Confidence in the existence of supernatural forces and their impact onto human being is the essence of the religious mentality. This article considers the concept content of supernatural realities (forces, worlds, capacities). The difference between science and religion is associated with the requirement for the possibility of unrestricted observation of a phenomenon, which is typical for science, but not for religion. It is a prerequisite for such phenomenon to be included into the world view and a special meaning of the thinking effort economy for science. It is observed that particular areas of knowledge hold what in certain respects is an intermediary position between religion and science.

Keywords: religious mentality, natural and supernatural forces, scientific mentality, unrestricted observation, thinking effort economy.

Introduction

Religious Studies as an area of knowledge, whose object and substance matter is religious, must have a commonly accepted definition of the term “religion”, or, at least, be able to identify certain elements of this definition, which may be recognized in different versions of Religious Studies. However, no such commonly accepted understanding of the term “religion” is available in Religious Studies (Krasnikov, 2007). Productive approaches toward elaboration of this concept’s contents do exist, however, One of the classical approaches correlates religion with the concept of “supernatural” (Yablokov, 2000). S. Trubetskoy determined religion as “worship of supreme forces” (Trubetskoy, 1899, p. 540). Indeed (which can be easily proved by referring to basics of any religion), confidence in the existence of supreme, out-world realities and facing them is a must feature of religion, which is also religion-specific and differentiates religion from other areas of activity. Whenever confidence in the real existence of the supernatural is manifested in any other area of activity (e.g. in art), then it is always perceived as a religious motive. Undoubtedly, religion is a social institution, a social force, which is capable of affecting the society, in particular, by supporting any particular social system, either existing as a tradition, or the new upcoming system. However, this feature is not unique to religion or religious organizations.
Similar effects onto society are also typical of social science (since remote ages), political organizations, mass media and art. What differs religion from other social institutions and areas of activity is the mentality, the world view, which includes supernatural forces and their power over human or command over human. No other general and specific feature of religions can hardly be discovered. However, what is it that may be referred to as supernatural, “supreme” forces? Negation alone (whether a particular force is completely or partially transcendent to the real world) is insufficient to reveal the concept of “supernatural”. Another question is whether this concept is common for different religions – taking into consideration their key divergences.

These are the questions calling for answer if religious mentality were to be assessed on the scientific grounds.

1. The concepts of natural and supernatural realities.

Since remote ages, the trend of divergence in concepts of the two kinds of forces – natural and supernatural – has been observed in most unlike cultures. Early mentality of typical of inexactness, “diffusedness” (Alexeev, 1984) of concepts in general. This is perhaps even more so for concepts of natural and supernatural forces than for others. Primeval man (similar to a representative of archaic cultures during modern times) used to ascribe mystical properties to natural phenomena (animals and plants, for instance). Alongside with that, however, primeval man was clearly capable of differentiating beasts from “spirits”, whose existence was beyond doubt. And he was building his behavior toward real beasts otherwise when compared to the “spirits”. One could hunt or trap beasts, and animal flesh was an element of nutrition. However, one could only beg, lure, deter spirits of make them sympathize by offering sacrifices.

The concept of supernatural force in various cultures has very similar features. Below is a set of features, which comprises the contents of the concept.

1. These forces may not be observed at one’s personal will. This is a feature of paramount importance, which demarcates supernatural forces from natural forces or natural phenomena. Any human is capable of observing any natural force, whenever method of such observation is known to the human. Any real beast can be tracked down, since this mission is technically possible for any trained human. However, the “spirit” will only reveal itself at its own discretion, but not at human’s will. It is true, although, that some mystical traditions, including early traditions (shamanism), contain the representation of special people – intermediaries between the real world and the spirits’ world, which can, at their own will, communicate with the “spirits”. But also from the point of view of this representation, opportunities of unrestricted observation of “spirits” are radically limited. Observation is only accessible to few people (the cause being probably not as much related to training, but rather to being pre-disposed), and, also, call for a “spirit” is still a request, while the “spirit” is left to decide whether to accept or decline the invitation for communication. The opportunities of proving the fact of communicating with “spirits” are limited as compared to opportunities of proving contact with “natural” forces, or phenomena. There are no material evidences of the “spirits”’ existence, which would be as assertive as those for real beasts.

