LUCIAN BLAGA: APPROACHING SCIENCE FROM THE PERSPECTIVE OF THE “UNITY OF CULTURE FORMS”

ALEXANDRU PETRESCU*

Abstract: This study aims to investigate the approach of cognitive dimensions of science in the ontological, cultural and historical context as Lucian Blaga (1895-1961) has developed it through an interdisciplinary integration of philosophy of science and gnoseology within the philosophy of culture. Some original ideas are interpreted, following Blaga’s stylistic cultural vision upon the scientific phenomenon: his theory of the categorical doublets, his conception about supra-method and minus-knowledge, his view on the differences/interferences of philosophy and science placed in neopositivism and phenomenology debates. Such ideas are explored within their potential to fruitfully encounter the current directions of theories of presupposition, the disciplinary matrix, and anthropological knowledge.

Keywords: science, creation, supra-method, transcendent brakes, unity of culture forms

One of the fundamental insights that have constantly and powerfully led Lucian Blaga’s way of thinking was the idea of the unity of culture forms. Throughout Blaga’s work, starting as early as his first publications (1916-1919), all ways in which human beings attempt to cognitively relate themselves to the existence are brought together and set around the problematic field of unity. Blaga was preparing to promote his later, wider, more flexible, plural, non-exclusionary and non-reductive concept of knowledge. In *Filosofia stilului* [The Philosophy of Style] (1924), the philosopher articulated a sketch of his theory of style based on the conjunction of two themes: the unity of culture forms, and the factors determining it. According to Blaga, various cultural creations of a historical era – in theoretical science, arts, metaphysics, etc. - bear the stamp of a “formative tendency” / a *nisus formativus*, conferring forms to all things encountered.

* Alexandru Petrescu (✉)
Faculty of Political Sciences, Philosophy and Communication Sciences, West University of Timișoara – 300223, Romania
e-mail: alexpetrescu257@gmail.com

*AGATHOS*, Volume 6, Issue 2, 2015
Thus the hypothesis of a cultural determination of the theoretical structures of exact science is also put forth; exact science is thereby also conceived as subordinated to the principle of unity of culture forms. However, this aspect had already been suggested by Blaga in his doctoral dissertation, *Kultur und Erkenntnis [Culture and Knowledge]* (1920). In that work he considered the historical and cultural determination of the “anticipated idea”, of researchers’ ideal of explanation. This initial step was meant to lead him to the elaborated analysis of the theory of scientific knowledge and of the history of the great scientific theories as indispensable articulations of a philosophy of culture. However, in *The Philosophy of Style* this suggestion is first advanced as work-hypothesis. And it is here that we find Blaga for the first time using his concept of a “cultural style” and encounter the actual application of his “theory of style” (though merely in the phase of a sketch at this point) to the analysis of particular culture forms. The way Blaga constructs his own philosophical discourse points to the idea of the methodological unity between “historical” and “cultural analysis”.

However, in *Orizont şi stil [Horizon and Style]* (1935), considering that the “formative tendency” is not the only category determining the unity of culture forms, Lucian Blaga advances the “theory of the unconscious spirit”. Thus, what determines the style of a culture is always the unconscious spirit, “a dynamic reality with its own structures and initiatives, with its specific modes of reaction, and its specific sources of information”. Later on, in *Geneza metaforei si sensul culturii [The Genesis of Metaphor and the Meaning of Culture]* (1937), the “stylistic factors of unconsciousness” are elevated to the dignifying rank of categories, thereby Blaga also providing a “metaphysical grounding” to the unity of culture forms: any creation is also considered “a compromise that the virtual conflict between human existence and ‘the Great Anonymous’ requires”. Although influenced by Nietzsche, Spengler, and Frobenius, Blaga succeeds to distinguish himself through his theory of cultural style, by not reducing culture to the “unity of artistic style” (as Nietzsche did) and by not correlating “style” with the merely “spatial horizon of consciousness” (as in Spengler’s case). In relation to his predecessors, Blaga’s innovative contribution resides not only in the fact that he finds the determinant factors of cultural creation at the level of categories belonging to the unconscious spirit, but also in arguing that any creation presupposes the unity of style and metaphor.
Style represents the matrix, the form in which any creation is being achieved, whereas the metaphor becomes the manner in which a style gets expressed. The metaphor plays the role of the matter receiving the form, where the bestowal-of-form refers to the “content of a spiritual creation” (language for the case of poetry, color and lines for the case of painting, etc.). Moreover, Blaga considers both categories of the unconsciousness and the metaphor from a metaphysical perspective as well: if the so-called abyssal categories are also considered as “transcendent breaks”, then “metaphysically speaking, the content of any cultural act remains ‘metaphorical’, since through it the mysteries are not revealed as through a mirror”\(^1\).

