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### **New science, or old myth?**

This article deals with the correlation of science and extra sensorial perception of the world. It is claimed the scientific perception of the world radically differs from extra sensorial perception. The science or scientific perception is a sphere of human activity function of which is development and theoretical schematization of objective reality knowledge. And, the extra sensorial perception belongs to the perception forms occurring without participation of sense organs and belonging to area of mysticism. The mysticism is the base of myth perception. The myth or myth perception are parts of culture. The culture is broader concept than science, the «pseudoscientific myths» demand, probably, a double assessment — criticism as the area applying to be science, and the analysis as a part of culture which can't be ignored and which is difficult interwoven into human knowledge.

*Key words:* mysterious, extra sensorial perception, biofield, science, myth, legend, folk tale, fairytale, fable, folklore, bylichka, mysticism.

In recent years the ordinary reader is interested in messages about the unknown flying objects which are treated as reconnaissance ships of alien civilizations, about searches of mysterious Loch Ness monster, about tragic secrets of «Bermuda Triangle». But the greatest interest causes everything relating to mentalities secrets — generally they are stories about unusual properties of the biofield allowing to move objects with effort of will, to predict future, to diagnose and treat diseases, so-called extra sensorial perception — ESP. Stories about ESP are presented in the form of experimentally obvious phenomena which haven't received a proper theoretical explanation yet.

If to distract from declarations on the fact that ESP is a new area of scientific knowledge, then it is necessary to notice that at many statements of adherents of ESP is something supernatural. And it is understood not as the phenomena which haven't been learned by science yet, but the provisions contradicting the general scientific principles.

The appeal to supernatural pulls together so-called ESP with mysticism. Not accidentally the English ethnographer, the founder of cultural and historical school in mythology J. Fraser wrote: «One of magic foundations is the belief in telepathy. The modern adherent of belief without effort would find a common language with the savage in interaction of minds at a distance... The savage is convinced in not only magic ceremonies make impact on people and objects at a distance, but also that the simplest acts of ordinary life can make the same effect» [1].

The critical analysis of phenomena of ESP is important for fighting against modern kinds of the fideism trying to speculate, on the one hand, with the problems which haven't been learned by science yet, and on the other hand, to rely on pseudoscientific mystifications.

Researches on ESP began in 1882 when in England there was Society of mental researches, and reached the peak in the thirties in works of J. Rein of Duke University laboratory (USA). We will notice that as the most sensational experiences got an ordinary explanation (usually it was fraud) and interest in the unusual phenomena of mentality began to die away, the compromised terms were succeeded by the new one. So, in the 19th century people with unusual abilities were called mediums, in 30 — the 60th years of the 20th

century were called telepathists or sensitives, and recently have been called psychics. Also it took place the tendency to change of the name of activities for «studying» these phenomena. In the beginning it was called as spiritism, then — parapsychology, and now — «ESP research».

Parapsychologists single out several spheres of research which they were engaged in. Following, main from them are telepathy — transfer of thought or an image on distance from one person to another without participation of sense organs; a psychokinesis — physical impact on material objects with will power; clairvoyance, or precognition is obtaining data on future events, destiny prediction, finding of the gone objects. Recently it has been much spoken about diagnostics and treatment of diseases by means of biofield (psycho — or paramedicine), about the so-called psychophoto (imprinting of a fancy on a film of camera without opening of its lock) which, however, can be considered as psychokinesis «subspecies», about definition on the changed biofield of a plant in the presence of which there was a crime (it «was terrified»), characteristic features of the criminal and details of a crime (psychocriminalistics) etc. Before parapsychology and «researchers of ESP» have progressed in classification of the phenomena studied by them, the idea about unusual and mysterious properties of human mentality has undergone big evolution.

In 1847 in America and Europe there was a spiritism — a way of communication with spirits of the dead by means of especially gifted people — mediums or collective efforts in table-tipping. The belief in supernatural abilities of communication with the other world took not only inhabitants, but also the famous scientists, among them there were physicists U. Berret and O. Lodge, the mathematician A. Morgan, the biologist A. Wallace (irrespective of Darwin put forward the theory of evolution), chemists U. Kruks, A.M. Butlerov. The spiritism cult which was widely extended even in the scientific environment forced F. Engels to write a philosophical lampoon «Natural sciences in the world of spirits» in which it was opened the absolute impossibility to combine the spiritualistic phenomena with science.

Mediums weren't limited to broadcast of knocks from the other world, they wrote by dictation of spirits notes or broadcasting by their voice of the latest news from shadowland. At the end of the 19th century there were so-called physical mediums in the presence of whom spirits were materialized and made different physical actions, somehow: moved objects, lifted little tables, played musical instruments, touched by hand attendees faces at sessions and even gave them sonorous kisses.

