

# On reference system of life

Dainis Zeps

[dainis.zeps@lumii.lv](mailto:dainis.zeps@lumii.lv)

Institute of Mathematics and Computer Science

April 2009

## Abstract

We argue cognition may be considered in new outline, i.e., as functionality of life from within reference system of life. We conjecture that this give us way to consider mathematics as aspect of life from new approach.

**Keywords:** cognition, mathematics, distinction, life

## Introduction

Cognition traditionally is considered as thinking capacity, at least what concerns thinking we invariably relate to cognition. Cognition should be some form of functionality of life, but what cognition makes different from other functionalities of life, say, what concerns perception, or other forms which would be responsible for functioning of life? Material sciences consider life itself as functionality of biological, zoological, anthropic organism. For sciences of life on such basis, which are completely phenomenal sciences, due to no knowledge of where from life comes at all, this is the only escape because they may only bookkeep some registered and systematized facts about living organisms without ability to explain their proper nature what concerns their livingness. But contemporary science has gathered sufficient scientific facts to start to consider functionality of life as independent subject of epistemology. If we argue that functionality of life is something worth to be considered as independent, we do not try to say that functionality of life is more primal than organism which is carrier of "accidence of life". In the same time we do not say opposite, i.e., that this can't turn to be fact. Or, rather, we tend to think that from "within life" we do not have means to find out what would be more proper candidate for primacy, either functionality of life, or "life carrier" itself. Our approach would be based on persuasion that we could gain more with maintenance of principle of equivalence of both approaches than with obstinate support of one or other choice. Actually, proper duality could give us new way in favour of new approach of treating what is cognition at all. We are going to explore this choice.

## **Reference system of life**

If we might find justification to consider functionality of life as independent from “carrier of life” e.g. organism which is alive, then we would like to speak about reference system of life which would mean functionality of life from within life. Truly, we are living creatures and we may look on all from side of our cognitive ability in all the forms this cognitive ability grants to us. We can’t access what is not given in our cognitive capacity in most trivial sense of these words. We could express this with words: “We are alive and may look on things and consider things and access things cognitively only from within life. We can’t step outside the life”. This statement institutionalized as some principle we would refer to as *reference system of life*. In the same time speaking about functionality of life, we would refer to reference system of life as to functionality of life from the reference system of life.

If we want to speak reasonably about reference system of life and about functionality of life as subjects of epistemology, we should have sufficient ground to name independent investigations in favour of institutionalization of these matters. We think that there are sufficient many proofs that functionality of life could be uncoupled from “carrier of life” – living organism. Let us name these (1; 2; 3; 4; 5; 6; 7; 8; 9; 10). In addition we would like to name authors and their works which traditionally are considered as mystics (11; 12; 13; 14; 15). There are authors which works (16; 17; 18; 19; 20; 21; 22; 23; 24; 25) are more in favour of our approach than of traditional cognition approach. Further, unpublished papers of author (26; 27; 28; 29; 30; 31; 32; 33; 34) and three main articles (35; 36; 37) which try to introduce functionality of life as independent subject and new approach to what would be considered as cognitive science at least in new appearance.

## **What epistemology gains from recognizing functionality of life as independent from carrier of life**

What epistemology gains from recognizing functionality of life as independent from carrier of life? First of all, we may raise question what is primal, what we call functionality of life, or what may be referred to as carrier of life. We have as if two choices, first, traditional where carrier of life is primal and functionality of life, either we may it characterize more or less systematically or not, is something, if at all something, but which is secondary. But we have one more definite choice, or variety of the second choice, that functionality of life conceals behind itself something more fundamental what we do not have yet name to be addressed directly to, and therefore addressed only as some sort of functionality, but, recognized as being worth of investigation before recognizing more properly its nature, for a time being, addressed to as reference system of life in general terms, or, for not having better name, simply as functionality of life. Nevertheless, we see behind this notion functionality of life all what we would to refer to as belonging to it in cognitive sense.

