

## The Irrational: A View from the Standpoint of Noospherology

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**Abstract:** An attempt to give a rationalistic interpretation of certain phenomena that previously belonged to the sphere of non-scientific knowledge, including the phenomena of prophecy and magic, was made. It is shown that this kind of phenomena, in principle, can occur and can be given natural-scientific rationale, if we take into account the existence of level of information processing that may be called supra-personal; its existing follows from the neural network model of the noosphere, where an individual is considered as the analogue of the neuron and a society form an enveloping neural network.

**Key words:** Noospherology • Standpoint • Supera-personal

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### INTRODUCTION

Ability (either real or fictitious) of some people to foresee the future, including the very remote prospect of it, has always been of a keen interest. The prophecies of Nostradamus and the like have been the subject of ongoing debate though it would seem that rational knowledge had put an end to this matter long ago. Much the same can be said of the other skills that go beyond the ordinary. (Some of them are often referred to as paranormal.)

The decisive argument against it in this issue is based on a very low verifiability of all that is covered by some vague definition of "power beyond the ordinary." It is rarely possible to ensure repeating of any of the experimental results attributable to the field of the paranormal.

One of the most serious arguments in favor of it expresses the classic maxima: "If a rational explanation for the observed phenomenon does not exist today, it does not mean that such an explanation cannot be given at all."

In this paper we attempt to formulate a number of hypotheses that become the basis for a rational explanation of many of the phenomena that until recently had been excluded from a strictly scientific consideration. In any case, there are reasons to believe that the words "magic" and "prophecy" is something far more serious than inadequate representations of reality established at the dawn of civilization.

The basis for the formulated hypothesis is the neural network concept of the complex systems evolution first proposed in [1] as well as the neural network hypothesis of noosphere structure first proposed in [2].

**A Brief Overview of the Original Conditions:** Concept [1] can be regarded as a response to the many questions that arise when trying to understand the mechanism of evolution that preceded the biological development based on the Darwinian point of view. The difficulties faced by the concept of random mutations are presented in [3] in a widely accessible form.

Following are the points that are most important for the purposes of this paper among the list of the mentioned difficulties.

Living organisms exist as a part of a quite defined ecosystem that provides each of them with the essential energy and chemicals. Even if we assume that protoorganisms might appear as a result of random mutations of macromolecules in some "primordial soup", they in a very short time would run out of resources for their further generation and reproduction (especially taking into account that the occurrence of an appropriate nutritional medium itself is also should be seen as the result of random mutations).

This difficulty is better formulated in [3] as follows. Life as such could only arise in a form of certain closed ecosystem and it is unlikely that this process is the result of random mutations.

Hence (if we exclude the direct intervention of supernatural forces), there must be an alternative mechanism for the complex systems evolution in which random mutations do not play a key role.

Such a mechanism was proposed in [1] where he was named the neural network mechanism. The evidence is presented in the cited paper that any complex system has a complementary neural network (or an analog of such a network.) An example of such is partially dissociating macromolecules, which due to their physical and chemical properties are a direct analog of Hopfield's neuroprocessor. Another example is the results of [2], whereby noosphere in general can also be considered as similar to the neural network where individuals represent neurons and communications among them play the role of nerve fibers. Similarly, a specific neural network can be assigned to represent any independent part of society [4]. It is essential that such a network has a well-defined ability to process information, which only very indirectly connected to memory and behavior of individuals. This is fundamental for the conclusion about the existence of the transpersonal level of data processing made in [4].

More correctly the guideline [1] is formulated as follows: "The system can be considered complex when there is a neural network complementary to it."

For open systems, such as solutions of macromolecules in appropriate conditions, the complementary neural nets do not necessarily have to remain unchanged as they may evolve in such a way that modifies only the very flexible structure of their inter-element connections, while the elements themselves remain unaltered.

According to authors [1], these transformations represent the first stage in the evolution of a complex system. Distinction from the Darwinian point of view is obvious: a system is exposed to changes in general. Furthermore, transformation rates of the complementary neural network may be extremely high since changes in the individual elements are not essential.

At the second stage of complex system evolution, according to [1], there occurs the transformation of the constituent elements due to changes in the conditions caused in turn by the complementary reconstruction of the neural network. In a sense, we can talk about targeted, not random, mutations that result from specific properties of the neural nets, particularly from their ability to recognize patterns.

