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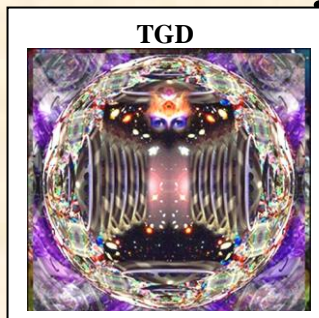
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Magnetospheric Consciousness

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<http://tgdtheory.fi/bookabstracts/absmagnconsc.pdf>

This book is about the notion of the **magnetic body** which is one of the key notions in TGD-inspired model of living matter and predicts a hierarchy of generalized EEGs associated with the magnetic bodies responsible for communication and control. Not only personal magnetic bodies of Living systems need to be relevant and the idea about entire magnetosphere as a Conscious system controlling the behavior of biosphere emerges naturally.

1. Part I discusses the idea about magnetosphere as a fractally scaled-up version of the biological body and the brain. p-Adic fractality and dark matter hierarchy give some plausibility to this idea. Also a vision about evolution in many-sheeted space-time is discussed.
2. Part II introduces the notion of semi-trance involving quantum entanglement of subself of Self (say, the subsystem of brain) with remote system. The entanglement of sub-systems of 2 unentangled systems possible in many-sheeted space-time means sharing and fusion of mental images (say stereo vision). The notion of finite measurement resolution justifies this concept.

Semi-trance could have been basic control and communication tool of collective levels of consciousness during the period of human consciousness which Jaynes calls bicamerality. The idea that human consciousness might have had totally different character for only few millennia ago, finds additional support from the notions of super- and hyper genome implicated naturally by

the dark matter hierarchy and the notion of magnetic body. The identification of memes as hyper-genomes looks attractive. The evolution of hyper-genome could have driven the explosive evolution of human civilizations during last 2 millenia.

3. Part III entitled "Crazy Stuff" discusses the idea that crop circles are due to intentional action of magnetospheric higher level self or a higher level self using magnetosphere as a tool to build them. 2 special crop circles -- Chilbolton and Crabwood crop circles -- are discussed.

The proposal is that they provide information about the genomes of lifeforms responsible for them. The most science fictive identification for these life-forms would be ourselves in distant geometric future using time mirror mechanism to affect the Geometric-Past.

Most of the material of this book has been written much before the dark matter revolution and formulation of the Zero Energy Ontology and that I have only later added comments to the existing text.

I hope that I can later add new material in which the implications of the dark matter hierarchy are discussed in more detail.

What's New & Updates... [doc](#) [pdf](#) [URL](#)

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[Introduction](#)

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Introduction

- A. Basic ideas of TGD
 - 1. TGD as a Poincare invariant theory of gravitation
 - 2. TGD as a generalization of the hadronic string model
 - 3. Fusion of the two approaches via a generalization of the space-time concept
- B. The 5 threads in the development of Quantum-TGD
 - 1. Quantum-TGD as configuration space spinor geometry
 - 2. p-Adic TGD
 - 3. TGD as a generalization of physics to a theory of Consciousness
 - 4. TGD as a generalized number theory
 - 5. Dynamical quantized Planck constant and dark matter hierarchy
- C. Birdseye view about the topics of this Book
- D. the Contents of the book
 - Part I: Mother Gaia Hypothesis in TGD framework
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Part I -- Mother Gaia Hypothesis in TGD framework

Magnetospheric sensory representations

- A. Introduction
 - 1. Are sensory representations at the personal magnetic body or at the magnetic body of the Earth's magnetic field?
 - 2. The relationship between Earth's magnetic field and the personal magnetic body
 - 3. Topics of this Chapter
- B. The structure of the magnetic field of Earth and variation of cyclotron frequency scales
 - 1. Magnetosphere
 - 2. Z^0 magnetosphere
 - 3. Observations making bells ringing
- C. General assumptions about sensory and motor representations
 - 1. Magnetosphere as a Living organism
 - 2. Magnetospheric nervous system
 - 3. Magnetospheric metabolism
 - 4. General ideas about sensory representations
 - 5. Questions about motor control
 - 6. Do the structures of nervous system and magnetosphere correspond each other fractally?

- D. Resonant representations
 - 1. Hierarchy of sensory representations at magnetic Mother Gaia
 - 2. Endogenous frequency fixes the representation sphere
 - 3. Projector MEs as wave cavities
 - 4. Sensory representations appear as night-day conjugate pairs
 - 5. Representations based on cavity resonances
- E. The hierarchy of Magnetospheric representations
 - 1. EEG and Magnetospheric sensory representations
 - 2. What brain structure and fractality teaches about Magnetospheric motor control
 - 3. How do the contributions of Magnetotail and inner Magnetosphere to our consciousness differ?
 - 4. Some applications
- F. Are we all artists? Or what my "Great Personal Experience" taught to me about Consciousness
 - 1. The time before my "Great Personal Experience"
 - 2. Very intensive sensory experiences
 - 3. *Psychedelic* experiences
 - 4. We are all artists!
- G. Fatima Marian apparitions and the TGD-inspired theory of Consciousness
 - 1. General TGD-based model
 - 2. The mystery of buzzing sound
 - 3. Microwaves, Consciousness, and Life
 - 4. Fatima Marian apparition and microwave MEs
- H. Appendix
 - 1. Schumann resonances
 - 2. Alfven waves, magnetic flux tubes, cosmic strings, and hadronic strings

[abstract of this Chapter](#)

One can imagine 2 basic candidates for how our sensory and motor control are realized. The representations at the personal magnetic sensory body and the representations on the magnetic flux tubes structures of Earth (the magnetic body of Mother Gaia). Quite a long time, I saw the problem as the question "Which of these options is correct?"

