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# NEURAL NETWORK APPROACH TO THE INTERPRETATION OF ANCIENT CHINESE GEOMANCY FENG SHUI PRACTICES

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## **Abstract**

It is shown that behind the ideas and practices of Feng Shui (more broadly, behind the ideas of ancient Chinese geomancy) and similar to them is quite certain a rational content. The proofs of this thesis are given on the basis of the neural network theory of noosphere, clearly correlating with the concepts of V. Vanchurin's concept which considers the Universe as a neural network. According to the used theory the noosphere is a global neuron net, formed by interchange of signals between neurons, localized in the limits of individual persons' brain. This makes it possible to justify the existence of supra-personal informational structures. At a time when the paradigm of scientific development generated by Western European civilization has practically exhausted its development potential, the rationalization of doctrines complementary to the sociocultural code of other civilizations is becoming relevant. The prerequisites for interpreting the category of 'Qi' as well as the teachings of Feng Shui based on the dialectics of information and an expanded interpretation of the noosphere as an informational environment, which includes the symbols generated by material culture and landscapes, have been created.

*Keywords:* noosphere, sociocultural code, material culture, information theory, 'Qi' category

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## **1. Introduction**

There is no doubt that Feng Shui (including the transformed form) has become a significant part of mass culture in many countries of the world by now [1-5].

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Feng Shui has been and remains an essential part of Chinese culture proper, and here significant attention is paid to its applied aspect [6, 7], which, however, is also typical for other countries of the world [1-5].

Moreover, the ideas of the teachings of Feng Shui, adapted by other cultural environments, are often primitivized. So, Serdyuk notes that Feng Shui, being an ancient Taoist practice, in modern Russian culture most often has a utilitarian nature [8]. The philosophical component is almost completely emasculated: the category 'Qi', which is one of the basic components of Feng Shui teaching, either is not disclosed or interpreted to the extreme simplicity as 'energy flows', which makes many modern people, especially those familiar with Physics, consider Feng Shui as something knowingly anti-scientific.

From a 'utilitarian' point of view, the majority of clients of Feng Shui organizations and individuals who position themselves as followers of Feng Shui, consider Feng Shui as a kind of 'magic' that has little connection with its basic concepts. However, this does not exclude the interest to Feng Shui doctrine on the part of academic circles [9, 10], and not only in China [11].

Not always explicitly, but in the current periodicals for many years there is a discussion whether Feng Shui doctrine should be considered as protoscience or pseudoscience. Such discussions have also quite objective reasons: the basic paradigms of modern science were created by the Western European civilization, respectively, they cannot but be complementary to the socio-cultural code of Western Europe [12]. At a time when the latter is certainly losing its civilizational leadership, the interest in doctrines that can become the basis of other paradigms seems quite understandable.

In this connection, it is appropriate to emphasize that the most impressive successes of Western European science were not primarily driven by rational content. As M. Kline has vividly demonstrated, irrational (from the point of view of the twentieth century) considerations were in many respects the driving force behind the development of both Mathematics and Natural science for many centuries [13]. Thus, both Tycho de Brahe and Johannes Kepler, on the basis of whose astronomical research classical Mechanics was created, were convinced that the Creator created the Universe according to a single mathematical plan, and saw their task as revealing it [13].

It would not be a great exaggeration to say that Western European science, having originated largely on an irrational basis - in particular, on the belief in the possibility of revealing the mathematical plan according to which the Almighty acted - has further rationalized its achievements.

There is every reason to believe that something similar will happen in the foreseeable future with the teachings born in the depths of other civilizations, and it cannot be excluded that they may give rise to a different paradigm of scientific development. This circumstance makes it necessary to pay the closest attention to such a doctrine as Feng Shui, proving that behind it there is quite a certain rational content.

The purpose of this work is to interpret the category 'Qi' from the point of view of information dialectics, which is an essential step towards revealing the rational content of Feng Shui doctrine as a whole.

## **2. The used methodology**

The basis for rational interpretation of basic concepts of Feng Shui is a neural network model of noosphere [14-16]. The essence of this model in a visual form can be explained as follows.

Consider two people having a conversation. It is accepted to say that in this case two individuals enter into a dialogue. However, this is an approximation, and a very crude one at that. In reality, it is an exchange of signals between nerve cells - neurons, one part of which make up the brain of one interlocutor, and the other - of another. Any information that a person perceives is associated with signals coming through nerve fibres that change the state of neurons. Taking into account that the nature of signals exchanged between neurons in this case is secondary (which follows from the most general provisions of the theory of neural networks, which can be physically implemented on various element base, e.g. optical [17]), we can state that here we form a common neural network consisting of two relatively independent fragments, each of which is located within the brain of each of interlocutors.

