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Meta - Dialectical Method In Explaining Everything - The Basic Questions of Existence of Everything

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Abstract:

In the study of the general methodology of science and philosophy, we have discovered a common fundamental problem of the “paradox of the basic element” that creates inconsistencies in social and natural theory and general ontology and epistemology. Our study of the state interactions as a major international actor leads us to the conclusion that the unsolved “paradox of the basic element” of the General systems theory (GST) applied in the neorealist doctrine of international relations generates apparent fundamental theoretical weaknesses that had to be resolved. Therefore, herein we propose a solution to the paradox of the basic element on an ontological level by showing that not the element, but rather the relation is the basic “entity” of the system. Such an approach, where the relationship is the most fundamental category and plays a primary role in the system, transforms the GST into a relationist theory (systemic relationism) that includes the relevant systemic variables both in the system as a whole and in its subsystems (or elements). At the same time, due to the equivalence of the “paradox of the basic element” with the paradox of existence of anything or everything (usually formulated as “Why everything (that is) exists” (and not just nothing)), our relationist approach proved to be a good methodological tool for resolving this fundamental question of the general ontology.

Keywords: interaction, system, element, state, existence, everything, nothingness, relation

Introduction

Special attention in the present article is devoted to development of new general holistic systemic philosophy and methodology and its application to answers of most fundamental character, such as “*Why everything (that is) exists*” (and not just nothing) as a question that is equivalent to the “*paradox of the basic element*”. After formulation of our new general methodology of systemic (dialectic) *relationism*, we discovered usefulness of that approach for theoretical explanation of the origin and behavior of a *state* as an institution characterized with possession of the monopoly of (social) *physical force*.

Using the principles of dialectic methodology and general systems theory (GST), it was logically derived that the existence of the opposing poles $\{E\} \leftrightarrow \{N\}$, (where E- everything, N- nothingness)) in the ontological problem results from the *fundamental relation* uniting them as basic systemic entity. We found that the *relation* in a system is the carrier of certain interaction between two (or more) units in the system, between groups of units in the system, and it is a *condition sine qua non* for the existence of the system itself. The dynamics of the system (changes, evolution, stability, and other properties) are determined by the relations in the system.

Philosophical Basis of Dialectic Relationism

The modern philosophical approaches to the social theory of change are partially contained in the Marxist-dialectic philosophical methodology and doctrine. This political doctrine and general philosophy is based on four universal dialectic principles (Hegel, 1977; Engels, 1968): 1) in any phenomenon of whatever kind, or element of any structure, there is constant conflict and unity of internal contradictions, which are the prerequisites and drivers of permanent changes in the phenomena, structure(s) or its element(s). A logical derivative of this dynamical principle is that any element a is never absolutely identical to itself ($a \neq a$)¹; 2) the principle of negation of (any) negation, as a necessary element of the changes and the dynamics; 3) transformation of the quantity into a new quality at a given critical level of the

¹ This principle does not negate, however, that in absence of a time- (or logical) process, when the change of time is almost zero, this non-identity relation transforms itself into an absolute identity, $a \equiv a$. This is the case when the time related to a process (or a logical process) converges absolutely and approaches the zero value.

change of the quantity; 4) due to the principle of conflicting contradictions and the dynamics of double negation, as well as due to the total inter-connection and interaction between all elements and structures, there is a constant change in any element, structure and of the totality in the nature and society. The holistic dynamics is explained by the changes and movement in the elements of the totality, as well as by the changes, movement and transformation of the totality, as a whole (Engels, 1968). The societal implications of these principles are that the economic, social and cultural dynamics should have a decisive impact on the domestic and foreign policy of states and on the international relations. It is apparent, however, that the above principles of classical (Marxist-) dialectic approach (McTaggart, 2005) are formulated too broadly to provide a useful methodological tool with predictive power in the analytic research of natural and social phenomena. The overwhelmingly general (and, therefore, insufficiently precise) character of these principles may in many instances lead to incorrect conclusions, particularly in the research fields of natural sciences (e.g., failing to support some of the findings of modern physics on the structure of matter). The classical dialectic approach has, however, proved to be relatively successful in the domain of social sciences.