If our sensory and motor representations were realized using Magnetospheric representations alone, the consciousness of astronauts would differ in a dramatic manner from the ordinary wake-up consciousness. But this is not the case. Personal magnetic bodies must give the basic contribution to our personal sensory representations and motor control if the basic approach is correct.

Because of the sharing of mental images, also the sensory and motor areas of the magnetic Mother Gaia making possible higher collective levels of consciousness are important for us and are perhaps responsible for Memory and Imagination. Therefore it is of importance to try to understand also the Magnetospheric representations.

- 1. The basic element hypothesis is that some kind of resonance mechanism is involved. The simplest possibility is that projector MEs ('massless extremals' -- topological counterparts of light rays) to the sensory canvas have a length equal to the wavelength defined by the magnetic transition frequency. Also, the TGD counterpart of Alfven resonance (i.e., magnetic flux tube as a string) might be involved.

In the simplest situation, the length of the projector ME would be equal to the distance to the activated point of the magnetic flux tube structure involved. Also the intersections of the projector ME with magnetic flux tubes of Earth and some cavity resonance at larger space-time sheet (such as Schumann resonance) could help to amplify the signal. Representations which do not satisfy this condition could, of course, contribute to our consciousness. But the contribution should be weak and masked by resonant contributions.

2. "Personal" sensory and motor representations are realized at the personal magnetic flux tube structures by place coding. If the thickness of the magnetic flux tube increases linearly with the length coordinate of the flux tube, the resonance condition is satisfied all along it.

A similar dependence is implied also by the homeopathic findings (see the chapter "Homeopathy in many-sheeted Space-time") and by the requirement that magnetic energy density per unit length is constant.

3. Magnetospheric sensory and motor representations are realized at the magnetic body of Earth and correspond to the personal consciousness of Mother Gaia. Also, we can share part of Her experience by fusion of the mental images. Magnetospheric representations could be responsible for the transpersonal and third-person components of our Consciousness and also for Memories and even Imagination.

The weakening of Earth's magnetic field provides the fundamental distance coding via cyclotron frequency scale which scales with distance as $1/r^3$ in the dipole approximation holding for small distances but differs radically from this behavior at large distances (in particular inside the magnetic tail). In the Magnetospheric case, resonance condition gives strong conditions on the representation and can be satisfied only inside a plasma sphere.

4. There seems to be no upper bound for the size of the superconducting magnetic web providing the realization for Self hierarchy. One can build precise quantitative models for this hierarchy. For a Buddhist, this vision does not come as a surprise but challenges all cherished beliefs of the brain scientist.

In this chapter, this vision is developed quantitatively. The vision about **the Magnetosphere as a Living organism** allows us to develop the view about sensory representations to a rather detailed level. The intriguing observation that brain dynamics and Iono- and Magnetospheric physics seem to have common characteristic timescales can be understood in this framework. Even the mysterious 5-second timescale associated with the Comoros effect finds a possible explanation.

A TGD-based view about the Magnetosphere results as a by-product and allows us to topologize the phenomenological but overall important notions of magnetohydrodynamics. In magnetohydrodynamics, magnetic field lines are treated as effective superconductors. In the TGD Universe, magnetic flux tubes are superconductors. Also, Alfven waves cease to be a phenomenological concept and the superconducting geodynamo model is free of the difficulties of the Standard Model of Particle Physics.

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Evolution in Many-Sheeted Space-Time

- A. Introduction
 - 1. Questions and answers about Evolution
 - 2. Topics of this Chapter
- B. What is known about pre-biotic evolution
 - 1. Some believed-to-be facts about the early history of Life
 - 2. Standard approaches are mechanistic
 - 3. the notion of Primordial Ocean
 - 4. the Urey-Miller experiment
 - 5. RNA world
 - 6. How biochemical pathways and DNA-amino-acid code emerged
 - 7. Problems with the polymerization in primordial ocean
 - 8. The notion of the Protocell
- C. TGD-based scenario about pre-biotic evolution
 - 1. Basic prerequisites
 - 2. TGD-based vision about pre-biotic evolution
 - 3. Pre-biotic chemistry and New Physics
 - 4. Could the high-energy phosphate bond be negentropic bond with negative binding energy?
 - 5. DNA as a topological quantum computer
 - 6. Water memory and braids
 - 7. How bio-polymers were associated with their dark counterparts
 - 8. One step further in the understanding the origins of Life
 - 9. Could the replication of mirror DNA teach something about chiral selection?
- D. Physical model for the Genetic Code and its evolution
 - 1. RNA world
 - 2. Programming of bio-molecular self assembly pathways from the TGD point-of-view
 - 3. The archeology of tRNA molecules as a guideline
 - 4. Recent genetic code as a fusion of singlet and doublet codes?
 - 5. Could nano-bacteria correspond to predecessors of the triplet lifeforms?
- E. did Life evolve in Mother Gaia's womb?
 - 1. Quantum version of Expanding Earth theory and Cambrian explosion
 - 2. Did pre-biotic life evolve in mantle-core boundary?
 - 3. What conditions can one pose on life at mantle-core boundary?
 - 4. What about analogs of EEG?
- F. Comparison of McFadden's views with TGD
 - 1. General ideas
 - 2. Enzyme action
 - 3. Quantum evolution
- G. The great vision about biological Evolution and evolution of the Brain
 - 1. Dark Matter hierarchy and big leaps in Evolution
 - 2. Could insect colonies have "EEG"?
 - 3. Dark Matter hierarchy, hierarchical structure of nervous system, and hierarchy of emotions
- H. Oil drops in water solution as a primitive lifeform?
 - 1. Intelligent oil droplets
 - 2. Some key ideas of TGD-inspired Quantum Biology

