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Scientific faith: social and cognitive aspects

НАУЧНАЯ ВЕРА: СОЦИАЛЬНЫЙ И КОГНИТИВНЫЙ АСПЕКТЫ

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Abstract

The study analyzes scientific faith through the lenses of its scientific, cognitive, and social potential. The paper aims to study the role of secular non-religious faith in contemporary social processes and individual cognitive formation. The research methodology includes a systematic approach to demonstrate the relationship between an individual's cognitive settings and social reality; dialectical approach; analysis and synthesis. Results: the transformation of traditional social relations leads to the popularization of non-religious secular faith, especially the scientific faith, which motivates to unprovably accept scientific and pseudoscientific positions as true for gaining existential confidence. Scientific faith leads to the irrational acceptance of the scientific understanding of the world, the axiomatic base, and each specific theory, as the closest to the absolute truth, which provides the researcher with permission to use them. Conclusions: Scientific faith turns into a powerful social phenomenon, responsible for transforming the image of science in mass perceptions into the

Аннотация

В работе авторы анализируют веру в науку через призму ее научно-когнитивного и социального потенциала. Цель статьи – изучить роль светской нерелигиозной веры в современных социальных процессах и формировании когнитивной активности индивида. Методология включает системный подход для демонстрации связи когнитивных установок индивида с социальной действительностью; диалектический подход; методы анализа и синтеза. Результаты: трансформация традиционных социальных отношений ведет к популяризации нерелигиозной светской веры, в особенности веры в науку, побуждающую индивида бездоказательно принимать научные и наукоподобные положения за истину ради обретения экзистенциальной уверенности. Это может привести к иррациональному принятию научной картины мира, аксиоматической базы и конкретной теории как максимально близких к абсолютной истине, что дает исследователю санкцию на их использование. Вывод: научная вера превращается в мощный социальный феномен, ответственный за образ неоспоримого идеала истинности, сложившегося в массовом

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undeniable ideal of truth; this makes further scientific advances difficult.

Keywords: existential confidence; scientific faith; scientific worldview; secular faith; epistemological approach.

Introduction

Traditional cognitive practices such as faith continue to play a significant role in modern society. One example is that organic food production networks and consumption are inspired not only by religious groups' practices and beliefs, namely in Asia, but also by studies of economization and marketization (Wang, 2021, p. 361). Faith to classical social institutes that have proved their practical applicability, primarily science, remains to be high (Kongoli, 2016), as "scientific and technical rationality contribute to providing interoperability between competing free individuals and groups" (Sirazetdinova et al., 2021, p. 111). In these circumstances, a broad-based scientific faith constructs an ordered and understandable reality, the logic of which demonstrates the correctness of individual actions (Farias et al., 2013), which provides a feeling of safety and comfort. Science is considered to be "international by nature", "being aware of scientific community's role", "following standards and regulations", "protecting from both physical and emotional harm", "solving everyday societal life problems".

Theoretical Framework and Literature Review

In contemporary society, the individual needs the tools to guide in the flow of meanings and values that lose their strict order. This also applies for youngsters, including undergraduate and postgraduate students. When stable systems of values are deconstructed, individual cognitive settings, determined by the specific functioning of the human brain, prevail (Boyer, 2001). The leading cognitive practice that helps the individual navigate the world of a rapidly changing reality is faith. It helps a person to feel confident, quickly process the surrounding information space, which is necessary for the search for truth (Inzlicht et al., 2011). Faith as a cognitive act is an unproven acceptance of something for truth. Since modern youngster is immersed in reality that is largely constructed using scientific technology, it is not surprising that one of the most dynamically developing types of faith is scientific faith. It became the leading way to comprehend and transform

сознании, что крайне затрудняет дальнейшее научное познание.

Ключевые слова: когнитивные установки, экзистенциальная уверенность, научная вера, светская вера, научная картина мира, технический прогресс.

reality, and to get closer to the truth. The aim of this work is to study how the phenomenon of scientific faith arises, and why it provides individuals with existential confidence.

