Influence of electromagnetic radiation of the Earth on ethnogenesis processes: to the problem of refinement of sources of «passionarity»

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Abstract. In this paper new factors, that have influence on passionary impacts and ethnogenesis processes are considered. According to authors, along with traditional sources of energy (space energy, an internal radioactive background and energy of the Sun) Earth’s core energy, that comes out to a surface, should be taken into consideration.

1. Introduction
The widely known passionary theory of L N Gumilev produces many different estimates and opinions from enthusiastic ones to blames of quasi-historicism and scientific amateurishness [1]. Let's note that the greatest interest (as well as the majority of critical remarks) is caused by reasons for «passionarity». It must be admitted, that Gumilev formulated them without any scientific specificity. As the result, efforts of scientists’ supporters are directed to detailing and further development of his ideas, first of all in their natural-science aspects [2]. In this paper authors made an attempt to specify passionary theory, having suggested to consider earth’s core energy, that comes out to a surface, as an energy source, influencing ethnogenesis explosions (passionary impacts).

2. Results and Discussion
««Passionarity» is a characterological dominant, – Gumilev wrote, it is an irresistible internal aspiration (conscious or, more often, unconscious) for activity, directed to realization of goals (often illusory)» [3]. He was considering «passionarity» as the major «ethnogenesis impulse», defining historical fate of ethnos, its birth, development and decline. The scientist defined ethos as an equally biological and geographical (geobiocoenosis) phenomenon [4]. Within an anthropogenic landscape, in his opinion, there is an energy impact on ethnogenesis processes [5]. So what are the sources of this energy impact?

Gumilev thought that there are three sources from which the biosphere, (and certainly a person, as its part), takes energy. Firstly, it is a «radiant energy of the Sun»; secondly, it is an energy, connected with radioactive decay inside the Earth; thirdly, the biosphere absorbs space energy of «scattered elements, coming from our galaxy» [6]. Energy of the Sun is accumulated in plants by photosynthesis. Through them energy «passes into flesh and blood of all living beings»*. Disintegration energy of radioactive elements negatively influences biological processes. The mankind consumes energy bunches from space in «small portions». Gumilev noted that this energy type influence is uneven, both in terms of scales, and relatively to periodicity [7].

The scientist considered that the inception point of any ethnogenesis is «a specific mutation of a small number of individuals in a geographical area» [8]. The mutation, in turn, is caused by energy impact. "Each living organism, – Gumilev wrote, – possesses an energy field, now we can already compare it with a description of ethnos features and, therefore, call it an ethnic field, that is created by biochemical energy of living substance... Accepting this energy model, model of a field of force and...
applying it to ethnos problem, ethnos can be imagined as a system of a certain ethnic field fluctuations» [9].

The scientist assigned a special role to space energy. It takes the biosphere out of the equilibrium state, generating an entropy state [10]. It is expressed in an unmotivated movement (lemming or locust migration) among animals. Gumilev considered that in a human community the surplus of energy leads to passionate impacts or ethnogenesis explosions [11]. Zones of passionate impacts represent comparatively narrow bands about 300 km wide in a latitude direction, and slightly more in a meridian direction, approximately 0.5 of the planet’s circumference. The researcher compared these zones to geodetic lines. According to him, passionate impacts occur with a frequency of two, three times in thousand years and almost never pass across the same territory. The same impact is able to create several centers with increase of «passionarity», depending on physiographic features of regions [12].

Recently, there have been made attempts to keep the passionate theory from Gumilev’s natural science mistakes and delusions, to make some kind of academic upgrade, taking into account new data of genetics and social anthropology. It is necessary to agree with the opinion, expressed by Gumilevs’ supporters, that «passionarity» is not constantly arising new social and biological phenomenon, but «rather accurate and certain characteristic, that has similar manifestations among different ethnoses in different historical times» [13].

However, even convinced adherents of passionary theory acknowledge that examples of energy impact on the person, given by the scientist, are not always compelling. For example, dendrochronological analysis data shows that dates of passionate impacts, given by Gumilev, do not really match observed maximums of education (14C), which is a universal marker of external radiation intensity. Some reasonably interesting attempts are being made to link the impact of solar energy on passionary impacts with the violation of periodicity of Pluto’s passage through perihelion (point of its orbit, closest to the Sun) [14]. But this theory also requires additional scientific verification.