3. General ideas about oil droplets as a primitive life form
4. What are the prerequisites for metabolism and topological quantum computation like processes?
5. What about genetic code and counterpart of DNA?
6. Another approach to protocell

abstract of this Chapter

The topics of the chapter have been restricted to those which seem to represent the most well-established ideas. There are many other, more speculative ideas such as the notion of N-atom and strong form of the hypothesis that some lifeforms has evolved in "Mother Gaia's womb" (maybe even in the hot environment defined by the boundary of mantle and core).

- A. Basic facts about the-TGD based model for pre-biotic evolution are discussed.
- B. A model for the evolution of the recent genetic code (3-codons) as a fusion of codes for which codons are nucleotides (1-codons) and di-nucleotides (2-codons) is discussed. The symmetries of the genetic code, the observation that tRNA can be seen as a fusion of 2 hairpin-like DNA molecules, and the finding that the first nucleotides of 3-codon code for the reaction path leading from a precursors of the aminoacid to aminoacids for hydrophobic/hydrohilic dichotomy serve as motivations of the model.

1- and 2-codes corresponding to the 2 forms of RNA (the exotic 2'-5' RNA and the usual 3'-5' RNA) would have prevailed in RNA world. Aminoacids would have served as catalysts for the copying of RNA on the one hand and RNA molecules would have catalyzed the formation of aminoacids from their precursors on the other. Meaning the presence of a positive feedback loop. In the transition to DNA-aminoacid era, RNA began to be translated to aminoacid sequences.

- C. The Cambrian explosion represents a rather mysterious period in Biology. New highly-developed phylas emerged out of nowhere. A second strange finding is that continents would fit together to form single super-continent covering entire Earth's surface at time of the Cambrian explosion if the radius of Earth would have been one-half its recent value.

This finding has inspired Expanding Earth theories. But it has not been possible to identify the mechanism causing the expansion. The success of the standard tectonic plate theory requires that possible expansion must have occurred in a relatively short geological timescale.

The **hierarchy of Planck constants** implies that cosmic expansion has occurred in quantum leaps increasing the value of \hbar and thus of quantum scales by factors which tend to be powers of 2. Cosmic expansion would have occurred as jerks even in the case of planets.

In the proposed model, the Cambrian explosion would have accompanied the expansion of the Earth's radius by a factor of 2. During this period, an outburst of highly-developed lifeforms from underground seas to the surface of Earth would have taken place.

- D. The TGD-based view about the evolution of the Genetic Code is compared to the views of McFadden. This section is a little bit out-of-date. For instance, the hypothesis that the magnetic body of DNA could induce mutations purposefully is not discussed.

This hypothesis is natural if one believes that magnetic flux tubes connecting bio-molecules play a key role in bio-catalysis. This idea is discussed in the chapter devoted to protein folding.

- E. A vision about biological Evolution and evolution of the Brain is discussed on basis of the wisdom gained from the construction of the models of sensory receptor and generalized EEG.

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Quantum Gravity, Dark Matter, and Prebiotic Evolution

- A. Introduction
- B. Implications of strong gravimagnetism for TGD-inspired Quantum Biology
1. The theory of Tajmar et al for the anomaly of Cooper pairs mass
 2. Is the large gravimagnetic field possible in TGD framework?
 3. Gravitational Mother Gaia and Life
- C. Could the Podkletnov Effect be understood using $h_{gr}=h_{eff}$ hypothesis?
1. Some background
 2. The anomaly in the measurement of Cooper pair mass in rotating superconductors
 3. What about the Podkletnov Effect
- D. Water memory and pre-biotic life
1. Exclusion zones as prebiotic cells
 2. TGD view about homeopathy, water memory, and evolution of immune system
 3. Is replication of the magnetic body behind biological replication?
 4. Quantum model for metabolism
- E. More precise view about remote DNA replication
1. Some background
 2. Does remote replication apply same mechanism as mimicry of invader molecules in the case of water memory?
- F. TGD-inspired model for the formation of exclusion zones from coherence regions
1. CDs and EZs
 2. TGD-inspired model for CDs and EZs
 3. Is a new source of metabolic energy needed?
- G. Was ribosome the first self-replicator?
1. Trying to catch the idea
 2. How the pre-ribosome as first replicator relates to the TGD approach?
- H. Potential "missing link" in chemistry that led to life on Earth discovered
1. The problem and its possible solution
 2. How could the discovery relate to TGD-inspired Quantum-Biology
- I. Some aspects of TGD-inspired Quantum-Biology
1. The notion of magnetic body
 2. Hierarchy of Planck constants, space-time surfaces as covering spaces, and adelic physics
 3. What can one say about the detailed anatomy of the MB?
 4. Water memory and Homeopathy

5. What the view about the Magnetic Body (MB) could mean at the level of DNA and other basic bio-molecules

[abstract of this Chapter](#)

The ideas related to prebiotic evolution have developed rather rapidly after the discovery of the hierarchy of Planck constants around 2003 providing a general manner to understand Living organisms as Macroscopic quantum systems.