The *stylistic matrix* is understood as a “bundle of stylistic categories” representing the “cosmogenetic-functional dwelling place of the cultural creation and the abyssal functions that constitute a style”. It is therefore also considered to be a necessary condition for the possibility of any type of cultural creation. Whenever Blaga intends to emphasize not only the categorical structure of unconsciousness, but also its dynamic and formative nature, i.e. its modeling function, he speaks about the “stylistic field”. This is the case with his works approaching creation in the fields of science and history: Știință și creație [*Science and Creation*], Experimentul și spiritul matematic [*Experiment and Mathematical Spirit*], and Ființa istorică [*Historical Existence*].

For Blaga the determination of specificity and the role played by the stylistic categories in cultural creation has to do with the distinction he draws between “the given world” and “the created world”. The former represents the phenomenal world just like for Kant, i.e. the world just the way it appears to us in our cognitive attempts, whereas the “worlds created on the basis of a revealing intention” are countless and constituted according to a different stylistic matrix. This “difference” is accounted for on the basis of a certain distinctive feature of the categories: their *alternation*. It is on the basis of alternation that it becomes possible to speak of a plurality of stylistic matrixes, the “relativity emerging in grouping the stylistic categories in stylistic matrixes”, the “duration of stylistic factors”, or the “stylistic interference”, which as a result of a modification of stylistic matrix can “explain” the relationship among various styles, eras, and generations.

Besides alternation and variability, the categories of unconsciousness also exhibit characteristics such as: a subjective nature, the a priori belonging to a subject, discontinuity of content, irreducibility and plurality. These various characteristics have a joint function; they work together towards obtaining a cultural product, a product that ultimately appears as a “cosmic entity”, i.e. a “separate world of meanings”. Some other characteristics pertaining to the stylistic categories can be elucidated by comparing the nature, functions and usefulness of these categories with the nature and functions of the categories of consciousness:

- the categories of consciousness are intrinsically characterized by receptivity, whereas the categories of the unconscious are intrinsically characterized by spontaneity;
- the categories of consciousness determine the world given as object of knowledge, whereas those of the unconscious determine the world of cultural creations as creations;
- the “cognitive” categories keep themselves in a structural constancy, although they can increase in number; by contrast, the abyssal categories exhaust themselves in as far as they get consumed through cultural creation; they can nevertheless combine thereby generating new different styles;
- the cognitive categories are universal, whereas the stylistic ones can vary;
- the cognitive categories can be either a priori or empirical, whereas the abyssal ones can only be a priori;
- the cognitive categories belong to our existential destiny, whereas those of the unconscious belong to the our creative destiny.

However, the so-called cognitive categories of understanding, when used in scientific and/or philosophical creation, enter the region of the stylistic matrix and bear its stamp.

Blaga also treats the unity of the culture forms from the perspective of what he calls the “metaphysical foundations of culture”. Thus, the conditions for the existence of culture, as well as the meaning of it, are deduced from the conditions of specific human existence. Culture is the result of “ontological mutation”, one reached by human beings through a new horizon, i.e. the horizon of mystery, which exalts them above the level of simple animal nature. The horizon of mystery calls for a specific sort of finality, i.e. revelation of the mystery, achievable through cultural works of all kinds, works in which style (form) and metaphor (matter) work hand in hand. The metaphysical meaning of
culture has to do with precisely this creative destiny of man. Cultural creation emerges as a sort of compromise, brought about in the virtual conflict between the “Great Anonymous” and human beings, and the stylistic categories represent the decisive moment in the determining this compromise. This metaphysical meaning ascribed to a cultural style confers sense and meaning to all relativity intrinsic to the out turn in as they are human creations. Style cannot be absolute; rather it can only be regarded as “interrupted tendency towards absolute revelation”. Furthermore, “upon considering the styles, one cannot properly speak either of a categorical superiority of one over another, or of a unique link on a single ascending line binding them. Metaphysically speaking, styles are equivalent to one another”.

