Biophotonics, an Emergent Science of the “Living Light”: Homeopathic Connections

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In Homoeopathic LINKS issue 1/2015 Traian Stanciulescu has published a shorter review of van Wijk’s book Light in Shaping Life. Biophotons in Biology and Medicine (2014). This much more extensive review on this paramount work on biophotonics has been made available online. Here Stanciulescu author more deeply explores the topic as also its implications for homeopathy. These are the kind of studies and articles that will provide an undeniable scientific basis to homeopathy. The Editor.

To recuperate the historical apparition of biophotonics and its scientific roots from the perspective of standard science – physics and biochemistry, biology and medicine, biotechnology etc. – is representing a task which a very recent book of Roeland Van Wijk tried to accomplish.¹ The present analysis² is proposing not only a presentation of this very profitable book, but also a personal commentary which the book is allowing, and has conceived:

- from the (un)conventional perspective of biophotonics itself (supposing a self-referential assumption of its genesis namely), on the one hand;
- from the perspective of homeopathy, which biophotonics can scientifically explain, on the other hand.

In this way, such an analysis is implicitly becoming a plea for a necessary and quite actual INTEGRATIVE MEDICINE.

1. From the Beginning, Some Main Postulates: The Part is Staying for the Wholeness...

It is already a truism to say that for correctly understanding the actual state of certain object, phenomenon, process etc., an essential “turning back” to its specific roots and becoming explicitly necessary. For example, to speak about the role of the light into the genesis of everything is supposing a double recuperation, coming from a spiritual/religious and a scientific perspective too.

- Spiritually, into the terms of the religious (Christian) tradition, the LIGHT is responsible for the creation of every shape of the world, including the living beings’ ones. In this way, the biblical assertion: “Let the light be...” suggests that everything is appearing by involving the patterns of a very “Complex Light,” starting and continuing with the implication of:
  - the Uncreated Light, whose properties we are still ignoring (as we are not able to say too much about God’s real manifestation), but able to determine first the creation of the Invisible Fields of the divine Hierarchies of Light (from angels to archangels etc.), before any other creation;
  - the creation of the Cosmic Light, in the First Creation Day, with the visible skylights apparition, in the Fourth Day of Creation;
  - the genesis of the “Living Light,” specific to the biological beings forms, vegetal, animal and human, in the last Days of the world creation.

These levels of the “Complex light” manifestation are supposing the presence of all the perfect and immutable patterns/informational shapes responsible for the apparition of a certain reality.

- Scientifically speaking, starting from this intuitive genesis of the cosmic and human world, some major rational postulates should be remembered,³ namely:
  - Structurally, every complex system of the world is supposing:
    - the presence of the four cosmogonic elements, symbolically connected, earth and water, air and fire (light), and (onto)logically correlated with the meaning of

² The present text represents a much more extended variant of the book’s review, already published in Homoeolinks, 2014.
³ These general postulates are extensively developed under the name of “Theory of the Essential Unity,” presented in some of my books, such as: Semiotics of light... 2003.
substance and energy (SE), information and field (IF) present in everything which is existing;
- the information is predominantly stocked in field’s waves, and energy is essentially present in the substance’s mass (as Einstein argued, that the substance is resulting by compressing the energy of the “field of light”), according the quantum principle of duality, asserting that everything is representing the coherent connection of a corpuscle and wave complex;

• Functionally, the becoming of each biological system is supposing:
  - a certain evolution, determined by the passing from an informational invisible pattern to a substantial visible shape, by the process of “holographic resonance”;
  - this evolution is determining a certain interconnection of some essential/ideal forms (for example, applied to biological/human body, these general shapes are: the cellular “ovoid,” the “hourglass” synapse, the cellular “column” circuit and the “cluster/grape” system of tissues, organs, organism), till the particular system will become as much possible a “face and alikeness” of the original pattern.

• Structurally and functionally both, the genesis of the world systems is:
  - involving the general forms, above mentioned, unifying by their presence the levels of the macro-, micro-cosmos and the human body too;
  - the genesis by light of the “virtual shapes” is supposing a general mechanism of “holographic resonance,” establishing a coherent communication among all these levels of the world.

For example, to argue that between all these levels of cosmic and living light there is a strong connection, represents the mission of a very recent science: biophotonics. The main hypotheses which we can implicitly understand from the very beginning, by reading Roeland van Wijk book’s title, are the following:

- light is responsible for shaping life, by generating a specific type of emission of photons, named “biophotons” by professor dr. Fritz Albert Popp (namely: photons with specific properties, being generated as an ultra-weak and delayed luminescence, deviated toward ultraviolet spectrum etc., these properties determining their impossibility to be directly observed);
- biophotonic emissions are essentially involved in explaining the processes present in biology and medicine, meaning that biophotons are essentially responsible for many of the ignored mechanism of life and death, of health and illness, etc.;
- biophotonics is an inter discipline, biophotonics is an interdisciplinary theoretical and practical discipline, involving biology, physics and biotechnology etc., having in mind its double objective etymology, namely:
  - bios + photons = biology + light = science of the “living light” emission;
  - bios + photonics = biology + science and technology of lasers = the science of “biological lasers” (having in mind the laboratory observation of the German professor Fritz-Albert Popp, that this emission of light have some similar properties as technical
lasers emission: coherence and polarity, direction, monochromaticity, etc.

In connection with all these aspects, we could define biophotonics as the science of studying the emissions, stocking and delivery of biophotons fluxes (ultraweak bioluminescence), due the “biological laser” properties of the living organism subsystems, by assuring in this way the coherent transfer of information (bio-communication) among the biological systems and also their inner components.4

Technically speaking, the main postulates of the actual science of biophotonics, already confirmed experimentally, are develop by two complementary theories, namely: (Bio) Photonic Theory of Energy-Information (BTEI) [Constantinescu, Stanciulescu, 1993–1995; Stanciulescu, 2003a] and the “Biological Lasers” Theory (BLT) [Stanciulescu, Manu, 1995–2002] – which joined their explanatory potential for explaining the creative mechanisms that made possible:

- light’s genesis of all the hierarchical systems of the (physico/cosmic in general, bio-psycho-logical in particular) world and their mutual interaction/influence through holographic resonance mechanisms, acting at the level of the (bio)photic field (cf. BTEI);
- the biophysical systems structure and function under the impact of light radiation, the energe-informational (EI) resources genesis of biophysical systems and the homeostasis/health maintaining their mechanisms (cf. BLT).