Magnetic body as carrier of dark matter realized as phases with non-standard value $h_{\text{eff}} = n \times h$ of Planck constant is the key concept in the developments and brings to the description of the living matter a third level besides organism and environment. This has led to developments in the model of EEG as communication tool between biological and magnetic body and led to the interpretation of bio-photons as decay products of dark EEG photons.

Also bio-superconductivity is now reasonably well-understood and the model for cell membrane as Josephson junction is generalized to include cyclotron energy besides difference in Coulomb energy. Square-root of thermodynamics inspired by Zero Energy Ontology suggests itself as a proper description of Josephson junctions defined by transmembrane proteins.

The dark genetic code seems to have so strong explanatory power that it must be taken seriously. The model of water memory and homeopathy has led to an evolution of ideas relating to the development of immune system and bio-catalysis.

The latest steps of progress were induced by the realization that the replication of magnetic body could be behind that of DNA and cell, the discovery of 4th phase of water and exclusion zones by Pollack et al, and by the observation that anomalously high gravimagnetic Thomson field implied by large value of gravitational Planck constant could explain the anomalously large mass measured for electronic Cooper pairs in rotating superconductor.

In this Chapter, the model for water memory and homeopathy is discussed and shown to lead to a general model for"

- how immune system and bio-catalysis could have developed from their dark primordial versions
- how dark proteins might have emerged as concrete representations for invader molecules making it possible to make the invader non-dangerous by attaching to its magnetic body
- how DNA and genetic code could have emerged as symbolic representations for the magnetic bodies of invader molecules and later as symbolic representation of the magnetic body of the system itself.

ZEO implies that actually time evolution of the magnetic body can be coded by DNA and protein folding could provide a concrete representation for this time evolution.

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UFOs, Aliens, and New Physics

A. Introduction

B. Basic vision

1. Quantum-Classical correspondence
2. Classical physics as exact part of Quantum theory
3. p-Adic physics as physics of cognition and intentionality
4. The core ideas of TGD-inspired theory of Consciousness and Quantum Biology

C. TGD-based view about Life

1. The notion of Magnetic Body
2. Time mirror mechanism as a fundamental mechanism transforming intentions to actions
3. Applications of the time mirror mechanism
4. Vision about the evolution of Life
5. Could simple lifeforms be induced by intentional action?

D. How advanced civilization could study Cosmos

1. Why space travel is not a good idea
2. Time mirror mechanism as an ideal tool for the study of the Universe
3. What are *aliens*?
4. Have more advanced civilizations performed genetic engineering at Earth?
5. Fermi paradox
6. Dark matter hierarchy as a solution of Fermi paradox?

E. What UFOs are

1. UFOs as plasmoids
2. UFOs made of copper and steel?
3. Are flying saucers necessarily **living systems**?

[abstract of this Chapter](#)

The TGD-based view about space-time, Time, and Consciousness also allows us to develop ideas about UFOs and *aliens*. In particular about possible manners by which highly-developed civilizations could receive information about remote parts of the Universe and to get contact with other civilizations.

The **time mirror mechanism** is a basic mechanism in the TGD-inspired theory of Consciousness. It also has technological applications including instantaneous remote sensing (e.g., remote-viewing) of the Geometric-Past, communications with the Geometric-Past, and instantaneous remote utilization of energy.

The TGD-based explanation for the experimental results of William A. Tiller about intentionally-imprinted electric devices inducing what he calls "conditioning" of simple target systems suggests that the time mirror mechanism might even make possible remote induction of simple lifeforms about which simplest are perhaps "plasmoids".

The intelligent looking lightballs reported repeatedly by UFO experiencers are indeed identifiable as plasmoids. And quite recent experimental findings demonstrate that plasmoids satisfy the basic criteria justifying their identification as simple lifeforms.

The resulting vision about highly-developed lifeforms and about how they could study the Cosmos allows us to resolve the Fermi paradox summarized by the simple question "Where are they all?" and reflecting in excellent manner our misguided view about Life, Consciousness, and Physics.