In the case of science, the stylistic factors make manifest their presence in its constructive dimension. As “power-lines” of a stylistic field, they will model/shape and guide the theoretical creations “intentionally” as well as the results of “guided observation”. In his Science and Creation and Experiment and Mathematical Spirit, Blaga shows that this “stylistic field” has a decisive role to play in positive sciences. He does so by means of a historical-comparative analysis of Antic and Galileo-Newtonian science, also considering the transition from the former to the latter. The philosopher will say (and argue) that the stylistic dominants of the Greek spirit are the following: the priority given to rest as opposed to motion, the tendency to take nature as constituted by receptacles and richness (which gets expressed in the characteristic of a geometrical approach to Greek culture), and the privilege ascribed to the finite. By contrast, in the case of modern science the “predispositions” characterizing the stylistic field favor movement as an indestructible state, space as infinite, and the mathematical in its quantitative aspect.

Blaga proposes this stylistic approach to science, from the perspective of the unity of culture forms, also as a reply to the neo-positivist perspective upon science. He criticizes the latter mainly for “hypostasizing a certain methodology and for the scientific dogmatism this is leading to”. To this perspective Blaga opposes one that emphasizes the central role of the stylistic a priori and talks about a “stylistic influence that actualizes itself in the implicit promotion of certain values in the field of science, values that can be subsequently revealed only by the history of science”.

The problem of the existence of a stylistic a priori ensuring the possibility of both knowledge and creation also lead me towards a
reading of Blaga’s work from the perspective of the current epistemological discourse, that appeals to the idea of presupposition. Although Blaga himself does not explicitly take this idea into consideration, it is an idea that has not been given due attention until recently, so I thought one can identify some presuppositions throughout his works dedicated to the theory of knowledge, that differ from what one might call the “predispositions of the unconscious spirit” (as manifest throughout one culture, one era). The philosophical presuppositions of science are mainly of ontological, epistemological, logical, and methodological nature. The ontological and epistemological presuppositions are identifiable in what Blaga calls “the philosophical and metaphysical coordinates” of science and creation or the “specific conditions of any creation”: the horizon of mystery and the human subject as “being within the horizon of mystery and for the sake of revelation”, the existence and role of thinking (the intellect with its forms, operations and logical laws, as well as the possibility of intellectual ecstasy) in the receiving and scientific understanding of empirical data. Furthermore, Blaga also speaks of the “methodological function” of some valuable philosophical ideas (for instance, the “anticipated ideas” having “imperative function”, something he deals with in Culture and Knowledge), able to support the dynamics of science, to secure the progression of knowledge. They determine not only the form in which knowledge is being organized, but also possible modes of solving different problems. The “metaphysical coordinates” of knowledge and creation presuppose the presence of both the “principle of the preservation of mystery” (since knowledge and creation are censured with regards to transcendence), as well as the “convertibility of transcendence” (since human beings, having a tendency towards truth absolutely inseminated in their very being, are capable of transforming limits into positive values). In as far as creation is concerned, these “presuppositions” fall under the influence of the “predispositions” of the unconscious spirit, any creative piece bearing the stamp of these abyssal predispositions.

Blaga’s methodological approach on science presupposes mainly an appeal to the “cultural method” and “historical analysis”, since history (“historicity”) represents the fundamental dimension of the fully self-made Luciferian human being, the basic way in which human existence is unfolding in space and time, and culture is the “expression
of fulfilling human destiny through creative acts”\textsuperscript{2}, among which theoretical constructions hold a special place. The methodological approach of science for Blaga represents a very important segment in the philosophy of science. He attempted to address its concerns especially in his later writings: *Science and Creation* and *Experiment and Mathematical Spirit*. However, as early as his doctoral dissertation, Blaga had already proposed a short but nonetheless revealing analysis of the scientific problem by means of “cultural method”, an analysis comprising seeds of a real program of historical investigation. In his *Culture and Knowledge*, however, the philosopher speaks of the functional variability of “ideas – as cultural units” throughout history. According to him, such ideas can acquire – in a certain field and at a certain historical moment - an “imperative function”. These are the “anticipated ideas” that guide the researcher in the field of positive sciences in solving scientific problems by determining the content of resolutions, having a constitutive function as creative factor. The “anticipated idea” cannot be derived from empirical observations, since it belongs to “one of the possible attitudes of human beings before existence” and as such, determines the outline and structure of a theoretical explanations an imperative or norm. Therefore, it manifests itself as an ideal explanation for the researcher. But as far as we are willing to accept that these ideas are “historically determined cultural realities”, it follows that the theory of scientific knowledge and the history of great theories of science must be treated as segments of philosophy of culture. This is, in fact, the conclusion Blaga reached in his doctoral dissertation and later on developed by means of his theory of the stylistic determinations.

