

UDC 1.16.165.3

**"POST-ACADEMIC" AND "POST-NORMAL" SCIENCE:  
AN INTERDISCIPLINARY APPROACH**

**Vusal Zulfugarov**

PhD in Philosophy, Institute of Philosophy and Sociology of ANAS, Azerbaijan

[vzulfugarov@gmail.com](mailto:vzulfugarov@gmail.com)

<https://orcid.org/0009-0004-7491-3520>

**Abstract.** The article investigates the innovations that emerge in the classification of science, through the prism of epistemological and methodological processes that manifest in contemporary scientific cognition.

It is shown that the dynamics of change in science in the current period is complex in nature. Philosophers emphasize that this process brings about qualitative changes in scientific cognition as a whole. Based on this, contemporary science is classified as "post-academic science" or "post-normal science".

These terms have not yet been unanimously accepted within philosophical circles. However, it is acknowledged that fundamental innovations are taking place in contemporary science. This thesis is justified by the integration of cognitive and socio-cultural aspects in scientific cognition.

The analysis of recent discussions on the topic shows that there are very different approaches. Each of these has its own philosophical significance. At the same time, this diversity reflects the complex nature of the problem. Philosophers try to interpret the concept of "post-normal science" from the perspective of different approaches. In the article, this point is examined as a central theme through the logical features of the research.

According to the research presented in the article, the use of terms such as "academic" or "normal" science in classification by philosophers indicates that the adequate image of science is not yet fully clear from a philosophical perspective. Therefore, philosophers use the prefix "post" ("subsequent") in the classification of science.

An interdisciplinary approach has been utilized in the article for the adequate philosophical understanding of the highlighted characteristics. In this regard, the methodological principles of non-linearity, intersubjectivity, and dynamic integration have been prioritized.

In accordance with the specific nature of the approach, the article applies the methods of system analysis and synthesis.

The scientific novelty of the article is related to the thesis that, in the perspective of the formation of a unified science, the realization of the synthesis between humans and artificial intelligence can lead to the emergence of a new creative entity.

**Keywords:** technoscience, epistemology, non-linearity, intersubjectivity, synergetic integration, artificial intelligence, new technologies, classification of sciences, interdisciplinary knowledge.

“POSTAKADEMİK” VƏ “POST-NORMAL” ELM:  
FƏNLƏRARASI YANAŞMA

Vüsal Zülfüqarov

**Xülasə.** Məqalədə müasir elmi idrakda özünü göstərən qnoseoloji və metodoloji proseslərin elmin təsnifində hansı yenilikləri ortaya çıxarması prizmasında araşdırma aparılmışdır. Göstərilmişdir ki, hazırkı dövərdə elmin dəyişmə dinamikası mürəkkəb xarakter daşıyır. Filosoflar bu prosesin bütövlükdə elmi idrakda keyfiyyət dəyişiklikləri etdiyini vurğulayırlar. Həmin əsasda müasir elmi “postakademik elm” və ya “post-normal elm” kimi təsnif edirlər.

Bu terminləri hələlik fəlsəfi dairələr yekdilliklə qəbul etməmişlər. Lakin bütövlükdə müasir elmdə köklü yeniləşmələrin yer aldığını etiraf edirlər. Bu tezi elmi idrakda koqnitiv və sosial-mədəni aspektlərin vəhdətdə olması ilə əsaslandırırırlar.

Mövzu ilə bağlı son illər aparılan müzakirələrin təhlili göstərir ki, çox fərqli yanaşmalar mövcuddur. Onların hər birinin fəlsəfi əhəmiyyəti vardır. Eyni zamanda, bu cür müxtəliflik problemin mürəkkəb mahiyyətli olmasını ifadə edir. Filosoflar “postnormal elm” anlayışını fərqli yanaşmaların prizmasında mənalandırmağa çalışırlar. Məqalədə bu məqam ana xətt kimi araşdırmanın məntiqi özəlliyindən keçir.

Məqalədə aparılan tədqiqata görə, filosofların təsnifdə “akademik” və ya “normal” elm kimi terminlərdən istifadə etmələri hələlik elmin adekvat obrazının fəlsəfi baxımdan tam aydın olmadığını ifadə edir. Buna görə də filosoflar elmin təsnifində “post” (“sonrakı”) sözündən istifadə edirlər.