2. Behavior of these forces contains elements of reasonableness, and often these forces are anthropomorphic;

3. They possess psyche, consciousness, sometimes even called “spirits”. Obviously, this is to emphasize that this psyche is not confined to a “body” in conventional meaning of the word;
4. Their behavior demonstrates might (in most unlike aspects of this concept), which is far beyond human capacities. It is as if laws of the physical world are not made for them, or not applicable in full;

5. Often their behavior contains something, which can be evaluated by human in ethical terms. In this respect, the concepts of supernatural forces break down into good and evil. Meanwhile, it appears as if in virtually all cultures coming across evil supernatural forces is more likely than across good ones. Many religious derive their contents, and, in particular, contents of their ethical norms out of commands of supernatural forces.

6. They are characterized by certain alienation from human. Actual intervention of these forces into people's lives is less than the possible (taking into consideration of their might and good or evil attitude to human).

Whether these forces exist indeed is a totally separate issue. However the confidence in their existence was typical of all cultures and caused religion to form as a special area of activity.

The above features of supernatural forces are pointed out explicitly or implicitly in various religions. However, different religions depart in their statements about commands of supernatural forces delivered onto humans, including ethical commands.

The concept of “supernatural (otherworldly) world” was the result of development of the concept of “supernatural force”. If supernatural forces should exist, then also does exist the supernatural world (worlds), from where these forces arrive into our worlds, and where they return. Supernatural forces being exempt from unrestricted observation is partly related to their capacity of traveling from world to world, from the viewpoint of mind assured of their existence.

Supernatural worlds are inaccessible to unrestricted observation, equal to supernatural forces invading our world from these worlds. However, the idea of non-observability of supernatural worlds and supernatural forces contained in them has specific features, which differentiate it from the idea of non-observability of supernatural forces present, for the time being, in our world. Already in the pre-historic period, based on archaeological findings, the belief of after-life appears. In accordance with this belief, after death the soul passes into a different, otherworldly world. However, the deceased cannot freely return and share his knowledge of supernatural world with the living. Mystical traditions are typical of stories about appearances of the souls of the dead in this world, but these appearances may not be observed – the “spirit” in question has features of a supernatural force. Since remote ages, stories of experience had by people “between life and death” have been known, which were treated as authentic messages about interaction with the supernatural world. However, this experience does not yield to unrestricted verification. In general, it can be stated that neither supernatural worlds, nor supernatural forces may be observed at one’s own discretion. This is the principal difference of supernatural realities from natural ones. Let us emphasize once again that any natural force may be observed by any person, whenever he is familiar with the algorithm, or methods of observation.

Often religions, including early religions, claim the existence of a single natural world and two supernatural worlds – the world of the good forces associated with the sky, light, joy, good and the world of evil forces associated with underground, darkness, suffering and evil.

A special variety of supernatural realities is manifestation of supernatural capacities or properties in beings, but also sometimes in things of the real world. That is to say that natural forces (beings, things) also have such capacities or
properties, which are perceived as belonging to supernatural forces.

Human soul holds a special position in the context of "natural-supernatural" relations, in accordance with religious representations (starting with early religions). Similar to supernatural forces, it also vanishes in this world when it passes into the supernatural world, while in particular inexplicable cases it may return into this world temporarily.

Similarity of soul and supernatural forces becomes stronger in historically later religions and certain philosophical systems – the idea of free will appears (thus making souls only partially subordinate to laws of the physical world). Also the idea of effect of psychic phenomena onto physical phenomena appears (also, what is implied is that soul cannot, in some respect, be attributed to physical reality, and, in a sense, that soul holds power of a part of physical reality, even over laws of physical reality). Let us recall Plato’s "world of ideas", and his approximation of human soul with ideas, as well as Kant’s philosophy, where individual consciousness, which is called "transcendental apperception", belongs at the same time to the "natural" world of phenomena and supersensible world of "things-in-themselves". Of course, historically these ideas should be placed later, however, they are the developments of trends rooting back into very remote ages.