These two explanations are clarifying the nature and genesis of the “Light Matrix,” holographically compressing all the world’s systems and in the same time implicitly clarifying the functional sanogenous principles of Exogenous and Endogenous Homeopathy [Stanciulescu, 2011], namely:

4 The roots of biophotonics are dissipated in a longer history, of some hundreds of years, which Roeland Van Wijk is trying to recuperate. Officially, Professor Fritz-Albert Popp is recognized as being the father of biophotonics, by using some essential laboratory results (such the emission of ultraweak and delayed bioluminescence, having biolaser properties), which have been coherently used – explained theoretically and practically verified – by the Romanian research team of the National Inventics Institute of Iassy (Romania), as professor Popp recognized, in his forward of the book “Signs of light” [Stanciulescu, 2003], by writing that: “Professor Traian D. Stânciulescu is one of the first pioneers who had no problems to inhale immediately this new air of an upcoming scientific evolution. His interdisciplinary education in basic fields of science, his free and open attitude as a philosopher, but at the same time his boundary values of keeping his feet on the earth helped to create this necessary and very important basic book on “biophotonics,” the science of both “understanding” and influencing (improving) life by light. I will not go so far to call this book a “bible of biophotonics.” The time is not yet ripe for a standard work of this kind. But whoever will work on this discipline should use Traian D. Stânciulescu’s “Signs of Light,” in order to get the right feeling for the broadness and deepness of this field, to receive new ideas of practical applications in many respects, i.e. techniques, diagnostic and therapeutic tools in the biology and the medicine of future.”

By connecting the physical aspects of BTEI with the biophysical ones specific to biological systems, a (BIO)Photonic Theory of Energy-Information (BTEI) was already conceived in this last work.

1. Biophotonic theory on energy-information is able to argue that theoretically, in a mathematical-physical way:
- each complex system of the (bio)physical world is determined by a corpuscle and wave dualism, between the coherence of a quanta of substance-energy and a quanta information-field;
- the equality of the wave phases and of the substantial vibrator receptor/receiver, specifically their coherence, is a necessary and sufficient condition for guiding the substantial vibrator by the coherent wave on an electric (geodesic) and mutual line;
- the energy quanta, intuitively associated to the electromagnetic wave’s electric component, and the information quanta, associated to the magnetic component, may be considered as generating (through resonance) the electromagnetic field’s quanta (photons) having the speed of light; supraluminous speeds; specific to the information quanta, (tachionic type) speeds can be correlated to virtual photons which leads to the hypothesis of a Universe built on frequency ranked levels.

This universal model of the “holographic resonant universe,” based on the physical phenomena of modulation, interference and coherent interaction, of a “pars pro toto” reproductive memory, is also manifested within any two structural components upon which the existence of the human being builds its activity:
- The Fourier code, through which the “auric biofield” (“matrix of light”/“vital force”) – a fundamental wave with many subordinated harmonics – may be mathematically described, as a complex of invisible bio-electromagnetic holograms, able to conserve quasi-actively the “abyssal memory” of the (human) system.
- The informational codes (holograms) generated by the “substantial vibrators” of the biological structures are explained by BTEI through the role played by the organism’s fluids (blood, lymph, linked water) and by the organic “liquid crystals” everywhere present in the human body (cells, organs, interstitial tissues etc.) as an active support of the “biological memory.”

Particularly, we conclude that even homeopathic remedies work this way, by holographically transmitting the optimizing information, the wave of the curative source (homeopathic remedies), to the human body systems and to the body resonators (blood, water, membranous liquid crystal structures etc.), directly – in the case of “endogenous homeopathy” – or indirectly, in the case of “exogenous homeopathy.”

2. The “Biological Lasers” Theory (BLT). Starting from the laboratory studies of light’s interference with living matter realized by F.A. Popp et al. [1989], it was possible to formulate the major premises of BLT, namely:
- through its double quality – energetic and informational – light (electromagnetic field) plays an essential role in the structural and functional organization of the living matter;
the mechanism which could explain this essential involvement is that of a light amplification by stimulated emission of radiation, of a laser-type process respectively.

According to BLT,6 two structural-functional systems are responsible for the optical activity of the living organism that generates bioluminescence – the homeopathic “VITAL FORCE” of the organism, namely – as a “biological laser” phenomenon:

1. the molecular system of a semi-conductor type (phosphate – linked water – molecular oxygen), which realizes the phenomenon of bioluminescence, of the stimulated and amplified emission of light which penetrates the biological structures (according to the anti-Stokes rule in non-linear optics);

2. the organic structures with liquid crystal properties, which transmit step by step – through birefringence, polarization, selective reflection, rotary magnetic dispersion – the properties of a laser-type emission: coherence, monochromaticity, directionality and intensity of the light.

These above mentioned two premises – already experimentally validated by the authors’7-9 – represent the basis of the major BLT’s conclusions, namely:

(a) The correlated action of the molecular semiconductor “biological-laser” and of the organic structures with liquid crystal properties allow the authors to argue that the molecules, membranes, tissues, cell nuclei, intracellular structures, cells, organs and the whole organism function as some biological-laser systems, both “linked” and “included.” All these systems present evident structural analogies with technical lasers: optic resonator, active substance, etc., being able to generate a bioluminescent phenomenon, having the properties of a laser emission.

(b) The structural-functional particularities of the six types of “biological-lasers” existing in the living complex body permit highlighting the correlated effects of four types of phenomena: Biochemical, Electric, Magnetic, Photonic (BEMPh effects). These phenomena are characteristic of all the biological processes of the living body.

(c) The energetic accumulation permitted by the presence of light, and the energetic discharges which happen in light’s absence, respectively, define two essential cycles which maintain vital processes in a dynamic equilibrium: “daily cycle” (of light) and “nightly cycle” (of darkness).