According to authors, it is worth considering earth’s core energy as the main source of energy impact on a person. It is authentically known that our planet has complicated structure, which features are not completely studied even nowadays. However, attempts to consider problems of geoenergy impact on a person, linking them to common problems of geophysics, have been taken repeatedly. For example, the problem of geoenergy impact on mankind was raised within the theory of the crystal-like structure of the Earth. Idea of our planet being a crystal was put forward by ancient Greek thinkers (Plato, Pythagoras, Archimedes) [15]. In the 20th century this hypothesis was developed by Soviet geophysics – N F Goncharov, V L Makarov, V S Morozov. They considered Earth’s structure as icosahedral-dodecahedral (further – IDEST). Basic concepts of this theory state that nodal points of a dodecahedron and a triangle’s edge are energy conductors, transmitting planet’s core energy to a surface. Authors of IDEST state that, according to their knowledge, the configuration of dodecahedron’s nodal points coincides with the location of ancient civilizations centers, which was associated with energy impact on people, living there [16].

It is not a secret that over time magnetic poles of our planet change their location relatively to the coordinate grid, and even inversions of poles are recorded, that is proved by a paleomagnetic research method. From this it follows that earth’s core changes its internal location over a certain period of time (figure 1). Planet’s core change leads to a location change of nodes, through which Earth’s core energy comes out to a surface in the form of electromagnetic waves. Schematically these processes can be represented by A1 node location change, moving in the direction of arrow’s rotation to node A (figure 1).
Figure 1. Location change of a dodecahedron inside the planet (dotted line is the previous location)

In figure 2 lines 1,2,4,6,7,9 are places, where earth’s core energy comes to its surface out of triangle’s edges, of which dodecahedron edges consist. This leads, in turn, to energy change of nature of living organisms in area of energy output (release).

Figure 2. Places of electromagnetic energy output to Earth’s surface.

Let’s specify that these lines on earth’s surface are not constant, and depend on fluctuation or shift of the internal core, and consequently, parallel to each other lines 9 and 9’ can be formed, and it is visible in nodal point A, lines 5, 9, 13 can turn near some center of node A.
As follows from the schemes, provided on figure 2 and figure 3, lines of increased Earth’s core energy impact on the planet’s surface (1 and I, 2 and II, 4 and IV, 5 and V, 6 and VI, 7 and VII, 9 and IX) are generally correlated with zones of passionary impacts, given by Gumilev in his work «Ethnogenesis and the Biosphere of the Earth».

Figure 3. Passionary impacts, described by L N Gumilev in his work «Ethnogenesis and the Biosphere of the Earth».

According to A G Bakirov: – «The possibility is not excluded that the entire array … of nodes of a system or considerable part them, relating to a triangular-pentagonal grid, represents a projection to earth’s surface of a space framework of some radially directed movable wave guides, through which a pulsing energy flow processes from mantle and deeper parts of the globe, giving rise to various geological processes and creating favorable conditions for emergence, development and evolution of the biosphere, plants, animal migration and the emergence of civilization centers» [17].

In other words, a person living in a certain place of the Earth is influenced by electromagnetic field of the Earth with a frequency of fluctuation, which is character to this area. Frequency of fluctuation has an impact on processes, taken place in brain, that leads to unique perception of the world around – an ethnocultural isolation. The group of people, living for a long time in the same place, generally experiences quite homogeneous impact of electromagnetic radiation on brain activity, and consequently the same perception of the world, identical requests and aspirations are formed. It is necessary to consider that the frequency of fluctuation of the planet’s electromagnetic is identical and the distinction can be felt only in places with additional radiation from movable waveguides, located in earth's mantle. At the same time, from time to time waveguides move, thereby, creating favorable conditions for new center of ethnic «passionarity». This process takes place continuously. In geological time scale it is estimated as insignificantly short time and in historical scale as several hundreds of years.

It is worth to note that creators of IDEST emphasized the relation of crystal structure of the Earth and hydrography [18]. It is possible to assume that, as time goes by, movable waveguides change their location in earth’s core space, and consequently, areas with «excessive» energy in comparison with other areas of land surface, are formed. Waterways can serve as natural directing channel of energy flow, especially because a part of them is localized in regions of edges and corners of earth’s crystal structure. According to us, human settlements and especially objects of religious purpose (further – O.R.P.) were purposefully built in surrounding hydrocultural space, at the same time river bends acted
as key locations. Localization of O.R.P. in meanders of big and small rivers is illustrated by authors on examples of both the most ancient Neolithic cultures of the Volga-Ural interfluve and the well-known religious buildings of Europe, Asia and America [19]. Therefore, it is reasonable to consider the energy impact theory on ethnogenesis processes, while taking into account the revealed patterns of O.R.P. location in river bends.

The revealed patterns can be illustrated with topographical schemes of Neolithic and Eneolithic O.R.P., located in Volga-Ural interfluve (figure 4).

![Figure 4. Area of passionary impacts in the Volga-Ural interfluve.](image)

In our opinion the scheme, showed in figure 4, proves the existing correlation of IDEST with the passionary impacts theory. The line, drawn through O.R.Ps., located in river meanders from the Lower Volga to the South Ural (approximately 1166 km in length), through quite equal intervals connects centers of nomadic civilizations of the Volga-Ural interfluve throughout II-I thousand years B.C.