TGD also suggests a mechanism making possible to reduce gravitational and inertial masses of spaceships so that they would behave very much like a light system as observations indeed suggest. **Plasmoids could be living space-ships able to draw their energy from environment by the time mirror mechanism.** It seems, however, that the highly-developed civilizations would probably not see the trouble to travel to distant galaxies since it is unnecessary. And in any case, the finiteness of light velocity would pose very strong limitations on what they could achieve in this manner. **[StealthSkater note: more on plasma lifeforms is on the "UFO#Plasmoids" page at => [doc](#) [pdf](#) [URL](#)]**

The Chilbolton and Crabwood **crop circles** can be interpreted as messages telling basic facts about the civilization responsible for their construction. The Chilbolton message is constructed using the same format as Arecibo message and tells us that both Earth, Mars, and Jupiter are colonized. These crop circles strongly suggest the existence of intra-terrestrial life. This inspired a model for pre-biotic evolution also allowing a model for evolution of the Genetic Code.

The highly-advanced civilization could be identified as either intelligent intra-terrestrials or as ourselves in the Geometric-Future using a technology based on the time mirror mechanism to construct crop circles and using less intelligent intra-terrestrial plasmoids to construct the crop circles. The Sun is depicted to have a smaller size as in Arecibo message. And the Crabwood message came one year and one day after the Chilbolton message. These hints allow one to make an estimate about the temporal distance of this civilization of the Geometric-Future from us.

The "sacred geometry" of crop circles involving ratios of simple rational numbers, simple algebraic numbers (in particular Golden Mean), and π could be an attempt to tell us about the crucial importance of rational numbers and finite-dimensional extensions of p-adic numbers for Cognition.

If entanglement probabilities belong to an extension of rationals defining a finite-dimensional extension of p-adic numbers, one can assign to entanglement a positive information measure as a number theoretic modification of Shannon's entropy. The interpretation as bound state entanglement crucial for Macro-temporal quantum coherence is possible.

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PART II: Semitrance and Bicamerality

Semitrance, Mental Illness, and Altered States of Consciousness

A. Introduction

B. Semitrance

1. How societies of idiots can behave intelligently?
2. Semitrance as a basic mechanism of communication between collective consciousness and individual
3. Various aspects of semitrance state

C. Semitrance and Mental Disorders

1. Schizophreny and Semitrance
2. Disorders of mood

3. Mental disease as communication disorder?

D. Semitrance, Trance, and Altered States of Consciousness

1. Sleep, Trance, and Dreams
2. Altered States of Consciousness
3. Stephan's case
4. Personal experiences about semitrance-like states

[abstract of this Chapter](#)

The book The Origin of Consciousness in the Breakdown of the Bicameral Mind of Julian Jaynes provides not only a fascinating scenario about the evolution of modern consciousness from the consciousness of bicameral Stone Age man but also a holistic view about schizophrenic consciousness. In fact, Jaynes regards the schizophrenic as a bicameral man receiving commands of 'God' as auditory and visual hallucinations.

Jaynes sees 'Gods' as the right brain of the bicameral man. In TGD framework, 'Gods' represent higher-levels of Self hierarchy. To put it in nutshell, the TGD view about the relationship of human consciousness to higher-levels of Self hierarchy relies on the notion of **semitrance**.

During semitrance, parts of brain entangle with some higher-level (say, the self associated with the social group) and are in trance and therefore unconscious. The remaining parts of brain are, however, conscious and receive communications from the collective consciousness via the entangled region of brain as sensory hallucinations, emotions, and thoughts.

Semitrance is absolutely essential for the self-narrative. Without it, our consciousness would consist of memory fragments lasting only few seconds. Higher-level selves tell us where we come from and where we are going. The bicameral man received the commands and advices of the Collective Consciousness as auditory and visual hallucinations via regions of the right-brain hemisphere wherefrom they were communicated to the left hemisphere. Whereas modern man receives these communications as thoughts (i.e., "internal speech") in left-brain semitrance and emotions in right-brain semitrance.

According to this view, the schizophrenic spends a larger fraction-of-time than normal person in the bicameral state and receives communications of the higher-levels selves more often as sensory hallucinations than as thoughts and emotions. Thus schizophrenia can be seen as a cognitive and emotional abnormality and becomes an illness in modern society relying crucially on cognitive and emotional self-narrative which is much more refined than the self-narrative based on sensory hallucinations.

In normal consciousness, the left-brain hemisphere inhibits the messages from right hemisphere. Left and right hemispheres are totally entangled a considerable fraction of time. And the entanglement with higher-level selves can also involve the entanglement of entire brain leading to short periods of total trance.

In this view, negative periods of schizophrenia correspond to the phases when the right-brain hemisphere is not entangled with higher-level selves and positive, psychotic periods to the phase when this entanglement occurs often. This vision also generalizes to manic-depressive and anxiety disorders. One can see mental illness as disorder of communication between human brain and higher-levels of self hierarchy.

The semitrance mechanism provides also more detailed understanding about various altered states of consciousness and extrasensory perception (hypnotic state, telepathy, clairvoyance, some meditative states, identification experiences). The Semitrance mechanism provides considerable insights to 'Stephan's case' which originally stimulated serious attempts to understand the communications between various levels of Self hierarchy.

(I also apply the semitrance mechanism to model my personal altered states of consciousness.)

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Semitrance, Language, and development of Civilization

A. Introduction

B. How Collective Consciousness communicates with the individual?

1. How societies of idiots can behave intelligently?
2. Semitrance as a basic mechanism of communication between Collective Consciousness and the Individual

C. Basic notions and ideas

1. Jaynes' and TGD-based definitions of Consciousness
2. Bicamerality according to Jaynes and TGD
3. How the developing Collective Consciousness coped with its challenges?