What we gain? It opens us way to enter some general principle that says that functionality of life builds all aspects of life on all levels by the same rules, and therefore, due to fact that these rules are primal, they just may be considered as representing this functionally, i.e., in place of speaking of functionality of life we are actually speaking about these general rules

pervading all levels of life or its functioning. What we could say about these rules not knowing what they are actually? At least, we may say that they work as one general pattern on all levels of functioning of life, and therefore, we may use expressions similarly to “all levels of life are built using the same functionality”. What does this mean actually? Of course, we have behind this very clear picture which we would like to introduce, namely, we believe that such levels of cognitions as language ability and general patterns of thinkings, as well as all levels of perception, as well as all levels of functioning of life on all biological, zoological and anthropic levels are build using the same pattern or general rule, what we refer to, pro tempore, as functionality of life. Actually, we would have problems to correctly name these levels that we were trying to, but more essential there is fact, that the rule behind functioning of life on all these levels is one general rule. Period.

What is building life if one general rule is behind all what concerns life? God, nature, general rule of universe, or else? Actually, this question may be only some provocation to step us asides from what we may have as appropriate choice for epistemology. Of course, it may be stated as sort of epistemological argument, and we would even tented to sense that this fact may be some ground for all types of religious, mystic and esoteric thinkings which are just ways of trying to find out this “general pattern behind cognition and life” in some intuitive or life-experience disguise. May be, but all these things are too tightly connected and submerged both in cognition and life-functioning that we may be aground in trying to distinguish what is what. Just because of this for epistemology is very useful not to try to name this general rule or even not to try to find out more about it than it is possible for us pro tempore, but to make use of simply deducible simple facts which may show us clear road to solve some problems in contemporary epistemology in more proper and successive way.

### **We see world via reference system of life**

Arguing that we see world via reference system of life would be trivial action, but, knowing or at least assuming that we know, that behind reference system of life stands one general “actor”, what we named functionality of life, that functions according one general rule, this statement is not any more trivial but may turn out to be powerful principle of epistemology. What then is world “outside”? Actually we can't say anything about whatever outside reference system of life, moreover, such question does not have sense at all. But, what we measure in physical experiment? Is it some sort of reality what we measure using physical experiment? Yes, it is reality, but “constructed via our cognition” reality. But, let us discuss this argument in some order because it is not trivial but, quite contrary, very fundamental question of epistemology that has been inquired since immemorial past. The key to solve question between objective reality and “constructed” reality in contemporary epistemology should or at least would be term *distinction* and *distinguishability*. This approach is considered in (35). Quantum mechanics is tool of contemporary epistemology which teaches us adequately approach what we should see behind distinction in reality. Distinction could may be considered as tool for constructing objective reality but because of most generality of the notion of distinction, that we duly might consider as more general term as even time

(35), we do not have much sense of to try to assume what would be undistinguished or indistinguishable reality, or so.

### **Chain of distinctions reconstructing reality**

How to imagine reality being “constructed” via reference of life? Let us leave in peace whatever aspect of reality outside us, outside reference of life. Pro tempore, this shouldn't bother us if such exists or not. Let us imagine us seeing world from within life. How objective reality is constructed or reconstructed? To see this we should start from epistemology and contemporary science, more precisely, theoretical physics but not from “what we see behind window”. For physics crucial question is what we are doing in physical experiment. We have adopted physical equipment to react in the way it does in sequence of mostly hard attempts to tune it to the required action. Each physical equipment should be considered of immensely long sequence of more and more simpler experiments leading to most trivial where each of them is tuned to appropriate reaction from side of “nature”. Each measuring instrument actually measures two possible outcomes, it reacts to phenomenon under investigation or not. Sic! first distinction. What we are arguing, instrument is doing this only task, either to react or not. Sometimes, we tend to put some significance to what apparatus is showing on its scale, scilicet, we read amount of amperes, say, and so on, but each such experiment may be imagined as if consisting of incredible many experiments which are saying only “yes” or “no” answer. What does mean “yes” or “no” answer? We have something tuned to, we would say. Yes, correctly, but what we have tuned to? That what we distinguish (sic!) what is already function of life. What corresponds in “world outside” to this distinction? God knows, would say priest. Chaos knows, would say ancient Greeks. What guides “creatio ex nihilo”, would say Hebrews. Nagual, would say ancient Toltecs. They all would be right in their own turn. For us today matters only that elementary act of measurement fixes both distinction that has qualified name in the reference of life, and some “to God only known” distinction, or “porridge of energies known distinction for what we would never have names”, but only for “reality outside”. No physical experiment ever would gain other information except this, i.e., qualified via distinctions' information and assumable “distinction outside” but never attachable by any means.