The basic premises of general systems theory (GST) are similar to the principles of dialectic doctrine. They are: 1) the totality of a system of elements and their interactions creates regime; 2) the openness (also in a logical sense) of this totality is the main feature of the dynamic regime; 3) there is a dynamical, inter-connected movement and change of any point, pole and element of this “totality“, as well as a (dynamical) creation of collective features and collective behavior. This principle includes synergism and introduces collective variables characterizing the system as a whole; 4) there is an influence of any element to any other regime’s element, and to the dynamics of “totality“, as a whole; 5) there is dynamic self-regulation of all collective movements of the elements, poles and the “totality“ (Von Bertalanffy, 1971).

It is apparent that the general systems theory (GST) takes a more or less *organic* approach. Similarly, to the dialectic theory, its open totality is driven by the interaction and movement of the elements that create regimes. What had a real impact of GST on the political science was the introduction of two (sometimes more) levels of variables that explain the internal and external behavior of *states*. However, it can be noticed that while the dynamic inter-connection of elements, and the connection of this dynamics with that of the system as a whole, are adequately enshrined in the GST including in the field of social theory (see neorealism by K. Waltz, 1979), the element itself is treated as a structureless component of

the system only, although possessing interactive attributes. The origin of these attributes and their character, particularly with respect to the interaction of the element with other elements in the system, is not elucidated in the GST. Obviously, it must be rooted in the element's structure and (its) dynamics. Furthermore, if the "element" of the system has its own structure and dynamics, it must be considered on its own right as a *system* (or sub-system), characterized by its own systemic variables. This logical chain can be continued. The existence of interactive attributes of a structure-less element appears as a paradox in the GST.

The GST-*dialectic doctrine* breaks the atomistic nature of the system's unit. According to the principle of unity of contradictions, any part of the system (including the "units") contains an opposite, mutually contradicting part, the antagonistic tension between which is responsible not only for the changes in themselves but also for their interaction with the other parts of the system. Therefore, the structure and the processes within the parts (or units) of the system affect the system as a whole. It is obvious that this logical principle entails division of the parts or elements of the system *ad infinitum*. In order to resolve the inconsistencies of GST in this article we develop a conceptually new approach in which the *relation*, and not the "unit" or *element*, plays the dominant role in defining the structure and behavior of the system. By breaking the basic unit of Waltzian system (and, hence, of the GST) in order to resolve the *paradox of the existence* of (in principle variable) interactive attributes of the structureless unit of this system, the dialectic doctrine, through its principle of unity of contradictions (that implies division of a system's element *ad infinitum*), introduces its own paradox: the existence of the (basic) element itself. The process of *infinite division* obviously negates that existence.

The question of *existence of the element* is obviously an ontological question. To ask *How come that the element exists*, is logically equivalent to the question: how come that "Everything that is" (*Sein*) exists (Heidegger, 2000)². The logical formulation of that fundamental question has to be in an operational form that includes the negation of "Everything that is", namely: How come that *Everything* that is exists besides the (expected) *Nothingness*? *Nothingness* is defined here as all what has left when we put aside the *Everything*. Since there is empirical evidence that something exists ("at least our thoughts

² The question of the origin of the element is essentially identical to the question of the origin of Everything that exists. This becomes apparent if we take the case when in the set of *everything* that exists there is only one single element. Resolving the paradox of existence of the element is then logically equivalent to resolving the paradox of the origin of everything that exists, since both questions are basically related to resolving the relation of either the basic element or Everything that exists with the opposing pole of *Nothingness*, as absence of something. The two paradoxes are, therefore, reduced to single logical *paradox of the existence*.

exist”), the origin of *Everything*, as negation of *Nothingness*, can be resolved if the question is put in the following symmetric (or oppositional) form: **How come that *Everything* exists in relation to *Nothingness*?** Since we know that something exists (empirically, at least), for resolving the above question, we would have to examine when such question - the origin of *Everything* (further in the text abbreviated as E) in relation to *Nothingness* (further in the text abbreviated N) - is logically reducible to absurd, i.e. to an ill-posed question. The answer is derived either in negation of E or negation of N. Because we empirically observe that something (or, for that matter, *Everything*) exists, the question is how to negate the possibility of the other pole: the *Nothingness*.

