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Emotional States and Heart Function

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Abstract

Biological and mental life should be considered not only in biochemical terms but also in bioelectronic and informational terms, because mental effects depend to a large extent on the information transmitted rather than on the amount of energy. The biochemical model explains the mechanisms of mental life in an intricate way. He still cannot explain what the transition from inanimate matter to animate matter is all about. Where is the threshold, and what is its essence? What role do biochemical processes play in the consistency of soma with consciousness, and what is their effect on soma and vice *versa*? A similar problem exists with other mental processes: their nature does not fit within the biochemical model of life and is inexplicable in terms of biochemical interactions, but it is much easier to describe them in the light of quantum processes, including wave physics [1]. Beyond the traditional, well-known chemical reactions, a new reality is opening up, based on a bioelectronic model of life. In this model, the human body is understood as an electronic integrated circuit composed of piezoelectric, pyroelectric, and semiconductors, with a biochemical, bioelectronic, informational, and biocybernetic structure. In psychology, a holographic bioelectronic interpretation of memory is adopted. Biochemistry does not provide a basis for a full explanation of this phenomenon because, in most cases, biochemical processes are not capable of emitting coherent (laser) light, which is needed for holography (DNA). This role is taken over by quantum processes resulting from the bioelectronic properties of the biological system. Cell death, regeneration, and wound healing, among other methods, cannot be understood based on chemical reactions alone without field interactions. The occurrence of neuro-melanin in some parts of the brain is also puzzling, which also has biological meaning in biochemical criteria, and is of great importance in the sense of bioelectronic processes that are co-responsible for human mental functions [2-4]. By shifting the cognitive emphasis to the energy and information structures of cells of various organs, such as the heart and brain, the organism can be seen as a quantum generator of electromagnetic, acoustic, soliton, spin, and bioplasmic information. The action of solitons and spins in the human biological system is the basis for perceiving psychobiological processes in a light different from what is currently understood in biology, psychology and medicine. Spin and soliton waves create a different picture of the world than the electromagnetic wave received by the visual receptor. For example, solitons generated in the heart are responsible for the electrical activity of the heart and the emotional states of the person, related to the

electromagnetic wave field of the brain. Unfortunately, in modern biology, medicine and psychobiology, there is no place for solitons as waves and spin fields, which are the subject of quantum-physics.

Keywords: Cardiac electricity; mental processes; soliton waves; acoustic waves; spin waves; electric field.

2. Psychic life in the bioelectronic paradigm

Human life is not only a matter of biology and biochemistry, but also a bioelectronic-cybernetic-informational construct that affects health, disease, and human behavior. This bioelectronic construction creates the Homo-Electronicus Concept [5]. along with its electronic personality. The electronic model of life was developed based on data from the field of research on the physical and bio-electronic properties of specific biological structures (proteins, DNA, RNA, bones, etc.) [6]. The human biological system, in addition to biochemical pathways, also uses quantum information transmission via electromagnetic, acoustic, and soliton waves, spin fields, and bioplasma. Researching the electronic properties of biological structures has shown:

piezoelectricity and pyroelectricity for proteins, collagen, keratin, elastin, myosin [7,8], a dye important for the body -melanin- [9,10]. semiconductivity of proteins, muscle fibers [11], superconductivity in cholesterol and lysosomes; Ultraviolet emission during mitosis emission of phonons in an organic piezoelectric during electrostriction; [12], According to Fritz-Albert Popp's concept, the function of DNA is based on a "laser system", that is, DNA generates coherent light. The action of the laser on DNA is used to: coherent light generation formation of Bose-Einstein condensate and generation of solitons pumping spins and other elementary particles into the bioplasma, maintaining the coherence and continuity of conscious states, absorption of solitons from space, which are necessary for the formation of images conscious and unconscious embraced beyond sensory perception.