It should be noted that in the scientific analysis of so obvious mystifications the leading role was played not by societies of mental researches which most of participants interpreted the unknown phenomena of human mentality, riddles and surprises which would be given still by mentality to science, and the commissions consisting of physicists, conjurers and small part of skeptically adjusted psychologists.

It is interesting that most unfriendly professional conjurers treated sessions of mediums. It is easy to understand their mood: they could make tricks on the verge of a human body, representable for opportunities, but never gave it for certain yet not learned secret which had to nonplus science.

The little-known French writer on pedagogical subjects the marchionesses Rivayl who became widely known to the world of spiritists under a pseudonym Alan Kardek (1804–1869) was the chief theorist of spiritism. His books have been translated into all European languages including into Russian. We will use his work «Book of Mediums» published in St. Petersburg in 1904.

Fistful Kardek gave classification of mediums, distinguishing among them in the presence of whom the souls of the dead were materialized, in the presence of whom the certain «semi-material» parts of spirits connected to objects and began to move, soar (to levitate), and, further, such mediums whose body spirits seized in a trance and who began to broadcast them by voice about the phenomena known only to this spirit. Kardek singled out as many mediums so many types of people exists: mediums for messages of platitudes, ribalds, illiterate, self-interested, mediums — healers, mediums self-confident and mediums poetic. Kardek taught the soul of the dead isn't absolutely exempted from a corporality. Long time it remains surrounded by the certain cover which is called «perispri» or the «an astral body» having appearance of a body of the dead. This «perispri» is seemingly material, but not absolutely. Kardek asked for the help a new then science about electricity — it represents something like an electric cloud in the form of a human body. Now it is clear that not the soul influences objects, the person sees not its actions or doesn't feel it appears before the brightened-up look of the medium (only superstitious medieval people so could think), and all this occurs thanks to effect of special type of matter — as if electric «perispri». The same «perispri» gets into a body of the medium, merging with his own, forcing it to speak not to the voice or to write about events unknown to him.

By the beginning of the 30th years in scientific community it became inconvenient to speak about spirits and scientific check of sessions of communication with the other world. The problem, according to parapsychologists, consisted not in research of the mechanism of transfer from the other world, and in finding of

a way to what the thought or an image from one person to another is transferred, passing touch channels, sense organs or how will power is possible to move objects, or what mechanism of exact anticipation of an event (we will notice that these problems were discussed at the end of the 19th century, but weren't still the main).

When the prominent researcher of the paranormal phenomena J. Rein (the botanist who went in for parapsychology after the lecture on spiritism given A. Conan-Doyle) headed special laboratory of parapsychological researches in Duke University (in 1930) experiments on telepathic obtaining the whole pictures weren't put any more. Superprobabilistic guessing of the series from the figures and cards constructed by Rein's employee Zener (five cards with the image of a circle, a square, a cross, wavy lines and a star) would be considered as success in the proof of existence of ESP. There were invented various smart ways of the casual choice of Zener cards, the inductor (the person giving a mental task) looked at them, and percipient (accepting information) wrote down the guessing. It seemed to Rein that he had convincing results — in some of his experiments the number of the correct guessings against purely casual emergence of the account made several millions to one, i.e. purely casual guessing almost incredibly, it is necessary to recognize reality of ESP. Alas, the detailed analysis of protocols of experiments which was given in Ch. Henzel's book (Henzel Ch. Parapsychology. M., 1970.) shows that experiments contained the mass of «holes» — from a possibility of fraud before unconscious use of the so-called touch keys representing very weak signals perceived by usual sense organs and processed at the subconscious level and only the end result which is perceived as inspiration, a sudden guess is realized. Quite often found cases of feeling of a stare in a back which support belief of many people in a psychokinesis are an example of touch keys. Actually there is a typical touch key: silent rustles behind you, breath, a shadow sideways, reaction of people whom you see and who in turn see the one who considers you force to guess («to feel a look») that behind «not everything is all right», and to turn back.

Cases of so-called spontaneous telepathy when a certain person sees some situation or hears certain words, and then this situation really occurs or necessary person pronounces those words, speaking harmlessly. They are quite real. So, almost each mother caring for the child with concern imagines nearly every day that something happened to her favorite (especially when he has lost somewhere), touching any possible options in the consciousness. The law of large numbers says that accidents are inevitable, and the probability theory says that under the conditions stated above surely there have to be coincidence and if there is an accident, the consciousness is fixed from all options which have flashed in the head by those which is similar to the incident, and rejects the others.

