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POLARIZATION PROCESSES IN THE NERVOUS SYSTEM AS THE POSSIBLE MECHANISM BASIS OF MOTIVATIONS AND EMOTIONS

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A new paradigm to consider motivations and emotions only as functions of sensory (afferent) systems is suggested. Hyperpolarisation of the resting potential of sensory (afferent) neurons reflects mobilization of intercellular adaptation reserves and development of decent metabolic and functional state and is experienced by subject as positive emotions. While persistent depolarization of the resting potential of sensory (afferent) neurons says about exhaustion of adaptation resources and formation of adverse metabolic and functional state and is experienced by subject as negative emotions.

Keywords: neurophysiological mechanism of motivation and emotion , functional state of neurons, adoptive state of neurons.

In modern physiology the studying of the physiological bases of the mental activity goes in context of two basic methodologies: system principle (Bertalanffy, 1969) and theory of cybernetics (Winer, 1948).

All widely known modern conceptions of the neurophysiological bases of motivations and emotions also were built considering the views of present approaches.

Their common treat is the tendency to separate mechanisms of motivations and emotions out of mental activity into independent structural and functional units and localize them in specific brain structures. In this case the work of the brain as a whole is shown as coordinative interaction of such structural and functional elements. Time showed, that the study of structural and functional organization of the brain basing on these positions does not let to approach to the understanding of the mental functions nature.

A new paradigm (Murik, 2006) to consider motivations and emotions only as functions of sensory systems is suggested. In this case neurophysiological mechanism of motivations and emotions interjoins with perception processes and connects with changes of functional state of sensory (afferent) neurons. Formation under the influence of irritants or while changes of environment circumstances of adverse metabolic and functional state of brain cells lies in the ground of negative emotions as subjective experience of this phenomenon so motivation (aimed behaviour) as organism's striving for recovery of good metabolic and functional state of sensory (afferent) neurons. The current functional state of brain neurons characterizes tension of cells adaptation mechanisms and results in appropriate changes of membrane potential: hyperpolarisation reflects mobilization of intercellular adaptation reserves and development of decent metabolic and functional state while persistent depolarization says about exhaustion of adaptation resources and formation of adverse metabolic and functional state.

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