

PHILOSOPHICAL ASPECTS OF I. S. KUCHEROV'S THEORY OF HUMAN BEHAVIOR MOTIVATIONS NEUROPHYSIOLOGICAL BASIS AND MECHANISMS

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Анотация

Анатолій Верменко. Філософські измерения на учението на И. С. Кучеров за неврофизиологичните механизми на формирането и реализирането на мотивационните основи на човешката дейност. Статията разглежда ключовите аспекти на концепцията на професор И. С. Кучеров за неврофизиологичните и хормоналните основи на човешката мотивация и светогледа. Анализирано е участието на различни структури на главния мозък и невромедиаторите в управлението на мотивационните състояния и във формирането на динамичното взаимодействие между средата, вътрешното състояние на индивида и когнитивните, емоционалните процеси в мозъка при генерирането на мотивацията. Представен е подходът на учения към регулирането на мотивациите на невробиологично ниво и тяхната връзка с емоциите и импулсите, които често са повлияни от външни социални и културни фактори. Доказано е, че постоянното събиране, обработване и проверяване на нова информация относно алтернативи на вече установени начини за задоволяване на основни (универсални) потребности влияе върху формирането на индивидуални (вторични) потребности и е естествен, неразделен елемент от човешката неврофизиологична дейност. Показана е ролята на емоциите като „естествен език на потребностите“, средство за незабавна мобилизация на всички ресурси на организма в стресови ситуации или при липса на умения, време и други средства за задоволяване на потребностите, както и като „предупредителни сигнали“ за възможността за такива ситуации в близко бъдеще, което осигурява по-проактивна реакция на подсъзнанието в сравнение със съзнанието към промените в средата на субекта.

Ключови думи: мотивационни основи на човешката дейност, базови и индивидуални човешки потребности, емоционални компоненти на мотивацията, неврофизиологична активност на човека, психология и неврофизиология на мотивацията, мотивационен компонент на образованието, взаимодействие между светогледа и потребностите.

Анотація

Верменко А. Ю. Філософські виміри вчення І. С. Кучерова про нейрофізіологічні механізми формування та реалізації мотиваційних засад людської діяльності. У статті розглянуто ключові аспекти концепції професора І. С. Кучерова щодо нейрофізіологічних та гормональних основ людської мотивації й світогляду. Проаналізовано залучення різних структур головного мозку та нейромедіаторів до керування мотиваційними станами й формування динамічної взаємодії між середовищем, внутрішнім станом індивіда та когнітивними й емоційними процесами мозку в генеруванні мотивації. Висвітлено підхід ученого до регуляції мотивацій на

нейробіологічному рівні та їхнього зв'язку з емоціями й потягами, що часто зазнають впливу зовнішніх соціальних і культурних чинників. Доведено, що постійне збирання, обробка та перевірка нової інформації щодо альтернатив уже сформованим способом задоволення базових (загальнолюдських) потреб впливає на формування індивідуальних (вторинних) потреб і є природним, невіддільним елементом нейрофізіологічної активності людини. Показано роль емоцій як "природної мови потреб", засобу негайної мобілізації всіх ресурсів організму в стресових ситуаціях або за браку навичок, часу й інших засобів для задоволення потреб, а також як "попереджальних сигналів" про можливість виникнення таких ситуацій у найближчому майбутньому, що забезпечує більш проактивну реакцію підсвідомості порівняно зі свідомістю на зміни в середовищі суб'єкта.

Ключові слова: мотиваційні засади людської діяльності, базові та індивідуальні людські потреби, емоційні компоненти мотивації, нейрофізіологічна активність людини, мотиваційна психологія та нейрофізіологія, мотиваційна складова освіти, взаємодія світогляду та потреб.

Annotation

Anatoliy Vermenko. Philosophical aspects of I. S. Kuchero's theory of human behavior motivations neurophysiological basis and mechanisms. The article examines the main aspects and components of Professor I.S. Kuchero's theory regarding the neurophysiological and hormonal basis of human motivation and worldview. It analyzes the involvement of various brain structures and neurotransmitters in driving motivational states, as well as the dynamic interaction between the environment, an individual's internal state, and the brain's cognitive and emotional processes in generating motivation. Furthermore, Professor I.S. Kuchero's understanding of motivation regulation at the neurobiological level is described, highlighting its connection to emotions and drives, which are often influenced by external societal and cultural factors. The article demonstrates that the constant gathering, processing, and testing of new information regarding alternatives to established ways of manifesting basic needs is an inseparable and natural element of human neurophysiological activity. Finally, it highlights the role of emotions as the "natural language of needs"—a means of urgently mobilizing all resources of the human body in response to stressful situations or when facing a lack of skills, time, or other resources required to satisfy needs. Emotions also function as "warning signals" for the potential occurrence of such situations in the near future, allowing the subconscious to respond more proactively than consciousness to changes in the subject's environment.

Keywords: human activity motivations, basic and individual human needs, emotional component of motivation, human neurophysiological activity, motivational psychology and neurophysiology, motivational component of education, interaction between worldview and motivations.