2.1. In bioelectronics, it is currently used to build a quantum computer and, at the same time, becomes an element of the Cosmos and a carrier for solitons, along with a multitude of related phenomena of quantum mechanics. The loss of bioplasma and condensate functionality in the human nervous and cellular systems is associated with the loss of continuity in the organism's systemic bioelectronic activity and self-awareness, which always occurs upon the organism's death. After the death of the human body, the information stored in the body's quantum solitons about the perceptual and mental impressions experienced during life dissipates and passes into the Galactic Quantum Information located in the surrounding particles and the universe. In the view of the Holy Memory of the passed, Prof. Janusz Sławiński, Doctor Honoris Causa of the Catholic University of Lublin. With the death of the organism, there is a necrotic emission of light into the Cosmos that carries the entire history of human life from its ontogeny." Reasonably, special conditions are required for the formation of the B-E condensate: in the classic view of this natural phenomenon, there must be nerve superconductivity, a very low temperature, laser or micro-laser interaction, which is an element of the functioning of each DNA, etc. Condensate merges atoms around each other into a single whole; these atoms move at the same speed and exhibit vibrations of the same frequency. Such information causes them to become whole and capable of creating and initiating the degradation of biochemical compounds in organisms and energy, as in neurons, necessary for the functioning of organs, including the heart, muscles, and brain, in any human organism. The resulting Micro-Laser Waves in DNA and the high concentration of energetic particles in the biological, predominantly neuronal, Bose–Einstein condensate affect the formation of multidimensional solitons, because the variety of soliton densities in the Universe is infinite [13].

2.2. Mental development refers to changes in the system of behavior and psyche. Changes in human ontogeny can be quantitative and qualitative. Quantitative changes refer to changes in the dimensions of mental phenomena and behavioral processes, but do not violate their internal organization and complex structure. Qualitative changes mean transformations of internal organization, structures of mental activities and behaviors, that is, they tell the emergence of qualitatively new characters [14].

2.3. In bioecological terms, the organism and the environment are inseparable elements of a given ecosystem that should be studied together. Therefore, the environment should not be understood as a set of physical elements, but as having specific, objective properties directly related to the needs of a given organism. Ecological psychology understands mental development as a "Person-Environment" relationship in an ecosystem. Man, and the environment interact and shape each other [5]. This means a systemic and dynamic approach to man and the environment, and the relationship between them. The development of a person is manifested in taking on new roles and occupying new positions in new circles of the climate, differentiating it and enriching the relationships in which he enters into with it, as well as in the activity of an individual oriented towards the environment aimed at maintaining it or changing the formal and substantive structure of the environment [5,15,16]. In a comparative analysis of ecological psychology and the electromagnetic theory of life, it should be noted that the basic term in Gibson's environmental approach is ecosystem. He defines this term as a primordial and natural whole co-created by a living being and its environment. The organization of an ecosystem is manifested in the mutual dynamic interdependence and suitability of its constituent parts (a living being and its environment) in their mutual participation in the transaction of energy. Sedlak thinks that "life" forms an electromagnetically coordinated whole, despite the multiplicity of functions and diversity; life at every stage of its development is a functional whole. It is a system of individual electronic, biochemical, and molecular episodes, but always a system that occurs as a whole, reacts as a system, and develops as a team [17].

The above observations allow us to assume that the psyche tunes energetically and informationally to the surrounding universe and is mainly based on bioelectronic processes, which are also supposed to be the constructors of mental processes. In this approach, ***mental life*** would be understood as: ***Energy and information state of the body.*** It results from the coupled interactions among electron, acoustic, electromagnetic, soliton, and spin waves in an integrated, metabolically powered biological system.

3. A soliton picture of the functioning of the biological system and the universe

In physics and mathematics, a soliton is a solitary wave caused by nonlinear effects in matter. It can be thought of as a shifting increase (or decrease) in the density of matter. Such waves can propagate in very different media and are known for their stability. Once aroused, the soliton travels, without changing shape, over a long distance. When it encounters an obstacle on the way, it overcomes it and returns to its original shape after colliding with its wave [18,19]. A soliton, unlike linear waves, does not change its speed or shape when it interacts with another soliton. A nonlinear wave is characterized by the fact that it does not satisfy the superposition principle, and its propagation speed depends on the amplitude. It turned out that nonlinearity and dispersion are responsible for the existence of these waves [20]. John Scott Russell encountered this type of phenomenon in 1834 on the Union Canal in Great Britain. Russell called his discovery a soliton, meaning "lonely wave," thereby initiating the physics of solitons. The generation of solitons takes place in nonlinear optical media, on water, in air, in solar plasma, in lines in Josephson junctions, fiber optic junctions, in Bose-Einstein condensate, but also in the human biological system such as: in the sense of sight, hearing, DNA, heart,

etc. [21-25]. Solitons are co-responsible for the proper functioning of the biological cell. The human biological system can generate and receive soliton fields, which play an active role in human life and determine health, illness, and personality development. The movement of solitons is influenced by the density and thickness of the biological membrane in the cell [26] as it determines the magnitude of the piezoelectric, pyroelectric, and ferroelectric effects with which the electric field interacts with soliton flows [22,24,27,28]. Solitons require the presence of a physical environment as an information carrier, so they cannot propagate in a vacuum, which is not required by other elementary particles [29].