Of course, through such a conclusion, Blaga separates himself from the view supported by the philosophers of logical orientation. According to the latter, the basic structures of theoretical science and the changes they would suffer during a certain period of time can presumably be grasped and essentially expressed exclusively by means of logic and mathematics. Furthermore, this is an attitude (criticized as such by Blaga) that devalues the importance of research in the field of the history of science (especially in those cases in which this research does not lend support to the “cumulative approach”) and manifests an attitude that is skeptical, to say the least, towards the project of a

cultural analysis of positive knowledge. This however comes from the presupposition of the search that any scientific explanation must be understood as a relationship between facts and a theoretical construction “bound to be” – Blaga is saying – as well adjusted to these facts as possible.

In his late works, *Science and Creation* and *Experiment and Mathematical Spirit*, the open intention of the philosopher has been that of using the “historical method” in order to throw a new light upon the nature and methodology pertaining to positive science. In fact, in *Science and Creation*, Blaga attempted a systematic dialogue between his philosophical intuition regarding the “unity of the forms of culture” and data provided by the history of science. Blaga developed this attempt in his posthumous work, a work that witnesses the philosopher’s progress towards a “realistic” understanding of positive science. Thus, Blaga gets to determine the differences between “antique” and “modern, Galileo-Newtonian” science. *Antique science* is mainly characterized by the following features: static perspective, the idea of space being finite, the use of generic concepts, treatment of movement exclusively as change, a way of situating the basis of knowledge on the sensorial level and a completion of observation with the “incidental experiment”, the use of the analogy method, finding the transition from induction to deduction as a way of achieving knowledge, engagement in theoretical speculations, a widely comprehensive cosmological view, etc.

By contrast, in the case of *modern science* “space and time un-limit themselves”, movement becomes a fundamental attribute of being; the view on nature gets fragmented, in order for it to be experimentally tested. Moreover, the Galileo-Newtonian science presupposes the following methodological features: a) space and time are “adjusted” so as to become mathematically determinable; b) empirical observation becomes “observation guided by an idea” and is as such used in conjunction with mathematics; c) experiments are carried out mathematically, quality being reduced to something quantifiable; d) laws and “relational concepts” are approached through mathematics regardless of the manner in which they can be acquired, i.e. whether by induction or by theoretical processes, theorizing is pursued by appeal to “image-concepts”- some of which are real antinomies transfigured on a trans-empirical level – that are susceptible of a mathematical approach themselves; e) finally, knowledge development and progress are also achieved in mathematical spirit.
Blaga takes the cultural, historical analysis approach also when he is referring to the “modern scientific revolution”, accomplished from the perspective of a new methodological ideal. This ideal essentially presupposes the unity of three “moments”: mathematics-experiment-hypothesis. But, according to the philosopher, this new methodological ideal is the expression of a more profound intellectual revolution that affects the defining features of the general spirit of a culture. Thereby Blaga takes position with regards to those historians of science that have been subscribing to the conviction that the mathematical science of nature of the 17th century has been a direct consequence of the evolution registered by the art of measurement and experiment, as well as of the development concerning the mathematical tools for the representation of movement. (Consider, for instance, Pierre Duhem’s model of “continual historiography”).

One of the original ideas that Blaga advances from his methodological perspective on the foundations and the nature of modern science is the idea of a supra-method. Supra-method is essentially trans-mathematical and its main function is to coordinate the relationships between different methods and mathematics. Under the guidance of supra-method, modern physics has a conceptual approach to existence that differs essentially from that of Aristotelian physics, in that it redefines the meanings of “law”, “explanation” and “scientific prediction” and introduces a new manner of theorizing, incorporating new elements and constitutive functions, new manner of validation and test, and thereby developing a new approach to experience in general. Blaga’s appeal to the “supra-method” meant to facilitate the determination of the conditions for the possibility of modern physics is not, however, an appeal to a specific existent method, but rather to a new “methodological consciousness”, a new epistemic strategy. The new “methodological consciousness” appeals to a trans-empirical level and offers a new means of organizing methods on mathematical principle. Furthermore, it plays a fundamental role in constituting a “research program” and a disciplinary community. In fact, it manifests the stylistically determined attitude that the Galileo-Newtonian science (including not

only the classical mechanics, but also the theory of relativity) manifested towards its own methods.