The answer to this basic question can be derived if we combine the principles of GST with the principles of dialectic methodology. Due to the logical equivalence of the paradox of the existence of *everything* and the *paradox of existence of the element*, we shall confine our derivations to resolving only the second paradox. However, the equivalence of the two problems will always be kept in mind and included in the derivations when appropriate. We remind that the logical paradox of existence of the element results from the dialectic principle of *unity of contradictions* triggering the changes, implying a process of division of the element *ad infinitum*.

In resolving the paradox of infinite division (or “*elementaristic paradox*”³), we shall apply the dialectic principles of *negation of the negation* and the *transition of quantity to quality*. The later principle states that the change of quantity creates, at a certain critical level, a new quality. This presumes that in any continuing process of change there is always a non-zero quantity for any existing quality. In the process of infinite division of the element, we have to suppose that the quantities of the two sub-elements, forming the element, converge to a zero quantity at infinity. The basic question becomes whether one or both of these two (sub-) elements reaches the zero-quantity value. Reaching the zero-quantity value is certainly a critical level of change of the quantity, and it has to be accompanied by creation of a new quality. The zero-quantity value itself represents that new quality. On the other hand, the dialectic principle of unity of contradictions requires that any change of the quality must be provided through the tensions of contradictions, carried out in the case of element’s division by its sub-elements. The role of contradicting elements in triggering the change is, however (and by definition), never absolutely symmetrical; the equilibrium of the tensions would never produce a change in quality. This implies that in the infinite process of element’s division

³ Paradox that could be formulated as “*How come that element(s) exist?*”.

only one of its sub-elements can reach the zero-quantity value, i.e. can transit into a new quality. Remarkably, in this *separation* of sub-elements, their contradiction is not lost; it is only transformed into another, more fundamental contradiction between two qualities: one with a non-zero quantity (hence, *existence*), the other with a zero-quantity value (i.e. *non-existence*). Both sub-elements cannot reach the zero-quantity value simultaneously also because that would mean that the prerequisite contradiction, necessary for the convergence towards the zero value to take place, would have ceased to exist⁴. If both elements reach the zero-quantity value, i.e. attain the same quality, they become indistinguishable and, by virtue of the *Leibniz principle* (that entities with all their attributes identical are one and the same entity; see Ray, 2008), they represent one and the same entity. Thus, the asymmetrical contradiction between the sub-elements precludes the possibility that they both simultaneously reach the zero-quantity value, defining the non-existence of quantity or the *Nothingness*⁵. If only one sub-element reaches the zero-quantity value (negation of quantity), the other one, with a non-zero quantity, has to be defined as *something* (or, generally, *Everything*), i.e. that what does not have a zero-value status⁶. As mentioned earlier, the reaching of zero value status by one of the sub-elements creates a new type of contradiction: one of the poles of this contradiction is the *Nothingness* (*N*), and the other one is the *Everything* (*E*).

From the point of view of GST, *E* and *N*, being in contradiction to each other, i.e. mutually connected, form a *system*. The most essential characteristics of this system is the intrinsic inter-connection of *E* and *N* without which neither of them can be, nor the system they form can exist. This intrinsic inter-connection of *E* and *N* in the system constitutes a *relation* between *E* and *N* that makes the system possible. The substance of this relation is the contradiction between *E* and *N* itself. Since from the point of view of GST the entities *E* and *N* are mere elements of the system, it follows that the *existence of a relation* between *E* and *N* is a prerequisite for their own existence (as elements of the system) and of the system itself. It appears, thus, that the relation is a more fundamental entity *in the system* than the elements of the system. The system $\{E, N\}$ is obviously the most fundamental one, and the relation

⁴ If a contradiction does not exist, the process of element's division will not proceed at all and will not result in a zero-quantity status for either of the sub-elements. In absence of a contradiction, the principle of negation of negation would not operate, and the inclusion of time in any process would not be necessary.

⁵ Furthermore, in the dialectic time-process both sub-elements are by definition not absolutely identical, at least because they represent different and opposing poles, or sub-elements in contradiction, with different role in the mutual interaction. The necessity of a non-zero quality (or, equivalently, a quantity different than zero) must be first preserved in the basic interaction, at least for the character of one interacting pole/element, in order to create the prerequisite for a changing movement, based on that contradiction.