New flash of interest in problems of ESP arose in the seventies. Perhaps, there was something, throwing new light on the mentality nature. A certain opening was really happened. This concept about the biological field — biofield. At the same time it was opened not biofield, namely new concept of biofield. It was entered by the Soviet biologist A.G. Gurvich in 1944, but was applied by him absolutely in other sense, than now is used by supporters of ESP.

What contents is put in concept of biofield by ESP adherents and what empirical and theoretical bases for its introduction? «Researchers of ESP» widely use the concept «biofield» for designation to unknown science of the reality generating the phenomena (telepathy, a psychokinesis) observed by them. Assumptions that the kind of electromagnetic radiation which were not investigated by physics yet can be the main component of biofield. Now all range of electromagnetic oscillations — from gamma radiation to superlong electromagnetic waves are known to physics. Therefore the assumption of existence of the electromagnetic waves «unknown» to science which, however, are carriers of extra sensorial information can't be considered as a scientific hypothesis any more. However, there are works in which it is claimed that the usual electromagnetic oscillations radiated by a brain could be carriers of extra sensorial information.

Such conclusions are based on the famous provisions of radio engineering according to which any signal however they were weak, are capable to transfer information, but, the signal is weaker, the bigger time is necessary for reception of information unit. However» numerous experiments of supporters of ESP show that it isn't connected and doesn't depend on conditions of distribution of electromagnetic waves (reception of extra sensorial information isn't influenced by distance between the inductor and percipients, existence or lack of the screen between them) Therefore most of orthodox supporters of ESP don't lay hopes for the electromagnetic nature of ESP, and put forward idea about the «biofields» unknown to science radiated by live organisms.

If to understand some sum of various «radiations» of an organism as biofield, then this concept is quite acceptable. Of course, any organism, and including the person, is a source of some fields, we will tell elec-

tromagnetic (including thermal) and gravitational, it is possible — a source of ultrasonic radiations. It is also possible to claim that the range of radiation of the sick person and even separate sick body will differ from a range of healthy body (for example, inflammatory process leads to temperature increase). With reasonable degree of probability it is possible to assume that there are people capable without any devices and medical education to establish the diagnosis on little changes in the radiation of sick body. There is also nothing beyond physical representations in Kirlian effect.

It is necessary to tell about this effect slightly in more detail as it is widely used for various speculation. Especially speak much about the certain radiation, so-called aura which surrounds the psychic with «a strong biofield» and which is even sometimes observed in the form of aura around the head and a body of the psychic (Saints with nimbuses over the heads are people with the strong biofield).

The Kirlian effect is a photography of object in the high-frequency field. From below the high-frequency generator up to 200 thousand is connected to object (it can be the leaf of a plant, a palm, any plate). With a frequency from 75 to 200 thousand. Hz. the film is put on object, and the facing to which the second contact from the generator is connected from above settles down. Between object and facing slip microsparks which pass through a film and light it. These traces after manifestation of a film are also Kirlian effect. Distribution of sparkles depends on a condition of object (we will tell, the leaf is struck with an illness or not) and in principle can be used for diagnostics, but has no relation to «biofield luminescence» aura. When some magazine places the picture of a palm taken by Kirlian method, and gives her for aura — a luminescence of a palm of the psychic, visible with the naked eye, it is the usual juggling aiming to mislead the unsophisticated reader the reference on «world famous Kirlian effect».

However the supporters of ESP go much further. According to their messages about biofield and aura it is possible not only to reveal an illness, but also to learn the biography of the person, troubles which comprehended and good luck. Of course, if to state data on the person it is flowed rather round and generally, then as it is known to psychologists, due to effect of installation and other psychological mechanisms it is possible to achieve a certain result.

There are submitted inexplicable messages on ability of psychics to establish the diagnosis and to tell biographies of people according to their photos, plaster casts, the description, biofield of their acquaintances and even just on name and date of birth or messages on impact of biofield of the aggressive person on a plant on which in turn the psychic can obtain data on the criminal. Somehow to include similar phenomena in a rank of the scientific facts, supporters of ESP aren't inclined to consider biofield as result of addition of the known fields, and insist on the special nature of biofield, so far unknown science. So, it is claimed that the biofield «doesn't know barriers and gets on long distances» that it is possible to transfer the biofield to other person, speaking with him by phone, it is reported about an opportunity by means of biofield to find the disappeared objects, to transfer an image to a film without opening of a camera lock, to define deposits of minerals, at last, to predict future, including destiny of the person. Hundreds years ago such abilities were called clairvoyance and dowsing, in special parapsychological literature it was used also the term «precognition» (a future discretion).