By metamorphoses of “natural light” (visible) into “biological radiation” (invisible), deviated to ultraviolet, a bioluminescent emission is generated at the level of each biological structure. This “biological-laser” energy is defined by: the properties specific to the laser light; decreased impulse frequency of the monochromatic radiation and increased energy; decreased speed caused by the successive penetrations of the light through the dense mediums of the biological substance of human organism, etc.

It is the moment to hypothesize that – due to the development of the research technology and according to the biophotonic perspective – the LIGHT was proven to be:

- the singular reality of the world able to unify “everything with everything” by its double corporal and radiant properties (being discovered and put into evidence by the photoelectric and by the dispersion effects), connected to light’s double structural components: electric and magnetic, substantial-energetic and informational-radiant;

- the only complex self-consistent structure able to keep constantly, by using a specific substantial support (such as electrons of liquid crystal structure, cosmic lentils, etc.) for memorizing a type of “Fourier transforms” by a mechanism of interfering waves; these holograms could represent the informationally perfect patterns cosmically conceived by the Great Creator in his archetypal and active Days of Creation.

In this frame, it is essential to observe that for initiating/understanding such a “matrical memory” (the software-pattern of the “living light”) we necessarily need to know and apply in this explanation the laser technology (assumed as a specific hardware). Without it, nothing concerning this subject cannot be really scientifically explained,8 having in mind the similarity with the interactive dualism of the corpuscle and wave in physics, body and soul in biology, signifier and signified in semiotics etc. That’s why to assume the explanatory postulates of (bio)photons at the large scale of an entire “Living Universe” is a challenge that we could sometimes take into consideration.

By proposing such a general understanding of biophotons,9 it becomes possible to sustain the main ideas of Roeland van Wijk’s book,10 by trying to put into evidence especially

6. The premises of BLT were synthesized in: Stanciulescu, Traian D. [2010], Neuro-Psychic (Dis)Orders and Homeopathy: Biophotonic Connections, in: Homeopathy and Mental Health Care (editors: Christopher K. Johannes & Harry van der Zee), Homoeolinks Publisher, AB Haren.

7. Research done at the laboratory of the International Institute of Biophysics (Neuss, Germany), presented within the frame of a national research on “biophotonic nanotechnologies” [Stanciulescu (coord.), Manu, 2006], validated the main postulates and hypotheses of BLT, which became a verified theory, able both to explain and generate health strategies.

8. It’s enough to mention here that the American neuro-psychiatrist Karl Pribram postulated that human brain memory is functioning in a holographic way, each part containing the wholeness. Functionally he succeeded to prove it, but he couldn’t explain the (bio)physical genesis of the holograms, ignoring the biophotonic mechanism of the “biological lasers,” involving the neural cells as being such amazing systems of performing the metamorphoses of the “living light.”

9. I already did it in 2003, by presenting my book “Signs of light. A biophotonic approach to human metaphysical roots” (Performantica House of Printing & WDO, Iassy & Switzerland, 2003), in the frame of the Summer School of International Biophysics Institute of Neuss (Germany), where I had the chance to be a lecturer and to meet professor Popp, who generously preface the book.

10. Also, in this scientific frame – organized by professor Fritz Albert Popp, as director of IIB from Neuss – I had the chance to meet Roeland van Wijk and Rick Van Wijk, by plenary presenting the integrated vision on Biophotonic Theory of Energy-Information [Constantinescu, Stanciulescu, 1993-1995] and on “Biological Lasers” Theory [Stanciulescu, Manu, 1995-2002], emergently explaining the essential contributions of biophotonic.
the ideas concerning a triangular connection able to open the “living light” emission toward its biophotonics explanations and to its therapeutic applications, particularly through homeopathic therapy.11 By subjectively assuming such a (meta)physical connection – subordinated to the modelling of Substance → Energy → Information, unified through the resonance of an universal “Living Light” Field, I am implicitly assuming the reactions of all the scientific readers who could otherwise react.

Contrary to this attitude, being written from the perspective of a very rigorous scientist, the book of Roeland van Wijk – perhaps difficult for the common reader, but quite clear for a scientific mind – cannot be critically disputed, the historical perspective of the book is quite clear and profitable for any interested reader. As the author is mentioning from the very beginning, the purpose of his book is “to bring together pertinent aspects of previous research and to raise questions about the above »program of substance/field dualism in the complexity of specific systems” (p. 3).

In this way, from the very beginning I will note that this is an extremely useful book, because it is implicitly sustaining a very simple and rational idea, namely that: for increasing the crown of a tree we need to keep alive its roots.

2. The Historical Roots of Biophotonics: An Interdisciplinary Approach

Already from his book’s Prelude, the author is mentioning the traditional interest of scientists for studying the “Living Light” presence in human life, this being assumed in its many hypostases, starting from the ultra-weak quantum emission of biophotons till the biochemical luminescence of the enzymes, from the bioluminescence of certain biological structures (1000 × more intense as the ultraweak biophotons emissions) till the “delayed bioluminescence” having ultra-weak biolaser properties.

As the author is mentioning, some specific roles have been hypothesized as connecting all types of “living light” emissions, starting with the communication of a position (the body presence in darkness, in the deep water, for example) or of a diagnosis of the health state (such as the presence of a cancer, of a rheumatoid arthritis or of a stress illnesses) and till the generation, growth and differentiation of the biological forms through the matrix of certain fields, by keeping specific information in the holographic form already mentioned.

As a first conclusion, the author is considering that the golden age of biophotonics is just opening. In this way, “we must put aside the old patterns and reference frames of the past, let go of rigid habits of thought that serve us no longer, and be willing to accept a permanent shake-up in our outlook regarding the photon field” (p. 9).

I would complete this point of view by adding that – such a new scientific gate – could be efficiently sustained by two homeopathic/therapeutic practices already connected to biophotonics, namely:

- endogenous homeopathy [Stanciulescu, 2003, 2012], already developed 200 years ago by Hahnemann, proving that it’s enough to distribute inside the human body the information/frequency of a certain substance-source (by diluting it so much that nothing substantial from the original germ, chosen from a list of some thousands possible, is not anymore contained) that the illness could be cured by the well-known principle of: similia similibur curantur;

- exogenous homeopathy [Stanciulescu, 2011] is involving another type of biophysical effect, proving how the human body is/could be influenced by the natural or artificial objects around it (such as forms of relief, vegetation, architectural buildings and furniture, clothing and utility object, etc.), by the specific waves emitted by their materials and forms, by the colours and decorative shapes etc.

