

## Essay

# On Bernard Haisch's God Theory

Matti Pitkanen \*

### Abstract

Haisch lists three questions usually regarded as highly non-scientific: Is there really a God? What am I? What is my destiny? As I started to build theory of consciousness, these questions began to make more and more sense also to me. I agree in many respects with Haisch's vision about possibility to build bridge between fundamental physics and spirituality. Where I disagree with Haisch is the notion of ZPE. In TGD all that can be done using ZPE can be replaced with zero energy ontology (ZEO) to achieve the possibility of re-creation without breaking of conservation laws: without ability to generate new sub-Universes God would be rather powerless.

**Key Words:** God Theory, ZPE, TGD, zero energy ontology, Bernard Haisch.

Bernard Haisch wrote a book entitled "[The God theory](#)". Haisch himself is an astrophysicist who might have become a priest. The book discusses the possibility of spirituality consistent with physics. It also discusses Zero Point Energy (ZPE) hypothesis and the idea that inertia might emerge from vacuum fluctuations of various fields.

I agree in many respects with Haisch's vision about possibility to build bridge between fundamental physics and spirituality. The new view about spirituality requires that a lot of horrendous stuff of religions (such as eternal purgatory, the sadistic God of Old Testament killing his own son, blind belief in dogmas, etc...) is thrown away. Where I disagree with Haisch is the notion of ZPE but think that I understand why he wants ZPE. In TGD all that can be done using ZPE can be replaced with zero energy ontology (ZEO) to achieve the possibility of re-creation without breaking of conservation laws: without ability to generate new sub-Universes God would be rather powerless creature. I also disagree with the idea that inertia follows from zero point fields although again I understand the underlying motivations of the proposal as relating to a genuine problem of General Relativity. This problem also inspired TGD.

Haisch lists three questions usually regarded as highly non-scientific. Is there really a God? What am I? What is my destiny? As I started to build theory of consciousness, these questions began to make more and more sense also to me. One must be however ready to give up some dogmas such as God as a sage with white hair and long beard, the idea that we are nothing but our neurophysiology generating a brief flash of light in infinite darkness, and the belief that heat death dictated by second law is the eventual fate of the universe as whole.

---

\* Correspondence: Matti Pitkanen, Koydenpunojankatu 2 D 11, 10940, Hanko, Finland. <http://tgdtheory.com>.  
Email: [matpitka@luukku.com](mailto:matpitka@luukku.com)

## Putting Haisch into Certain Box

When thinkers happen to encounter genuine thinking they want to classify it in order to feel safe. For safety reason some of us also debunk the new idea. The first classification is philosophical. I use three boxes for this purpose (safety reasons). The first box has label "monism". It contains two smaller boxes. "Materialist" contains thinkers accepting only third person view as an acceptable - objective - view about the world. I close to "Idealist" those thinkers who accept only the first person view as fundamental. Most of my colleagues are happy to live in the box "Materialist". The second box has label "Dualist" and contains thinkers accepting both first and third person views - also this box decomposes to smaller boxes depending on how closely the first and third person views are assumed to be related: if the correspondence is exactly 1-1 then the view reduces to materialism. To the third box - "Miscellaneous" - I put the others and live also myself in this box.

Haisch performs the classification himself and completely voluntarily chooses the box "Idealist". Hence consciousness is fundamental form of existence for him. In TGD framework both first and third person perspectives are tolerated: consciousness is however in quantum jump between quantum superpositions of objective realities identified as zero energy states and does not define another world as it does in dualistic theories. As a matter fact, in TGD several ontological levels are accepted: geometric existence at space-time and imbedding space levels in real and various p-adic versions, existence as zero energy states identified as spinor fields of world of classical worlds (WCW)) and subjective existence as quantum jumps.

## Universe as God

Haisch postulates God as an infinite intelligence. We are God's eyes and ears through which God experiences her (no reference to gender here) own creation. Haisch's God is not the Newtonian clock-smith who creates deterministic universe and then forgets it completely. This God is free to create universes with he chooses freely using her infinite intelligence. This God is also somehow outside the realm of space-time.