Supporters of ESP, however, won't begin to object that all mentioned above (and many others) properties of biofield are inexplicable within cash knowledge. Besides, this fact will even be used by them for reinforcement of the position. The logic of their reasoning is such. The biofield is new natural reality therefore it has unusual properties and submits to nowadays unknown laws. We will tell, remember the x-ray radiation which at the end of the 19th century seemed by miracle. And then the theory of this radiation was created in many years.

The problem of ESP can't be referred to the scientific. And of course, there is a question — what is it. The history of origin, for example, of stories about ESP allows to draw a conclusion that it is connected with folklore, and from numerous folklore genres, such as legends, folk tales, fables, myths, fairy tales and bylichka, the stories about ESP in design are closer to myths and to bylichka.

Bylichka are oral stories about some unusual, outstanding events which, however, are presented as reliable. It is necessary to agree with the Soviet researcher V.L. Sanarov, confirming that creation process of bylichka belongs not only to the past, but to the present too, taking into account the spirit of trends of times [2]. If before bylichka narrated about meetings with devils, vampires, ghouls, witches and other evil spirit (an example of masterful use bylichka in literature is the work of N.V. Gogol «Evenings on a farm near Dykanka»), then now in them it is told about meetings with physic or ufonavts. Reliability of an event in

bylichka is emphasized with the mass of household details, delineation of concrete situation, the description of the subjective experiences which have gushed at that moment over the story-teller.

Quite a lot from a design of bylichka is met in stories about the extraordinary situations connected with spontaneous telepathy, with treatment in 15 minutes of trophic ulcers imposing of hands of the psychic, with finding of the gone things. At the same time in numerous stories about ESP there is general that allows referring them to the modern «scientific» myth.

Of course, using the concept «myth» of such context, it is already impossible to be satisfied with his definition given by the American specialist in folklore S. Thompson: «The myth has to deal with gods and their actions, with creation, and also with the general nature of the Universe and the world» [3]. This definition which the author calls «minimum» is suitable to the «real», ancient mythology. Now the term — «myth» is used very widely, for example in such combinations as the Ancient Greek myth, the myth about Atlantis, the myth about the Golden Age, the myth about the serene future, the myth about panacea from all diseases, myths of mass consciousness, even the Scientist myth (i.e. the myth about unlimited opportunities of science). It is difficult to stop on definition of the myth which would include all variety of its use. It is difficult to do because there are more than ten large mythological schools, each of which gives the definition of the myth [4]. However if to try to isolate repeating that it is inherent in many definitions of the myth, it is possible to come to the following: the myth is the generalized judgment of reality at which representation, the image coincides with reality, and the mythological judgment of something doesn't need any proofs and justification by the facts, on the contrary, it «from above» offers an explanation of essence and the reasons of the various phenomena. The myth differs from the fairy tale, for example, in unconditional confidence in the validity of mythological plot while both the story-teller and his listeners consider the fairy tale as fiction. Such feature of the myth is noted in many works of prominent researchers of folklore.

It is possible to mark out the following features inherent in both old and new myths. The logical contradictions are never noticed «in» the myth. So, in the Ancient Egyptian myth the sky is at the same time represented or described in the form of a great cow, in the form of the goddess Nut lifted by god Shue from embraces of god of the earth Geba, and in the form of the heavenly river on which castles of the Sun, the Moon and stars float from the East to the west. Similarly modern precognition easily «digests» the contradiction with the principle of causality, and supporters of existence of the biofield think possible to find the field with the help of devices, which physical essence is unknown and, moreover, the essence of which can be in general, in their opinion, not physical.

In the myth relationships of cause and effect don't differ from communication on similarity or from casual temporary sequence. So, primitive people didn't see the natural reasons in death of the tribesman as a result of accident, an illness or an old age. As «the true reason» for death there were considered the invisible «influences» proceeding from harmful sorcerers or from the spirits of the dead offended by something. The harmful sorcerer was found and killed. J. Fraser describes in detail how people of primitive tribes used marriage relations between the sexes with the purpose to provide fertility of the earth as these relations considered as the reason of a harvest [5].

Similarly natural phenomena of objects movement by electrostatic influences or recovery of the person for any reason (it can be effect of suggestion) are explained by supporters of ESP as a result of certain biofield action.

So-called semantic ranks, i.e. more or less interchangeable concepts connected among themselves through metaphors and tracks or just homonyms are the cornerstone of many myths. So, in Sumer the same word «Ah» meant «water», «seed», «parent», «successor». The homonym «Ah» allowed to create various myths in which water turned into a seed, the seed — into the parent, and that into the successor. In this regard it is curious whether has not the term «field» prompted making a certain sense, various allegedly natural explanations of wonderful properties of biofield in physics?