Here some contra argument may be raised saying that this way of arguing only pushes “reality” to some background and thus it is more appropriate to name all distinguishable things already in the used way and refer to as aspects of reality. Yes, and we are doing this all way around for thousands of years. But we have this second opportunity, to try to treat this behind all pushed reality as some sort of actual indistinguishable reality. Why? Because this reality behind may be organized according other rules than known to us today from to us known rules of physics. This approach has been already attacked by Berkeley (38), where Berkeley argued that God knows “the architecture of this behind” (37), by David Bohm (16). And this new kind of organization would have name “multi-time”, or some other, future knows. If we would raise question, is nature organized according rules of physics known today or after some thousand of years, we would unanimously assert that second vision would be more appropriate. Well, why then we try to persuade us other way when we want

to know something about nature already today when we have only our inappropriate knowledge of reality? We are arguing about reality? No, we are trying to persuade “reality” that it should look like what we assume about it. But it is nonsense. Thus, only escape for us we see in assuming idea of reference system of life.

### **May mathematics be reference system of life?**

Actually, we can not say this clearly today. But we have many indications that “reality looks just like this”. What we may say about “order” behind all measurable things? First answer would be “nothing” and contemporary conventional science is doing just this. Not bad for first step! At least we acknowledge how little we know and how weak our science is actually. But we would suggest to make one step further. We know something about “order behind”. Yes, why not to assign to mathematics this role at least of aspect of this hidden order? Recall that we know nothing up to now about unreasonable effectiveness of mathematics raised by Wigner (25). In (35) we argue more distinctively why mathematics could be equated even with this order in sense that reference of life is actually mathematics, and just via mathematics we reconstruct that “hidden order”. Is our mathematics already all this hidden order? No, this question should give negative answer at least in one sense, namely, in that that says us that we may see only that what we have as principle built in us as subject of life. We can't perceive more that we are build from. This general principle works in every measuring instrument, namely, we can't measure something the apparatus is not made for. Ancient thinkers were arguing on this level when they alleged that “soul comprise all universe” what in contemporary language would mean that mathematics may not only be equated with reference system of life but that hidden order behind. What expressed ancients behind their argument could be their belief that our reference system of life may attack question of disguise of reality in most general and harmonic way. In this attempt ancients were right. If our approach is right, we today may say, our reference of life has most general and beautiful appearance possible, namely, as mathematics itself. But, arguing scientifically, according our approach this may be only question of belief or faith.

### **References**

1. **Radin, Dean.** *Entangled Minds. Extrasensory Experiences in a Quantum Reality.* s.l. : Paraview Pocket Books, 2006.
2. **Dlyasin, G.** *Azbuka Germesa Trismegista ili molekularnaja tainopis mishelnija.* 2002.
3. **D'Aquili, Eugene and Newberg, Andrew B.** *The Mystical Mind: Probing the Biology of Religious Experience.* s.l. : Augsburg Fortress Publishers, 1999.
4. **Jahn, Robert and Dunne, Brenda J.** *Margins Of Reality: The Role of Consciousness in the Physical World.* s.l. : Harvest Books, 1989.