The possibility of universes with different laws of physics inside each of them brings in mind inflationary cosmology, multiverse, and the landscape of M-theory. Haisch indeed takes inflationary scenario and multiverse idea rather seriously and also talks about superstrings. The landscape of string theory is catastrophe from the point of view of physics but would fit with the the idea about God who can freely decide about the laws of physics in the limits of mathematical consistency. But what mathematical consistency means? Have M-theorists really thought about this?

What about TGD? In TGD framework nothing prevents from calling conscious selves gods since free will is genuine and the essence of creation. Thus God is replaced with an infinite hierarchy of god like entities. Nothing prevents from calling the entire Universe as God, which is re-creating itself in every quantum jump. This God has us as mental images or to be more precise: as mental images of mental images of ..... of its mental images. The sequence could be rather long;-)!

Concerning the laws of physics the situation in TGD framework. The surprising outcome already from the geometrization of loop spaces is that geometry of the infinite-dimensional world of classical worlds (WCW) is expected to be unique if it consists of 4-D surfaces of some higher-dimensional space. This comes from mere mathematical existence requiring the WCW metric to have infinite-dimensional group of isometries (generalization of various conformal symmetries of super string models). This means that also physics is unique just from its existence. As a matter fact, in TGD there is no need to assume any physical existence behind mathematical existence since consciousness is in quantum jumps. Space-time dimension and the choice imbedding space are forced by very general mathematical conditions closely related to the structure of classical number fields. Four-dimensional Minkowski space and space-time dimension four are forced by the condition of maximal symmetries needed for the existences of WCW geometry.

Inflation in TGD framework is replaced with quantum criticality making the Universe maximally sensitive perceiver and motor instrument. Quantum criticality means absence of scales (or actually discrete hierarchy of them) and the flatness of 3-space (dimensional curvature scalar vanishes) is the correlate of quantum criticality in cosmology. The inflaton field producing via its decay matter is in TGD framework replaced with monopole magnetic fluxes assignable to magnetic flux quanta which near Big Bang correspond to what I call cosmic strings. The decay of magnetic energy of flux quanta to particles produces matter and radiation. The basic difference to string landscape is that standard model symmetries apply in all these sub-cosmologies although there are dynamical parameters distinguishing between them. Hence TGD is highly predictive theory. Even God must bow to the laws of mathematics. TGD space-time is many-sheeted and one has Russian doll cosmology natural also in inflationary scenarios.

In superstring theory the landscape problem forces to assume anthropic principle: the fact that we exist becomes the basic guide line when we try to identify the particular universe in which we happen to live. In TGD framework the evolution implied by Negenropy Maximization Principle (NMP) stating that the conscious information gained in quantum jump is maximal, implies evolution. Evolution gradually fine tunes the values of various parameters so that they generate maximal intelligence. This implies that our existence indeed fixes the values of various parameter very precisely. Of course there are some parameters such as Kähler coupling strength (analogous to critical temperature), whose possible values are dictated by quantum criticality. Note that NMP challenges second law as a universal law - at least a generalization is required in ZEO - and it is now clear that the recent view about universe neglects completely the huge negentropy sources associated with the negentropic entanglement assignable to magnetic flux tubes carrying dark matter. In human scale these resources - "Akashic records"- give rise to memories and plans of future, ideas,...

## **The Purpose of Life**

Haisch adopts the vision about endless sequence of reincarnations as a kind of "life-school" in which one transcends life by life to higher levels of consciousness - to upper class in school (and sometime to same or even to lower one).

This vision could have rather concrete realization in TGD framework. In the average sense the average size scale for personal causal diamonds (CDs) in their quantum superposition grows in a given quantum jump, and a biological death now and then does not stop this process. New sub-CDs also pop up and mean creation of new small sub-Universes which began to evolve. Asymptotically the size of the personal CD approaches infinity - asymptotic Universe, asymptotic Godness;-)!

Biological death would not mean the end of consciousness, only a transformation to a new level: perhaps higher, perhaps same, or maybe even lower. This depending on the Karma - the law of action and reaction at spiritual level as Haisch puts it - that we have gathered by our deeds. By doing bad deeds reduce our level of consciousness guaranteeing the return to a lower level in hierarchy. This has quite concrete quantum physical correlate: reduction of the effective Planck constants reducing the quantal size scales of the magnetic flux tubes connecting as bridges of attention to the rest of the world and reducing thus quantum coherence lengths and times characterizing us. It also reduces our long range goals from those dictated by a mission to short range goals dictated by opportunism.