3.1. Solitons and the mystery of the universe

Valuable information obtained by the ESA's CLUSTER Soliton Wave Study programme in space has proven the existence of solitons in space. According to Our Thesis, the Universe, both the subatomic "microcosm" and the entire "macrocosm" universe, operates according to wave-soliton quantum mechanics.

4. The electric field in the human biological system is a carrier of solitons, which have the primary information called "ingenesis" in them. Ingenesis programs are quantized and create all stages of development, the cell, the organism, the biosphere, and the cosmos of that organism. On Earth, water molecules also carry this information [7]. Soliton paintings can carry our emotional states, thoughts, or behavioral patterns as archetypes. The obtained soliton image from the Cosmos by the bioplasm is evaluated and compared with its own pattern, then corrected and used to create a unique specificity of the organism, with its full energetic and informational characteristics regarding its personality structure, age, state of health, disease, or way of thinking. The transmission of soliton signals takes place not only in biological structures but also in the psychic and spiritual spheres. Neurons that generate soliton waves are found in every living human organism and are responsible for the circulation of semantic messages, experienced in thoughts, dreams, and imaginations in waking life because we are a tiny particle of the universe [23]. The soliton image and energy of the Cosmos significantly influence the development of human mental processes and social life. Solitons, as independent neural energetic entities, form the structure of the unconscious, where life programs are located and where our emotional life centers. ***The unconscious is irrational; it is guided by instinct and does not show the principles of logic.*** It is the kingdom of illogicality. It has the characteristics of an archaic deity who ruthlessly and severely punishes all manifestations of disobedience [30]. ***The task of consciousness is to grasp reality and control thoughts and emotions intelligently.*** In the unconscious, there is no distinction between good and evil; everything is realized as a wish of the heart. The unconscious transmits its content to us through images, symbols, and figures, e.g., in dreams, ascetic practices such as fasting and sensory deprivation, and dances that induce ecstasy. The unconscious is reflected in archetypes. Archetypal content, apart from their cultural or individual "make-up" through which they express themselves, is the same everywhere, regardless of the place and people we examine. Science does not provide an answer to this phenomenon. Why is it that the duplicate content of beliefs from a given myth is cultivated among indigenous peoples on many continents of the world, where these people have never had contact with each other and have not been able to pass on information to each other? It should be concluded that these processes are guided by solitons that contain different content, categories of varying scope, social relations, patterns of thinking, and acting. Our lives are largely unconscious, and we carry out pre-programmed roles. We are usually unaware of the workings of the unconscious. We often do not think about why we behave the way we do in a given situation. Why do we have such situations and not others? We assume that this is just the way it is, and this is the world. Meanwhile, behind this event is a set of programs situated in