For understanding how these homeopathic therapies are working, is necessary to define before all – from a biophotonic perspective – the specificity of the illnesses able to be homeopathically cured. In this way, we should know – having in mind the duality of corpuscle and wave, on the one hand, the fact that energy is stocked essentially in substance and the information is preserved mainly into the field, on the other hand – that:

- a first type of illnesses (substantial-energetical) are caused by the physical destruction of the substantial support (by accident, for example, or by a natural process of degradation, due to an increased age), implicitly determining the system’s loss of energy; these types of illnesses are normally cured by allopathic types of therapies;

- another type of illness (field-informational) are concerning a certain “loss of memory,” namely the “amnesia” of the “auric/holographic shape” which all the cells/organs/organisms should have normally;12 by the degradation of this “living light” matrix, the entropic waves (of the human aura) will determine the degradation of the biological corpuscles (cells, organs, organism); in these cases, the most profitable therapies are usually solved by alternative/complementary therapeutic practices, accepting that: first are cured the “soul” (the auric field) and then the “body” (the afferent corpuscle).

In conclusion, coherently controlled and used, the endogenous and/or the exogenous emissions of (bio)light could determine the recuperation of the biological (human) health state by one and the same principle of curing, accepting – from a biophotonic perspective – that certain type of

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11 Homeopathy is the first medical discipline which implicitly used the concept of “Vital Force,” which can be assimilated with our biophotonic meaning of the “Living Light.” In this context, I am expressing once again my gratitude to Harry van der Zee, for his implicit suggestions in this direction, for his first reviewed appreciation of my SIGNS OF LIGHT in Homeopathic Links, and especially for commenting the book’s chapter explicitly dedicated to homeopathy.

12 This auric shape is characterized by frequency and wave length, by amplitude and intensity of the waves, by the complexity of waves interfered (Fourier or holographic spectrum), etc.
frequencies (endogenous or exogenous emissions of “living light”) could generate specific healthy effects, which – combined with the allopathic ones – could sustain the brand of an INTEGRATED MEDICINE.

This is exactly the point which I want to sustain further, introducing some additional considerations, by following the structure of Roeland van Wijk’s book. In this way, another type of biophotonic history will be written: an auto-referential one, reconsidering all its genetic states from his actual point of view.

3. Steps Toward an Integrate Medicine

The author is building the frame of his research in a logical succession of 5 parts and 20 chapters, looking for the (bio) light involvement into (bio)morpho-genesis in the past 300 years, and particularly in the last century, by developing the following interconnected subjects:

The Roots of the Biological Field

In this first part of the paper, the author is presenting the story of the “formation of the form” in biology, starting from the 18-th century till the early 20-th century, taking into consideration the developing of three disciplines in biology, each one sustaining some partial truths, namely:

1. Regeneration biology was configured already in a period when the scientists still were unaware of all the data of the cells’ existence, by having as support the hypotheses of Rene Antoine de Reaumur, concerning:
   - the epigenesis theory, sustaining the idea that, somehow, the form of living things comes gradually into existence from an undifferentiated mass, by a series of stages during which some new specific parts are added;
   - the proformationism theory, postulating the becoming of the organisms from miniature versions of themselves, from some specific homunculi or animalcules, that have existed since the beginning of creation.

2. Embryology is trying to find a pertinent answer to the following essential question, concerning the organism generation: “Are future parts and functions preformed in the fertilized egg in a developed in a deterministic manner, or is the formation epigenetic (the fate of a cell) a function of its position in the system? (Wijk, 2014: 13).

To formulate a correct answer, the 20-th century biology of the “living light” accepted the implication of a “field of organization,” which the dialectics of corpuscle-wave sustained very soon and the very recent biophotonics – BTEI and BLT namely – is explanatory assuming now, under the conjunctions of:
   - the mechanism of cellular division (of the cytoplasm and nuclear mass), based on a certain necessary intensity of the cellular electric-magnetic field, namely of the potential of the cellular membranes (the action and pause electric potential) and its afferent magnetic field;
   - in the case of human embryo division, this necessary (bioelectromagnetic/bioluminescence) intensity is attained due the circuit of “linked biolasers,” inside the mother’s organism, increasing – step by step, by passing from cell to cell – its energy;
   - this process is sustaining further the development of the whole organism, according to:
     - the structural “holographic (infolded) memory” of the cell-egg genotype (keeping the structure of the whole
organism in the liquid crystal memory of its foils – ectoderm, mesoderm, endoderm, on the one hand, in their afferent phenotype fields, on the other hand;

- the functional mechanism of the “holographic (unfolded) resonance” – identified from the beginning by the biologists as a “positional information” or as a “field of organization” – is able to transmit by resonance the informational pattern of the egg-cell, to the undifferentiated biological mass present in the mother’s uterus, and to develop in this way the body of the human foetus, by keeping a certain resonant connection (frequency connection) among skin, brain, eyes etc. (developed from the ectoderm foil) and so on.

The human organism is keeping the memory of these connected frequencies (resonance/coherence) during its whole life. By pertinently using them, it is possible to valorise therapeutically this amazing resonance, by adequately delivering the energy and information traps of the cells (electrons from mitochondria and biophotons from nuclear DNA), respectively by:

- using some substantial drugs or some nutritive supplements able to supply to the substances absent into organism, and implicitly by delivering in this way its own Energy-Information resources of the organism, by determining a process of “biochemical saturation” at the level of the cells (this is the main mechanism of the allopathic therapies);

- using certain technical devices, for inducing electric and magnetic fields, infrared waves, etc., or other mechanical effects, by pushing, pressing, massaging, acupuncturing etc. some specific area/points of the organism; in this way, some other zones of the organism, connected embryogenically, will be equilibrated by receiving the supplementary influxes of Energy-Information (this is the main curing principle of alternative therapies);

- generating a certain “field of light” (bioluminescence) inside the human body (by some spiritual/“magic” practices such as prayer or meditation), or by a homeopathic induction of remedies’ frequency (by a biophotonic field namely) the same mechanism of delivery the deep resources of energy-information will be initiated, by the resonant principle of homeopathic “similia simulibur curantur” (complementary therapies), for example.