At last, the collective practical experience can be shown in myths in an inadequate form. The subjective experience obliged to casual coincidence and the law of large numbers is reflected in confidence of many people in existence of spontaneous telepathy.

What are the reasons of existence of a modern formation of myths? In due time it seemed to philosophers of the French Education that it is enough to explain the phenomena scientifically and rationally as both myths and superstitions will forever disappear. The history has shown that it is not so and that cultural development isn't only linear increase in rationality in it at all.

The Soviet historian I.M. Dyakonov paid attention to the idea stated by the English neurophysiologist Ch.S. Sherrington and developed by the Soviet psychologists L.S. Vygotsky and L.O. Salyamon which helps to explain deep mechanisms of existence of myths, including modern which Dyakonov calls «tertiary» myths. The essence of this idea is that quantity of signals going into cerebral cortex surpasses a possibility of their full verbal or graphic expression («funnel of Sherrington»). Even today, I.M. Dyakonov has noticed when the person operates with a huge conceptual framework, including a large number of concepts for designation of colors, he can't verbally describe that set of shades which perceives an eye at the level of emotional information, and has to resort to associative receptions, telling «brick color», «salad color» etc. But if emotions can't be expressed adequately through abstract concepts, the requirement to tell about them results in need to express them in words indirectly, namely associatively, through the certain, which during the certain cultural era is at the same time typical. It is found here the deep similarity to art, artistic creativity which by means of an artistic image (certain), by means of metaphors and tracks compensates limited opportunities of the rational description of the person's condition. Not accidentally that art widely uses mythological images for transferring difficult emotional experience. Besides, it is possible to assume that modern myths are the compensatory psychological mechanism allowing the «average» person to have a discharge from everyday problems.

But if «scientific myths» aren't part of science, then is indisputable that they are part of culture. Culture is broader concept, than science. First, the knowledge can be realized not only in a scientific form, but also in mythological, to that there are a lot of examples: properties of a magnet, curative herbs, hypnosis, chemical transformations were known in an extreme antiquity and were realized in prescientific forms of thinking, and, secondly, myths can play a role of the psychological generators of creative thinking stimulating promotion of essentially new ideas, and in certain cases — even incentives to practical activities (the opening Troy by Schliemann).

Thus, «scientific myths» demand, probably, a double assessment — criticism as the area applying to be science, and the analysis as a part of culture which can't be ignored and which is difficult interwoven into human knowledge.

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### Ескі миф, пе әлде жаңа ғылым ба?

Мақалада ғылым және экстрасенсорлық дүниетанудың ара қатынасы туралы мәселе жан-жақты қарастырылды. Авторлардың айтуынша, дүниені ғылыми тұрғыдан тану — табиғат, қоғам және ой жүйесі жайлы жаңа білімдер жасауға бағытталған қоғамдық сана. Ал экстрасенсорлық таным — ол адамның сезім мүшелерсіз қоршаған дүниені қабылдау процесі. Ондай қабылдаудың түбі мистикалық формаға алып келеді. Мистикалық ойлау түрі — мифтік сананың үлкен тамыры, ал аңыз (миф) — мәдениеттің алғашқы түптамыры. Ғылым да мәдениеттің көлеміне кіретін болғандықтан, мифтік санамен араласады. Миф пен ғылым адамзаттың таным процесіне жататындықтан, «мифтік ғылым» деген ұғымның көлемі мен мазмұнына көңіл бөлуге тұрарлық ұсыныс айтылды. Мифтік сана өзін ғылыми деңгейде қарастыруды талап етеді.

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## Новая наука, или старый миф?

В статье рассмотрены соотношения науки и экстрасенсорного восприятия мира. Подчеркнуто, что научное восприятие мира коренным образом отличается от экстрасенсорного. Отмечено, что наука или научное восприятие — это сфера человеческой деятельности, функции которой — выработка и теоретическая схематизация объективных знаний о действительности, экстрасенсорное же восприятие отнесено к формам восприятия, происходящего без участия органов чувств, относящегося к области мистики. Мистика, есть фундамент мифосознания, миф или мифосознание — это часть культуры. Культура же, — это более широкое понятие, чем наука. Подчеркнуто, что «научнообразные мифы» требуют, видимо, двойной оценки — критики как области, претендующей быть наукой, и анализа как части культуры, которую нельзя игнорировать и которая сложно вплетена в человеческое познание.

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