

**Review of the contribution on Biosemiotic  
Revisión de la contribución en Biosemiotica**

**Gunther Witzany, 2006. The Logos of the Bios 1. Contributions to the foundation of a three-levelled biosemiotics. Helsinki, UMWEB. ISBN 952-5576-01-9**

Presentado: 21/12/2006  
Aceptado: 18/01/2007

**Walter Cabrera-Febola**

Universidad Nacional Mayor de San Marcos, Facultad de Ciencias Biológicas. Apartado 170090, Lima 17, Perú

Email: [wcabreraf@unmsm.edu.pe](mailto:wcabreraf@unmsm.edu.pe)

This book is a collection of papers, in which the author has proposed philosophical foundations of biosemiotics on three-levelled as replacement paradigm of the mechanistic one.

Therefore, it will be made a review chapter by chapter, but first of all a point to talk about is the use by the author of the term “pragmatic turn” which is not a fortunate one, because if we understand science as the search for the understanding and explanation of nature, which makes the distinction with technology, there is not pragmatism in its development what the author must had to do is to talk of “users context interaction.”

Now turning to the chapters, we see that in the first the author intends to debunk the view of M. Eigen on the logic of a molecular syntax which governs biological processes as well as language and communication too. Being Eigen a follower of some ideas put by J. von Neumann regarding, a self-reproducing, intelligent automaton which pervades theoretical biology and, though with lesser emphasis, the empirical side too, which have ended with a mathematical formulation that is not capturing what really occurs in nature. On this respect I agree with the author, but what I am not in accordance is that he considers that the problem is that there are too many topics which are principally no formalizable, while in reality what it happens is not the impossibility of formalization but that the mathematics being used are not the adequate existing more and nicer mathematics which may permit to formalize all these topics, and finally if it would not be possible (i.e., that the existing mathematics will not serve to this endeavour) there will be the beautiful and great task of creating new mathematics, a natural one. This is one of the reasons why biology might be pointing the way to the science of the future. The author also criticizes the fact that Eigen is using the proposal of N. Chomski of a universal syntax and claiming that the brain constitutes a formal language, being his critic based on the ground that language appears as a result of communicative interactions when persons engage in dialogue. Though this seems to be possibly true it remains the possibility of a universal syntax which could be the result of the interactions between people or not. One point which is worth of mention is that the author shows more than one process that is not random as it is supposed to be, what would this mean? That randomness is only one of our inventions? To answer the latter question positively is too soon but what it is presented by the author can be added to other situations in different areas which are pointing to the same positive answer. Also he is criticizing the use of information theory in biological sciences this, once more, may be correct but it does not mean that information, or whatever name you can give to it, is not an important entity that might

form part of nature. The principal aim of this chapter seems to be to deny the importance of reductionism in biological contexts trying to show that the actions are sign mediated by complex interactions and the new interpretative avenue would be closed to non-reductionistic research methods. This, once and again, might be right but this does not eliminate the possible fact that there would be a kind of reductionism – not a methodology – that is inserted in nature.

The comments on the second chapter are delayed until the review of another chapter where it is treated the same topic but with more amplitude.

The third chapter has a title that creates expectation for knowing what life is, but it does not address this point, neither do what is really pretended as the processes governing organisms functioning and their associations. What really the author tries to make is to pose some critical remarks regarding some ideas put by Hoffmeyer trying to explain “life” processes with the intention to conduct to a combination of modern biosemiotics and universal pragmatic theory of communication with the hopes that this will permit to address central structures of “life.” Also he does not answer the question posed in item two of the chapter on the meaning of communication, only shows the purpose of most communication processes indicating its necessity for continued survival being this the closest approximation to the title of the chapter. Item three is a spurious discussion on the meaning of “system” because it is an overused term without a truly approach to the underpinnings of nature, this in spite of the good ideas posed by the author. He is quite correct indicating that Hoffmeyer should resign on the term “system” to concentrate on the description of interaction and interaction-rules. What is interesting is the ideas on the bee language specially when he, timidly, insinuate the possibility of a Lamarckism in the constitution of new or altered genetics text sequences. In the rest of the chapter practically it is expressed the same as in the first chapter.

Chapter four is dedicated to show the deficits of system theory including cybernetics, above has been expressed what this constitute, therefore, it is enough only to say that the author is quite right in his alternative, i.e., biosemiotics.

In the fifth chapter the author tries to show that evolution does not follow exactly what neo-Darwinism propose, presenting some works and ideas in which it is seen how the central dogma of biology is not such because there are instances where it is broken down, also he offers proofs that mutations cannot be responsible for evolutionary changes. Any one of the proposals presented merits a comment but because of the reduced space here I will say that overall they seem to have a good deal of sustentation to be taken seriously. I agree that there is not an actual reason to return to traditional Lamarckism, but traditional neo-Darwinism is not what is needed to the explanation and

understanding of the evolutionary processes, the only point that seems to go into some kind of neo-Darwinism stuff is his final statement on cultural evolution, is this not memetics? If it is I think it could be right.