Continuing this logic, it is easy to come to a conclusion about the existence of a global communication network, which can be identified with the noosphere, understood in the spirit of V.I. Vernadsky [14-16]. Otherwise, the noosphere can be considered as a global information-communication environment, generated by the exchange of signals between its fragments, localized within the limits of the brain of individuals.

Moreover, as follows from the cited works, the human intellect is not simply generated by the noosphere; it remains 'embedded' in the encompassing information system. (A mathematical model substantiating this point of view is presented in [18]).

It follows that human intellect, mind and consciousness are not purely individual. They have a dual nature [14]. Both the individual and the collective are present in them at the same time. The existence of the latter allows giving a consistent natural-scientific interpretation to such notions as sociocultural code, collective unconscious, archetypes, etc.

Including the neural network model of the noosphere allows us to prove that the mythology of cultural peoples of antiquity (in particular, the ancient Greek mythology) also initially had a basis allowing a rational interpretation.

Indeed, the formation of the noosphere as a physical reality leads to the emergence of supra-personal informational objects. Their nature is partially analogous to the nature of consciousness (or intellect). All these objects are formed only due to the fact that neurons, which make up the brain, exchange signals with each other. So far, suprapersonal informational objects generate the

influence of the collective unconscious (understood in the Jungian sense [19, 20]) on individuals. The simplest form of their manifestation is the dictate of the environment due to the peculiarities of the socio-cultural code.

From the point of view of the neural network theory of the noosphere, the ancient deities are representations of suprapersonal informational objects refracted through the prism of individual perception. As shown, in particular, in [14], human consciousness became relatively independent only at relatively late stages of evolution (presumably, at the end of matriarchy). At earlier stages of evolution, when the collective component of consciousness was pronounced, the individual was much more firmly connected with supraindividual informational objects. But these objects could not be comprehended/reflected on the level of ordinary perceptions of the surrounding world. It was necessary to ‘translate’ into a language operating with everyday perceptions, which gave birth to images of first zoomorphic and then anthropomorphic deities.

For the most part, this refers to the ancient Greek mythology, generated by a quite definite sociocultural code. There is every reason to believe that the category of ‘Qi’, which is one of the key concepts in the doctrine of Feng Shui, can be interpreted from a similar standpoint. Different sociocultural codes produce different mechanisms of reflection of over-individual informational structures.

### **3. The rational content of geomancy concept formation**

Using a methodology based on the neural network theory of the noosphere, it can be shown that there is significantly more rationality in the category of ‘Qi’ than in the concepts that led to the idea of the ancient Greek pantheon.

‘Qi’, in a first approximation, is something that permeates all of existence, influencing it. The analogy with supra-personal informational structures is obvious: they also ‘permeate’ the entire noosphere (or its individual fragments, such as ethnic groups), exerting a latent but very significant influence on individuals.

Further, the neural network model of the noosphere can be considered only as a first step towards substantiation of the neural network model of the Universe.

We emphasize that relevant ideas are already ‘floating around’. Thus, a relatively recent article on this topic was published [21]. Based on methods used in modern Physics, it substantiated a hypothesis, the essence of which can be expressed as follows: the Universe as a whole is a neural network. It is impossible not to notice that the concept [21] correlates very well with the position [14-16]. It is also pertinent to emphasize that many physicochemical systems can also be considered from the point of view of analogy with neural networks [22]. In particular, it was shown in [23], based on the results of [24], that it is the neural network properties of polymer solutions that allow proposing

a mechanism of evolution preceding the biological one, which allows overcoming numerous difficulties encountered by Darwinist concepts.

This provides additional evidence for the adequacy of the approach [20]. There are also clear illustrations of the neural network model of the noosphere. In particular, in [25] it is shown that under certain conditions any voting Council is converted into an analogue of a neural network, i.e. a decision in the voting process is made not by a set of Council members, but by a neural processor analogue formed by them.

It is possible to look wider at the basic provisions of the neural network theory of the noosphere by including into consideration the neurons localized in the body of the representatives of the animal world. Such generalization can be regarded as a natural science justification of the Gaia concept put forward by J. Lovelock [26]. In accordance with this concept, the envelopes of our planet represent a certain system integrity, which exhibits the properties inherent to biological organisms. Simplifying, according to Lovelock, all that inhabits our planet forms a single organism (hence the name of the concept - after the ancient Greek goddess of the Earth, Gaia).