### **What Could Happen after Biological Death?**

"What is my fate?" is one of the questions of Haisch. A more concrete formulation for this question is "What happens to the magnetic body in biological death?". TGD framework provides the tools for a glass pearl game around this question.

It would not be too surprising if at least some upper layers of this onion-like structure were preserved. NMP might guarantee the approximate conservation of the entire magnetic body since its braiding serves as a correlate for negentropic entanglement defining "Akashic records", a kind of cumulative collective wisdom having as a counterpart Sheldrake's morphic fields defining among other things also species memory.

What it means that in 4-D sense (contents of consciousness are from 4-D imbedding space region: either boundary of CD in given scale) also our biological body still exists as sub-CD of the larger CD we continue to exist subjectively? Only the sensory input and motor output conscious- to-us has ceased in biological death.

Does my biological body continue its life in reversed direction of imbedding space geometric time? The answer is negative if one relies on the assumption that the arrow of imbedding space time changes and the folded bath towel argument for the arrow of 4-D time defined by thermodynamical entropy holds true: my body would continue becoming older than it was at the moment of death. Not very plausible or desirable scenario!

NMP requires that negentropic entanglement is generated at the moment of biological death and adds to existing negentropic entanglement defining "Akashic records" about previous life conserved in good approximation. What I painfully learned during my lifetime is not waste!

Attention is directed to some target generates negentropic entanglement. It has braiding of magnetic flux tubes connecting the attending system to the attended one. Reconnection is the mechanism for building flux tube bridges between the systems.

Tibetan book of dead supports what NMP suggests: I direct my attention somewhere else from my biological body which has become rather uninteresting. The new target of attention could be some new brisk young life form not yet caught the attention (almost anywhere in planet or even elsewhere but inside my personal CD: my magnetic body is big with size scale of - as I hope - about one hundred light years at least!). My new life would proceed in opposite direction of imbedding space time (recall that two subsequent quantum jumps create zero energy states with opposite arrows of imbedding space geometric time). Maybe I remember the teachings of Tibetan book of dead and manage to direct my attention to a higher level in self hierarchy, larger CD, representing perhaps a collective level of consciousness.

If one takes fractality seriously, the death of civilizations and cultures could be a process analogous to biological death. It is difficult to avoid the feeling that this is something which could happen in not so distant future. If this process corresponds to quantum jump, NMP tells that negentropy is generated but does not exclude the possibility of a catastrophe in which even entire species suffers extinction and some of our relatives, maybe bonobos, take the lead. The transition could also lead to a new higher level of consciousness with the prevailing materialistic world view being replaced with a new one? The individuals who have become aware about the need for a new world view and about what it might be could serve as seeds of the quantum phase transition.

### **ZPE or ZEO?**

Laws of physics and conservation laws are the basic problem of Haisch and all those who want free will in the existing ontology of physics. Haisch is also a physicist so that the problem becomes even more difficult to circumvent! How God can re-create the reality without breaking the well-established conservation laws? Or are these laws just rules of game that God has chosen to obey in this particular part of multiverse? But would this lead to mere quantum randomness and does statistical determinism mean a loss of genuine free will?

If I have guessed correctly, Haisch hopes that ZPE could help God over this problem but to my opinion ZPE is mathematically hopelessly ill-defined and reflects the mathematical problems of quantum field theory rather than reality.

In TGD framework ZPE is effectively replaced with ZEO - zero energy ontology instead of zero point energy. Zero energy states have vanishing total quantum numbers so that re-creation can be carried out without breaking conservation laws and standard laws of physics remain true. One can assign to the positive (say) energy part of zero energy state conserved energy and other quantum numbers and positive and negative energy parts correspond to initial and final state of physical event in the usual positive energy ontology: no states - just events! Therefore there is room also for God in TGD Universe. Together with re-creation as quantum jump one obtains

maximal free will: any zero energy state can be created or vacuum in principle. ZEO is also necessary for p-adic-real transitions representing formation of thoughts and realization of intentions as actions: essentially time reversals of each other in ZEO as also sensory perception and motor action which generalize to completely universal concepts.