This approach allows us to interpret the occurrence of aromorphoses that occurred in the history of culture [5]. Simplifying somewhat, increasing the concentration of persons employed in a new variety of activities in one place (e.g. policy) leads to a new quality environment (which can be interpreted in terms of the evolution of complementary neural networks). Further, this environment affects its elements marking out those matching the new conditions to the greatest extent. The process takes place in an avalanche due to the capacity of the evolving neural network to expand its component base through the integration of elements with desired properties and rejection of the rest.

Thus, the neural network theory of complex system evolution allows us to interpret the qualitative leaps in the evolutionary development. Considering the origin of life such quantum leaps are explained by self-organization processes in solutions of macromolecules; considering the emergence of new cultural phenomena they are explained by neural network properties of society fragments.

Let us try, at least in general terms, to apply the same approach to such a stage of the evolution on our planet as the origin of the Mind. This is what makes it possible, if not justify, then to make these hypotheses discussable, as mentioned in the introduction.

**Magic: The Informational Influence on the Material World:** The title of this section is a paraphrase of the definition of magic, given in [3] and it is in this context the term will be used below. Moreover, it is this understanding of the "magic effects" that can to some extent be validated from rational positions.

If we start from the concept of neural network evolution, the mind could not appear as a feature of an individual being, just as the origin of life could not progress through the appearance of individual organisms or proto-organisms, as discussed above. Mind, if you follow the logic of neural mechanism, is the result of evolution that, first of all, embraced the neural network, which in turn at a later stage influence the individuals.

In this sense, it must be noted that trans-personal level of information processing considered [4] is something prior to individual thought process. With the development of civilization focused on the individual, everything connected to the trans-personal level of information processing (or even trans-personal level of thought) was lost and it took the development of independent scientific disciplines (in particular, the theory of neural networks) to return to the idea that such level exists.

Mankind does not have and is unlikely ever to have information on how mind actually originated; still some conclusions can be drawn from general considerations. Indeed, the assumption of the primacy of trans-personal mind (or protomind) leads to conclusion that in the initial stages of evolution the division of consciousness into the "collective" and "individual" did not happen instantaneously.

This assumption, of course, does not mean the necessity of mentioning the telepathy in one form or another. The existence of the collective mind can be traced today. In particular, there is a well-known phenomenon of the collective unconscious whererudiments of information processing that existed during the formation of individual thought apparently were forced. There are numerous examples of "family" or "ethnically related thinking" when a person automatically makes decisions coordinated with the modus operandi of the respective environment.

The existence of such thinking suggests that in earlier periods of history it was of a dominant character, i.e. the way an individual thought to the significantly greater degree was coordinated with the thinking of others. Simply put, individuals thought in tune with each other.

This automatically means that during the considered here periods of history the connection between trans-personal and individual levels of information processing was much closer. Accordingly, it can be assumed that the individual, in one form or another, had access to the trans-personal level of information

(obviously, with the development of the individual thought the respective personality traits were almost completely lost). Moreover, it can be assumed that the relevant informational channels were bilateral. This means that an individual with an appropriately organized thinking can not only receive but also record information directly to the trans-personal level of processing.

Trans-personal level of information processing in any case (i.e., regardless of whether individuals have a direct access to it or not) has an impact on the behavior of the constituent elements of the network, or individuals. The most common examples are related to acceptance or rejection of different concepts, theories, religious views, etc. by the society. Another example is the phenomenon of the environmental dictate that makes an individual to act contrary to his own views because of actual or anticipated reaction of others.

Therefore, if an individual, for whatever reasons, acquires the ability to record information in a trans-personal level of its processing, then it becomes possible for him/her to directly impact the corresponding fragment of society. This is called magic, at least in the sense of the definition used in [3], which is direct informational impact on the material world.

Thus, there is a very rational hypothesis that allows us to interpret the existence of "magic" and a few other phenomena that not in the least could be attributed to the area of rational expertise, as it will become clear further on.

These phenomena will be considered further. Now let us reflect on why these questions are urgent at the present stage.