Vurğulanan xüsusiyyətlərin adekvat fəlsəfi dərk üçün məqalədə fənlərarası yanaşmadan istifadə edilib. Bu zaman qeyri-xəttilik, intersubektivlik və dinamik inteqrasiya metodoloji prinsiplərinə üstünlük verilmişdir.

Yanaşmanın özəlliyinə uyğun olaraq məqalədə sistem, analiz və sintez metodları tətbiq olunmuşdur.

Məqalənin elmi yeniliyi perspektivdə vahid elmin formalaşmasında insan-süni intellekt sintezinin reallaşması əsasında yeni yaradıcı varlığın yarana bilməsi haqqında tezislə bağlıdır.

**Açar sözlər:** texnoelm, epistemologiya, qeyri-xəttilik, intersubektivlik, sinergetik inteqrasiya, süni intellekt, yeni texnologiyalar, elmlərin təsnifi, fənlərarası bilik.

«ПОСТАКАДЕМИЧЕСКАЯ» И «ПОСТ-НОРМАЛЬНАЯ» НАУКА:  
МЕЖДИСЦИПЛИНАРНЫЙ ПОДХОД

Вусал Зулфугаров

**Резюме.** В статье проведено исследование через призму гносеологических и методологических процессов, проявляющихся в современном научном понимании, выявляются новации в классификации науки. Показано как динамика изменений в науке в современный период сложна, что вносит качественные изменения в научное понимание в целом. На этом основании современную науку классифицируют как «постакademическую науку» или «пост-нормальную науку», хотя в философских кругах еще не приняли эти термины единогласно.

Согласно исследованию, проведенному в статье, тот факт, что философы используют в классификации такие термины, как «академическая» или «нормальная» наука, означает, что адекватный образ науки еще не до конца ясен с философской точки зрения, поэтому философы используют при классификации науки приставку «пост» («следующий»).

**Методология:** предпочтение отдается методологическим принципам нелинейности, интересубъектности и динамической интеграции.

**Научная новизна** статьи связана с тезисом о том, что новое может быть создано на основе реализации синтеза человека и искусственного интеллекта при формировании единой науки.

**Ключевые слова:** технонаука, эпистемология, нелинейность, интересубъектность, синергетическая интеграция, искусственный интеллект, новые технологии, классификация наук, междисциплинарное знание

### **Introduction**

Since the second half of the 20th century, the philosophical and scientific understanding of the dynamically increasing impact of electronic, technical, and technological factors on Western societies has become even more relevant. Philosophers, methodologists of science, and those who apply new technologies to society have begun to explore the philosophical-conceptual and practical-applied aspects of this process from various perspectives. Historically, a certain approach was formed in a short period of time. The philosophical context of this approach is interesting for us. In the article, we will look at this aspect of the problem.

Of course, it is not easy to find a common position against the backdrop of different approaches. Perhaps, for modern philosophical and scientific cognition, this is not the central issue. At the same time, there may be one approach among the existing ones that stands out. In this article, we focus on the approach of the German philosopher Alfred Nordmann to the issue highlighted in the last decade of the 20th century and the first decades of the 21st century. The reason for this will become clear in the logical course of the article.

A. Nordmann emphasizes that, in general, fundamental changes have occurred in the research culture in the modern era. He shows techno-science as the confirmation and main manifestation of this. According to A. Nordmann, "techno-science is a hybrid cognitive and socio-cultural phenomenon". The German philosopher writes that techno-science combines two characteristics: it encompasses the eternal theoretical conception of nature and the claim of technology to "maintain control over the world". This indicates that the synthesis of theoretical-conceptual ideas and socio-cultural conditions plays a leading role in the context of the formation of scientific knowledge. From here A. Nordmann draws the following conclusion - "post-academic, second type of research or post-normal science" is formed [1, p. 7].

In fact, almost the vast majority of philosophers agree that modern interdisciplinary scientific knowledge arises from the synthesis of the cognitive aspect and the socio-cultural aspect. This point holds a special place in social epistemology. This kind of understanding has become more widespread in recent years, and along with the theoretical, the practical-applied aspect has also been brought to the fore [2; 3; 4; 5].