All these combined strategies – using essentially the organism’s own resources – are determining synergetic curative aspects, actually representing the interest domain of the already mentioned: INTEGRATIVE MEDICINE.

3. Tumour biology is concerning the increase of the number of cells or organs, of their mass/dimensions, of their luminescence, by deforming their shape, by modifying their frequency etc.

From a biophotonic perspective, I could say that all the above mentioned processes, historically assumed, have – epistemologically – a specific involvement, meaning that:

- all of them are studying one and the same process: the quantitative and qualitative growth of the cells, with a certain degree of (neg)entropic effects;

- the pressures among cells, touching each other’s membranous liquid crystals, is generating a specific alarm signal, transmitted to brain as a pain sensation;

In conclusion, every traditional explanation could have a certain correct idea, which could be actually recuperated and valorised into the frame of some new disciplines (such as developmental biology and epigenetics) or into the frame of some integrative disciplines, such as biophotonics is.

From this last perspective of biophotonics, as already established, let’s formulate further some specific considerations, combined with the point of view of homeopathy, by connecting when possible the problems of cell regeneration, DNA (embryogenesis) modification, tumours disappear, etc.

4. Cellular regeneration is supposing that step by step all the cells are changing totally in a cycle varying from a few months till 7 years, meaning that each organism is permanently renewing after a certain temporary cycle. In this situation, already known by scientists, some general questions and implicitly some adequate answers could be formulated, such as:

(a) How a certain human being can be in principle, the same person, able to recognize functionally, even a total structural change – of his body cells – which happened in his/her body, in a determined period of time?

Biophotonically speaking, the answer is concerning two general mechanisms, namely:

- every cell/group of cell (tissue) belonging to the same organ has a certain “auric pattern,” a kind of “living light” hologram which is pulsing permanently around it (by keeping the same unmodified field/frequency of the bio-light spectrum), by determining a morphologic transmission/modification of the information through the mechanism of the “holographic resonance”;

- this is meaning that the phenotype (Vital Force) is conserving and/or modifying somehow the genotype, in some evolutionary limits, accorded to the subject’s age, state of health or accorded to the ambient etc.

(b) How is the organism/cell’s system able to recuperate its health, in the case of certain illnesses, such as cancerous tumours, which are modifying the shapes and forgetting the frequency, amplitude, intensity etc. of their biofield (aura)?

The curative effects of the Integrative Medicine (of homoeopathy especially) could be essentially sustained/stimulated by some spiritual (biophotonic) practices involving the “living light” presence (such as “positive thinking,” praying, light-sound resonance, etc.), able to transfer their informational effects to the body/corpuscle, by delivering the energy from
its substance (by a process of “holographic resonance,” namely: the information in the human auric field is transferred by resonance at the level of the substantial resonators, such as membranous “liquid crystals” structures, the 70% physical structure of the body’s water, blood, plasma etc., by (re) changing their whole (neg)entropic state.

Birth and Growth of the Biophoton Field Concept

This chapter is dedicated to the efforts of scientists to determine the presence of some radiation fields able to influence the mitosis process. Among these efforts, Roeland Van Wijk is mentioning some:

- The morphogenetic radiation field was experimentally postulated by Alexander Gurwitch, who – following the intuition formulated by Hans Driesch (1911) of entelechin (namely “having its goal in itself,” cf. Aristotle), a “non-material, non-spatial factor which leads and organizes the development of the embryo even if its parts are drastically perturbed, mixed or deleted” (Wijk, 2014: 44) – proved that living organism emits photons (in UV range), by stimulating the process of cellular division in biological systems, requiring oxygen for emitting such radiation.

For detecting these emissions, biology needed from the very beginning the technical results of physics, starting with Einstein’s photoelectric detectors, Geiger counter and, finally, the photomultiplier efficiently used by Fritz-Albert Popp, starting with the 8th decade of the last century, for postulating that the emissions of biophotons – considered as an “ultraweak delayed bioluminescence” – has properties analogous to a biolaser.

Some of these observations were not sufficiently explained scientifically. That is why our explanatory contributions are quite opportune in this frame, for clarifying aspects such as:

- According to BLT, the presence of oxygen is not necessary only for the oxidation reactions and for the reactive oxygen species, but also because the oxygen is essentially involved into the structure of the “biological laser” active substance, namely: the molecular semiconductor phosphate — linked water — molecular oxygen. This could be identified with what Gurwitch named “molecular constel-lation,” involved in cellular and super-cellular phenomena of the biofield organization.

The essential observation that biological systems are generating coherent emissions of light having properties of a laser type, was structurally and functionally explained by an (onto)logical analogy, namely: putting together a face to face comparison of a biological cell and a technical laser device resulted in the perfect correspondence between the two systems.

- Concerning the ultra-weak emission of light in UV range, according to BLT modelling, two physical processes are involved:
  - in its stages of absorbing visible light, the quantum process specific to laser emission (“inversion of population,” by a metastable electron jumps and, consequently, by delivering photons;
  - this process is implying the (anti)Stokes phenomenon, a quantum mechanism which explains why EM radiation is penetrating the molecular semiconductor system in the visible light spectrum and leaves deviated toward UV range.

The BLP model is perfectly explaining some hypotheses formulated by the biologists mentioned by Roeland van Wijk in his book (p. 126), namely:

- Gurwitch’s “possibility factor” (characterizing the maturity of the cell, having all the “biological lasers” properties) and the “realization factor” (involving the necessity of an external stimuli, visible light in our case) are justified by BLT modelling. From a homeopathic perspective, the conjunction between an endogenous and an exogenous factor suggested to us the idea to take into consideration two types of homeopathic stimuli, both curative, but acting from “inside” or from “outside” the body.

- The question regarding the functionality of the ultraweak UV biophoton emission: “Does it have a role in the communication between the organisms or within the metabolic network? Or it is just a loss of energy without any physiological significance?” Because everything in nature has a certain role, in the virtue of BTEI postulates – the holographic resonance/communication – I will answer this question, saying that: YES, the structural shapes of the organism systems and their coherent functionality are assured by the communicative presence of the “living light” inside the whole body system.