**Qualitative Transformation of Modern Information Space:** The development of the telecommunication industry (as well as information technology in general) leads to qualitative changes in the society, as noted by many authors, in particular [3]. On the surface there is a conclusion that the result of this process is the improvement of informational connection in society, which in turn leads to information impact efficiency (if properly organized).

It is less obvious that the enhanced information flow leads to the increase of such effects as loss of control. (In [3] the loss of control effect is considered in terms of the crisis phenomenon that accompanies the transition from the industrial phase to post-industrial civilization, but this effect can be fully considered in terms of information theory.)

Following [4] let us consider hierarchical management structure (large concern, the state apparatus, etc.). As the complexity of the control system (or the number of processes that must be managed) grows, increases the number of management levels, which can be easily traced in well-known historical examples. More different services appear which also leads to complication of the information channels structure in the system.

It is easy to show (the quantitative models of [4] may be used) that there is a certain critical threshold of the management system complexity, at which the disturbance amplitude in the channels of communication to the administrative level becomes so large that it strips the administration of the ability to take adequate management solutions. Moreover, the disturbances in the response channel also become so large that the controlling information transmitted to the lowest levels appears distorted beyond recognition.

As a result, the administrative levels lose the ability to make a systemic impact on the processes which they, in theory, govern. This is the effect of loss of control considered in [3, 4].

It is essential that this effect is aggravated by self-organization processes occurring on middle levels of management. Specifically, the administrative layer defending its own interests delivers deliberately distorted information to the higher leadership. In other words, the processes of information filtering in effect turn out as takeover of control. Such takeover can take place either intentionally (conspiracy within the bureaucracy) or automatically, which is very important for the purposes of this paper. Specifically, the administrative apparatus can also be seen as a relatively self-regulating piece of a neural network capable of independent information processing. In particular, there are "images" (a set of signals applied to the inputs of the network elements) that are either recognized or rejected by the network. The well-known effect of pattern recognition by neural networks [7] in this case appears in a quite visual way: officials supply the administration only with information that best suits their collective interests; moreover, they do not need to pre-arrange their actions for they are coordinated in a spontaneous manner.

Thus, once the leading echelons lose their ability to control the system, the "collective consciousness" (or more precisely, protoconsciousness of the administrative environment) takes on. This protoconsciousness is in a very subtle way connected

with the individual consciousness of different officials, which makes it relevant to consider issues seemingly related to the distant past.

Indeed, if the "management" in the classic administrative sense becomes impossible, then the only question left is about the "programming" of neural structures that take hold of control in the above sense. Recording information in the trans-personal levels of information processing considered above in terms of rationalistic interpretation of ancient magic takes on immediate practical value.

It is therefore worth of considering every, even the most exotic, hypothesis that lead toward solving this problem, as of today there is not even a remote idea of how to provide programming of trans-personal structures. We can say that civilization created by human beings to resist natural elements gave birth to new elements the nature of which is understandable only in a very rough approximation.

In such a situation, when even the subject of study is not specified to the full, it is, in fact, quite possible to appeal to the methods of protoscience, i.e. to the methods that were used during the development of science in the modern sense of the word. In order to deal with something entirely new, we apparently will have to go through the already traveled path once again, creating new disciplines that do not even have a name yet. Based on this, we will try to analyze the phenomena that have not fallen in the area of rational knowledge, but they may be able to contribute to shedding light on the problem of recording information in trans-personal structure.

Psychics, prophets, astrologers: The existence of the trans-personal level of information processing makes reasonable the hypothesis about the existence of people who can read and write information in this level. An additional argument in favor of this hypothesis is the considerations expressed earlier about the mechanism of development of the Mind, which includes the stage of the existence of the collective consciousness that only later became purely individual.

A remote, but quite visual, analogy that explains the possible nature of the interaction of an individual with the trans-personal level of information processing consists of the following. Until now, in societies with strong traditions, there are preserved individuals who intuitively feel and intuitively make decisions that automatically derive positive reaction of the social surrounding; and this phenomenon is the more efficient,

the more the surrounding community is committed to traditions. You can probably assume that this primitive consciousness is rudimentary, partly preserved from the time when the consciousness as such existed in the form of a social.