At the next stage of reasoning the neural network, formed by actually existing biological neurons, should be supplemented with components related, for example, to material culture. The expediency of such an approach can be justified, among other things, on the basis of J. Baudrillard's concept [27].

According to Baudrillard, any commodity has a dual nature. On the one hand, it directly satisfies certain human needs. On the other hand, a significant part of the goods circulating in the market represent a kind of symbol (or, according to Baudrillard, a 'sign'). For example, branded goods of fashionable firms are often purchased not so much to meet physiological needs, but to indicate the high social status of the owner. It is this factor that most often determines the cost of branded products, which quickly become cheaper after they go out of fashion. Baudrillard's 'signs', the bearers of which are commodities (more broadly, objects of material culture), are as a result woven into the informational fabric of the noosphere. The fact that such 'signs' are capable of exerting a noticeable influence on personalities is demonstrated even by a superficial observation of typical representatives of consumer society, for whom the race for an 'adequate image' becomes the main goal in life.

The essence of the matter, however, is much deeper. The exchange of information between individuals depends on associations and many other factors. For example, a particular person may suddenly recall a particular moment from his or her biography under the influence of a particular object of material culture. Consequently, there is a dependence of the character of information exchange on, so to speak, external stimuli, which activate or deactivate some or other layers of individual's memory, including those segments which can be attributed to the unconscious.

Activation of this kind cardinaly changes the character of communication between individuals. In the temple a person of practically any religion, regardless of the degree of consciousness, will somehow behave not like in the station. Change of communication character, according to what was said above, influences behaviour of suprapersonal informational structures as well. In other words, the presence of a complexly structured memory of individuals forces the inclusion of objects of material culture into the concept of noosphere as well. Consequently, the term ‘language of signs’, understood according to Baudrillard, which we used above mainly for clarity, is not quite accurate and needs to be clarified.

This can be done based on the above considerations about the dual nature of consciousness and intellect. Material culture is one of the factors directly interacting, among others, with the collective unconscious, and only through it with specific people.

Our proposed formulation is guided by the following considerations.

The verbal form of communication is only one type of interpersonal communication. Along with it, there is also a ‘body language’ and a special, saturated with non-trivial symbolism, the language of material culture. This language is most often used unconsciously, in particular, when demonstrating one’s social status through the purchase of goods of a certain category. The thesis on the existence of such a language clearly correlates with the considerations expressed by semiotician Umberto Eco in his monograph [28], but at present they could not but need correction. This adjustment is mainly related to the current understanding of the essence of the collective unconscious as an objectively existing reality, on which material culture has a pronounced influence.

The conclusions connected with the influence of material culture objects on the collective unconscious and other structural components of the personality allow us to state that the formation of the noosphere is not reduced to the interpersonal exchange of information only. The noosphere turns out to be most closely integrated with the objects of material culture, which together also form a certain integrity.

The last step remains to be made. Ethnic groups are the structural components of the noosphere. They cannot but have a relative independence (and precisely in terms of the formation of specific supra-personal information structures) simply because within a certain linguistic environment the exchange of information is more intense than in those cases where we have to overcome the language barrier. In particular, such an expression as ‘the spirit of the nation’ is only partly metaphorical. Behind it there is a very definite rational content - the supra-personal information structures that form the specific sociocultural code of each particular ethnic group.

Further, notwithstanding the criticism of the concepts of ‘geographical determinism’, there is no doubt that the sociocultural code of each particular ethnos was formed under the direct influence of its host landscape. In

parenthesis we note that this is also characteristic of modernity, but already in relation to an artificial landscape - the urban environment. The 'genius of the city' revered by the ancient Romans also allows for a rational interpretation in this respect. It is a set of specific supra-personal information structures formed under the influence of this particular urban environment. 'Spirit of the city' in this respect represents the same objective informational reality as the consciousness of an individual person.

The same is true of natural landscapes. Consequently, to claim that ancient Chinese geomancy is nothing more than a kind of superstition is unjustified, at least from the point of view of cultural anthropology.

More precisely, on the basis of the extended neural network model of noosphere (which takes into account the influence of material culture, artificial and natural landscapes) we can offer the following interpretation of the category 'Qi' (more broadly, the ideas of geomancy). It is a reflection of objective manifestations of the influence of the surrounding landscape on the supra-personal informational structures generated by the specificity of the ancient Chinese sociocultural code. There is every reason to believe that it has its roots in the times when human consciousness was still predominantly collective (or rather, when it was dominated by the collective beginning). Such reflexion, so long as it was refracted through consciousness, which was gradually becoming individual, could not be linear.