The prominent Ukrainian physiologist Il'ya Semenovich Kuchero, Doctor in Biological Sciences, professor and former head of Department of Human Anatomy, Physiology and School Hygiene of M. P. Drahomanov National Pedagogical University, Head of Laboratory of Cognitive Pedagogical Neurobiology, made significant contributions to the field of general physiology of human, physiology of sport, physiology of education and chronobiology, particularly in relation to the nervous system, psychological processes, and motivation. His theory of human motivation and worldview neurophysiological and hormonal basis can be connected to broader philosophical discussions on human nature, will, and action. The author of this article was in 1988-1991 the student of professor I. S. Kuchero himself and was highly impressed by combination of strict logical argumentation and massive references to experimental knowledge demonstrated on his lectures.

I.S. Kuchero's researches are focused on the neurophysiological basis of motivation and the mechanisms of human behavior. He investigated how internal physiological states (such as

hormonal influences, neural circuits, and brain functions) could influence the motivational processes and decision-making and explored the biological underpinnings of motivation, arguing that motivation is not just a psychological phenomenon but one deeply rooted in the physical structure of the brain, particularly in the limbic system, which is crucial for emotions, memory, and the regulation of motivated behaviors. I. S. Kuchеров conducted studies on how various brain structures and neurotransmitters are involved in driving motivational states, and how external stimuli can shape an individual's responses and emphasized the dynamic interaction between the environment, the individual's internal state, and the brain's cognitive and emotional processes in generating motivation.

I.S. Kuchеров explored how motivational drives could be tied to adaptive behaviors that are crucial for survival and well-being, which links the physiological processes to the human will to act. This, in turn, tied into broader social, cultural, and philosophical ideas about individual purpose and identity. He worked on understanding how motivation is regulated at the neurobiological level, connecting motivation to emotions and drives, which are often influenced by external societal and cultural factors, including those within the post-Soviet context in which he worked. Although Kuchеров's primary field of expertise was not philosophical worldview directly, his work in psychophysiology had implications for understanding how people's physiological states could shape their worldview, actions, and overall approach to life.

On the basis of researches of human motivations structure and possible ways of practical actualization, conducted by Swiss psychologist Levin, American researches Maslow, Price and Barrel, as well as Soviet author P. V. Simonov, prof. I. S. Kuchеров recognized the structural hierarchy of humans needs as basic, satisfaction of which are unavoidable and content is general for all the humans, and secondary, which are formed on the basis of primary as individualized programs and ways of their satisfaction (Maslow, 1959; Price, Barrel, 1984). I. S. Kuchеров accepts existence of three main groups of basic needs: vital or biological, social and ideal. But unlike the previously mentioned researchers he does not agree with the existence and practical manifestation of the fourth group, auxiliary or information processing and mastering needs, as the specific only for humans and separating them from other mammals. In his opinion, the constant gathering, processing and testing of new information regarding the alternative to already formed ways of basic needs manifestation is inseparable and natural element of human neurophysiological activity (Kuchеров, 2009).

The very specific for I.S. Kuchеров's line of thought is also the idea of specific for humans only feature of satisfaction of all the level and content needs only by purposed activity, not by some instinctive and reflective reactions to social or natural environment influence (Kuchеров, 1991, p.134-135).

Prof. Kuchеров generally agrees with the above mentioned authors idea of the unavoidable use of emotions as "natural language of needs" but states that emotions and hormonal reactions are not only the means of urgent mobilization of all the resources of human body in the response of stress situation or in the face of insufficient skill, time and other means for solving the problems of needs satisfaction. In his opinion, the emotions can be viewed as well as "warning signals" for such the situations occurrence possibility in the near future, and this provides evidence of a more proactive response of the subconscious compared to consciousness to changes in the subject's environment (Kuchеров, 1991, p.138-139).

Professor I.S. Kuchеров's work on motivation, though rooted in physiology, makes important contribution to understanding how individuals' internal states (shaped by both neurophysiological processes and external social conditions, norms and demands) influenced their sense of purpose and actions. His studies have provided valuable frameworks for understanding how people's motivational drives interact with their worldview, particularly when undergoing profound changes of personal and social worldview and motivations system. Although his contributions to motivational

psychology and neurophysiology may not be as widely known in philosophical contexts, his research can still be referenced within the broader field of neurophysiological motivation of all types of individual and social activity, including education process.

References

- Kuchеров, І. С. (1991), *Physiology of human and animals: Textbook for the students of pedagogical universities* [*Fiziologhiia liudyny i tvaryn: Navchalnyi posibnyk*], Vyzhcha shkola, Kyiv, 327 p. [in Ukrainian]
- Kuchеров, І. С. (2009), "Neurobiological concept of study" ["Нейробіологічна концепція навчання"], *Biology and chemistry in school*, No. 6, pp. 3 – 5 [in Ukrainian]
- Maslow, A. N. (1959), *Motivation and Personality* [Under the ed. of Murphy], Harper, New York, 411 p.
- Price, D., Barrell, J. (1984), "Some General Laws of Human Emotion: Interrelations between Intensities of Desire, Expectation and Emotional Feeling", *Journal of Personality*, Vol. 52, pp. 389 – 409.

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