The hypothesis is that scientific faith as one of the most significant irrational practices has two prior dimensions: social and scientific-cognitive. The first demonstrates that the image of science in the mass consciousness has become a standard of truth, and compliance with it contributes to the comfortable existence of the individual. The second reveals the relationship between scientific faith and scientific knowledge.

Farias et al. claim that faith is "belief in the value of science as an institution and in its superiority as a source of knowledge can offer reassurance to secular individuals in threatening contexts" (Farias et al., 2013, p. 1211). The existential need for confidence gives rise to an increase in the importance of faith in science as the best way to comprehend reality. Already for C. Darwin and E. Haeckel, scientific faith predominates over religion (Gori, 2017). Contemporary society comes to unreasonably opposing religious and purely scientific knowledge and methods (Korzhev et al., 2019, p. 49).

At the same time, in many developed countries of the world, social institutions traditionally monopolize the right to convert to faith have lost a significant part of their historical potential. For example, some researchers, noting the high role of faith in the life of modern Europe, nevertheless states that traditional churches in Europe "are no longer able to discipline the beliefs and behavior of the great majority of the population" (Davie, 2006, p. 271). Muslim theology indicates the dangers of replacement classical Islamic dogmas by "scientific" and "digitized" reformist Islam (Rakhmatullin et al., 2021). Scientific, religious, and magical knowledge was closely intertwined not only in antiquity: their relations do not disappear completely with the rapid development of science starting from the new time, remaining is its background (Minniakhmetova & Suleymanova, 2019; Vranjes, 2019). In this vein, researchers believe that the principles of this faith

and science are complementary (Collins & Rojas, 2011).

Methodology

According to the epistemological approach, believing is a component of any cognitive process and is “a human brain function which results in probabilistic representations with attributes of personal meaning and value and thereby guides individual behavior” (Seitz et al., 2017, p. 1).

Scientific faith has two dimensions: social as a way of gaining existential confidence and cognitive as an element of the scientific cognitive process.

This study proceeds from the fact that faith as a gnoseological phenomenon assumes an unproven acceptance of something for truth and is the attribute of cognition. Without scientific faith as the starting point of a researcher’s cognition, it is impossible to construct an axiomatic base of scientific knowledge. Belief in science determines the initial position of a scientist who, of the many available axiomatic bases, selects a scientific one. The encirclement with the products of scientific and technological progress together with the deconstruction of traditional semantic paradigms determine contemporary human beings. This creates an existential demand for a complete image of reality, providing a feeling of confidence and security. The massive belief in science is becoming so powerful that even religious organizations use it for their purposes.

Research materials include works in the fields of epistemology, philosophy of science and social philosophy, and the resources of religious organizations.

Results and Discussion

The semantic matrices proposed by social institutions that have used faith in their practice for centuries became outdated, and religious organizations are aimed at attracting and retaining the maximum number of supporters. This is not just about increasing the number and influence of such organizations, but also about the specifics of the content they distribute that determines their success.

Scientific faith in contemporary society

Since the success of non-traditional religious organizations is directly related to the number of

their supporters, they are forced to build their rhetoric in accordance with the mood of the masses.

In this vein, an analysis of the activity of some of these organizations is fruitful. In the concise framework of this work, an analysis of marginal sectarian groups is not possible, since their influence is limited to a small circle of people. Therefore, we examine the content of the largest non-traditional churches – Jehovah’s Witnesses and the Seventh Day Adventist Church.

One of the books outlining the ideas of Jehovah’s Witnesses is “Does a Caring Creator Exist?” (Watch Tower Bible and Tract Society of Pennsylvania, 2017). When analyzing this book, an abundance of scientific vocabulary and terminology immediately catches one’s eye: it uses Mendeleev’s periodic table, states that life forms depend on the coordinated work of nucleic acids. In addition, the authors constantly cite as examples not only sayings from the Bible but also citations from scholars such as Christian de Duve, Jacques Monod, David Mackay.

Adventists use the same message, posting on their official website (Seventh Day Adventist Church, 2019) more than 10 publications available for the request “science of religion” and more than 50 articles corresponding to the query “Bible and science”. If earlier religion was perceived as a kind of Absolute, then at present, science claims the role of the Absolute.