With the strengthening of the collective beginning in people's consciousness (which is determined mainly by the rapid development of telecommunication technologies) the notions of 'chi' and their analogues cannot help but become more relevant.

People, especially under conditions of a sharp transformation of the world order, intuitively feel that they need to optimize their relationship with the world around them. Deep layers of the subconscious, connected to the most ancient archetypes, compel them to turn to teachings that in one way or another satisfy this need, which, paradoxically, is simultaneously as spiritual as it is pragmatic. 'Qi' in this interpretation is something that really permeates everything on the surface of the earth, but so far we have been talking about the genesis of the concept in question.

#### **4. The category of 'Qi' in terms of the dialectic of information**

From point of view defended in [29, 30], information should be considered as a dialectical category paired with the category of matter.

The grounds for this, among others, are as follows. Most of the concepts of any natural language can be disclosed through other concepts, which is done in textbooks and dictionaries. However, there must also be undefinable concepts - otherwise a vicious circle occurs.

Such concepts include the categories of dialectics, which are revealed (defined) through opposition. Classical dialectics operated with a set of paired categories (quantity - quality, content - form, etc.). The category of matter was an exception in this respect because it had no pair.

Further, as emphasized in [29, 30], the category 'information' corresponds to an equally great variety of objects as the category 'matter'. The world as objective reality consists of two components - material (in the physical sense of the term) and informational (which is also material, but in the sense that it is a manifestation of objective reality).

Such duality of the Universe is expressed, in particular, in the fact that informational objects also form a hierarchy of organization levels similar to the organization levels of matter (from mechanical to biological and then social).

At one of the highest levels of this hierarchy is the human intellect, but there are also numerous intermediate levels.

Let us consider an illustrative example. Mathematics textbooks set out the rules for solving, for example, quadratic equations. These rules, on the one hand, are ordinary text, and therefore the amount of information contained in this text can be calculated by the Shannon formula. On the other hand, these rules are an algorithm that allows us to obtain new information - their solution with respect to various specific cases. From this point of view, the information contained in the rules in question is much more than the direct use of Shannon's formulas provides. They do not take into account the fact that the information object under consideration belongs to a higher level of the hierarchy than 'just a message'.

At even higher levels of the hierarchy under consideration are informational objects, which are capable of exhibiting their own non-trivial behaviour, for which the properties of information carriers are secondary. An example of such an object is any developed scientific theory, whose own logic of development very often subordinates specific researchers to itself, going in line with the results that were obtained by their predecessors. It is this behaviour of scientific theories, which together form the paradigm of scientific development, that was noticed by T. Kuhn, who put forward the thesis of 'normal science' [31]. Recall that according to Kuhn, periods of development of 'normal' science are replaced by scientific revolutions. From our point of view, this is interpreted through the factor of competition of various supra-personal information objects corresponding to different paradigms.

Another example of a supra-personal information object with its own non-trivial behaviour is the sociocultural code of any ethnic group. A set of traditions, norms of behaviour, etc., assimilated from childhood, dictates quite a certain type of behaviour, a certain type of worldview, etc. - all the things that form ethnic identity. An individual bearer of the sociocultural code can 'rebel' against it, but this will have almost no effect on the characteristics of the ethnic environment as a systemic integrity. Moreover, the sociocultural code is not generated by its carriers, but by the links that exist between them - and in this



sense, the behaviour of each individual carrier is secondary to its existence. Some carriers may die out, but their place is taken by others, who - due to the ramified ties within the ethnic group - also acquire the qualities dictated by the sociocultural code.

These and similar examples show that there are indeed informational objects with their own non-trivial behaviour.

Let us compare this conclusion with the generally accepted interpretation of the concept 'energy' in modern Physics.

The most correct (and general) definition sounds like this: energy is a quantitative measure that characterizes motion as a form of matter existence. Let us remind you that historically there was nothing but mathematical formulas behind the term 'energy' [32]. Initially, this notion arose as an integral of motion of the differential equations of Mechanics. Only by the end of the 19<sup>th</sup> century, with the establishment of the mechanical equivalent of heat and the development of Thermodynamics, did this concept begin to take on a universal meaning, reflected by the law of conservation of energy.

The mass use of the term 'energy' in everyday language (including mental phenomena) belongs to even later stages.

This digression is intended to emphasize that the interpretation of the notion of energy could not help being ambiguous and unclear. This is especially true of the rather vague concept of 'psychic energy' [33] as well as of the interpretation of the notion of energy, as well as to interpretation of the category 'Qi' with the use of the concept 'energy'.