Internationally accepted, a lot of others contributions concerning the concept of field are realized in the last decades of the 20th century in Japan, Australia and Poland, in Germany, USA and China. A common aspect to all these researches, studying among other the effects of biophotonic field upon the human health, is their limitation at the level of a cell or small group of cells, due to the limited capacity of the measurement instruments.

Starting from these results and putting all of them in connection, it was possible to recently elaborate in Romania an integrative modelling of the whole human being system, by assuming the biophotonic effects at the level of a chain of cells, organs, of the entire organism. A whole construction, responding to the necessity of the actual INTEGRATIVE MEDICINE.

Cancer: Metabolism, Biochemistry and Biophoton Emission

A very important problem which Roeland van Wijk’s book is taking into consideration is the genesis and treatment of cancer, supposing subjects such as: glucosis and respiration in cancer, transplant of a hematoma, oxygen and free radicals, etc.

The chapter is especially involving the biochemical aspects of cancer, extremely complex. The actual hypotheses concerning the origin of cancer are very diverse, starting with the modification/inversing of the metabolic Krebs Cycle’s effects (Pintilie) till the presence of some parasites
or till the use of some poison type of foods, from the absence of some essential elements and till the (hyper) stimulation of the organism by different types of (bio) fields, generated by unconventional causes such as stressing emotions, etc."

In this context, from a biophotonic perspective (by suggesting the implications of some BEMPh causes in cancer genesis), we will try to understand how – independently the generative cause – some common aspects of cancerous situations, already known (such as the uncontrolled/increased numbers of cells, the hyper-luminescence generated by cancerous tissues or tumours, the strong pains associated to cancerous states, etc.) are appearing and manifesting.

Biophotonically, we can assert that the cause of cancer is not a unique one, having many connections and sources, substantial-energetic or and informational-radiant, structural and functional, electrical and magnetic too, by determining in this way its type and localization inside the organism.

- Roeland van Wijk is mentioning in his so complex book (pp. 173–174) some correlated metabolic and biochemistry dysfunctions, connected to the cancer’s cause, such as:
  - dysfunctional metabolism of phosphate (of phospho-fructokinase, for example), of the oxygen (aerobiosis) and of the glycolysis (glucose fermentation, influencing the cell respiration), and of the cellular water absorption implicitly;
  - each of these factors or all of them connected could represent a substantial cause of a certain type of cancer (determined by a bad alimentation, a bad respiration or super-exposition to light, etc., for example), having as consequence the uncontrolled increase of a certain type of cells.

*Structurally speaking*, the substantial disturbance above mentioned are affecting the biochemical metabolism of the molecular semiconductor complex phosphate → molecular oxygen → linked water; namely they are affecting the genesis of the body’s bioluminescence.

- This could be a metabolic cause of the cancer, because it is affecting the quality of the “active substance” of the cellular biolaser (Semiconductor Molecular Complex. SMC), and implicitly is perturbing the emission of the “living light” (ultraweak/delayed bioluminescence). But, such a disturbance is implying a lot of specific connections, making that each type of cancer manifests specifically.

In this way – taking into consideration only one of so many possible explanations (screenplay) from BLT’s perspective – it could be considered that a metabolic cause is involving the Electro-Magnetic cellular processes. For example: “The idea that a tumour may be considered as a special type of mitochondrial dysfunction has recently drawn the attention of researchers,” notes Roland Van Wijk (p. 220). This aspect could be connected with the BLT’s hypothesis that – inside the cells – the biolaser emissions are generated by a piezoelectric effect, as follows:

- a bad respiration of the cells will affect the capacity of the molecular oxygen (avid of electrons) to absorb/capture enough from the free electrons present inside the cellular water, etc.;
- the increased quantity of electrons will implicitly amplify the intensity/energy of the cellular membranes, and especially will increase the effect of the cellular piezoelectricity, namely will deliver a bigger quantity of electrons and biophotons inside the cells;
- this phenomena will force the mitochondria to receive a bigger number of electrons, the cell will increase its dimensions and implicitly its bioluminescence/biophotonic emission;
- due to a (piezoelectric) increased number of biophotons, they are forcing their trapping inside the nuclear DNA, and this could perturb the DNA normal structure and functionality;
- finally, due to the increased energy of the electric potential of cellular membranes, the mechanism of the cellular division (the Pinch Effect) will intensify its manifestation; so, the cells will begin to divide uncontrolled, determining in this way the premise of the cancerous tumour’s apparition.

- The same mechanism of generating cancerous cells happens if the electric and/or magnetic field of the cell is abnormally amplified, because of different causes such as: a longer time of stay in a stronger electric or magnetic field; an intense electro-magnetic source emitting around the human body (a powerful antenna, for example), a telluric emission of the Hartman net source, cumulated for a longer time, an ionic emission of some sources of radiations, etc. The fields generated around the cells is becoming hyper-stimulatory for the human body, which will begin to divide and to grow super-normally its dimensions, and implicitly to increase their bioluminescence. The pressure of the dimensionally increased cells is determining another piezoelectric phenomenon, implicitly increasing the multiplication of the cells and their powerful bioluminescence, on the one hand, generating the sensation of pain, on the other hand.

In conclusion, the consequences of the increased electric or magnetic potential of the cellular membranes are the following:

- the membranous and cytoplasmic liquid crystal structures are abnormally stimulated/pressed – by a certain substantial saturation (generated by a certain medication or by other nutritional substances, for example) by a mechanical pressure, by some external (bio)electro-magnetic wave refraction inside the cell (strong emission of the natural light) etc. – by initializing a new chain of reaction (new
flaxes of electrons and biophotons, namely fluxes of energy and information);
- these fluxes will be partially stocked inside the cellular mitochondria (the electrons) and partially stocked inside the nuclear DNA (the biophotons);
- these traps of energy and information are naturally delivering for maintain the human metabolism or for regaining the human health, when necessary;
- but, if due to some different dysfunctional causes, mitochondrial resources will be uncontrollably charged and delivered, the organism will become step by step hyperenergized, determining – as I already explained – a cancerous situation.