D. Development of Language

1. General ideas about codes and languages
2. Prerequisites for the development of Language
3. Scenario for the development of primitive forms of spoken language

E. Semitrance and the development of Civilization

1. TGD-based vision for the development of Civilization
2. Breakdown of Bicamerality
3. Religion and Bicamerality
4. Bicamerality in modern society
5. Are we really the first ones?

F. Semitrance and organisms as societies

1. Semitrance and binary structures
2. Organism as a cell civilization
3. Cell as a society
4. DNA and the analogy with the development of language

abstract of this Chapter

The book The Origin of Consciousness in the Breakdown of the Bicameral Mind of Jaynes provides a highly original vision about the evolution of modern consciousness from the consciousness of bicameral Stone Age man. The TGD version about the cosmology of human consciousness relies on the notion of semitrance.

During semitrance, parts brain entangle with some higher-level (say, the Self associated with the social group) and are in a trance and therefore unconscious. The remaining parts of brain are, however, conscious and receive communications from the collective consciousness via the entangled region of brain as sensory hallucinations, emotions, and thoughts.

Semitrance is absolutely essential for self narrative and establishment of long-term goals. Without semitrance, our consciousness would consist of memory fragments lasting only few seconds. Higher-level selves tell us where we come from and where we are going.

The basic differences between Jaynes's and TGD-based version about evolution of Civilization relate to the interpretation of bicamerality and what really happened in the evolution of the individual.

1. In TGD framework, one could see the bicameral man as a cognitive and emotional child characterized by the effective cognitive and emotional ages at which the cognitive and emotional self-organizations of her left-brain hemisphere stopped in the absence of external stimuli necessary for Self organization (e.g., it is impossible to learn to write if Civilization has not discovered written language).

Of course, there are several parameters differentiating between modern man and the bicameral man (sensitivity for semitrance, profile of semitrance, time fraction spent in semitrance, right/left-brain inhibition, etc.) and the identification of bicameral as a cognitive and emotional child (as we understand child) is unnecessarily strong.

2. The ability to fall in semitrance was not lost during Evolution but was transformed to a new form. Not only linguistic but also sensory regions of the right-brain hemisphere of the bicameral man entangled with higher-level selves and communications from right-to-left brain hemisphere were not inhibited as they are in the brain of modern man.

As left-brain hemisphere differentiated and memetic code gradually established itself, the guiding voice of God was transformed to internal speech and emotions. Higher-level selves began to express their will via emotions, moods, planning and long-term goals.

3. The differences between EEGs of a normal person and the schizophrenic suggest that the fraction-of-time spend by the average modern man in semitrance is much shorter. A more general criterion of bicamerality might be based on the fraction-of-time spend in semitrance state (be it sensory, cognitive, or emotional). It is plausible that thoughts (not all, of course!) are communicated to modern man via the left brain hemisphere. If this is indeed the case, some regions of the left-brain hemisphere of modern man should allow standing EEG waves.

The development of Language is an absolutely essential part of the development of Civilization. The syntactic structures of Language emerged in parallel with the development of Civilization.

In TGD framework, the development of Language can be seen as a gradual establishment of genetic and memetic codes at a new level and the emergence of symbol function. This could be also seen as an establishment of a symbiosis between 2 lifeforms -- biological life and "culture" having as a physical correlate electromagnetic life represented as topological quanta of EM ELF fields and providing realization of the memetic code.

The semitrance mechanism provides an extremely general communication mechanism between the levels of Self hierarchy and could explain why ant nests, beehives, flocks of birds, packs of wolves, cell

societies, nuclei of brain, etc. can behave as single organism and still consist of apparently randomly behaving individuals. Indeed, relevant biological structures (e.g., DNA double strand, double lipid layer forming cell membrane, epithelial sheets) have binary structure analogous to 2 brain lobes and are ideal candidates for "bicameral" structures.

The vision about the development of Civilization generalizes to cell level. p-Adic fractality -- plus the fact that the number of quantum jumps performed by selves is huge even at cellular and elementary particle levels -- inspires the hypothesis that various societies ranging from human civilization to cell societies and protein-DNA societies are characterized by universal asymptotic self organization patterns.

This provides important insights to the structure of the biological self hierarchy and its relation to the structure and functioning of organism and about how semi-trance might allow bio-systems to control and coordinate their behavior. The cell as a protein-DNA society together with parallel between memetic and genetic codes provides a predictive vision about how genetic code might have established itself. Semitrance suggests that a new kind of control-and-communication mechanisms based on the semitrance mechanism are at work.

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PART III: Crazy Stuff

Crop Circles and Life at parallel space-time sheets: Part I

A. Introduction

1. Strange phenomena associated with Crop formations
2. Model for the generation of Crop Circles

B. Some aspects of the TGD-based vision about Living systems

1. Magnetic bodies and the Magnetosphere as a Living system
2. Basic vision about Living Matter
3. the New View about the Genetic Code
4. Dark matter hierarchy and big leaps in Evolution
5. Plasmoids as primitive lifeforms associated with magnetic bodies
6. Field representations of information using codes

C. Dark Matter hierarchy, Genetic Machinery, and the unreasonable selectivity of Biocatalysis

1. Two(2) views about what "dark atoms" could be
2. Spontaneous decay and completion of dark N-atoms as basic mechanisms of Biochemistry
3. The new view about the Hydrogen bond and Water

D. Model for Crop Circles

1. Why Crop Circles cannot be a hoax
2. Further facts about Crop formations
3. Existing models for Crop formations
4. TGD-based interpretation of Crop Circles

[abstract of this Chapter](#)

Crop circles as a hoax is one of the illusions of a century created by the market economy media. That this cannot be the case has been known for a long time.