Regarding “methodological progression” and his constantly expressed idea that knowledge generally stands under the determinacy of some antinomy syntheses and the influence of metaphor, Blaga advances the method of transfigured antinomy through which he argues the necessity to rethink contradiction through reconsideration of reason resources. Blaga attempted to detach himself from both the Kantian understanding of the “dogma” (according to Blaga, Kant had not recognized the antinomy presupposed by experience as such) as well as from the theological meaning of it, and to “rehabilitate the dogmatic” - as a specific mode of thinking, i.e. as type of ideation, or manner of rationalizing existence. Thus, for Blaga, a “dogma” becomes an intellectual formula attempting to capture the irrational in an antinomy expression and as such reachable only through an act transcending the logical. According to Blaga, knowledge presupposes antinomy, and this even more emphatically so, since the reality upon which it exercises itself also includes phenomena paradoxically characterized by mutually exclusive qualities, that do not thereby yet cease to coexist. In this context, Blaga warns us that he does not thereby speak about a new kind of knowledge, but rather about the same kind (“Luciferian knowledge”), which he considers now as encountering a new kind of phenomena. This “other kind of phenomena” concerns the “paradoxes of experience” that can as such not be captured (at least at a given moment) by the logical structures of the understanding. When the empirically given data cannot be completely assimilated by these logical structures, the understanding “goes out of itself” (ec-stasis), places itself outside of itself, in order to return thereafter to itself again: “Ec-stasis is implied by the exhaustion of understanding en-stasis”. As a consequence of this intellectual exercise the conceptual antinomies of existence that we encounter in experience, get their proper formulation: “light is particle and wave at the same time”, “sound is vibration”, etc. According to Blaga, the transfigured antinomy is present as a method, at the level of “minus-knowledge” and is as such used only after the possibilities of positive knowledge have been used up. This kind of thoughtful approach that Blaga calls “ec-static intellectualism”, stemming from the expansion of the rational resources makes one aware that the joining between rationality and non-contradiction is not as strong as logic would want
us believe: knowledge cannot constitute itself in a whole that is consistent in its entirety.

THE TIMELINESS OF SOME OF BLAGA’S CONSIDERATIONS UPON SCIENCE

Blaga’s conception of the stylistic field is constituted within the horizon opened up by the points of interaction of both philosophy of culture and philosophy of science with other disciplines, like psychology, anthropology, axiology, semiotics. As such, Blaga’s view corresponds to current orientations opposing empiricism and supporting the existence of a subconscious matrix, seen as a complex of *a priori* structures genetically transmitted and orienting through their influence, the various manifestations of spirit. Such are: Noam Chomsky’s theory of the “generative grammar”, Gilbert Durand’s view regarding the “profound structures of the imaginary”, or Gaston Bachelard’s ideas regarding the “dynamic archetypes of imagination”, as well as one of the senses of Gerald Holton’s “themata” as “imaginary scheme characteristic to a certain culture”.

Just like Blaga’s stylistic matrix, the “universal grammar” that Chomsky talks about has an *a priori* nature. The “universals” of Chomsky’s theory are necessary conditions for the possibility of particular grammars, just like a sublayer (substrat for the rules) for the rules that guide the way different grammars function, and also playing the methodological role of a “framework” for the creations obtained in these particular grammars⁴. Furthermore, just like the matrix-like “cosmos” (proposed by Blaga), that not only generates culture, but it also integrates what belongs to it within culture; Chomsky’s linguistic pattern also fulfils an integrative function.