the unconscious, inherited from relatives and ancestors, based on directives from the Cosmos [31]. Psychologist, Prof. N. Med. The psychiatrist and philosopher Jung believes that the unconscious contains non-temporal, indestructible processes; the idea of time does not apply to it. In the unconscious, time has nothing to do with how we perceive it in life. We are used to the linear arrangement of events. In the unconscious, it is impossible; everything can happen simultaneously, and anywhere, nothing can be destroyed, finished, or forgotten in it. It is archaic, sexual, and infantile. It has no logic [32]. According to the author, the unconscious is an informational state created by the systemic interactions of solitons in the Cosmos, superimposed on the infons received by the bioplasm. An infon is a photon with an infinite wavelength. A photon is an infon that moves at the speed of light [33,34]. **Consciousness, in Adamski's (2016) perspective, is a state of control over information by the bioplasm, resulting from mental and perceptual processes in humans [35].** Lorenz studied greylag geese and found that newly hatched geese followed the first moving object that appeared near them. Lorenz concluded that the birds he studied are born with a ready-made (innate) pattern of following a moving object within their vision when they leave their shells. Lorenz called this phenomenon "imprinting". The object was imprinted in a "blank space" in the pattern of the following, thereby awakening the geese's ability to walk. Under natural conditions, the imprinted object is the mother goose. The mechanism of imprinting, as Lorenz describes in his works, is not well understood in psychology. This researcher believes that in animals, a stimulus (object) is imprinted in the "space" of a genetically determined pattern, which influences a particular behavior [36]. According to this explanation, in humans under natural conditions, the imprinted object can be, for example, the mother's mimic reactions, basic emotions, various interpersonal and cultural reactions, as well as higher feelings. A mother pours love on her child and imprints it on the child's psyche. Failure to activate the innate pattern or to activate it to a limited extent leads to pathological states: orphan disease, psychopathy, neuroses, etc. Based on Lorenz's research, it can be assumed that innate instruction guided by solitons underlies the development of humans and other animals. They must exist for learning to take place. Reading the innate information is done in the mind and heart; it is an instruction about human behavior and their way of perceiving the world. The stimulus imprints the object into the structure of the pattern and stimulates innate knowledge to action. Algorithmic patterns are arranged according to the bioplasma pattern and are responsible for the biological system's activity and any reactions resulting from environmental influences. Innate knowledge closely correlates with events located in space and time, which synchronize with global phenomena, and these in turn affect human mental states. For Rev. Professor Sedlak, this model is bioplasm, and for Prof. Jung, archetypes. This problem began to be studied more closely, and it was found that there are many innate patterns of human behavior that, at the initial stage of development, direct the infant toward contact with people. For example, among tactile sensations, infants are attracted primarily to stimuli that reflect the texture of human skin [37]. The same is true of the process of speech: if the body did not have innate knowledge, speech in a child would develop over many years [38,39]. The main characteristic of innate behavioral mechanisms is the possession of information and knowledge that guide an individual's actions in a specific situation. For example, newborns less than a day old can imitate the faces of their caregivers. -e.g., a mother will show her language, and a one-day-old baby will do the same. There are no mirrors in the mother's womb, so newborns have never seen their faces before. How do they know that you have to pull your tongue out of your mouth when your mother does? To imitate, newborns need to understand somehow the similarity between the inner, kinesthetic sensation and the facial expression they see. A similar situation is when we play with a child – when you talk to a baby, the child freezes, when you interrupt,

he takes over the baton, and there is an explosion of cooing, wriggling his fists, and kicking his legs. What you can see is that two people are synchronizing their gestures, only towards each other and no one else. This constant synchronicity of movements develops the bond between these people [40]. The first inhalation in a child triggers the activation of the alveoli, which contain collagen and elastin fibers – these are piezoelectrics. The polarization of these bioelectronic structures releases an electric field that affects the abundance of bioplasma and also activates the sense of sight, which was significantly limited in the abdominal cavity. This first inhalation is an electronic shock for the Infant's Organism, treated as a complex biological system. During childbirth, the newborn transitions from oxygen supplied by the placenta to oxygen supplied by its own breathing. The partial pressure of oxygen in the arteries increases, causing oxygen shock and thus an increase in oxygen radicals. *This sudden increase in radical levels causes a change in the position of nuclear spins, which is associated with an increase in the spin wave, the quantum of which is a magnon.* Pumping magnons into the bioplasma causes the bioplasma to emit light and a powerful biological field that forms a strong bond with the mother's bioplasma. Through this field, the child and the mother form unity until the age of during this period, the child perceives the mother and himself as me. The child does not understand the phenomenon that the mother is a separate subject from him. In the 3rd year, the child begins to use the pronouns I" and, you, and this unity begins to fade. Previously, the child's mind perceived that the mother and child were one. Immediately after birth, the child perceives the world not only through perception, but above all through bioplasma patterns, solitons, and spin waves. The bioplasma glows, and its light reflects off the mother's body, forming the mother's image. The recorded information awakens a pattern of following and activates the mechanism of imitation, allowing the child to recreate the actions the mother performs. A wider range of research in this area will allow us to discover a new way to educate children. Based on numerous observations concerning the development of children in the first year of life, staying in care institutions (children deprived of individual care by their mother), many psycho-emotional disorders and social deviations were noticed in these children later in life. It has been shown that their cause is insufficient development of social bonds and a lack of appropriate stimuli during the critical period of brain development. With the help of a soliton wave, we can correct the information state of a biological cell. Solitons are barriers that limit the intensity of spin waves, resulting from free radicals in the biological system [23,41,42]. Soliton waves encode programs for the proper functioning of the cell and the maintenance of homeostasis, etc. Solitons can spread without distortion over very long distances and are the wisdom of the laws of the evolution of the Universe [29]. In living organisms, the spin wave works closely with the soliton wave, which carries programs for the proper functioning of the cell and the maintenance of homeostasis. **Homeostasis** is the maintenance of the human body's internal environment in balance with external conditions. Solitons are responsible for supplying the human body with the nutrients necessary for life by wave- and kinetic-based regulation of their absorption and penetration into cells at the cell membrane, including vitamins, minerals and salts, fatty acids, and amino acids. They regulate blood pH, osmotic pressure, and the partial pressures of carbon dioxide and oxygen. Solitons are responsible for the proper functioning of the biological cell and the entire human biological system – in DNA, the sense of sight and hearing, the heart, the lungs, etc. [22,23]. The high intensity of the spin wave disrupts the soliton's natural physiological activities and can lead to cell death. During endocytosis, the virus seeks to break hydrogen bonds between amino acids. Such a phenomenon decreases the ferroelectricity of elastin, resulting in disorders of cellular function [43]. It was one of the fatal causes of coronary and pulmonary disorders in COVID-19 patients. Free radicals can activate spins:

electrons, photons, other elementary particles, and atomic particles. Activating spins in a right- or left-handed spin motion is associated with the creation of a spin field, which causes vibrations. Diseased biological tissue contains an excess of damaging free radicals that generate a wide range of spin waves. During the breaking of amino acid bonds, free radicals are produced, and with them a spin wave appears, which affects changes in human biological and mental structures [44,41]. W. Sedlak [17] (1980) recognizes that the unifying factor of the biological system is bioplasma [45,46], and others hold that the Bose-Einstein condensate is responsible for the coherence of the biosystem. Bioplasma is a state of interconnected fields and particles in organic semiconductors, with electrically positive and negative charges interacting with each other. The battery of the bioplasma of organisms is a protein semiconductor, or a piezoelectric organic compound. The action of solitons and spins in the human biological system provides a basis for viewing psychobiological processes in a light different from that of biology, psychology, and medicine today. Spin and soliton waves present a different picture of the world from the electromagnetic wave received by the visual receptor. However, they are now commonly used in medical diagnostics as the waves recorded by ECG and EEG. It can be concluded that we are dealing with the second center, which shapes the picture of the world and is responsible for a person's psychophysical development, health, and disease. **In today's biology, medicine, and psychology,** there is no place for solitons and spin waves in the precise way quantum physics treats them, so many commonly used diagnostic phenomena in medicine (ECG, EEG) are studied and described only.