Not only technology but also the education system is of enormous importance. Education has gone out of the influence of the church and has turned into a mass conveyor of superficial familiarization with basic scientific facts, which are often not reflected by students at the proper level. Moreover, an ideological pressure of the educational system forms the worldview of contemporary humans (Feyerabend, 2010). It is important to understand that the popularization of science, a wide network of secular compulsory educational institutions, has not made most people scientists. On the contrary, the phenomenon of mass belief in science has arisen, which has nothing to do with science.

As a result, science becomes a kind of analog of a deity, in the context of the fact that it is an object of their faith, a source of ideas about the world, an initial axiomatic base, because without even having any truth about the object, a person believes in his ideas about it.

One who has been accustomed to believing that science is good and true from the school bench, unwittingly believes that any seemingly scientific reference and evidence apparatus is true.

Contemporary individuals are largely confidential disposed towards science. Science is much more “modern” than orthodox religious institutions, whose traditionalism often contradicts the contemporary Western understanding of human rights and freedoms, which causes a certain skepticism towards them in a significant part of the population due to globalization. This includes, for example, the notion of women’s participation in sports as “steps of the devil” leading to immorality (Human Rights Watch, 2012).

For a contemporary individual, technical and technological progress appears as a kind of a marker for the development of the post-industrial world. However, the tendency to increase the influence of scientific faith is not an artificially supported social phenomenon. It comes from an attempt to explain the objective processes in the world in the most effective way.

Thus, despite the transformation of the classical worldview and the deconstruction of traditional values and meanings within the postmodern trend, at the level of mass consciousness, science remains being a semantic beacon, at least, for the Western civilization.

This does not mean that contemporary science does not transform; on the contrary, the changes are constantly taking place. However, contemporary maintains its cognitive potential and continues to be a standard of truth for both the broad masses and the scientific community.

At the same time, what is important for an individual, is not being scientific, but similar to science. This is because to determine genuine science, it is necessary to pass an appropriate training and have relevant experience. This is the only way to the transformation of a naive faith into scientific faith, related to the scientific cognition of the world itself and having the relevant cognitive potential.

The cognitive potential of the scientific faith for scientific inquiry

Scientific faith is inherent not only to the abstract social entity or to an individual, but also to the scientific community. Truly scientific activity is closely related to the level and quality of

educational and professional levels. Therefore, when analyzing the scientific faith within the scientific community, one should take into account the appropriate qualification level, which is not tightly bounded with formal education (diploma), but correlates with the skills of scientific endeavor.

In this case, faith in science turns into existential support of the scientist, helping him or her to cope with the difficulties that arise during the study, preventing from using methods and principles subjectively perceived as unscientific, since this faith ensures the scientist that he or she has the right criteria for distinguishing science from pseudoscience or a guarantee of truth.

The cognitive potential of scientific faith can be revealed by analyzing the foundations of science, similar to the belief in the existence of an external world independent of the perceiving subject, which underlies all-natural sciences (Einstein, 2003, p. 266).

The most vivid fact of the presence of faith in the basis of science can be illustrated by Gödel’s incompleteness theorem, which shows that if formal arithmetic is consistent, then it necessarily contains an irreducible formula that confirms this consistency (Sosinsky, 2004).

This type of basis of science is not provable in the strict sense of this word. The axiomatic science can be considered either as empirical or scientific hypotheses or as conventions (Popper, 2005). As a result, their acceptance or denial is largely due to the belief that they are true. Moreover, this is not an ordinary faith, but a faith supported by knowledge of the principles of scientific development, reinforced by the phenomenon that can be described as Cartesian intellectual intuition, which provides the scientist with direct self-evident knowledge. This type of cognitive practice is only obtainable by a trained person or scientist.

Without this component of scientific faith, it is impossible to create and formulate the paradigm. As Kuhn (Kuhn, 2012) demonstrated, the adoption of a particular paradigm’s principles and the emergence of consensus in science are largely due to faith. In periods of normal science, researchers in each specific fieldwork based on fundamental ideas, that, as a rule, are not verified or called into question in specific studies. Examples of this kind of basic theory in physics are the concepts of Newton and Einstein.