Main feature of religious mentality is being oriented toward perception of supernatural forces, and toward activity, which is related to addressing supernatural forces. Alongside with that, since remote ages, religion was also drawing attention to other topics – primarily to ethics – issues of good and evil, and issues of the origin of the world in general. It appears that issues of the origin of the world, even from the logical standpoint, call for concepts of supernatural "otherworldly" realities – the cause of world must be outside of the world. Ethics is also calling for "transcendental" justification. Every person’s experience proves that an ethically correct (or ethically incorrect) behavior does not always receive due reward in this world. The idea of reward in the otherworldly world appears already in early religions. Ethical problems are also in a different relation to the problems of the world’s origin. Creation is associated with good, while destruction is associated with evil. Creation of the world must an act of Good.

2. Elements of scientific mentality, which are of primary importance for its differentiation from religious mentality.

A supernatural force may not be observed at one’s personal discretion. This attribute, which is confined in the concept of supernatural force, is of vital importance for differentiation of religions and science. Religion and science are related areas of activity. Their interaction and conflict are associated with this fact. Any statement about existence of particular classes of forces or phenomena in this world falls within the competence of either religion or science. Let us consider these issues in more detail.

Among all principles typical of scientific mentality (for details – see Popov, 2010), of special value in differentiation from religious mentality are 2 principles. These are: algorithm of unrestricted observation of a phenomenon, and economy of thinking effort. These must be considered in greater detail.

**Algorithm of unrestricted observation of a phenomenon**

One of the key elements of scientific mentality is the requirement to produce algorithm of unrestricted observation of a phenomenon of a particular class, as grounds for including this class of phenomena into the scientific world view.

In a number of cases, not the phenomenon itself may be observed, whose existence is
being proved, but any material evidence of its existence – its fraction, trace or aspect. A fall of meteorite cannot be observed in unrestricted manner (especially after it has already fallen), however, its remnants may be observed without restrictions. It is impossible (or very complicated – will take lots of time) to observe approximation of particular planets, but it is easier to observe motion of each planet individually, and to describe the trend for approximation. One cannot observe Troy, but one can observe its remnants without restrictions. For particular historic events, there is no “material evidence”, however, there is evidence, whose existence is not likely to be explained unless such phenomenon would have taken place. Also, source documents containing this evidence are open to unrestricted observation. It is also a type of phenomenon’s trace, which is not substantive, but informative. In many cases, for humanities such trace appears sufficient grounds to recognize existence or, at least, high probability of existence of a phenomenon – especially when other arguments for its existence are available. However, this is insufficient for science, whenever existence of a particular class of objects is being asserted. Reality of existence of a particular species of plants, animals, or a specific mineral or rock can only be based on “material evidence” (bones, herbarium, museum exhibits).

Therefore, science admits into its world view not just “observable facts”, but also such phenomena, which yield to unrestricted observation (when their method or algorithm of observation is known). Observation can be either immediate, or come through other phenomena (which are, in turn, also accessible to unrestricted observation).

**Confidence in the fact that the only forces existing in the world are those accessible to unrestricted observation is of dogmatic nature.**

Religion is also based on facts, which were observed, and, in a number of cases, will be observed by many. Sometimes, the number of observers of these facts is even greater than the number of observers of scientific facts. How many of us saw coelacanth? But whoever willing can see it in particular museums. The number of people claiming to have seen a ghost is probably by far greater, but seeing a ghost at one’s own discretion is impossible. Therefore, these statements remain outside of science.

**Economy of thinking effort – “Occam’s razor”**

The English scholastic of the XIV century, a Franciscan monk William Occam formulated the methodological principle – “do not multiply entities beyond what is necessary”. (This is the form, in which his idea is being popularized. To be more precise – “it is in vain to accomplish something with greater than with smaller (as quoted in Russell, 1994)). Let us consider this principle (and not in Occam’s, but rather in quite modern meaning) in more detail, since it is of critical value. A clarification concerning the word “entity” must be made, since this word has different meanings in philosophy. Here, an entity is a phenomenon included into any particular mental structure.