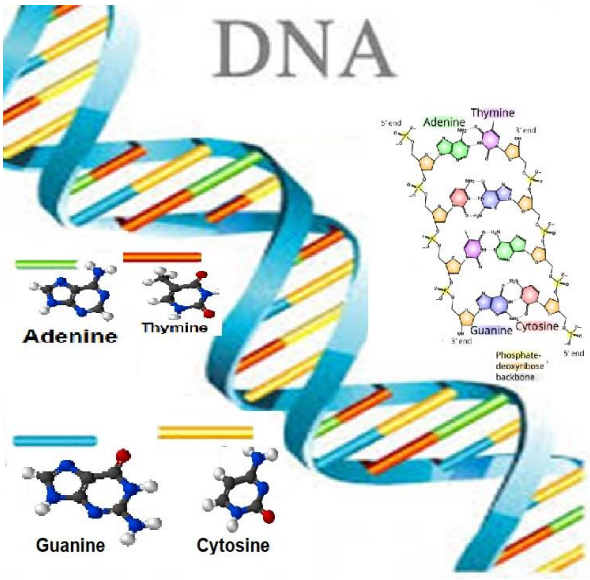

Figure 1: Anatomical structure of DNA

Figure 2: Emission of coherent light with DNA**.**

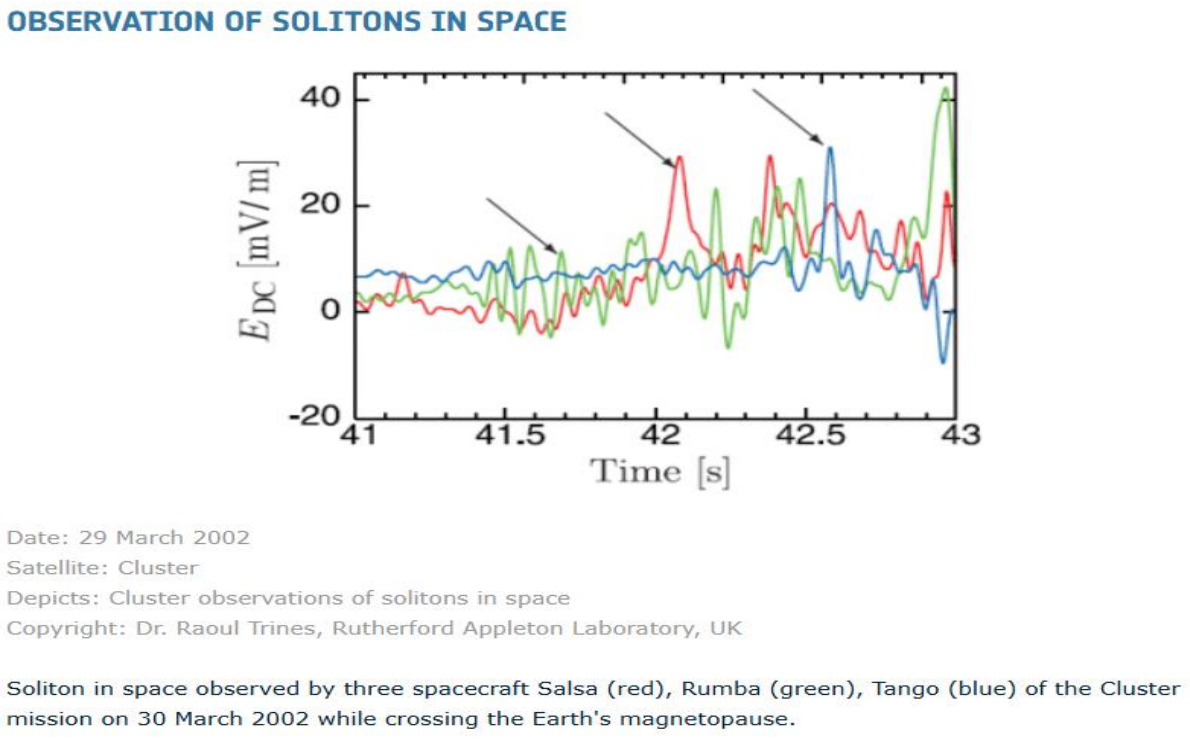

Figure 3: ESA CLUSTER Observations of solitons in space (Source: ESA)

Source: ESA https://sci.esa.int/web/cluster/-/42433-observation-of-solitons-in-space