An approach to the phenomenon of techno-science in a broad theoretical and practical context is gradually gaining prominence. Philosophers are exploring the problem in more detail across various topics. In this context, the regulation of the risks created by technoscience in social epistemology is important in the context of "justifying the model of the democratization of science" [6, p. 257-261], the relationship between scientific and technical education [7, p. 275-298], the study of "epistemic culture" in online science projects [8, p. 564-588], and the analysis of "metacognitive continuum strategies" in the visual reflection context within the integration of science and education occupy a special place [9, p. 224-225].

The formulation of the issue by modern philosophers in the aspect highlighted above expresses both the relevance of the topic and the peculiarities of philosophical reflection. On this basis, the article applies an interdisciplinary approach to the analysis of the problem.

As methodological principles, nonlinearity, intersubjectivity, and dynamic integration are favored. In accordance with this approach, the system analysis and synthesis method is used.

### **Theoretical and methodological basis of the article**

The theoretical basis of the article is Alfred Nordmann's concept of "technoscience". Technoscience here is understood as a scientific phenomenon arising from the synthesis of science and technology at the modern stage, possessing a qualitatively new content and cognitive strategy. This concept encompasses such theoretical-conceptual and methodological characteristics that it essentially leads to the discussion of the emergence of a new science – "post-academic" or "post-normal" science. According to A. Nordmann, the reason for such a terminological change is that

technoscience differs from the classical concept of science, is actually "hybrid" in nature, and reflects a different symbiosis of science and technology [1, p. 7-8].

A.Nordmann's approach is entirely within the framework of social epistemology. At this point, three features of social epistemology are taken into account in the theoretical-conceptual aspect. Firstly, people strive for truth in society, meaning that the social-cultural context takes precedence in the researcher's activity. Secondly, cognition takes place against the background of the existence of relevant social practices and institutions. Third, the process of scientific understanding is carried out through a group or collective creative team [10]. Of course, the reality that understanding occurs in the form of cognitive activity runs through these aspects as a main line.

Thus, the article explains A.Nordmann's concept of "technoscience" in the context of social epistemology as a general theoretical and conceptual basis.

Another aspect of the theoretical foundation of the article is the thesis of "science's openness to public interactions". In this process, "knowledge is created regarding the current problems of the situation" [11, p. 61].

Finally, the theoretical and conceptual premises of the position expressing skepticism towards the concept of "post-normal science" in modern philosophy as a whole are also examined. According to this position, the division of science into "normal" and "post-normal" is generally not accepted [12, p. 74-79].

Under the umbrella of the emphasized theoretical framework, the application of the methodological principles of nonlinearity, intersubjectivity, and dynamic integration is preferred. Here, non-linearity reflects that the knowledge generated is more comprehensive and new in meaning than the shades of meaning possessed by its constituent parts.

The methodological principle of intersubjectivity expresses that cognition always occurs in the form of intersubjective relationships (in group or collective activity forms).

The principle of dynamic integration characterizes the open and dynamic updating of the final result.

The method applied within this approach is systems analysis and synthesis. Along with the systematic nature of the method, the potential for synthesis implies an adequate understanding of the problem in accordance with modern scientific criteria.

### **Discussions**

A.Nordmann writes that at the modern stage, a "collapse of cognitive distance" is observed in the epistemic strategy of science and technoscience. In other words, the traditional criteria for dividing scientific and non-scientific knowledge, which manifest themselves in classical and non-classical science, are not valid. This creates a "fundamental shift in research culture" that results in an "epoch-breaking" in the process of shaping science. The new "epochal shift" creates a different type of science – "post-academic" or "post-normal" science. Nanotechnology can be cited as an example of this [1, p. 8-31].

Within the framework of the discussions opened by A.Nordmann in this direction, various positions or propositions are found that develop his idea. L.V.Shipovalova, in addition to accepting the concept of post-normal science, tries to develop it in several aspects. The conclusion she reaches is that post-normal science is "oriented towards the discussion and solution of problems with societal significance". At the same time, it attempts to synthesize the concept of "how it should actually be" with the "existing concept". Whether the demands put forward by post-normal science can be realized is another matter. L.V.Shipovalova also approaches this with skepticism. Because here, along with purely cognitive aspects, it is necessary to take into account the current "political situation". In this prism, the philosopher sees post-normal science in the "maturity of democratic institutions" [11, p. 71].