Let's formulate the basic proposition of this work.

- The measure of motion as a form of existence of matter is energy.
- Information, too, can manifest itself through properties interpreted by analogy with motion. For example, the information objects discussed above can have a pronounced effect on the carriers of.
- Information is a dialectical category, paired with the category of matter.

Consequently, based on the principle of dialectical symmetry, there should be a category paired with the category of energy, which in relation to the category of information is in the same relation as the category of energy is in relation to the category of matter (Table 1).

**Table 1.** Paired definitions.

<b>Materia</b>	<b>Information</b>
Energy	? = 'Qi'

There are arguments that force to put the category 'Qi' on the missing place in this table. Let's consider them in detail.

## **5. The notion of ‘energy’ and the category of ‘Qi’ from the point of view of the neural network theory of the noosphere**

The conceptual apparatus of Western European science and philosophy has been evolving for centuries. In particular, this applies to the concept of ‘energy’.

The term ‘ἐνέργεια’ was used by Aristotle to mean “the real realization of an action as opposed to only the possibility of its realization” [34]. The term was used in a similar sense in medieval theology. For example, Gregory of Nyssa argued that the terms applied to God (the name ‘God’ itself, as well as such descriptive terms as ‘good’, ‘just’) point not to the divine nature, but to the divine ‘energies’ [35]. He distinguished between divine ‘energies’, which are cognizable and can be named, and the divine essence, which has no name and is cognizable only through the ‘energies’ of which it is the source. This tradition has persisted for a very long time (and persists in Christian philosophy even now). Thus, according to A.F. Losev, “the name of God is the energy of God, inseparable from the very essence of God, and therefore is God himself” [36].

From the point of view of the neural network theory of the noosphere it can be argued that the concept of ‘energy’ is ‘fixed’ by the sociocultural code of both the Western European and Orthodox civilization, with all the ambiguities of its interpretation. This explains both the fact that this notion entered so easily into mass consciousness already by the beginning of the 20<sup>th</sup> century, and the fact that the attempts to interpret many phenomena of the psyche from the perspective of the notions of ‘energy’ have not stopped in the humanitarian literature [37].

The interpretation of the category ‘Qi’ through the term ‘energy’ is most often used in translations of Chinese texts into Indo-European languages. In reality, however, the category ‘Qi’ is much more than that. Indeed, even in a popular account, ‘Qi’ is interpreted as ‘the force that governs all processes within the body and beyond it, both living and inanimate matter; other basic substances are also composed of ‘Qi’.

From the perspective of the dialectic of information, informational objects can be ‘active’. Moreover, according to the arguments [14, 23] it is information objects arising due to evolution of a neural network generated by specific physical (chemical, social, etc.) systems that ‘guide’ the course of this evolution.

From this point of view ‘Qi’ does not necessarily have to be considered as ‘substance’ understood in the chemical sense of the term. ‘Qi’ is material in the sense in which information is material, and it does permeate the Universe (which fully corresponds to the conclusions of [20]), but it is not reducible to the substance.

## **6. Conclusions**

Thus, the basic ideas of ancient Chinese geomancy receive a consistent rational interpretation if we understand the noosphere - the global communication environment - broadly, including also objects of material culture and natural landscapes. Such an expansion is quite justified, as both objects of material culture and natural landscapes have a dual nature, they are among other things 'signs', or rather carry an informational load. At least, they transform the character of communication between individuals (through these or those associations, for example) and, consequently, influence the character of supra-personal information objects, which are formed in relatively independent fragments of the noosphere.

Supra-personal informational objects, in their turn, are capable of influencing individuals directly or indirectly, which allows us to speak about the rational basis of ancient Chinese geomancy.

We emphasize that the term 'rational basis' used above needs to be clarified. This includes the interpretation of a concept, fundamental to one sociocultural code, in terms peculiar to another. This aspect is important, because the basic ideas of the doctrine of Feng Shui actually refer to the same level of human consciousness as archetypes, which in the framework of the neural network theory of noosphere are treated as some images, fixed on the supra-personal level of information processing. As the fragments of noosphere, corresponding to different sociocultural codes, are relatively independent they can form superpersonal information objects, which are badly perceived by carriers of other sociocultural codes. Accordingly, the term 'translation' in relation to such concepts as the category 'Qi' is obviously inapplicable.

We can speak only about the interpretation, which is given in this work with the use of the neural network theory of the noosphere, as well as the methods of classical dialectics.

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