The principle of thinking effort economy includes an important aspect of value for problems of differentiating scientific and religious mentalities. The higher is the typological, classification level of the phenomenon being introduced (a phenomenon, which needs to be introduced into the scientific world view), the more likely is academic community of require for material evidence of the existence of such phenomenon. The higher is the typological rank of the phenomena being introduced, the more entities are actually being introduced, since any type is a stable combination of “entities”,
i.e. attributes (properties and relations), and the higher is the level of the type, the more attributes. Let us consider this issue in greater detail on the example of zoology. Classification of animals includes (abbreviated) the following levels: world, type, class, order, family, genus and species. Sub-species may be identified within a species. For instance, the species of gray wolf Canis lupus is a member of the “dog” genus (Canis), the canine family, mammals, predators order, chordate animals. Sub-species are consolidated into species, species into genus, genus into families etc. However, there are also genus, families, orders, which are represented by one species only. Otherwise, a particular species has been assigned the level of, say, a family, on the basis of high degree of difference of this species from other species – such a degree of difference, which is normally typical of representatives of different families. Sometimes, these are referred to as “species ranking as genus”, or “species ranking as family”.

Now, let us imagine a situation, where a particular zoologist states that he has discovered a new sub-species of wolf, however fails to produce any material evidence of such discovery. How will statement of this kind be perceived by the zoological community? Will they take his word for it? Perhaps yes, if the zoologist has high authority; at any rate, the statement will be considered seriously, as a claim for new knowledge, as grounds for maybe not trust, but for thorough research or expectation of further discoveries, which will be better justified. Let us now imagine other situations, when a zoologist would claim to have discovered not a new sub-species of gray wolf, but of a new species within Canis genus. Or a new genus (species ranking as genus) in canine family. Or a new family (species ranking as family) in predators order. Or a new order (species ranking as order) of chordate type. And failed to produce any material evidence. In this case, the higher is the classification rank of the phenomenon, the greater doubt in reliability of the result it produces. (Let us also remark something different – the higher is the classification rank of a discovered phenomenon, the more valuable is the discovery; but also the harder it is to prove the reality of the discovery...). How will colleagues react in such cases?

Claims for discovery of a new species will not be accepted without material evidence. Claims for discovery of new families, let alone orders or types, which are not substantiated with material evidence, will cause mockery, if not doubts of sanity.

When a new sub-species is introduced into scientific knowledge, not many “entities” – attributes composing a combination differentiating this species from an “old” familiar species are being asserted. Whenever a new species is introduced into scientific knowledge, a greater number of “entities” – attributes are introduced (perhaps, not into the scientific knowledge in general, but into its subsystem, which formerly lacked them). Species are stronger; they differ from each other by a larger number of attributes, and by their morphology, than sub-species. They are more different in behavior and nature of relations with the environment. And so forth – the higher we climb the classification stair, the larger combination of attributes we propose to include into one the subsystems of scientific knowledge. This means that the principle of “do not introduce a higher typological rank where a lower typological rank is sufficient” is just a particular application of “Occam's razor”.

Now let us imagine yet another situation – a scientist claims to have observed a supernatural phenomenon – a ghost... This will not be science any more. The two grounds for disbelief become combined – lack of material evidence and incredibly high typological rank of the phenomenon, which is claimed to exist.
It is proposed to recognize the existence of a phenomenon, which is radically different from phenomena familiar to science by its properties – far more radically that representatives, say, of plants world differ from representatives of animals world. It is here that material evidence is crucial, but unavailable, and it seems as if it could not become available in principle.

Principle of thinking effort economy is practically implemented in two options. If a statement introducing a new entity into the world view is extremely poorly justified, then this entity is not admitted even hypothetically. If a statement introducing a new entity into the world view is substantially, although not decisively justified, this entity may be admitted hypothetically.