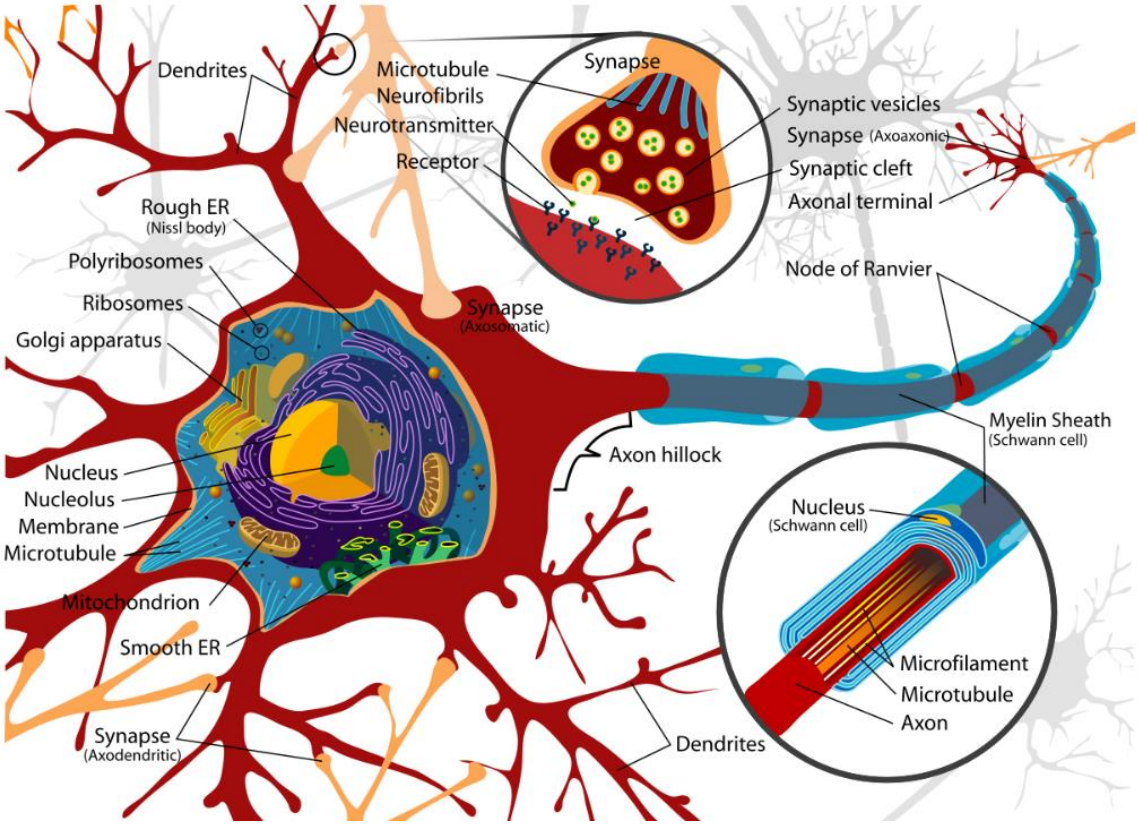

Figure 4: Microtubule network in the cytoskeleton of a neuron, WIKI Open Source

This picture was a candidate for **Picture of the Year 2007**.