A possible test for ZEO would be creation of zero energy states apparently breaking conservation laws in the framework of positive energy ontology. In cosmology the non-conservation of gravitational energy indeed takes place and can be understood in terms of ZEO: the energy and other quantum numbers are conserved only in scale which correspond to spotlight of consciousness defined by one particular causal diamond (CD). Therefore also the consistency of Poincare invariance of TGD with cosmology requires ZEO.

Are we continually creating tiny Universes as we transform our intentions represented as p-adic space-time sheets to actions represented as real space-time sheets? Does the replacement of personal CD with a larger one in quantum jump (perhaps increasing the effective value of Planck constant) involve also generation of smaller sub-CDs representing mental images. Are our mental images these tiny Universes that we create?

How to a new sub-Universe this in laboratory? Quantum physicists would perhaps speak about generating long lived enough quantum fluctuations creating matter from vacuum. I remember having seen a popular article about a planned experiment in which very intense laser beams would generate particle pairs from vacuum. Of course, the probability for generating CD containing matter might be very small but maybe for some selected CDs this might not be the case!

## The Origin of Inertia

Haisch and Rueda claim of having derived inertia appearing as a mass parameter in Newton's equations from vacuum energy - see [this](#). The basic idea behind the derivation does not however make much sense to me. Here is the condensed form of argument.

*If one assumes that the quarks and electrons in such an object scatter this radiation, the semi-classical techniques of stochastic electrodynamics show that there will result a reaction force on that accelerating object having the form  $f_r = -\mu a$ , where the  $\mu$  parameter quantifies the strength of the scattering process. In order to maintain the state of acceleration, a motive force  $f$  must continuously be applied to balance this reaction force  $f_r$ . Applying Newton's third law to the region of contact between the agent and the object,  $f = -f_r$ , we thus immediately arrive at  $f = \mu a$ , which is identical to Newton's equation of motion.*

I confess that I have do not have a slightest idea what this statement might mean. The standard wisdom is that particle to which no forces are applied does not suffer acceleration. Now it would suffer acceleration although net force vanishes:  $f+f_r=0$ .

The standard view is that in special relativity Poincare invariance combined with Noether's theorem allows to assign to any system conserved four-momentum and angular momentum. Given a variational principle coupling particles to fields one obtains automatically the analog of Newton's equations stating that the momentum lost/gained by fields is gained/lost by particles. Therefore in special relativity based theories there are no problems.

In general relativity situation however changes:

1. First of all, space-time becomes curved and the symmetries behind Poincare invariance are lost. One cannot use Noether's theorem to deduce expressions for conserved quantities: this is especially catastrophic outcome in quantum theory where the conserved quantities interpreted as operators play fundamental role. This was indeed the basic motivation of TGD: by replacing abstract space-time with a 4-D surface in higher-D space possessing the symmetries of empty Minkowski space, one does not lose the classical conservation laws.
2. There is also another, closely related problem. In Newtonian approach to gravity gravitation accelerating test particle experiences a genuine force. In general relativity test particle however suffers no acceleration nor force. There seems to be now manner for how these pictures could be consistent. Maybe Haisch and Rueda were thinking about this aspect when they made their attempt to derive inertia from vacuum energy in general relativistic context.

TGD provides a neat solution also to this problem. At 4-D space-time level the orbit of neutral test particle is indeed a geodesic line and 4-D acceleration vanishes. At 8-D imbedding space level the orbit of test particle is not a geodesic line anymore and it experiences genuine 8-D acceleration, whose  $M^4$  part defines the Newtonian force. The  $CP_2$  part of the force is also present can be neglected since the scale of  $CP_2$  is so small (about  $10^4$  Planck lengths).

## Reference

1. Bernard Haisch, 2006, *The God Theory: Universes, Zero-point Fields, and What's Behind It All*, Red Wheel/Weiser.
2. <http://matpitka.blogspot.com/2013/05/about-god-theory-of-bernard-haisch.html>