The sixth chapter is the poorest, the author is totally out of focus considering philosophy and, specially, poetry as “pseudosciences” no one out of him, I think, can try to express that any of them is a kind of science. Philosophy is an area of human endeavour that if well developed collaborates with science but it is not a science. It is interesting that the author attacks philosophy but he is claiming for metaphysics, could someone make any sense of this? On respect to poetry it is inadmissible that someone can pretend that it is a kind of science, poetry is art and nobody may mix poetic text with a scientific one or would try to use poetry to do science, also has poetry any sub discipline? Art, in consequence poetry, is making us to be more human, to enhance communication among us, just as the author is so enthusiastically trying to show. His attack on materialism is also without a good basis, I am not trying to defend materialism, but there is not any turn on this respect in science. His discourse on physics is flawed in more than one respect no one serious physicist would advocate a position very far away from some kind of materialism. But the worst part is on page 139 where he is claiming for spirit, for a creative force, what is this? It, regretfully, strongly seems to show that we are facing another twist of creationism; therefore biosemiotics would be another pseudoscience? I would like to answer in the negative, but the author is forcing us to answer in the positive. Finally, he claims for a foundation for human self-understanding, I agree if he is trying to say that the ultimate aim of science and humanity is to know, what are we? But, to get this aim is not via any communicative biology, to do it we have to go to the deepest, say, mysteries of nature and this could imply some kind of reductionism in addition of all the holism that it might imply. Nature is not as we would wish it be, it is not made by humans; humans are only a tiny part of it.

Chapter seven is another one on evolution; it begins claiming that metaphysical positions must have to be abandoned in contradiction to the intentions on chapter six. The author also claims that we do not understand natural phenomena and the like on which I have to say that he is sensibly wrong, because to understand nature – which imply natural phenomena- is one of the basic aims of science, it is not mandatory to have a linguistic community to get understanding. He also continues the claims for spirituality which make dubious his real intentions. Out of these initial weaknesses the chapter develops with a presentation of relatively new ideas not always by the author making, principally, an attack to neo-Darwinism, like for instance serial endosymbiotic theory (SET) introduced by L. Margulis, all of them meriting some attention, to finish with the proposition for a post- Darwinism as opposed to neo-Darwinism which, out the sixth principle, looks like an interesting and acceptable proposition. In general this chapter presents propositions and nice examples that to be worth consideration.

In the last chapter the author continues supporting SET though questions what he considers the use of mechanistic language by L. Margulis against the communication processes. There is much overlap with the preceding chapter and with some of the previous. What is interesting is his proposition of geMetaCode which is hidden in the non-coding DNA and encodes several RNAs being able to generate new genetic databases enabling structural changes that will serve to the evolution of the diversity of eukaryotes. Then, the author tries to show its effectiveness putting the accent in the linguistical structuration and communicative organization of the genome. All this sounds attractive but deserves an analysis which is not possible in the short space given here. Which is also of interest is again the presentation of a possible kind of Lamarckism referring to the chromosomal methylation. Finally he finish with the same discourse on the non-reductionistic understanding of the linguistically structured and communicatively organized living nature emphasizing our role of performative participants of the planetary communicative community of living nature.

All in all if we skip the sixth chapter this book might be considered an interesting reading with nice information and some interesting hypothesis. It is salutary to see the apparition in the 21<sup>st</sup> Century of transdisciplinary propositions like natural structures theory, the ones presented in this book and some others in contraposition to what has been the current development of scientifically thought dividing nature in receptacles forgetting that it is a unity and we are simply a tiny part of it. What is unpleasant is the continuous usage of the term “life” referring to the whole of living organic matter as is currently used in biology, this is not bad at first but the great problem is that at the end biologist and others try to put the ideas deduced from it as the definition of life opposed to death carrying us to a nonsense conclusion, this opposition – life and death – is the true fact and which has to give us the correct definition of life which will help us – humans – to know what we are.

One fact that works against the quality of the book is the overlapping that exists among some chapters, this could have been avoided if the author would have taken a little work trying to write a connection between chapters eliminating the overlapping, also it has a great fault there is not index. It has some errors, just, in the linguistic aspect with some grammatical and spelling mistakes, obscure or no understandable sentences, unusual or strange wording it seems that English need a thoroughly revision if the goal is to make a text translation not a literally one. There are some mistakes in the references alike some printing errors, also some figures lack a reference number, a better proofreading has been necessary. It is expected that in a new edition all these flaws will be surpassed.