For instance, microwave-induced explosions in growth nodes of crops are regularly involved. Also meteoric material is often associated with the crop formations but not to the region exterior to them. This is absolutely impossible if the formations were made by human artists. Routine laboratory tests allow us to judge whether the formation is man-made.

Models involving plasma flows from the Ionosphere to the crop field formation have been developed. The regions where the soil has a high content of calcium carbonate (chalk) helping to charge it electrically are the places where the circles appear predictably from year-to-year. There is also evidence suggesting that this interaction exists during the entire growth period so that there would be a continual connection to the Ionosphere.

The simplest crop circles indeed have a form similar to plasma self organization patterns. Small plasma balls have been observed in the fields before-and-after the appearance of the crop formation.

There are also irregular "non-geometric" patterns of downing which must have been created by the same mechanism as crop circles involving the interaction with the Ionosphere. These are ideal bits of data for developing in detail hypothesis that any living system (even plants and plant populations) has a magnetic body. And that also the Magnetosphere is a conscious and intelligent entity receiving information from and controlling the bio-sphere.

[StealthSkater note: can't help but think of Wilhelm Reich's "orgone energy" and its relationship to "UFOs" and what evolved into the "Montauk Project". See the "PX#Reich" page at => [doc](#) [pdf](#) [URL](#)]

Dark matter hierarchy leads to a quantitative vision about how the magnetic body controls biological body and receives sensory input from it. This vision can be applied to crop circles interpreted as an outcome of generalized motor actions of the magnetic body.

The resulting model supports the view about crop circles as an attempt of (geo-, planeto-, helio-, or some other) Magnetospheric conscious entities to tell about their existence to us.

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Crop Circles and Life at parallel space-time sheets: Part II

A. Introduction

1. Do Chilbolton and Crabwood messages provide information about *aliens*?
2. Where do the higher lifeforms live?

B. Chilbolton and Crabwood messages

1. Chilbolton message
2. Crabwood crop formation as a representation of DNA-amino-acid codes?
3. ASCII code interpretation of the Crabwood message

C. What can one conclude about *aliens*?

1. Intra- or futuro-terrestrials?
2. Two guesses for the temporal distance of futuro-terrestrials
3. Conditions on high-T life
4. What IT life could look like?
5. Where did those 223 genes pop up?
6. Do Ts and ITs live in symbiosis?
7. Some questions

D. Number theoretical models for genetic codes

1. Three kinds of number theoretical models for the Genetic Code
2. Does amino-acid structure reflect the product structure of the Code?
3. Number theoretical model for the terrestrial Genetic Code
4. Capital letter code as a product code with broken T-C symmetry
5. T-C symmetric models for small letter plus special symbol code
6. Imbedding of the amino-acid space into DNA space and the universal part of the Genetic Code
7. Summary

[abstract of this Chapter](#)

There are 2 especially fascinating crop circle formations -- Chilbolton and Crabwood. Both formations suggests very strongly the interpretation as a message from intelligent civilization living at parallel space-time sheets in our Solar System. **[StealthSkater note: Don't know if this is related here. But former ELINT Sgt. Dan Sherman said that he was trained in computer-based "intuitive communications" with an alien race in some off-planet realm. This was to guarantee continued comms in the event of a foreseen Earth catastrophe in which all conventional forms of communication would be disabled. "Project Preserve Destiny". Refer to the "Sherman" page at => [doc](#) [pdf](#) [URL](#)]**

A. Genetic codes of *Aliens*

The interpretation of the Crabwood message as a representation for the genetic codes of *alien* life forms is suggestive. If this interpretation is accepted, the crop circles allow us to deduce a lot of information about the genetic code and other bio-codes associated with these lifeforms.

1. The message strongly suggests the existence of also doublet code. This inspires a simple model for our genetic code allowing us to see the code as resulting from much simpler product code by a small symmetry breaking due to the interaction between singlets and doublets. Various alien codes also result in the same manner. This has deep implications for the theories of how Life at the molecular level has involved.
2. The model suggests that **DNA triplets** have resulted as a fusion of DNA singlets and doublets defining simpler genetic codes. My bio-chemical knowledge does not allow me to test this hypothesis. It turns out that one can deduce surprisingly detailed information about the *alien* genetic codes. In fact, almost unique codes result if one accepts the proposed model of the genetic code having symmetries obeyed also by our own genetic code.
[StealthSkater note: Alleged Area-51/S4 microbiologist Dan Burisch claimed to have researched the *extraterrestrial* biology. I seem to recall something about a triple-helix DNA (see the "Burisch" page at => [doc](#) [pdf](#) [URL](#))]
3. The Chilbolton message also tells that Silicon is of fundamental importance for this lifeform at the DNA level. The Crabwood message contains a variant of the genetic code for which the

simplest interpretation is that DNA doublets of form XA are effectively doubled. Perhaps doublets of the form XA_S besides XA (where A_S denotes a compound of A and Silicon) have emerged. This increases the number of DNA triplets from 64 to 80 and thus also the information content of the Genetic Code.