I.T.Kasavin looks at the problem from the perspective of scientific creativity and creative people in general. He emphasizes that "scientists can be leaders of public opinion" and in this sense they have the opportunity to change both science and society [13, p. 173-175]. Developing his ideas, I.T.Kasavin writes that science can in principle be a "public virtue". This also means that fundamental

innovations can always exist, from the creation of scientific knowledge to its application and expert assessment [14, p. 218-224].

In the last 3-4 years, discussions about the division of post-normal or post-academic science have expanded and intensified both in research on virtual and digital artifacts, technological and technical risks, and in the context of science-education integration. We have given some of the ideas put forward in the aspects highlighted above. Here, as a continuation of them, let us express a number of important positions.

Currently, philosophers are conducting certain analyses in light of H.Hirakawa's ideas regarding the necessity of managing the risks created by techno-science, in the context of the justification and democratization of science at the end of the last century. H.Hirakawa approached the issue of the democratization of science in a broad context. There, the scientific assessment of factors that arise naturally from the interaction of cognitive, socio-cultural, technological, and technical aspects and are not characteristic of classical science is of great importance. In particular, in the context of the "politicization of science", which Steve Fuller also paid great attention to and which later became the focus of attention of social epistemologists, its democratization has largely become a fundamental problem for modern scientific understanding [15].

This problem, raised by H.Hirakawa, S.Fuller and other philosophers, has been studied more intensively in recent years and has actually become one of the epistemological trends. S.P.Turner characterizes it as "epistemological compulsion" [16, p. 22-34] and is studied from various aspects in a number of philosophical studies.

In the ongoing discussions, various epistemological and gnoseological features of post-normal or post-academic science are analyzed from different perspectives. Among them, the most notable problem in the last 2 years is the analysis of ChatGPT. ChatGPT (Generative Pre-trained Transformer) means "pre-trained generative transformer" in English. In general, ChatGPT is a generative artificial intelligence that can operate in a dialogue mode. It can answer questions and integrate texts in various languages. S.Fuller views this project as an opportunity to bypass the "academic pre-judgment" of scientific cognition in general. This is because ChatGPT does not have the "academic network" conditions for references, and it approaches the situation in the context of the integration of references in general. As a result, this project could potentially bring significant qualitative changes to post-academic scientific research [5, p. 10-11].

Erich Schmidt, looking at the problem through the prism of the possibilities of using artificial intelligence in scientific understanding, speaks of "scientific revolutionary changes in the conduct and use of scientific research". He writes that "science will become much more extraordinary (i.e., non-normal – V.Z.)". Such a change will occur that "will reverberate far beyond the confines of laboratories". E.Schmidt draws the following conclusion from all this: "artificial intelligence can rewrite scientific progress" [4].

L.Fridman also writes about the significant impact of artificial intelligence, including the ChatGPT project, on scientific cognition as a whole, considering it a crucial cognitive achievement for the future [3].

From the above ideas highlighted in the discussions, we see that philosophers generally have a positive attitude towards "post-normal" or "post-academic" science and even associate it with the future of human cognition. However, there are approaches that claim the opposite. However, there are approaches that argue the opposite. They even reject the division of science into normal and post-normal categories.

For example, K.Popper writes that scientists have always been perceived in society as "abnormal people". This "denies their social commonality, their existence in society as a community".

On the other hand, according to K.Popper, a "normal scientist" is a "bad scientist". Because one aspect of science has always been associated with going beyond existing "norms, standards". Along with these, "normal science" existed as a profession that was not revolutionary, "not very critical in nature", in the sense of T.Kuhn. Such scientists accept the "dominant scientific dogma" [17, p. 528-530].

T.A.Varkhotov calls all this "mockery of science" [12, p. 76]. Moreover, science has always been connected to politics. T.A.Varkhotov does not accept L.V.Shipovalova's presentation of the "uncertainty of facts, the conditionality of decisions, and the high level of risks" as characteristics of "post-normal" science in the modern stage [12, p. 75-77].

From this, it can be concluded that throughout history, science has existed in a subtle unity of "normality" and "non-normality". It can only be theoretically considered as a separate classification of "normal" and "post-normal". Practically, however, science is a unity.

### **Research results and discussion**

Based on the content of the discussions presented above, we have reached a number of conclusions on the topic. First of all, let us emphasize that modern philosophers unanimously accept that radical changes are currently taking place in science. From a philosophical perspective, the main issue is related to classifying the evaluation of science based on the overall image of science, as well as the methods of acquiring scientific knowledge, its content, the characteristics of the emergence of new knowledge, and the practical application of knowledge. This also includes the philosophical "dimension" of how the theoretical-conceptual, methodological, and practical-applied characteristics of science are being renewed against the backdrop of the growing role of artificial intelligence, new information and communication technologies, and technology.