• The last aspect is essentially connected to biophotonics, to BLT’s hypotheses namely, sustaining that all these causes could determine the hyper-luminescence observed in the case of a cancerous tumour, considered as an illness of energetic YANG type, in the Chinese medicine. In this way, functionally speaking, from a biophotonic point of view, another cause of the cancer is representing the influence of some informational-field, determined by a strong psycho-emotional cause.13

In fact, having in mind the hypothesis of already 1920’s years that “cancer may be labelled as an electromagnetic disturbance of the cell” (Wijk, 2014: 225), all the cases of cancer could be cured by involving two EM therapeutic principles:

(a) the opposite are curing the opposites, by a bioresonance phenomenon, namely by an allopathic therapy (such as the biochemical radiation) able to cancel the cancer’s cause or/and effects by an opposite type of therapy; for example, to annihilate the parasites able to determine a cancer semiosis by their extreme multiplication, it’s enough to generate an opposite frequency able to inhibit their growth, their transparency against light etc.;
(b) similia similibur curantur, the principle of homeopathy (belonging to the alternative medicine), considering that we must generate by the same frequency a type of wave resonant with the organism source able to amplify its defence reaction.

In other terms, we could conclude once again that the junction between the two alternatives of curing is defining the necessity of the actual Integrated Medicine.

From Bioelectromagnetism to the Photon Field Concept
This chapter of Roeland van Wijk’s book is referring to four essential aspects:

1. The passing from general physical field to the biophotonic field represents a very normal process of human knowledge evolution, passing from the physical nature to the biological one. As the author is presenting, the process of growth and of the structural replacement of tissues is essentially connected to the presence in the living body of an electrodynamic field (pp. 225; 228–240), having an electromotive force, when the electrons are somehow activated inside a conductor system.

This field was studied especially starting from 1950 and considered by Harold Burr as being a “L(ife)-field” or by Robert Baker as being a “Life Electrical Pattern,” infirming the conviction of 1920’s scientists that “life is in any sense electrical” (Wijk, 2014: 240).

In BLT’s terms, this very specific conductor system is represented by:
- the chain of linked cells, implicitly containing in its membranes and cytoplasm a very rich source of electrons;
- this source is electrically activated, delivering the electric potential of the body energy (permanently enriched by food, respiration and other type of energetic changes which the organism is sustaining, as an open system), by:
  • the natural mechanism of piezo-electricity, due to the presence of light/photons inside the body (coming inside the body by the “eyes” gate, or by the whole skin, when we are naked or exposing the body to sun, for example);
  • by different types of mechanical pressures, which are piezo-electrically exciting the body, starting with our position in a physical medium or on a physical support (such as earth, air/wind, water, or lying in a bed, etc.)14 till the connection with our clothes or till the therapeutic strategies such as massage, press-puncture etc.

We should be precise that around the cellular chain, considered as being an electrical conductor, is necessarily a magnetic (bio)field, which will envelop the cellular conductor, by representing what the oriental medicine is naming prana, chi, ki etc., or the “life force” of the homeopathy. This magnetic field responsible for many scientifically unexplained effects, such as the plasmatic-effect, involving the cells’ multiplication, the auric field genesis, the body holographic structure (part staying for the wholeness), the cerebral transmission of information and cellular (bio)communication etc.

These phenomena, involving the energetic Electric and Magnetic (Electro-Magnetic) properties of the body, are also doubled – as we BLT postulates – by:
- the Substantial (biochemical/metabolic) aspects previously mentioned;

13 For example, the New German Medicine of Dr. Hammer is sustaining that the cancer is determined by a strong cerebral tension, due to a strong trauma, connected to a specific organ. The disappearing of the tension enough quickly will cure the illness, by interrupting the action of the dysfunctional stimuli.

14 This complex mechanism is explaining the huge quantity of metabolic energy which the human body needs daily for its surviving. Lacking this natural mechanism, living in imponderability for example, could affect essentially the source of energy of human body.
the Informational (photonic) phenomena, such as the
long ignored penetration of the light inside the cell,
through the membranous liquid crystal structure, pos-
tulated by BLT since 1993 and recently recognized/ studied by Mae Wan Ho [1998], having optical proper-
ties: reflection and refraction, birefringence and rota-
tory magnetic dispersion etc.)

In conclusion, we could consider that a very complex
connection of BEMPh phenomena are explaining the
synergy of human body Substantial and Energetic, Field/
Vibratory and Informational processes of life. Starting from
such an implicit premise, it is already simple to assume the
other contributions of the book, concerning:

2. The biological semiconductor concept is presenting the
history of semiconduction and the difficulty of their biologi-
cal assumption, how it passed from a “laboratory curiosity” to
an effective use. In fact, the BLT hypotheses of the “biolaser”
system postulated by Popp a.o. are involving for the first time
as a Molecular Semiconductor Complex (MSC) for explaining:
- the structure of the “biological laser” active substance,
functioning as a complex donor and acceptor of elec-
trons, of (bio)photons etc.;
- the mechanism of ultra-weak bio-luminescence trans-
mission (semiconduction) of biophotons inside the cell.

3. The electromagnetic biofield of life is asking how (in)visible
light is involved in biological life. What is “the role of
external environmental electromagnetic fields on the vital
activity of the organisms,” for the “electromagnetic regu-
lation” at the most diverse levels of organization in the
organism, from the molecular level to the organism as a
whole (Wijk, 2014: 269). This mechanism is extensively
explained by the biophotonic process of the “Light’s Meta-
morphoses” from visible to invisible range (UV), from
natural state to laser emission (“living light”).

4. Revival of the photon field concept. To explain such meta-
morphoses, Roeland van Wijk’s information concerning
Popp’s interdisciplinary team contributions (by using a
very efficient device of photomultiplier tube connected to
a photocounter) are very precious, starting from under-
standing how a “PI” metastable electron is working in a
quantum frame (such the molecular CSL) till the coherent
storage and (re)emission of (bio)photons, depending on the
external conditions, influences etc.

In this way, I could mention here an amazing international
and interdisciplinary experiment realized at Neuss (2003),
concerning such an influence. The experiment15 proved that
after a normal (spontaneous) emission of bioluminescence,
a sample of lichen stimulated by my hands increased evidently
the quantity of emitted biophotons [Stanciulescu, 2003: 259–
269]. It seems clear that it is the ‘Vital Force’ as biolumi-
nescent field of the human body that stimulated such an effect.16

Such an interdependence relationship between human
and plant bioluminescence has a 2-fold importance for ho-
meopathic therapy: a) to know that the presence of the
therapist can influence the state of the patient in a certain
way; b) to avoid interference between the human biofield and
the remedy’s wave information.