The same could have occurred to one member of the 7-plet composing amino-acids and increased the number of amino-acid like molecules by three. This in turn would increase the expressive power of the Genetic Code.

The difference between man and ape is enormous although their genetic codes are almost identical. It is impossible to even imagine the level of intelligence of these creatures as compared to that of us. **The silicon insertions to the DNA and amino-acids bring to mind symbiosis with Silicon-based nano-computers.**

4. The Chilbolton message contains 2 different DNA strands. This could have several interpretations. DNA could indeed be asymmetric. Alternatively, there could be 2 genetic codes for the same lifeform. The 80 DNA-23 amino-acid code would involve silicon and could perhaps give rise to a living arithmetic processor. The third option is that there are 2 separate lifeforms involved. 64-DNA code would be associated with the plasmoidic lifeforms.

The fact that the Sun -- whose convective zone contains a magnetic field on the order of Tesla making it an ideal environment for this lifeform -- is described to be smaller than in Arecibo message suggests that this lifeform populates also the Solar magnetosphere. The plasmoidic lifeforms could serve as kind of less intelligent "medium"-like messengers or quantum entanglers, making possible a *telepathic* sharing of mental images between members of different civilizations. The light balls observed near crop formations would represent this lifeform.

Also UFOs could be identified as plasmoidic lifeforms inducing *telepathic* encounters with the *alien* lifeforms. The biology of the more intelligent lifeform would be based on 80 DNA-23 amino acid code (which could live even outside the Solar System).

The very general symmetries deduced from our own genetic code fix the identification of the *alien* codes highly uniquely. All of these codes result by the same universal mechanism and are characterized by the same imbedding of the amino-acid space to the DNA space implying that a considerable part of the code is universal.

The symmetries are the exact A-G permutation symmetry and the almost exact T-C permutation symmetry for the last base of the DNA triplet and the approximate decomposition to a product of codes associated with DNA doublets (the first two bases of triplet) and singlets (the third base of triplet).

The success of this model inspires the view that molecular life first evolved to form DNA singlets and doublets coding for 2-plet *resp.* 10-plet of "pre-amino-acids". After that, DNA doublets and singlets fused to triplets coding for the ordinary amino-acids (which are perhaps an outcome from the fusion of the two kinds of "pre-amino-acids") which in the TGD-based model for the evolution of the Genetic Code can be identified as subset of RNA molecules. Amino-acids catalyzed in the primordial stage the translation to RNA and only later replaced RNA molecules as coded molecules.

B. Where do the messages arrive from?

The messages responsible for the crop circles should come from our Solar System. Perhaps from Terrestrial magnetosphere or the Solar magnetosphere.

The time mirror mechanism allows us to also consider the possibility (suggested by the time interval of one year and one day between the messages) that the messages arrive from a distant **Geometric-Future** and tell about the genetic codes of future civilizations living in the Solar System. [StealthSkater note: I recall a Burisch [see above] premise that the "aliens" were what we would evolve into in the Future. And they are returning to repair damage done to timelines made by our experimental tinkering (Philadelphia Experiment, Montauk Project, "Project Looking Glass" (see the "[UFO#LookingGlass](#)" page at => [doc](#) [pdf](#) [URL](#)).]

C. Where do the lifeforms assignable to the genetic codes live?

One can consider several identifications of the biological lifeforms assignable to the codes using Chilbolton message as a hint. These lifeforms could live in Earth, Mars, Jupiter perhaps as intra-planetary (say, intra-terrestrials at various boundaries such as mantle-core and core-inner core boundary). Even the photosphere of Sun could be populated.

The notions inspired by the dark matter hierarchy (in particular the notion of the N-molecule) allow us to seriously consider the existence of biological lifeforms able to cope in high temperature environments. One can build rough view about what high-T life should look like.

The experimental signature of N-molecules are spectral lines of corresponding ordinary molecules in environments where they are not thermally stable. In the Solar photosphere, the spectral lines of water and solid calcium ferrite have been indeed observed.

To sum up, one can say without exaggerating that the systematic search of these spectral lines might revolutionize our world view.

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also the *Abstract* of Parts-I and II are combined in a single file in the "[TGD_02](#)" file at => [doc](#) [pdf](#) [URL-doc](#) [URL-pdf](#)

Appendix

A. Basic properties of CP_2

1. CP_2 as a manifold
2. Metric and Kähler structures of CP_2
3. Spinors in CP_2
4. Geodesic sub-manifolds of CP_2

B. CP_2 geometry and Standard Model symmetries

1. Identification of the electro-weak couplings
2. Discrete symmetries

C. Basic facts about induced gauge fields

1. Induced gauge fields for space-times for which CP_2 projection is a geodesic sphere

2. Space-time surfaces with vanishing EM, Z^0 , or Kähler fields

D. p-Adic numbers and TGD

1. p-Adic number fields
2. Canonical correspondence between p-adic and real numbers

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