Therefore, the naming of modern science as "post-academic" or "post-normal" in the emphasized aspect is not a trivial matter; it is not merely rhetorical – rather, it is an important issue in terms of the adequate understanding of contemporary scientific cognition and, based on that, its evolutionary dynamics.

One of the conclusions drawn from the discussions in light of this thesis is that, for now, there are no universally accepted criteria for "normal science" within the global scientific community. Accordingly, there is also ambiguity in the phrase "post-normal science". In this regard, I.T.Kasavin's research is interesting. He writes that throughout history, "cognitive diversity" has been characteristic of human cognition [18, p. 9]. Therefore, the questions raised by philosophers regarding whether "moral norms, aesthetic ideals, and religious symbols" are a specific form of knowledge are not coincidental.

I.T.Kasavin approaches the issue in the context of comparing normative scientific knowledge with moral consciousness, as discussed by M.White and W.Quine. He prefers M.White's view, which treats "moral experiences" alongside scientific observation, regarding science and art as "equally justified on the basis of science's objective and normative content, and the moral and artistic justifications".

The argument is that this approach provides an opportunity to "broaden the horizons of scientific cognition" in the modern stage. Such an approach could lead to an "epistemological shift" in science as a whole. The key point here is that "each cognitive situation should be studied separately" and "truth is related to the formation and subsequent existence of artifacts in culture" [18, p. 17-18]. Therefore, according to I.T.Kasavin, it raises questions to speak with certainty about the classification of "post-academic" or "post-normal science" at this stage.

Along with these, another procedural phenomenon should not be overlooked. The issue is that, today, techno-science truly occupies a leading position in scientific cognition. It is already analyzed as a phenomenon that manifests itself as knowledge on a cosmic scale. This means that techno-science, in its post-academic or post-normal scientific quality (according to A. Nordmann's classification), fundamentally occupies a central place in the image of modern science. From this perspective, its philosophical reflection is of great importance. The main conclusion we reach in our article stems from this thesis. That conclusion is as follows. This conclusion is based on two features.

Firstly, at the present stage, the adequate image of science is not entirely clear from a philosophical perspective. For this reason, philosophers classify terms such as "academic" or "normal" science. Accordingly, by adding the prefix "post", they introduce the concepts of "post-academic" and "post-normal science". This means that for modern philosophical thought, a new phase has begun beyond "academic" or "normal" science, but its precise philosophical meaning does not yet exist.

Secondly, an adequate philosophical assessment of modern science can only be possible after a unified science is formed. Here, "unified science" primarily refers to the creation of a "human-artificial intelligence" symbiosis against the backdrop of the unity of the cognitive, socio-cultural aspects of science. "Artificial intelligence, in general, refers to the creation of an "artificial being" endowed with creative cognitive abilities and the highest characteristics of information, communication and technology.

### **Conclusion**

The analysis in the article provides grounds for drawing a number of philosophical conclusions.

The relevance of the problem indicates that philosophers, along with representatives of other scientific fields, should approach the epistemological and methodological understanding of modern science in a broader context. The place and role of the concept of "technoscience" in the classification of science should be clarified.

There is no doubt now that modern scientific cognition is transforming to a qualitatively new level. Here, the formation of scientific knowledge, the emergence of new knowledge, the emergence of theories, the cognitive aspect of the formation of theories are synthesized with socio-cultural, practical and technical aspects. On this basis, the horizons of scientific understanding are currently expanding further. One of the conclusions drawn in the article is that this process will gradually intensify and expand in scope.

The current approach to science is expressed through the prism of the terms "post-academic" and "post-normal". This means that there is more uncertainty in understanding the issue.

One of the important conclusions drawn from the article is that an interdisciplinary approach is of particular importance for an adequate philosophical understanding of modern science. For this, there is a need to develop new methodologies. It can be predicted that this process will be accompanied by the further development of the interaction of human intelligence with artificial intelligence.