Improving Understanding of Application of the (BIO)
Photonic Field Concept in Health and Disease

In this last chapter of the book, the author is passing from
history of theoretical research results to the applicative ones,
in medicine especially, suggesting the necessity of a “unique
integrative language.” In this way, the book is presenting
some essential aspects, such as:

- The correspondence between (bio)photon emission and
tumour is a subject already assumed, but correlated – in
this context – with the process of trapping biophotons.
Among other aspects taken into consideration, Roeland
van Wijk is mentioning the (bio)photon storage in tumour
biology, the experiment cell model and the molecular
sources of biophotons and the delayed luminescence etc.,
writing that: “To study the photon trapping in tumour
development (including cell lines with different degrees of
differentiation) must be available in order to estimate
photon storage within cell while utilizing the excitation
of the cell’s photon stores vis-à-vis artificially illuminating
the cells” (p. 303).

One of the most exciting problems connected to these
aspects is the (bio)photon storage in DNA. It is already
known that “the DNA molecules are luminescent material”
(p. 315), but some aspects connected to this problem are
still ignored, being assumed by BLT’s hypothesis as follows:
- the source of biophotons is represented by the mole-
cules of the cytoplasm or by different cellular structural
component, such as rhodopsin disks of the rode/cone
cells of the eye), excited by the piezoelectric effect of the
electrons and (bio)photons beams, penetrating inside the
cells;
- according to BLT model, as already postulate, this
excitation will generate a strong chain-reaction, by
delivering further electrons and biophotons, trapped
inside the mitochondria and the DNA molecules;
- the DNA molecule is a liquid crystal type of structure, able
to stock the fluxes of biophotons due to Dicke’s trap effect:
  - the photons are penetrating inside the DNA helicoi-
dal chain and cannot anymore get out naturally

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15 This experiment was realized using the statistic photo-counter
technology of the International Institute of Biophysics, Neuss
(Germany), in cooperation with the biophysicist Prof.
Dr. Rajendra Bajpai (India), on August 30, 2003.

16 A very important detail, known only by me, is that all during the
stimulation (5 minutes, from about 10 cm distance) I focused
my mind positively towards the sample of lichen, by “loving” it and by
“asking” to sensibly increase its “vital force.” Throughout this
process, I had in mind the presence of the “universal field of energy-
information,” praying for my “transformation” into a good
“channel” for it, as happened in some other situations too
[see figure 2b]. As a conclusion in the context of our biopho-
tonic/homeopathic topic, it is essential to know that – as therapists
or as patients too – first we must optimize our state of
consciousness, our soul and state of mind, to obtain the body’s
best answer.
because the length-wave of the bioelectromagnetic waves penetrated inside (and implicitly biophotons) is bigger as the distance between DNA catena (generating a type of Faraday cage);

- for being delivered, it is necessary that the DNA’s captured waves be stimulated by different other (bio)luminescent sources (natural or artificial, such as brain stimulating activity, meditation or pray, etc.), increasing their amplitude;
- implicitly, in this way, the waves are increasing their power to crush the trap of the DNA cage, for getting out as a “delayed ultraweak bioluminescence” (as a stimulated and coherent laser light), as Popp and Li postulated (Wijk, 2014: 316).

According to the properties of DNA’s informational trapped waves, this type of delivery and diffusion is defining the mechanism able to communicate to the whole body the health or illnesses data, by transforming the excitons – which DNA are generating (by absorbing visible biophotons) – into solitons, namely into “waves of translation” able to transmit the DNA data along the whole body, by a (hologram) resonance effect (pp. 328–329).

- Such biophoton field aspects were studied especially after 1990, for understanding the older phenomena of embryogenesis into the terms of Fourier spectra (Belousov), sustaining the organism biocommunication etc.

In synthesis, as our biophotonic model is already postulating, to be alive and healthy is supposing to have a correct metabolism of the “living light” – such as dialectic of excitons and solitons transduction – and to be correctly transparent to light.

Having in mind the mechanism of weak external magnetic field of the cells – determined by the presence of their electric membranous field (able to add a specific type of information) – we could mention once again the essential role of the cellular liquid crystals, assuring – by the optical functions of the organism to the “living light” (transparency first) – the state of human health implicitly.

- To control the human biophoton emission in health and disease is representing the most important practical conclusion of the book. By the connection of empirical research, by using the high level photobiotechnological technology (used by Popp, Kobayashi and others), and/or bioresonance devices (Korotkov, Nesterov a.o.), doubled by an adequate (biophotonic) theory, it becomes possible to use therapeutically the old intuition of “an envelope of radiation surrounding human organism” (Dobrin).

Such a premise is already involving the interdisciplinary connection of world researches, by using the ultra-weak emission of light which could have an optimizing (homeopathic) effect, both used in an endogenous and exogenous way.

Transforming in this way the human being in a living measure of its own frame of life, having the “living light” as an essential nucleus, able to become a bridge between the western and the oriental medicine, between allopathic and complementary INTEGRATIVE MEDICINE.

As a general conclusion of this unconventional review-study, I could affirm that the book of Roeland Van Wijk is essential trial for opening the human mind – intuitively and rationally both – to some complementary aspects, namely:

- Physically, for coherently presenting the premises of biophotonics, whose (un)conventional explanations (by BLT and bPTEI implicitly) are generating an amazing biological image/modelling of the human body, of its structure and functioning, of its health and illness, by involving the resources of an Integrated Medicine.
- Metaphysically, by understanding that we came in this life for incarnating the spirit and for spiritualizing its body… By increasing in frequency the “living light” levels of the substantial corps, of the emotional soul and of the spiritual mind through a lightly coherent unity, which – for the first time in human history maybe – became able to be rationally assumed and valorised.

Unifying the Sky and the Earth, the “[bio]light” of the soul and the “clay” of the body, the human “LIVING LIGHT,” integrative rediscovered.

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