The principle of thinking effort economy is important, however, modern science (a large community of scholars) seem to be inclined to exaggerate its significance. This trend occurs whenever there are serious grounds to admit the existence of particular phenomena, however, it does not appear possible to either prove or refute the fact of existence, and then such phenomena are perceived as positively non-existent. In other words, without due cause, a phenomenon is transferred from the class of supposedly existing into the class of positively non-existing. In other words, without due cause, a phenomenon is transferred from the class of supposedly existing into the class of positively non-existing. For the sake of thinking effort economy a hypothetical phenomenon is excluded from mentality without the need to do so. A more appropriate approach would be to refer phenomena, which have not been positively proved to exist, however quite likely to, into the “stockpile” of scientific thought, to consider them against new facts; in case of high probability of a phenomenon, or its high significance one should take active efforts to verify its existence. Overly rigid compliance with thinking effort economy principle will entail passiveness of thought.

This is entirely true for the problem of existence of supernatural phenomena.

In religious thinking existence of supernatural realities is justified with empirical arguments – statements about observation of these realities (even though such statements do not yield to unrestricted verification), and by arguments of philosophical nature (several classes of these arguments exist – e.g. teleological, ontological, historical, ethical, practical). Philosophical arguments point at existing phenomena of the world, which can be observed unrestrictedly, but treated as the results of actions by supernatural forces, primarily, of the supreme force – God. Thus, teleological arguments refer to manifestations of order in the world as an indicator of Creator’s existence. Ponderosity of philosophical arguments from the viewpoint of scientific mentality is underlined by the fact that several leading scientists either developed these problems (Leibnitz), or accepted some of these arguments (Newton). Even Ch.Darwin, whose ideas promoted to undermine the influence of religion more than any other results of natural science, was hesitating between theism and agnosticism being pressed against teleological arguments (Darwin, 1957).

It appears that the entire integrity of arguments in favor of religious mentality, especially teleological, practical, historical and empirical arguments must be considered (within scientific mentality) as sufficient to presuppose the existence of supernatural realities and possibility of human interaction with them.

A categorical negation of the idea that supernatural realities exist from the point of view of thinking effort economy is the results of exaggeration of this principle’s value.

The above does not lead to state that religious belief is a probable knowledge. Belief is the assuredness, where lack of rational grounds is made up by intuition.
The statement of existence of supernatural realities is a probable knowledge from the viewpoint of scientific mentality.

3. Element of uncertainty in the concept of “supernatural” and area of knowledge on the borderline of religion and science.

Proximity of science and religion is underpinned by the existence of areas of knowledge, which occupy, in a certain way, a transient position between the two. With all differences between the concepts of natural and supernatural realities, still, concepts holding somewhat a middle state between the two do exist. And, accordingly, areas of knowledge dealings with such concepts become closer both to science and to religion. First of all, let us consider idealistic philosophy based on the above viewpoint. Philosophy in general is an area of knowledge, which is close to science (sometimes considered a branch of science). However, in its particular respects, it is close to religion. Objective idealism is expressly related to religion, and with monotheistic religion at that (Christianity, Islam, Judaism), or with a manifested monotheistic tendency within philosophy – as is true for Plato, Aristotle, and their pagan predecessors and successors. From the viewpoint of objective idealism, the empirical world is a kind of derivative from supernatural realities – God, or the “world of ideas”. Subjective idealism is not always expressly linked with religion, however the clear demarcation of the “world for us”, “our”, empirical, sensitive world and its supersensitive unknowable basis manifested in subjective idealism reminds of separation of natural and supernatural world (or worlds) typical of religious mentality. Supernatural world in religion is, in a way, supersensitive, while supersensitive world (or a supersensitive aspect of the world) in subjective idealism reminds of supernatural world. Supernatural world is unknowable, therefore, it is unpredictable for human, may function as source of sensitive world phenomena, which are perceived by human as supernatural phenomena. This similarity promotes for combination of religion with subjective idealism.

Thus one of group of concepts present in science and approaching religions concepts are the concepts of supersensitive or supernatural worlds or world aspects typical of idealistic philosophy.

Of special place in the context of differences between concepts of natural and supernatural capacities, and, accordingly, between science and religion (or mystics), are the so-called extrasensory, or parapsychological phenomena.