The application of scientific faith contributes to the unproven acceptance of the initial axiomatic provisions. Besides, it remains while the selection and formulation of the aim of research activity and at various stages of scientific research, including the analysis of scientific problems and hypotheses for their resolution (Kozyreva, 2014).

When formulating hypotheses, the researcher, for objective reasons, does not have the complete of information about the studied object. Hence, an intellectual intuition's role increases, which inextricably links the scientists with a scientific faith. In this case, faith is synthesized with a certain intuitively generalized cognitive experience. The more the subject's consciousness is determined by science, the brighter and more productive is the personal scientific faith.

At the initial stage of cognition, ways to solve a scientific problem often cannot be rationally comprehended. Regularly, this applies to first-year students. However, in order to dwell on a certain hypothesis, to begin its justification and proof, the researcher must be at least at a minimum level to admit its truthfulness, therefore cognition is supported by irrational practices, including faith.

Kepler was distinguished by “incomparable energy and courage, blundering along in the most inconceivable way (to us), from one irrational hypothesis to another, until, after trying twenty-two of these, he fell, by the mere exhaustion of his invention, upon the orbit which a mind well furnished with the weapons of modern logic would have tried almost at the outset” (Peirce, 1877, p. 2).

Based on this, we believe that faith will rationally affirm the truth of a particular hypothesis and give the subject a sanction to use it in further scientific work.

The greatest significance of scientific faith is gained during the production of scientific hypotheses. The higher is the innovative nature of the hypotheses, the more it is based on faith, supported by intuition.

The genuine scientific faith is creative in nature, and is aimed at overcoming the dogma. In this regard, the remark of Michael Polanyi from his previous studies (Polanyi, 2007, p. 41) contrasted

the science, law and the Protestant religion with Catholicism based on the argument that Catholics “are deprived of the right to interpret the Christian dogma: only a priest can have this right”.

Scientific faith could be identified as a new tier of the broad kind of identification in contemporary society that could overcome ethnic, territorial, political and other types of stratifications (Zaripov et al., 2017, p. 33). Contemporary culture's “emphasis on science and technology enhances EC²¹, linked to the endeavor to explore the outside world, create and transform things and techniques” (Stoletov et al., 2019, p. 254).

Thus, constructive scientific faith can be applied only to the developed, highly intellectual scientific cognition. This is a relatively rare phenomenon compared to the popular scientific faith, although it simplifies the production of innovative scientific knowledge. Given the application and scale of contemporary science, the role of irrational elements in the production of knowledge tends to be strengthened, at least because the majority of scientists work within the framework of a certain paradigm and axiomatic propositions without questioning them.

The data presented in the study are sufficient to obtain general ideas regarding the significance of scientific faith in scientific cognition and social practice. It provides researchers with a systematic idea of the role of scientific faith in contemporary society and improves our knowledge about cognition and consciousness in general, which positively affects an individual understanding of the self and the objective world. The development of the cognitive and social potential of scientific faith is one of the most popular types of faith contributes to an in-depth understanding of social behavior. The study provides epistemologists with data revealing the specifics of the process of scientific knowledge generation

Conclusions

The study demonstrated the high social significance and cognitive potential that non-religious secular faith has in modern society.

The results demonstrate that the image of scientific technologies and science is irrationally perceived as the truest reflection of objective

²¹ Note: extensive creativity.

reality, which gives a rise to a variety of non-religious faith, including scientific faith that helps to acquire existential confidence and a complete image of reality. The latter is especially relevant in the era of postmodern deconstruction. The role of scientific faith is so important that even religious organizations are forced to resort to it.

The confidence generated by scientific faith is a kind of existential core guiding the scientist in the course of research and preventing him from using methods and theories that are unscientific in subjective view. Thus, scientific faith pre-rationally affirms the truth of the scientific picture of the world, the axiomatic base, as well as a particular theory.

The results of the study can be applied both by HEIs lecturers and be researchers in the field of philosophy of science, epistemology, social philosophy by analysts of social processes, since an understanding of the specifics of cognitive activity is necessary for the formation of a holistic view of a person as a social subject.

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