### **References**

1. Nordmann, A. Collapse of Distance: Epistemic Strategies of Science and Technoscience: [Electronic resource] // – A. Nordmann. Copenhagen: A revised version of a plenary lecture at the annual meeting of the Danish Philosophical Association Copenhagen, – 2006, №41, – pp.7-34. URL: [http://www.uni\\_bielefeld.de/ZIF/FG/2006Application/PDF/Nordmann\\_essay2.pdf](http://www.uni_bielefeld.de/ZIF/FG/2006Application/PDF/Nordmann_essay2.pdf). Müraciət tarixi 15.12.2024.
2. Касавин, И.Т. Социальная эпистемология. Фундаментальные и прикладные проблемы. Москва: Альфа-М. – 2013, – 560 с.
3. Fridman, L. “Podcast #367: Sam Altman on GPT-4, ChatGPT, and the Future of AI: [Electronic resource] // - 2023.25.03. URL: [https://www.youtube.com/watch?v=L\\_Guz73e6fw](https://www.youtube.com/watch?v=L_Guz73e6fw). Müraciət tarixi 15.12.2024.
4. Schmidt, E. This is How AI will Transform How Science Gets Done: [Electronic resource] // - MIT Technology Review. – 2023.07. URL: <https://www.technologyreview.com/2023/07/05/1075865/eric-schmidt-ai-willtransform-science/>. Müraciət tarixi 15.12.2024.
5. Fuller, S. ChatGPT as a Corrective to Academic Bias // S.Fuller. – London: Published by Taylor & Francis. Social Epistemology Review and Reply Collective. – 2024, №13 (12), pp. 10–11.
6. Hirakawa, H. Social epistemology as risk management of technoscience: The rationale and a model of democratization of science // H.Hirakawaş. - London: Published by Taylor & Francis. Social Epistemology. – 1999, № 13 (3 & 4), – pp. 257 – 261.
7. Tala, S. Unified View of Science and Technology for Education: Technoscience and Technoscience Education // S.Tala. – Springer: Science-Education. Contributions from History, Philosophy and Sociology of Science and Mathematics – 2009, № 18(3-4), pp. 275-298.
8. Kasperowski, D., Hillman, T. The epistemic culture in an online citizen science project: Programs, antiprograms and epistemic subjects // – D.Kasprovski, T.Hillman. SAGE Publications. Social Studies of Science. – 2018, № 48(4), – pp. 564-588.

9. Pratt, Sh. M., Coleman, M. J. Using epistemic network analysis to visually map a metacognitive continuum of urban fourth graders' strategies for navigating multimodal science texts // - Chicago: The University of Chicago Press. The Elementary School Journal.- 2020, №121(1), - pp. 224-225.
10. Goldman, A. Social Epistemology: [Electronic resource] // - Stanford. Stanford Encyclopedia of Philosophy. – 2024. URL: <https://plato.stanford.edu/entries/epistemology-social/>. Müraciət tarixi 15.12.2024.
11. Шиповалова, Л.В. Как возможна пост-нормальная наука? // Л.В. Шиповалова. - Москва, Эпистемология и философия науки. – 2022, т. 59, - № 3, – с. 61–73.
12. Вархотов, Т.А. А Была ли наука «нормальной»? реплика к статье л.в. шиповаловой «Как возможна пост-нормальная наука?» // Т.А. Вархотов. – Москва. Эпистемология и философия науки. – 2022, т. 59, – № 3, – с. 74–80.
13. Касавин, И.Т. Наука – гуманистический проект. Москва: Весь Мир. - 2020, - 496 с.
14. Касавин, И.Т. Наука как общественное благо // И.Т. Касавин.Томск: Вестник Томского государственного университета. Философия. Социология. Политология. – 2021, № 60, – с. 217–227.
15. Fuller, S. Post Truth: Knowledge as a Power Game. London: Anthem Press. – 2018, – 207 pp.
16. Turner, St.P. Epistemic coercion // St.P.Turner. – Moscow. Journal “Epistemology & Philosophy of Science”. – 2024, vol. 61, – № 3, – pp. 21–38.
17. Поппер, К. Нормальная наука и опасности, связанные с ней // Кун Т. Структура научных революций. - М., 2003, - с. 525–538.
18. Касавин, И.Т. Нормы в познании и познание норм // И.Т. Касавин. – Москва. Эпистемология и философия науки. – 2017, т. 54, № 4, – с. 8–19.

**Rəyçi: f.e.d. Füzuli Qurbanov**