Their existence is not deemed to have been proven scientifically. The reason of this is difficulties in unrestricted observation of these phenomena as well as extraordinarily tall tank of this group of phenomena. It can be inferred that extrasensory phenomena occupy the middle position between science and mystics. Extrasensory or parapsychological phenomena (as they appear in statements concerning them – while the issue of their actual existence remains unresolved) occupy the intermediary position between the natural and the supernatural phenomena (as they appear in statements about them). Several types of these phenomena are distinguished:

These include telepathy (“ability to transfer thoughts over a distance”), telekinesis (moving objects with power of thought), clairvoyance (perception of objects without use of known sensory organs, including over a large distance), extrasensory foresight (foreseeing future events by means of their immediate observation as opposed to information collected by sensory organs, as if receiving a message from the future). It would be by far uneasy to include these phenomena into the system of modern scientific knowledge, even hypothetically. It is not only the physical basis of these phenomena, which is unclear. Physical
factors comprising this basis must be profoundly
different from physical factors known to science,
must have a extremely tall typological rank.
Moreover, it would be difficult to build any
hypothetical and most abstract scheme for most
of these phenomena. In this sense, things are
easier with telepathy – one could presuppose that
mental information is passed with some kind of
waves, whose nature has not yet been discovered
(a kind of “radio communication” – this is how
some researches used picture telepathy, also in
the USSR). As for telekinesis, clairvoyance and,
especially, extrasensory foresight, these cannot
be visualized even by means of such a simple
hypothetical image. Extrasensory phenomena are
sometimes viewed from the mystical point – not
as the result of any physical factor, but as the result
of supernatural forces interfering into human
lives. In this course, supernatural forces may be
either good, or evil. From this perspective, an
extrasensory person does not bear any capacities,
which would be natural, however not commonly
found in humans, but rather is a person with a
special link between him and angels’ or demons’
world.

There is also another group of concepts
present in science (or in its periphery, perhaps),
but approaching concepts of
supernatural realities. These are the concepts
of hypothetical phenomena (like inhabitants of
other planets, other dimensions). In his time,
K.E.Tsiolkovskiy, who was not only the author
of one of the first scientific designs for flight
into space, but also a cosmic philosopher, has
come to the inference that unknown rational
forces exist in space, and that space is ruled
by the supreme Reason. It is known that the
hypothesis about numerous inhabited worlds
appeared within the framework of scientific
mentality (Bruno), while being in conflict
with the church’s viewpoint. The hypothesis of
the existence of other dimensions of physical
space is also a scientific one. How, then, should
inhabitants of other planets or other dimensions
be identified, provided that their cognition of
world has gone much further than human’s – as
a natural or supernatural force? It is possible
to imagine a real situation, where it would be
difficult to demarcate the concepts of “natural”
and “supernatural”? Views of K.E.Tsiolkovskiy
were called (either by himself, or by others) a
cosmic religion (although these ideas contain no
supernatural realities in the classical religious
sense). Are these and similar ideas non-
traditional religious ideas, or still a scientific
hypothesis? It is hard to give an unambiguous
answer to all of these questions.

**Summary**

Difference between religion and science,
however profound it may be, must not be seen
in absolute terms, based on the following:
there are areas of knowledge, which can be
viewed as transient states between religion and
science, and the claim of scientific mentality
to exclude any phenomena not yielding to
unrestricted observation from world view is
based on a dogma. Both areas of activity see
their mission in perception of world. Existence
of supernatural forces in the world has not been
proven or refuted; however it is substantially
justified within the framework of religious
mentality. In our view, understanding these
circumstances is capable of promoting mutual
understanding among bearers of scientific and
religious mentalities.

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Russian
Понятие «сверхъестественное»
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Уверенность в существовании сверхъестественных сил и в их влиянии на человека – это сущность религиозного образа мышления. В статье рассматриваются содержания понятий сверхъестественных реальностей (сил, миров, способностей). Отличие науки от религии связывается со свойственным научному, но не религиозному мышлению требованием возможности произвольного наблюдения явления как необходимого условия его включения в картину мира и особым значением принципа экономии мышления для науки. Отмечено, что некоторые области знаний занимают в определенных отношениях переходное положение между религией и наукой.

Ключевые слова: религиозный образ мышления, естественные и сверхъестественные силы, научный образ мышления, произвольное наблюдение, экономия мышления.