On this basis, it is logical to assume that there may be other carriers of similar rudiments, not necessarily ethnically-oriented ones. It is clear that the access to the "database" of the trans-personal level of information processing can provide very unusual opportunities that may be difficult to use, since the nature of the data transferring channels is likely to remain unclear for the user. For the same reason, it is difficult to verify the fact of the data transmission, which is further complicated by the fact that it is unclear what information is contained in the relevant passage of the trans-personal net.

It is apparently simpler to verify the existence of the predictive abilities exhibited by some individuals. Typically, these abilities are associated with the well-developed intuition, but they may also have some other explanations; this allows us to understand the "phenomenon of the prophets" in terms of the rationalistic position.

Simplifying somewhat, the essence of the "prophecy" can be considered in the contrast with the forecast. The term "forecast" usually implies the possibility of predictions on a strictly rational basis. Forecast in the conventional sense of the term is probabilistic in nature and is characterized by the relevant horizon (Fig. 1). The farther from the present the horizon is, the lower the reliability of the forecast and the more sophisticated methods have to be used for its formation and validity approval.

However, with short term forecasting we can talk about the clear prediction, i.e. of such developments that follow directly from the background. For example, typing text you can predict the sequence of keystrokes in up to several seconds range.

Each system, including the discussed above analogs of neural networks that form the trans-personal level of information processing has an intrinsic time scale. It is logical to assume that because of the inertia of the processes known to be typical for this type of objects, the time corresponding to the horizon of the apparent forecast in this case will be much longer. Conventionally, this is illustrated by Figure 2. Hence the hypothesis that could explain the emergence of long-term predictions. Specifically, the data reading from the trans-personal level

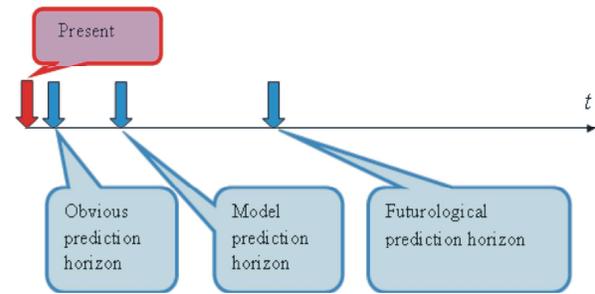


Fig. 1: Simplified classification of forecasts by the horizon range

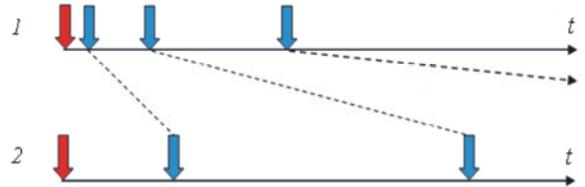


Fig. 2: To the possible mechanism of "prophecy" formation

of information can provide knowledge related to the horizon of the apparent forecast according to the diagram (2), which falls into the very distant prediction of the diagram (1).

Thus, the existence of seemingly inexplicable predictions ("prophecies") can be interpreted from the rationalistic positions, based on the already formulated hypotheses - the possibility of information exchange between an individual and the trans-personal level of information processing. It possibly explains the existence of a number of prophets, as reflected in the sacred religious stories and the existence of individuals who have an acute intuition concerning the professional sphere of activity.

Theoretically, the last case allows experimental verification. You can use, for example, the existing Web resources conducting surveys of various kinds. They may include positions that help identify individuals with the intuition that goes beyond explainable in terms of the classical understanding of the term "forecast".

In almost the same terms we can interpret the unusually popular areas of other extra-scientific knowledge, such as astrology. Moreover, the concept of the transcendent as such acquires an unexpected interpretation. Namely, we can assume that the "collective memory of humanity" contains something that is intended to reflect the occurrence of information processing that lies beyond the capabilities of individual consciousness.

## CONCLUSION

The authors are fully aware of the fact that most of the hypotheses formulated in this article require additional arguments. Moreover, it is clear beforehand that many of them will not survive the test of time. However, the existence of trans-personal level of information processing should not give rise to doubt. Moreover, the natural course of events, in particular the qualitative transformations taking place in the information space, forces us to raise the issue of the need of interaction with this level.

Currently, there is not even a rough idea of how it is possible to reach the level of such communication. Therefore, it seems quite reasonable to involve in the primary solution to this problem a rather wide array of hypotheses and assumptions associated with the areas of knowledge that, until recently, had been interpreted as a purely extra-scientific.

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