⁶ We call the zero-quantity level a *zero value status* to indicate the transition of quantity (of *something*) into a new quality (*nothing*).

between *E* and *N* can be called *fundamental relation*. It should be emphasized that the relation has a *systemic nature*: it cannot exist outside the system, in the same way as the system cannot exist without it. The fundamental nature of the relation originates from the fact that it represents an abstract form of an *interaction* (e.g., the contradiction between *E* and *N* in the above example), that gives the *identity* and the very existence of its poles (the interacting elements of the system)⁷. Although the relation (as the *interaction* itself) is most often conceived as being bipolar, in a complex systems it can take a more complex, multi-polar form(s). Within the relationist approach the *paradox of existence of the element* (related to the process of infinite division of elements) has, as we have seen above, a natural resolution: the process of infinite division reaches its end at the level of *fundamental relation*, when the pole of zero quantity and quality cannot be further divided (due to the Leibniz principle, for the origins of term *relationism*, see J. Erman). The non-zero quantity pole (the element) acquires its existence only in the *systemic relation* with the zero-quantity pole (the absence of the element). Similarly, the question “how come that *Everything (E)* that is exists” can be resolved only if *Everything* is in a systemic relation with the *Nothingness (N)*. *E* and *N* are only poles of the fundamental relation that creates them. The origin of both *E* and *N* is their systemic relation from which they are inseparable. The relation includes in itself its poles. Thus, the above formulated question becomes meaningless, i.e. it is reduced to absurd.

Impact and Consequences of Relationism in the Area of Natural Philosophy and Physics

In an attempt to understand the implications of the methodology of dialectic relationism, as a general methodology, we shall first try to formulate the *origin* of the most basic category or phenomena in physics and then apply our general approach. The main pillars of physics, as a basic science of the natural material world, are formulated in three famous laws of motion by I. Newton describing and explaining the movement and interactive influence among material objects (Newton, 2013). All this pillars or physical laws (that includes *inertia* as a *First law*, the relation between *mass and acceleration* as a *Second law*, and the *Third law* related to the *action and equal reaction*) can be summarized in the *Second law* formulated by Newton related to the basic category of physics (and of nature itself), that is a *Force (F)* as a measurement of interaction (described as *mass times acceleration*, or $F=ma$). From the angle

⁷ This is analogous to the fundamental role of the interaction in modern theories of elementary particles of nature where the interaction, represented by a physical field, generates the interacting particles and not *vice versa*.

of General philosophy (Ontology), if the *force* is the basic category, most fundamental question would be the *origin of the force* in the universe. That basic question, as we can derive from our previous conclusions, is equivalent to the question of the *origin of interaction(s)*, since every basic interaction (always defined by non-zero *intensity*) actually represent a *force*. As we explained in previous discussions here, there is a logical equivalence between the fundamental *relation* and a basic *interaction* of any kind at level of irreducible minimum system {E, N} or as we can call it a *quantum* system (i.e. irreducible physical property system). Thus, fundamental question of the origin of *force* can be answered by reformulating it into previously already answered relationist paradox relating to origin of *everything that exists* {E}. As we may conclude from the previous discussion about the origin of *Everything* {E}, the question of the *existence of force* is identical in nature with the mentioned fundamental question of *origin* {E}, therefore the answer to the second question related to physical force is also identical to the answer (already) given for the origin of *Everything*. That answer is basically in irreducibility of most fundamental relation, i.e. natural force is the relationistic irreducible category with inseparable poles. A dilemma in the first paradox of {E} was solved by the irreducibility of basic relation linking opposite poles {E} and {N} that are inseparable and impossible out of system (relation). As we mentioned earlier within the relationist approach, the *paradox of existence of the element* (related to the process of infinite division of elements) has a resolution or end: the process of infinite division reaches its end at the level of *fundamental relation*, when the pole of zero quantity and quality cannot be further divided. The non-zero quantity pole (the element E) acquires its existence only in the *systemic relation* with the zero-quantity pole (the absence of the element). Thus, the ontological question “how come that *Everything* (E) exists” was resolved when *Everything* is in a systemic relation with the *Nothingness* (N).⁸ Same conclusion we can derive for the existence of *force* as an interaction (for philosophical question “how come that *Force* exists”), since basic *interaction* appear to be of relationistic nature where pole described as {N} is not self-sufficient, and with different potential than the other pole. Therefore, the above formulated question of the origin of force (F) is reduced to absurd, in an identical way as in the case on non-self-sufficient {E}. Force (F) at some level reaches *quantum*, as the minimum amount of physical property, that cannot be further reduced, and interaction here is logically equivalent to relation were nothingness is not self-sufficient.

In physics, as in logic both mentioned poles {E} and {N} are merely *interactive* poles since

⁸ Thus, within a relationist ontology the above formulated most fundamental question becomes meaningless, i.e. it is reduced to absurd. We argue here that the same applies to the question of the origin of natural force (F), with same logical explanation.

they have different or opposing potential. Therefore, they apparently represent an interaction. Interactions are always characterized with their intensity. Namely, irreducible basic *relation* (with poles {E} and {N}) in our view represent the basic physical *interaction* or a *force* (F), which by the systemic logic {E} <-> {N} is irreducible and indestructible. Thus physical force, as the *basic relation*, is infinitely ever-existing category (as fundamental *quantum*), so that within relationist ontology the above formulated question of the existence *force* as *interaction* becomes meaningless, because a basic *interaction* is equivalent to basic *relation*. Difference of potentials of both poles interactively create *charge* equal to $p_1 - p_2$ (where p -potential of the pole) or symbolically Δp (i.e. *change* of potential).

Let's demonstrate in physics our relationistic approach. The typical easiest example is the Electromotive force (EMF or shortly E) in its physical definition. This (electrical) force is defined by simple difference of the *poles* possessing different potential and creating a *charge* (between those uneven potentials).⁹ Generally, whenever in physics exists difference of the uneven poles creating *charge* one can speak of the *force* as a measurement of *interaction*, and a *charge* as a cause of movement or change (dynamics). In the case of Electromotive force by definition $(E) = p_1 - p_2$ (where p_i represent electric potential of a pole) in the absence of conductor(s). Thus, the reason for universal movement placed as paradox by the philosophers from ancient time to present can be answered generally in Marxist *dialectical* terms as a consequence of the *dialectical contradiction*, but apparently more accurate definition of the origin of movement would be the existence of inherent *force* as a universal and most fundamental dynamic category (that encompass contradictions and non-contradictions), were it is a cause of a change or movement of any kind enshrined in that category itself. In definition given by I. Newton change of velocity (v) as $\Delta v = a$ (a - acceleration) is possible only if object is subjected to the influence of some external force (F), and therefore change of velocity (or acceleration) is proportional to the intensity of force that influenced movement of that object.

In relationism, the basic (internal) interaction, due to the constant dialectic tendency to change in the nature of {E}, as dialectically $\{E\} \neq \{E\}$ (due to the above mentioned dialectic principle of anti-symmetry or disruption of symmetry $a \neq a$) may result in *charge* variations of both mutually dependent poles and generate further dynamics influencing character of {E}. In natural world (explained by physics), cause of the potential-variations and change in {E} could be attributed to {N} (due anti-symmetry $\{N\} \neq \{N\}$) in a way that {N} may not

⁹ A Voltage difference or *charge* with capacity to produce a work or material change.

always be an absolute zero-value, but rather $\{N\} \rightarrow 0$. Therefore, there is a constant change of intensity between interacting poles due to the variations pole's potentials. It should be noted that in the Newton's Second law of movement basic equation $F=ma$, can be replaced with the definition using a change in mechanical momentum $p_1 - p_2$ (were momentum $p_i=mv$), or shortly Δp (change of momentum) that is almost equivalent to mentioned EMS definition. This Newton's definition of force as momentum differentiation is in fact equivalent to uneven internal poles differentiation (in a sense that each momentum could be understood as object with different mechanical potential), but in the case mechanical momentum force has external impact on objects, by definition (i.e. pulling or pushing external impact). Therefore, Newton's external force is simply defined as proportional (impact) to *acceleration* (change of speed) of material object, were mass (m) of that object is inversely proportional category (defined as measurement of inertia against acceleration). The apparent mathematical equivalence of that equation (in form Δp) with the equation related to *potential differentiation* of internal interactive poles $\{E\} \leftrightarrow \{N\}$, once again point to the conclusion that *force* is a dynamical category that inherently encompass *dynamical change or acceleration* in itself.

What could be a possible contribution of the relationistic philosophy for research fields in physics is our methodological derivation that not only a category of physical energy (E) is indestructible and uncreatable (taking into consideration Mass–energy equivalence¹⁰), but also the category of *force* possesses the same feature of *indestructible and inherent nature*.

A difference of our relational method to classical methodology is that it may even transcend the materialistic substance interpretation (of *everything*) and expand its logic beyond the traditional chains of materialism. Namely, relationism does not need to define the substance-nature of their basic poles, or precisely the pole of *everything* $\{E\}$, since presented logic here only determines the fundamental relation, but not its substance.¹¹ What perhaps could possibly be the further philosophical contribution for physical explanation of constantly expanding dimensions of natural *fields and space* (i.e. physical fields and space after universe creation

¹⁰ Anything having energy (E) exhibits a corresponding mass (m) given by its energy (E) divided by the speed of light squared, or $E=mc^2$. See A. Einstein, *Does the Inertia of a Body Depend Upon Its Energy Content?*, originally pub.1915.

¹¹ There is no need to presume that basic substance is (exclusively) materialistic one. From metaphysical point of view, it can be observed that basic relation ($\{E\} * \{N\}$) may be described as the open-system basic *entity* under *operator* (were $*$ - symbolizing operator or relation (\leftrightarrow) between poles), so that *such entity may again be* subjected to same operator ($*$ with the pole N) in the logical form of $(\{E\} * \{N\}) * \{N\}$, without causing logical inconsistency e.g. $((\{E\} * \{N\}) * \{N\}) * \{N\}$, and so on... to infinity. So, the basic system ($\{E\} * \{N\}$) thus may evolve and create new structures added to pole $\{E\}$ with limitless dimensions, although from the point of physics that may not be physically possible (because that creationism would probably have some final end). Furthermore, it should be observed that if we replace pole $\{E\}$ with informational sub-element (**I**) and pole $\{N\}$ with the informational sub-element (**0**), basic system becomes ($\{1\} \{0\}$) or informational irreducible sub-bit of (1,0), suggesting new possibilities of research on whether our knowing *universe* is in fact basically some kind of informational ("computational") one, bringing discussion of the substance of universe again under considerations.

(in Bing-Bang theory processes)), is our dynamical interpretation of force prone to be self-developed , and thus the suggestion to physics research to take into consideration possible *creationistic model* of the universe, that seems to be neglected for some time in the contemporary cosmology.

Conclusion

In the present article, we have concentrated our research to provide an answer to the fundamental ontological question: *Why Everything (that) exists?* (and not just nothing?). In our analyses, we discovered that this fundamental question was identical to the formal-logic puzzling question related to the solution of the problem of *elementaristic paradox*. An answer to the basic ontological question of existence (of *everything*) we found in our new methodological concept (or philosophy) of *relationism* that solves the question of *elementaristic paradox*. As a result of our study of logical operations, we concluded that *Everything* that exists (E) and *Nothingness* (N) represent logically irreducible (systemic) category (or fundamental *entity*) and that (E) and (N) were being inseparable and in contradiction to each other. These basic *elements* are mutually connected as an *interaction*, forming a system as interacting poles were *Nothingness* (N) may not be possible without the other pole (E). The most essential characteristics of this system is the intrinsic inter-connection of E and N without which neither of them can be, nor the system they form can exist. This intrinsic inter-connection of E and N in the system constitutes a *relation* between E and N that makes the system possible, and thus reduces the basic ontological question of philosophy (*Why Everything (that) exists?*) to absurd. The basic system {E, N} or entity ({E}, {N}) resolves the mentioned *elementaristic paradox*, and in same time solves the basic ontological question. We also explained here that basic system ({E}, {N}) as a fundamental *interaction* can evolve due to intrinsic contradictions manifested as a *force* (a category related to the measurement of intensity of *interaction* caused by differences of the poles {E} and {N} in their potentials).

As a general conclusion, we also found that a *force* from the basic relation ({E}, {N}) is the most fundamental category causing (any) system to move or change, regardless of its nature or substance (i.e. *idea* or material substance).

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