneous action must find itself in the contents of consciousness, which may lead to interruptions in performing the original task. This hypothesis is tested in the study. Sixty people (ages eighteen to twenty-seven, students and people with a higher education) took part in the experiments. The test subjects were assigned to three groups. The task was to mentally alternate operations of addition and subtraction of pairs of single-digit numbers (from 1 to 9), presented sequentially, one after another. Tentatively automatic (executive) and conscious levels of control were singled out. Conscious control operates the way a “manager taking a walk” does; it may be focused on both the external situation and internal operations.

Experimental research on consciousness sounds paradoxical. There is no widely agreed-upon definition of consciousness. Many philosophical problems

have remained unsolved for centuries. Experimental research reveals new details connected to the work of consciousness, but the whole picture is still unclear. Our hope is that the pieces of the puzzle produced in experimental research will gradually help to solve the riddle of consciousness.

### Note

1. See <http://eng.spbu.ru/> and [www.psy.pu.ru/index.php?n=2/](http://www.psy.pu.ru/index.php?n=2/).

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