In our opinion hydrography and IDEST interrelation is able to «slightly open» mysteries of death of some civilization, found in droughty or desert area with arid climate. There are examples of disappeared civilizations, whose traces found on the territory, today deprived of considerable sources of fresh water. They are Tiwanaku on the Bolivian plateau, Garamantida in the Libyan Desert, Nazca civilization in the Southern Peru, objects of religious purpose of Nabta in the Nubian Desert and so forth. Assuming that there is direct link between the movement of waveguides in crystal structure of the Earth and change of hydrography on the surface of the planet, then rather logical theory appears, explaining environmental disasters at early stage of human history. Shift of dodecahedron’s edges in the planet led not only to passionary impacts, but also to change in hydrography, the emergence of new water flows and drying-up of the old ones. The consequence of it was natural migration of people from low-level water areas and gradual desertification of the surrounding area.

3. Conclusion
Thus, IDEST is not only accompanied with the passionary theory of L N Gumilev, but also significantly corrects it. Authors suggest that electromagnetic influence of the Earth’s core is one of the sources of energy impact on ethnogenesis processes (by passionary impacts). Nodal points and dodecahedron’s edges are not only the sources of energy, but also are locations of waterways. River bends, in turn, acted as the source of additional energy influence, that explained by location of objects of religious purpose in river meanders.
References

[1] Korenyako V 2006 On criticism of the concept of L N Gumilyov *Ethnographic Review* 5 pp 22-35

Shnirel'man V A, Panarin S A 2000 Lev Nikolaevich Gumilev: the founder of ethnology? *Herald of Eurasia* **3**(10) pp 5-37

[2] Timashev S F On the physico-chemical nature of passionary impulses [Electronic resource]. – Access mode: http://gumilevica.kulichki.net/debate/Article08.htm (access date: 10.10.2018)

[3] Gumilev L N 2002 *The end and the beginning: popular lectures on ethnology* (Moscow: Rol'f) p 48

[4] Gumilev L N 2002 *Ethnogenesis and biosphere of the earth* (Moscow: Rol'f) p 28

[5] Gumilev L N 2002 *Ethnogenesis and biosphere of the earth* (Moscow: Rol'f) p 282

[6] Gumilev L N 2002 *Ethnogenesis and biosphere of the earth* (Moscow: Rol'f) p 331-3

[7] Gumilev L N 2002 *The end and the beginning: popular lectures on ethnology* (Moscow: Rol'f) pp 37-8

[8] Gumilev L N 2002 *The end and the beginning: popular lectures on ethnology* (Moscow: Rol'f) p 75

[9] Gumilev L N 2002 *The end and the beginning: popular lectures on ethnology* (Moscow: Rol'f) p 71

[10] Gumilev L N 2002 *Ethnogenesis and biosphere of the earth* (Moscow: Rol'f) p 523

[11] Gumilev L N 2002 *Ethnogenesis and biosphere of the earth* (Moscow: Rol'f) pp 333-4

[12] Gumilev L N 2002 *Ethnogenesis and biosphere of the earth* (Moscow: Rol'f) p 362

[13] Question: How can one characterize the «factor X» (passionary) from the point of view of modern biology [Electronic resource]. – Access mode: http://gumilevica.kulichki.net/faqs/faqs05.htm#Q1 (access date: 08.10.2018)

[14] Ivanov V V, Gorshkov E S 2012 On cosmic conditionality of passionary impulses [Electronic resource]. – Access mode: http://www.biophys.ru/archive/congress2012/proc-p155-d.pdf (access date: 08.10.2018)

[15] Lachugin K 2005 *Is the earth a big crystal?* (Moscow: Zaharov) p 9

[16] Lachugin K 2005 *Is the earth a big crystal?* (Moscow: Zaharov) pp 25-32

[17] Makarov V A 2010 The structure of the earth's crust, as a result of the operation of geocrystal power frames *Russian thought* **1-12** p 50

[18] Lachugin K 2005 *Is the earth a big crystal?* (Moscow: Zaharov) p 36

[19] Ramazanov S P, Nikolaev N Yu, Yurchenko S A 2017 River landscape and monuments topography in archaeological cultures of the Volga and the South Ural regions in the late e neolithic period of and the bronze age *Historical, Philosophical, Political and Law Sciences, Culturology and Study of Art. Issues of Theory and Practice* **2**(76) pp 166-70

Nikolaev N Yu, Yurchenko S A 2017 Cultural landscape and meanders: historical parallels, peculiarities of topography, hidden semantics *Historical, Philosophical, Political and Law Sciences, Culturology and Study of Art. Issues of Theory and Practice* **9**(83) pp 131-5