Gilbert Durand had lately proposed something similar by supporting the idea of some “formative or informative constants, absolutely heterogeneous, irreducible, and forever recurrent in different historical or existential moments”⁵, that stand behind our various explanatory directions. This primary matrix proposed by Durand that stamps any creation reminds us of some of the views defended in Blaga’s *Trilogia culturii* [Trilogy of Culture]. However, the difference between them lies in the fact that Blaga also considers the possible transformations at the level of the stylistic matrix itself. Moreover, Durand attributes

---


great importance to the symbolic imagination, that he correspondingly understands to the manner in which Blaga conceived the “revelatory metaphor” to be the “revealing mystery”. But then again, on one hand Blaga confesses his detachment from the theological or religious thought; Gilbert Durand, on the other hand, includes his discourse about symbol and fundamental structures of the imaginary in an openly recognized gnostic view. One of the consequences following is the idea of a necessary hierarchy in the realm of cultural creation, a hierarchy that subordinates science and metaphysics to mythology and religion. From the very beginning, however, Lucian Blaga separated himself from this kind of approach.

I want to also mention M. Polanyi’s doctrine regarding “implicit knowledge”, in the context in which I tried to show that both Blaga and Polanyi were interested in the deep structures of human mind and knowledge; also they both opposed empiricism and positivism, and both confessed a sharp sensitivity for the historical, evolutionary character of our cognitive attitude to the world. Furthermore, they both recognized that reality transcends our finite cognitive capacities and it cannot be captured by any particular formula. Concurrent to Blaga’s categories (in their aspect as “transcendent breaks”), Polanyi’s “implicit knowledge” (pointing to the fact that “we always know more than we can tell”) is also an inherent part of consciousness and plays the role of a “methodological framework”, that enjoins the cognitive and creative acts displayed in science. Of course, there are some noteworthy differences between the two philosophers as well. I will restrict myself here at simply saying that Polanyi’s “implicit knowledge” belongs to the “general structure of perception”, but for Blaga, stylistic factors belong to the unconscious.

Concerning Gerald Holton’s notion of “themata”, designating a “deep imaginary scheme”, it is important to underline what characterizes a certain aspect of the imagination proper to one or another cultural moment and the main function of which is that of impregnating vast regions of knowledge in various temporal and spatial locations. Moreover, the “themata” also represent the “third dimension of science” (besides the analytical and empirical dimensions); as such, it functions as a complex of cultural suppositions

---

that support knowledge and creation.\textsuperscript{7} Like Blaga, Holton does not address the origin of the “themata”, but merely their function, especially in science.

\textbf{SOME CONCLUSIONS}

Lucian Blaga approached the philosophical dialogue and debates of his time in a constructive manner, mainly by virtue, with his intuition regarding the “unity of culture forms”. He confronted his initial intuition with multiple data registered through history of science, and then came to work towards obtaining a real program of historical and cultural investigation of science.

By employing \textit{historical analysis} and the \textit{cultural method}, Blaga succeeds to identify (prior to other philosophers like Alexandre Koyré) some differences between ancient and modern science, and correlates these differences with “transformations of stylistic nature”.

\textit{Cultural-methodological approach} of foundations and specificity of modern science have led Lucian Blaga to the original conception of the “supra-method”. The supra-method has been understood as revealing a new methodological consciousness for modern physics and a new methodological ideal in relation to the old Aristotelian physics. As such, the new model asserts unity among mathematics, experiment and hypotheses, a new epistemic strategy and a new manner of organizing methods on the principle asserting the dominance of mathematics.

Blaga’s reconsideration for resources of theoretical reason made “rehabilitation of dogmatism” possible for him (where “dogma” is meant as intellectual formula expressing the antinomy character of experience) as well as a new approach to “rationalization” and “scientific rationality”, on one hand, making possible an account of the irrational present in scientific knowledge, and on the other hand, the correlation of scientific rationality with the “culture-style” of scientific thinking.

This study belongs to a more extensive work, where I tried to prove the idea according to which Blaga proposes a new paradigm in philosophy of science and culture in the 30's. In my attempt to test the current importance of some considerations regarding the constructive dimension of scientific knowledge, I came to the conclusion that Blaga’s discourse indeed anticipated some ideas and directions currently employed in philosophy of science. Such are: “historical

philosophy of science” (investigating the philosophical, cultural infrastructure of scientific theories), the view regarding a “discourse of problem in general” in the philosophy of science (best represented today by the Bruxelles School), current orientations supporting the idea of some subconscious matrixes that determine cultural creation, current directions followed by the theories approaching the role of the “preliminary” in the dynamics of science, as well as some contemporary versions of “scientific realism”.

REFERENCES: