
THE HIDDEN SIGNIFICANCE IN THE WORKS OF SOME ROMANIAN PHILOSOPHERS

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Abstract

The starting concepts of the paper are complexity, irreducibility and representation of information integration by closure spaces. It is marked out that closure spaces are the generalization of the concept of limits of sequences. This very old idea is extremely rich in deep significances and by comparison to the definition of real numbers starting from the rational ones, one sees that the limit is in fact the sequence itself. Accepting a number to be equivalent to a class of infinite sets of other numbers means jumping from one level of abstraction to a higher one, it means gaining a supplementary dimension of abstraction. This means a way to obtain a multitude of levels of abstraction. Although this situation is quite different of the levels of reality, this situation is compared to the concept of levels of reality of Basarab Nicolescu and to the Goedelian structure generated by the concept 'included tertium' of Stephane Lupasco. Beyond this construction of discursive logic lies the idea of 'hidden tertium', the hidden significance that cannot be comprised by words, theories or any logical system.

A personal interpretation of those concepts is made in occurrence to the digression about hierarchical functional systems and the intrinsic significance. This is about the significance 'attached' to each object on any level of reality, no matter how deep or high this level would be and which is inseparable of the object itself. The interpretation leads to comparisons to concepts of other two Romanian philosophers Mihai Draganescu and Paul Constantinescu.

Keywords: orthosense, infor-matter, time quanta, information quanta, mind-matter

1. Introduction

The present paper has the founding conception of the 'Resonances' paper as a starting point, which can be found on the website www.cristianandreescu.ro.

It will be resumed here in order to not somebody to read the mentioned document.

1. When we speak about something, we actually speak about the mental image of that something, which is supposed to be the same in the mind of the speaker and in that of the listener, or in the worst case, one supposes a correspondence of the two images.

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2. A careful and serious researcher is excluded not be astonished by the coincidence (or in a broader framework of requirements, by the correspondence) between the own imagining and thinking system and the objective ‘answers’ of reality to the explorations of the searching mind. We use the words ‘own imagining and thinking system’ and ‘searching mind’ in a broad sense, as being common goods of humanity, as a consequence of what is mentioned in the former paragraph 1. (This supposes a kind of collective subjectivity which remains a common belief to a certain group of people when it is not confronted to reality, but which receives an objective character while being in a permanent symbiosis with it). The astonishing of that researcher culminates with the question: ‘Is the Universe thinking?’
3. One cannot establish if this ‘THINKING’ exists objectively beyond and independently of human thinking or if it is a strict reflection of human thinking. The simplest and the surest way is to use a work hypothesis assuming that ‘universal thinking’ and human thinking are related, are co-structural.
4. This thinking (which we will avoid to call The Universal Consciousness in order not to automatically take over all meanings of all has been written and constructed about this concept and with the help of it), manifest itself on multiple levels of abstraction, respectively levels of concreteness. We will attribute *primacy* to the highest levels of abstraction when we will discuss simultaneously about a multitude of such levels. We understand by primacy the fact that meanings on higher levels of abstraction generate meanings being on lower levels of abstraction by adding properties to the higher ones. In other words, the meanings on a lower level are contained only *implicitly* in the meanings on higher levels.

For example, we will attribute primacy to the concept of group in front of the concept of symmetry group or to the notion of functional logical system in front of that of functional dynamical system. The more one gets down to lower levels of abstraction, more properties appear defining more and more concrete aspects. This is in connection with the concept of information integration, very well suggested by closure spaces, a generalization of the idea of limits of sequences.

Getting more explicit the lower level means adding to the higher level compatible properties. Accessing a higher level of abstraction is equivalent to leading to a potential state, while reaching a lower level of abstraction means a realization.

A notion being on a superior level of abstraction is more ‘capacious’ meaning that it has ‘more degrees of freedom’, more ‘potentialities’ to be realized, brought into concrete form, one can add to it more properties leading it to realization.

The more the number of properties associated with a notion is growing the more this notion is losing ‘degrees of liberty’ and becomes more tied down to the concrete which it represents.

5. Every portion of reality explored by the human mind is reflected on all levels of abstraction, there is no manifestation on a level without carrying along manifestations at least on the adjoining levels.

6. In the example of the former paragraph 4, of the primacy of the logical functional system in front of the dynamical functional system, this primacy is given by the fact that every dynamical system is also a logical one, but the reverse is not valid, because logical systems do not appeal necessarily to physical quantities, not even to the fundamental ones of space and time.
7. The physical quantities were born in the human mind after the appearance of logical, discursive, thinking, meaning *expressed by words*. Using words implies *succession, stringing*, or in terms of the paragraph 4, stringing has primacy towards speaking, meaning that speaking is a special case of stringing and not vice-versa.

Succeeding, stringing has the aspect of 'discrete time' of 'quantized time' and is preceding any other form of physical quantity, meaning that it has primacy towards any of them. On the same level of abstraction there is also the concept of the number and these two stand at the fundament of any idea of measurement.

On the same level of abstraction there is the concept of (functional) logical system.

8. To reach the dynamical functional systems one needs expressing of movement, meaning the necessity of the appearance of the concepts of space and energy.
9. A 'democratization' of physical quantities is proposed, meaning that no one is preferred to chose or to built a reference system. Depending on the specificities of the system under study one can chose any number of parameters is needed to built a reference system.
10. A complementary way of studying reality by means of the physical quantities is the study by 'detection', by 'identification' of systems. This couple of studying modes, of thinking modes can be represented by a couple of 'cuts': on one hand the cut-out, representing the systemic thinking, the identification of the system in nature, being an integrative thinking and on the other hand the sectioning, representing the analytical, disintegrative thinking, and which is acting by 'inventing'/discovering of physical quantities and by measuring.

2. Orthosense, time quanta and information quanta

Mihai Drăgănescu defines the *orthosense* as a hidden, implicit sense, impossible to be separated of matter, at any organization level we would look at it. It is beyond words, beyond the possibility of description. Besides, he considers that matter is indissolubly tied to information, this is why he does not use the word 'matter' any more, but he introduces the concept of *infor-matter* in order to mark out the importance of that inseparability [1].

He have to point out the difference between orthosense and information.

Trying to decypher this difference in the 'key' of the earlier mentioned principles, it appears on the level of expressing explicitly through words, meaning on the level of stringing, of succession. Information can become explicit, while the orthosense cannot. Information is 'located' where the *time quanta* introduced by Drăgănescu appears, as an expression of ordering in a string. There the rational mind can discover and logically expose the 'components' of information and can

organize the discovered information into a structure which can be saved, memorized, meaning deposited in order to be communicated to the other rational minds. In this point we begin to find a connecting bridge to the *information quanta* [2] introduced by *Paul Constantinescu*.

At Paul Constantinescu the information is too indissolubly tied to matter; on one hand he puts information on the same level with the other physical quantities, but on the other hand he grants information a preferred regime by introducing a new principle especially dedicated to it. This principle postulates to be a mirror of the principle represented by the Hamilton-Jacobi equation, where the role of energy is taken by information and that of action, by entropy. This postulate is an equation with an identical form, but with the mentioned replacements. We will go into detail with some aspects of this approach in a following paragraph.

3. The hidden tertium (middle) and the depth of matter

Without appealing to information as a fundamental concept, *Basarab Nicolescu* is building a diagram [3] similar to that made by *Mihai Drăgănescu*, having a ring form: a simple one at *Drăgănescu* and a double one at *Nicolescu*.

It is about the ring of the material world and the two 'rings' of the hidden tertium (middle).

What connexion is there between the hidden tertium (middle) and the orthosense and the depths of the material world? *Basarab Nicolescu* 'defines' the *hidden tertium (middle)* as a zone of lack of resistance to any possible attempt of rationalization, beyond of any level of reality logically distinguishable and expressible. Here the logic *Basarab Nicolescu* is talking about is the logic of the included tertium (middle), introduced by the Romanian philosopher *Ștefan Lupașcu*, who has lived in Paris under the name of *Stéphane Lupasco* between the years 1916 and 1988, but who has been born in Bucharest 1900. And with the help of the included tertium [4] (middle), or better said, having as fundament the idea of of included tertium (middle), *Basarab Nicolescu* is introducing the idea of levels of reality in the following way.

Lupașcu associates to the two contraries 'A' and 'non-A' of the Aristotelian logic a third element, 'T' including both of them into a higher understanding. A consistent system of propositions (a consistent theory) cannot contain both the proposition A and its counterpart non-A. In order to override this deadlock, the system of propositions has to be 'sunken' into a broader system which will 'dissolve' the paradox 'A and non-A', meaning which will 'explain' it using propositions from outside the initial one.

(This is one of the most important consequences of the second incompleteness theorem of Kurt Gödel [5].)

Leaving the initial perspective and rising to a superior one is equivalent to the discovery of a reality level on which A and non-A are reformulated and not contraries any more. This reformulation is equivalent to finding a superior perspective, meaning a superior reality level including A and non-A as a new unity, denoted by 'T' and called the included middle, or included tertium.

The triplet A, non-A and T is the basis of a ternary logic which has found a first application in quantum physics and is one of the first quantum logics that have appeared. (*In order to consider also other quantum logics we should remember of the formalism of Jauch [6] and some ideas which have been tried in the years after launching this formalism [7, 8].*)

The reality levels introduced in this way by Basarab Nicolescu are aspects of reality that can be exposed discursively, which can be ‘caught’ into a logical system. However, they are something different from the abstraction levels mentioned in the introduction. These can be both discursive and implicit. When they are explicitly exposed, discursively presented, they have the characteristics of the reality levels and can be considered a kind of ‘pre-realizations’, or a sort of preparations in the mental space in order to perform a concretization.

When they are implicit, they can be perceived only globally by an educated and trained intuition or special spirits who live and have lived in all times and who have been considered to have access to other worlds, like shamans, wizards, prophets, etc. This ‘global’, integrated perception can span any number of abstraction levels. Just because they are implicit, one cannot declare anything about their number, not even if this number is limited or not. As we intend to place things in a framework to be as broad as possible, we prefer to claim that this number is not limited. This is exactly the way Basarab Nicolescu speaks about the ‘number’ of reality levels. And in order to discuss a little bit more about differences and resemblance between reality levels and abstraction levels, we can say that the first ones can be observed and even exploited experimentally, while the latter cannot go beyond the hierarchy of logical systems, even if they are explicitly expressed.

Intending to come back to one of the former paragraphs, namely to the *hidden tertium* introduced by Basarab Nicolescu, we propose in the present paper to include in the same semantic region, perhaps even to identify the hidden tertium with the *implicit assembly of the abstraction levels*.

In order to avoid a narrowing of the content of the concept of the hidden tertium, we have to notice that this concept, just as his father is ‘defining’ it, is ‘a region’ of non-resistance, of absolute transparency against our experiences, descriptions, images or mathematical formalizations. This means that, in order to have the possibility to ‘have contact’ to that ‘zone’ rational thinking is not sufficient any more.

A mobilization of all deepest layers of the human psyche is necessary to accede it at most sporadically. And what we receive from there is exactly as Basarab Nicolescu describes: it has not any kind of connection to “our experiences, descriptions, images or mathematical formalizations” [3, p. 88].

If we agree to identify or at least to recognize a kinship of the hidden tertium with the implicit assembly of all abstraction levels, we have to admit that abstraction is not a privilege of logical thinking; it is just ‘thinking’ beyond logic, meaning the reflection from the depths and the dialog with the depths of the human soul can have relevance to the real ‘treasure’ of abstraction. The intrinsic hidden sense of everything lies within the region of the purest abstraction, because every thing ‘carries behind’ the implicit assembly of all its levels of abstraction. In other words,

to decipher the hidden sense of any thing means to 'peel' one level of abstraction after another in a never ending search of an explicit layout of that sense.

We come back and mark out that 'thinking beyond logic', meaning that thinking of psycho-logical depths, the mythical one, having a direct connection to the ancestral roots of the human mind, although it abounds with concrete representations, is eventually a thinking by excellence abstract and carries the characteristics of that implicit assembly of all levels of abstraction, in direct contact, although sporadically, with the hidden, implicit senses of objective reality.

Basarab Nicolescu proposes a diagram built up of two groups of rings: the rings of both groups are one inside the other and the groups are touching each other exactly in the middle of the diagram. The left group represents the OBJECT and contains following levels of reality: cyber-space-time, quantum microphysical, macrophysical, environmental, economical, planetary, cosmic. The right group represents the SUBJECT and contains the individual, social and political level. While the level structure is based on the scheme A, non-A and T, the 'point' where the left group and the right group are touching is called 'the hidden tertium' or 'the hidden third' [9].

At the same time, Mihai Drăgănescu puts in view his 'ring of the material world' represented schematically by an one-ring-diagram, linking to each other by two branches 'the Depths of Matter' and the 'Universe'. These two branches, these two oriented arcs, are: the one coming from the Depths of Matter to the Universe is called 'opening' and the other, the reverse one is called 'intro-opening' [1, p. 180].

Mihai Drăgănescu does not take into consideration the doubling by the representation of the objective through the subjective, the 'objectification of the subjective' by the two aspects meeting in the zone of hidden, intrinsic sense, where the significance cannot be separated from matter.

Mihai Drăgănescu claims to be a materialistic philosopher in his early papers which also represent the fundamentals of his work. Later he did not insist any more on this aspect because eventually such a label could not have any real importance for a thinker of his kind.

In his vision, the depths of matter, containing the infor-matter we have already mentioned above, are opening continuously and infinitely generating thus the Universe. This one is opening by generating life which generates conscience and consciousness being in a continuous opening towards the most hidden mysteries of the world, this consciousness itself penetrates the 'interior' of those mysteries to the depths of matter. This second opening proper to consciousness is called intro-opening. This ring, this closed 'circuit' of conscience in the world starts from the orthosense and gets back to it by discovering and living the sense to the retrieval of its pure form of orthosense, which is quite close to the claim that thinking and the Universe are co-structural.

On one hand, using a scheme with only one ring puts on a secondary level the separation between object and subject, so as it appears in the case of Basarab Nicolescu with his double ring, on the other hand this approach cancels the classical opposition between matter and spirit, lead up to desuetude by the extremist 'thinkers'. It is a very convenient attitude which lacks the tension of the necessity of

contradictory arguing, having a kind of peace of mind to be in kernel of the problem without the obligation of justifying.

4. Energy, information and significance

A somehow similar attitude, but having a very different approach, can be noticed at Paul Constantinescu. Being strongly influenced by David Bohm (for example: 'Meaning and Information' [10]), and starting from the idea that information is indissolubly tied to matter at any level we would study it, he postulates as we mentioned already above, that the following two equations can be true only simultaneously and complementarily, in other words, that the one without the other cannot have any sense.

$$\partial \varepsilon / \partial t + I(\varepsilon, S, q; t) = 0 \quad (1)$$

$$\partial S / \partial t + H(\varepsilon, S, q; t) = 0 \quad (2)$$

Here by S the action is denoted, by H the total energy, q are the generalized coordinates, ε is the entropy, while I is associated to information as a measure of organization [2, p. 43 and 81].

Furthermore, based on this couple, he claims to have found a way to unify the theories of electromagnetic, weak and strong fields with that of the gravitational field. In this approach, drawing a parallel to introduction of the energy quanta, he introduces the notion of information quanta.

But let us return to the conception of David Bohm about significance and information. In the quoted paper he claims that a quantum system has its own energy, but the form of this energy is given by its information content. He also asserts that the Schrödinger wave has not to be regarded as a force field, but as an information field. In this context, he assigns to the concept of 'meaning' the following significance: „meaning is the activity, virtual or actual, that flows out of ... information”. Further, he adds to the text: „So, we do not have a split between mind and matter in general. As with information and meaning they are two sides of one process, separable only in thought, but not in actuality. This implies of course that human consciousness is not something altogether outside the overall universe of matter. But matter has now come to signify a totality of being, ultimately of a subtlety beyond all definable limits. And thus, it may equally be called mind, or mind-matter, or matter-mind. In this one totality, meaning provides all being and, indeed, all existence.” [10, p. 10]

A first conclusion is that both Mihai Drăgănescu and David Bohm and consequently Paul Constantinescu are considering the split of reality into a material and a spiritual one as irrelevant. The main point is that they are the two sides of the same coin and none has priority ahead of the other one. Even if they are marked out separately at Basarab Nicolescu by doubling the ring of reality, they here too are unifying and become inseparable in the hidden middle (tertium, third party).

But let us see how David Bohm argues the above allegation: *“This would imply firstly that the information represented by the Schrodinger wave field is being 'carried' by a finer and subtler level of matter that has not yet been revealed more directly. But even more important, it also implies that there may be a finer and more*

subtle level of information that guides the Schrodinger field, as the information on the Schrodinger field guides the particles. But this in turn is a yet more subtle 'somatic' form, which is acted on by a still more subtle kind of information, and so on. Such a hierarchy could in principle go on indefinitely. This means, of course, that the current quantum mechanical laws are only simplifications and abstractions from a vast totality, of which we are only 'scratching the surface'. That is to say, in physical experiments and observations carried out this far, deeper levels of this totality have not yet revealed themselves.” [10, p. 9]

It is impossible not to think immediately to the reality levels of Basarab Nicolescu and the fractal structure of the couples ‘physical quantities/functional systems’ of the author of the present paper, as to the infinite chains of abstraction levels.

What is doing Paul Constantinescu with this conception? He extends it to the natural systems in such a way that he is coming to introduce a new principle, that of finality. And we find ourselves anew face to a new couple: one of principles, causality and finality. It is true that the idea of reintroducing the principle of finality into contemporary philosophy acting together with that of causality and to explain reality by means of both of them taken simultaneously and complementarily does not belong to Paul Constantinescu, but to Carl Gustav Jung exposed in ‘Synchronizität als ein Prinzip akausaler Zusammenhänge’ [11].

There the author proposes this reinsertion as a return to a widely accepted normality in medieval thinking until to Leibniz, the latter included. We, the people educated in the spirit of scientific rationality for a long time use a paradigm that hides in a curious way the idea that a physical process would behave as if it would have a purpose. It is about the principle of minimum action from mechanics or the principle of equilibrium in thermodynamics or about more sophisticated formulations of abstractly defined systems but leading finally to minimum problems of certain functions. In this way, it is unanimously accepted that a physical system evolves in such a way that a certain function defined in relation to the way the system has been described or defined has the trend to attain a minimum value. In other words, the finality of the system is to minimize that function. But a curious thing happens when one explains such a phenomenon, one says that it has taken place because of the principle of the minimization of that function. In other words, in order not to tell ‘the system has a finality (a purpose !!)’ one says ‘the finality is the cause of the phenomenon’, just out of the wish not to admit the existence of finality as a principle together with that of causality. The fear of being accused of ‘spiritualism’, ‘occultism’ or other ‘-ism’ words makes us hide the finality principle by wrapping it into a unique principle of causality.

But let us return to Paul Constantinescu. He extends the finality principle from constructed or biological or social systems to natural non-living ones. Afterwards he brings the finality of the system and its significance into the same semantic region and treats it in the framework of *synergetics*. This is a concept launched by Hermann Haken as an interdisciplinary science explaining the formation and self-organization of patterns and structures in open systems far from thermodynamic equilibrium [12].

Paul Constantinescu's definition is the following:

The synergy is the global, nonlinear, cooperative and/or competitive effect of the parts in order to realize the characteristics of the whole, being different from energy, which is associated with the separate effect of parts and which is cumulating additively, linearly in the frame of the whole.

Returning to the significance, we have to stretch out that Paul Constantinescu is using new quantities in connection to information, trying to come closer to significance: it is about the measure 'significance value of the information' and of the measure 'selection value of the information', latter being introduced earlier by Manfred Eigen [13].

The significance value of the information is defined in the framework of a well built conception about evolution and complexity of systems, based on a mathematical formalism using symmetry groups and invariants. The core of the idea is that a system is losing symmetries (and degrees of liberty) while evolving towards more and more complex structures. At the same time it is gaining invariants. From here he extracts the possibility to measure the complexity of information inherent to the system and designates this measure the significance value of the information.

We strongly agree to that approach because it represents a conception which has a good compatibility to the one of 'couple of cuts: cut out/cut through', while it is completing and extending it with a valuable content.

5. Conclusions

While the newest branches of Science are more and more inter-correlated, there is a tremendous quest for deeper insights in order to find common features of the most distant aspects of reality. The science of complexity, the attempts to unify general relativity to the unified quantum field theory, nonlinear theories applied to social systems, different models of emerging order out of non-equilibrium states, emergence of life out of non-living systems, and so on, need a philosophical background sustaining the depth of reality levels attained by the present science development. Some of these quests lead to classical Philosophy reviewed by the newest concepts generated by the Philosophy of science and adapted to the actual needs.

So one can notice that Romanian Philosophy of science, while being isolated for some decades before 1990, has produced even in these difficult times valuable concepts and assertions which can be found in different forms of expression, but with similar content as science philosophers worldwide.

References

- [1] M. Drăgănescu: *Inelul lumii materiale*, Editura Științifică și Enciclopedică, Bucharest 1989.
- [2] P. Constantinescu, *Synergy, information and the genesis of systems. The fundamentals of synergetics*, Editura Tehnică, București, 1990.
- [3] B. Nicolescu, *Ce este realitatea?*, Junimea, Iași, 2009.
- [4] S. Lupasco, *Logique et contradiction*, P.U.F., Paris, 1947.

- [5] K. Gödel, *On formally undecidable propositions of Principia Mathematica and related systems I*, in *Kurt Gödel Collected works*, Vol. I, S. Feferman (ed.), Oxford University Press, Oxford, 1986, 144-195.
- [6] J.M. Jauch, *Foundations of Quantum Mechanics*, Addison-Wesley, Reading, 1968.
- [7] M.J. Schroeder, *Model of structural information based on the lattice of closed subsets*, Proc. 10th Symposium on Algebra, Languages and Computation, Tokyo University, Tokyo, 2006, 32-47.
- [8] M.J. Schroeder, *Quantum Coherence Without Quantum Mechanics in Modelling the Unity of Consciousness*, Proc. QI '09 Proceedings of the 3rd International Symposium on Quantum Interaction, Springer-Verlag, Berlin, 2009, 97-112.
- [9] B. Nicolescu, *De la Isarlik la Valea Uimirii*, vol. II, Curtea Veche, București, 2011, 78.
- [10] D. Bohm, *The Meaning of Information*, in *The Search for Meaning: The New Spirit in Science and Philosophy*, P. Pylykänen (ed.), The Aquarian Press, Crucible, 1989.
- [11] C.G. Jung, *Synchronicity: An Acausal Connecting Principle*, 2nd edn., Princeton University Press, Princeton, 1973.
- [12] H. Haken, *Synergetics, an Introduction: Nonequilibrium Phase Transitions and Self-Organization in Physics, Chemistry, and Biology*, 3rd rev. enl. edn., Springer-Verlag, New York, 1983.
- [13] M. Eigen, *Naturwissenschaften*, **58(10)** (1971) 465-523.