

Biophotons: A Reality to Investigate. Definition of their Existence and Probability of their Actual Pathogenic and Therapeutic Ability

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Received: February 21, 2018; **Published:** March 01, 2018

According to the general definition of the physical order, any living body or tissue emits luminous radiations, hence “photonic”. This general concept belongs to the phenomenon of entropy.

In classic thermodynamics, specifically in the first field where entropy is introduced, S is a state function of an equilibrated thermodynamic system. The indisposition of a system to produce work, after being quantified, is introduced to the second principle of thermodynamics along with S.

Based on this definition, it is possible to say - with a barely accurate yet explicative approach - that whenever a system changes from an ordered state of equilibrium to a disordered one, its entropy intensifies. This process provides information about the direction in which the system spontaneously evolves.

From this universal point of view, the biophoton is (or would be) an information carrier particle of light, necessarily comparable - or identical - to a laser radiation.

Fritz Alfred Popp [1], known worldwide and major expert on matter, assumes that these particles regulate the growth and regeneration of cells and can also control all their biochemical processes. Nonetheless, to today, biophotons represent a huge and fascinating mystery beyond the bounds of science fiction. Although, boundaries in science are meant to be crossed. For this matter, this reality carries within itself two contrary - as well as complementary - theories or interpretations : the undulatory theory - which is founded on the laws of waves - and the corpuscular theory - based on the laws of physics of particles. A first approach to this research was made in 1922 by the Russian biologist Alexander Gurwitsch, who was the first to ingeniously theorize the presence of photons produced by organisms (from that day baptized “biophotons”). Gurwitsch concluded that biophotons necessarily belonged to the wavelength region of the ultraviolet rays.

The scarcity of available equipment, the period in which he evaluated this theory, the controversies that followed Gurwitsch’s experiments, imposed wariness to the scientific world of those days. It would have been dangerous to confirm that the ultraviolet waves might have been responsible for the cellular mitotic cycles described by the Russian biologist. Although, the anticipatory vision of Gurwitsch set in motion a long series of research and heuristic hypothesis regarding the Biophoton Theory that extended for decades. During these years the Italian biologist Protti conducted important and unique studies on blood and cancerous tissues, noticing that “the emission of biophotons was directly proportional to the vitality of the observed individual. Furthermore, he found that in presence of leukemia, the emission of biophotons in blood would decrease exponentially. Consequently, the oncolytic ability of blood - which allows the body to fight cancerous cells - was proportional to the number of emitted photons”.

By following this thesis, it is important to make a general consideration : the phenomenon in question must be observed as a primary epigenetic process. Therefore, biophotons represent the environmental energy or, as Einstein defined it, a “Unified Field Theory” which represents the only force able to change the matter.

Nowadays, research in the USA have demonstrated that the cutaneous points - which correspond to the acupuncture points - are able to emit more biophotons than any other point of the skin. Substantially, the needle employed (normally coppered or made of strong conductive metal) represents an excellent electromagnetic conductor and therefore creates a circuit of conduction of the body's bioelectrical energetic signal. The latter is oriented in a certain direction or is inhibited to proceed towards the SNC nervous centers, like in the case of the nociceptive signal.

Hence, the primary objective is to acknowledge the function of the "Biophoton Phenomenon" as an agent in the physiologic and pathologic biological process. At the present time, this acknowledgment - if confirmed with certainty - could be exploited in the pharmacopeia field, granting the production of medicines targeted to specific pathologies.

The epigenetic reality moves towards the identification of the processes - still widely unknown - of how this phenomenon acts and which vibrational modalities it works with.

One of the enigmas, which is probably the most fascinating, concerns the cancerous process: which are the frequencies responsible of a biophotonic transmission carrying a "different" information compared with the mitotic cycle of a cell? Originally, it could be about a message coming from the environment causing a set of energetic frequency to be in contrast - hence "negative" - which could generate anomalies in the reception and re-transmission of the message within the cell. The message would be transmitted and received from the cellular system in a dystonic way with the elaborative capacity of cellular receptors, causing an altered photonic emission. The consequent organic response to this would be an altered emission of bi-photonic particles which would generate a waterfall-effect to tissues and organs. The property of tumors is of particular interest - insofar as it is the center of a heightened cellular reproduction - for its capability to emit a great number of biophotons. The potential response to the dislocation of tumoral metastasis in target organs - even if anatomically distant from the breeding ground of the tumour - doesn't have to be necessarily linked to the hematic flow possibly carrying altered cells, but it should be rather related to a transmission of energetic order to cells having similar receptive correspondence.

The same process, if observed from a preventive view, could diagnose with wide anticipation the potential neoplastic paths by supervising the biophotonic activity of particular and general anatomic regions without centralizing the attention in those regions in which a particular incidence of the energetic activity is manifested.

If we turn our attention to the external part of the organism - hence the environment surrounding the body - we could determine the incident factors as "altering transmissions" as they're assimilated receptively in a measure that goes beyond the region of receivable frequencies of the cell, excluding any alteration of it.