5. **Vernadski, Vladimir.** *Biosphere and Noosphere (In Russian)*. Moscow : s.n., 2002.
6. **Whorf, Benjamin Lee.** *Language, Mind and Reality*. 1952. pp. Vol. IX, No 3, 167-188.
7. **King, Serge Kahili.** *Urban shaman*. s.l. : A Fireside Book, 1990.
8. **Steiner, Rudolf.** *Die vierte Dimension. Mathematik und Wirklichkeit*. Dornach : R. Steiner Verlag, 1995.
9. **Lakoff, George and Nunez, Rafael E.** *Where mathematics comes from. How the embodied mind brings mathematics into being*. s.l. : Basic Books, 2000.
10. **Tipler, Frank J.** *The Physics of Immortality*. s.l. : Doubleday, 1994.
11. **Ouspensky, P.D.** *The Cosmology of Man's Possible Evolution*. s.l. : Praxis Inst Pr, 1989.
12. —. *The Psychology of Man's Possible Evolution*. s.l. : Vintage, 1973.
13. **Ouspensky, Peter.** *Tertium Organum. Key to Solving Mysteries of the World. In Russian*. 1911.
14. **Steiner, Rudolf.** *The Dead are with us*. s.l. : R. Steiner press, 2006.
15. **De Chardin, Teilhard.** *The Phenomenon of Man*. 1975.
16. **Bohm, David.** *Wholeness and the Implicate Order*. London : Routledge, 2002.
17. **Huang, Kerson.** *Fundamental Forces of Nature. The Story of Gauge Fields*. Singapore : World Scientific, 2007.
18. **Lisi, A. Garrett.** *An Exceptionally Simple Theory of Everything*. 2007. p. 31.  
arXiv:0711.0770v1.
19. **Penrose, Roger.** *The Road to Reality. A Complete Guide to the Laws of the Universe*. New Yourk : Vintage Books, 2007.
20. **Susskind, Leonard.** *The Cosmic Landscape. String Theory and Illusion of Intelligent Design*. New York : Little, Brown and Company, 2005.
21. **Smolin, Lee.** *Three Roads to Quantum Gravity*. New Yourk : Basic Books, 2001.
22. **Tegmark, Max.** *Mathematical Universe*. 2007. arXiv:0704.0646v2.
23. **Tipler, Frank J.** *Structure of the World from Pure Numbers*. 2008. pp. 897-964.  
arXiv:0704.3276v1.
24. **Vladimirov, J. S.** *Geometrofizika. In Russian*. M. : s.n., 2005.
25. **Wigner, E.** *The unreasonable effectiveness of Mathematics in the natural science*. 1960. pp. 1-14. [www.math.ucdavis.edu/~mduchin/111/readings/hamming.pdf](http://www.math.ucdavis.edu/~mduchin/111/readings/hamming.pdf).

26. **Zeps, D.** *Cognitum hypothesis and cognitum consciousness. How time and space conception of idealistic philosophy is supported by contemporary physics.* 2005.
27. —. *Classical and Quantum Self-reference Systems in Physics and Mathematics* . 2007.
28. **Zeps, Dainis.** *Hologram and distinction.* 2008.
29. **Zeps, D.** *On to what effect LHC experiments should arrive.* 2007.
30. **Zeps, Dainis.** *Cogito ergo sum.* 2008.
31. —. *Space particle duality.* 2008.
32. —. *The trouble with physics. How physics missed main part of the observer and what comes next.* Riga : s.n., 2008. p. 9.
33. —. *Trouble with physical interpretations or time as aspect of reference system of life.* 2008.
34. —. *Rudolf Steiner on mathematics and reality. In Latvian.* 2008. p. 7 pp.
35. —. *Mathematics as Reference System of Life: preliminary observations.* Riga : Internet publication, 2009.
36. —. *Building Mathematics via Theorem Windows.* Riga : Quantum Distinctions, 2009. <http://www.ltn.lv/~dainize/idems.html>.
37. —. *Four levels of complexity in mathematics and physics.* Riga : Quantum Distinctions, 2009. <http://www.ltn.lv/~dainize/idems.html>.
38. **Berkeley, George.** *Treatise Concerning the Principles of Human Knowledge.*
39. **Smolin, Lee.** *The Trouble with Physics. The Rise of String Theory, the Fall of a Science and What Comes Next.* s.l. : A Mariner Book, 2006.
40. **Tegmark, Max.** *Is 'the theory of everything' merely the ultimate ensemble theory?* 1998. arXiv:gr-qc/9704009v2.
41. —. *Parallel Universes. Science and Ultimate Reality: From Quantum to Cosmos, honouring John Wheeler's 90th birthday.* s.l. : Cambridge University Press, 2003. arXiv:astro-ph/0302131v1.
42. **Tipler, Frank J.** *The Physics of Christianity.* s.l. : Doubleday, 2007.