The range and the resonance of these frequencies are yet to be defined. As for now, research is focused - even if indirectly - on the identifiable chemical gradients with the difference of the membrane potential which is a frequency that derives from the environment that could alter the cell's state. This could originate the continuative process of pathological nature.

Furthermore, the equation involves the memory, hence hippocampus and - in general - the limbic system action. On a therapeutic level, this energetic reality opens new perspectives. The general chemotherapeutic action would receive an absolute innovative input, shifting the center line from a general action - causing high collateral effects - to a method uniquely targeted to operate on a tight spectrum of elements regarding the components that generate the altered quantity of biophotons.

The integral psychotherapeutic could be considered another approach, with an ensemble of operative elements which act to rebalance the energetic activity of the cell and, therefore, conduct the proper ability to communicate. The elements of this set of phenomena that are still unknown, lead to believe that a new threshold to the epigenetic of oncologic pathologies should be beyond feasible in a very short time, but more generically practicable on a wide range of pathologies.

The generalized phlogistic states - inducted by persistent stress conditions by influencing the biophotons dynamics, could be the key to the understanding of autoimmune pathologies. Crohn's disease can be included in autoimmune illnesses. Specifically, there are proofs of a genetic predisposition for this illness and this leads to consider that individuals having Chron's ill siblings are more likely to suffer from it. Crohn's disease tends to appear in adolescents and people in their twenties, with high incidents on people between their fifties and sixties, even though the illness could manifest itself anytime. This fact - contrarily to the fake myth of the inevitability of the onset of hereditary diseases - implies that these pathologies find their way uniquely because of an environmental alteration, which could induct a different production of photonic energy promoting a intercellular transmission of false or superior information compared to the physiological ones.

In conclusion, in case of Chron's disease, the photonic transmission could lead to partly attack and neutralize its own immune system which is considered aggressive. Equally, degenerative diseases in charge of the SNC could have, finally, the same etiology from an epigenetic view. The nervous system transmission is a neurotransmitters passage which inducts a continuous difference of potential between the pre-synaptic and post-synaptic interspace.

The ability of a neuron to "transmit" or spread a flux of neurotransmitters it is completely similar to the energetic transmission among different cells. In the vesicles of the synaptic terminations where the substances are accumulated, the liberation of the latters is due to the rhythmic opening of the vesicles when chemical gradients arrive to a conductance threshold, which leads to the closure of an electric circuit. In this way, the vesicles discharge their potential that leads to a muscular fibre contraction or to the activation of a neuron belonging to a more complex network.

All the above mentioned, happens thanks to an energetic translocation. In order to fully understand this dynamic, it is necessary to turn to the Einstein's theory of quantum physics, which defines the emission of a share of energy from a cell as a continuous process. As specified at the very beginning on a thermodynamic perspective, this leads to the energetic exchange with the environment in an entropic process which brings to life to a give/receive process inferior to 1 (< 1). The biphotonic process is probably not in line with the laws of Joule thermodynamics, and even not being thoroughly studied, it could still represent a turning point compared to the dominant laws of classic physics.

What appears to be as a major manifestation of biophotonic transmission/emission in the pathologic state of cells, occurs in the same way of phlogistic, neural degenerative or cancerous states.

According to Popp's latest discoveries, the theory presented by Gurwitsch - who identified on a theoretical level biophotons emission within an ultraviolet spectrum - could be confirmed.

The spectrum frequencies vary in proximity of 380 - 200 nm and 200 - 10 nm. Being a matter of electromagnetic transmission, the latters could have a higher frequency or be subjected to variations depending on the cellular typology and besides the visible spectrum. Investigating on this research could change radically the approach on diseases. Receptors function would be considered more complex and their equivalent circuits richer in possibilities compared to the ones we imagine and know existence of.

The biophotonic communication could be the actual force moving cytokines in their "uniquely chemical" communication between cells and organs. According to our lifestyle, the epigenetic level with which we interpret the environment, finds in the energetic communication - discussed until now - a primary force that must be discovered thanks to the most modern technologies we have. Substantially, the matter is about luminous emissions but, as Riccardo Lautizzi affirms: "The intensity of this light surely is extremely low, and it is comparable to a candle laid out at 20 kilometers of distance...". But the primary feature of this emission is its unique ability to transmit information. It is not about a chaotic irradiation, on the contrary it is formed by a stable vibrational reality similar to lasers. What has to be taken into account is that, as a further step, our knowledge regarding our DNA composition and genetic code are insufficient to understand the complex process of metabolic paths [2-6].

In this, the classic chemistry is not is not sufficient. Further investigation about the biological electromagnetism is required, and - along with it - the ability to transmit information coming from within and the outside world. Our certainty is that the Mind is the resulting dynamics of this connection and the synthesis of this dialogue from which the human behavior comes out, expressible through this general equation $C = \Rightarrow (E m) \times t$.

The upcoming research will, hopefully, create the basis to another understanding of this essay, opening new fascinating grounds of knowledge to preventive and therapeutic procedures in a near future.

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Volume 7 Issue 4 April 2018

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