This is a **featured picture** on Open-source Wikimedia Commons

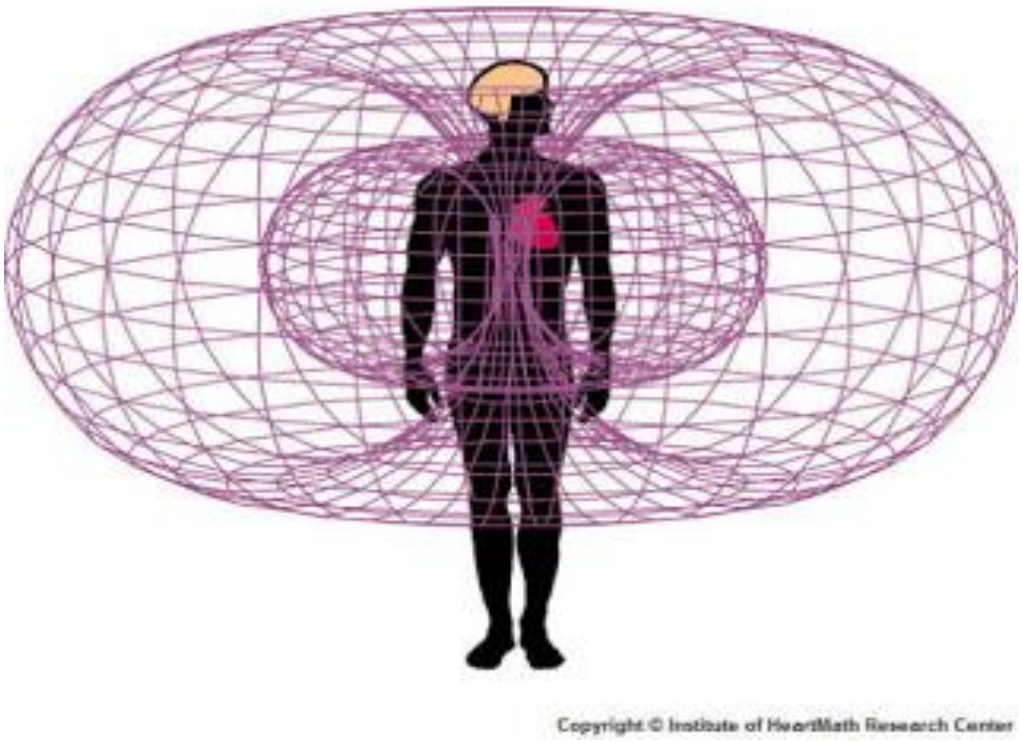

Figure 5: Human Heart Biofield

Source: Institute of HeartMath Research Center, https://www.heartmath.org/

5. Information and cybernetic system of action in a nervous cell

The brain's multi-level neural network connects modules. It has a holistic system for recognizing the hierarchy of information, and the highest global level of information connects to the act of consciousness. The cytoskeleton in the cell can dynamically change intracellular organization by reorganizing its network and information connections, and can also connect with neighboring cells. They can also be reconfigured. The main attribute of the cytoskeleton is its plasticity in allocating resources collectively, which is important for information processing. Signal processing in the cytoskeleton occurs so that the filamentous cytoskeletal structure assembles information into strings and data chains, much like. Microtubules act as channels that carry information strings and data chains, while protecting this information from interference and interrogation. A dynamic change in intracellular organization and the hierarchy of information determines the state of self-awareness or awareness of condensed information [47]. In Hameroff's view, synapses and neurons are distinguished by their high ability to perform parallel computation in microfilaments and microtubules, as well as throughout the entire cytoskeleton. The functioning of the cell should be considered in dynamic, not static, terms. The cytoskeleton can collectively process information at the molecular level within the biological cell and acts as a computer cluster. In science, many cluster models have been constructed to understand the functioning of the cytoskeleton, but they have not met the expected effects. Research shows that artificial neural networks cannot accurately map brain functions. Namely, the brain cannot accurately determine the hierarchy of

dynamically changing information, which it can handle. According to Hameroff and Penrose, microtubules and the cytoskeleton function as a microprocessor and should be considered cellular biocomputers [47-50]. A similar point of view is presented by Professor Ryszard Tadeusiewicz (AGH), who believes that extremely complex regulatory, cybernetic, and information processes take place at the level of a single cell. Information processing takes place outside the level of our consciousness. We have the right to say that there is a certain automatism at work here, which can be reproduced in artificial control systems. The processing of this information can be carried out using biocomputers installed within the structure of a biological cell [51-53]. Following the work of [54,55] can see that the electric field acts as a model that restores the biological system to its normal state—living organisms like this characteristic electric field, which is somehow woven into the organism's matter. All pathologies, anomalies, and injuries are represented by deviations from the norm in the field proper to a healthy human body, which can always be seen in heart and brain tests. Living organisms have a natural ability to compensate for the field and self-heal. In their structure, they contain deep electricity, which is involved in the organization and functioning of living organisms. However, it is an expensive form of biocommunication for the cell, tissue, organ, and the entire biological system of the body, so in medicine, we commonly observe increased dietary and energy expenditure during the healing process. It is worth noting that the presence of semiconductors in a biological system is equivalent to the existence of an electronic integrated circuit. Therefore, a living organism can be seen as a complex electronic device, similar to bioelectronic equipment. Proteins, DNA, RNA, and melanin can also serve as structural elements in electronic devices – and this is how enzyme transistors have already been constructed, for example [56,57]. Enzymes are not only attributed the role of biochemical biocatalysts, but are also believed to act as transistors and nanoprocessors [58,59]. The cytoskeleton, along with microtubules, is considered to be a natural intracellular information processor, acting as a biocomputer [49,60,61]. The cytoskeleton plays a key role in maintaining the balance of information necessary for the proper functioning of the cell [62]. The cytoskeleton is the internal communication network of living cells, participating in and coordinating the transport of highly complex processes, such as cell division, growth, and differentiation. Its main tasks are processing (e.g., piezoelectric and pyroelectric transduction) and the transmission and transduction of intercellular signals (electron and proton fluxes, excitation and polarization waves, visible and infrared radiation), while storing information. The storage of information by microtubules testifies to their ability to remember. At the same time, they are considered biomolecules and nanocomputers. A new era of biological computers is coming that do not require digital processing performed with silicon chips. An electronic computer stores information in memory as a sequence of 0s and 1s and processes the data using a special program. However, some computers perform calculations of molecules that form different reactions, as in the case of DNA polymerase. These computers have many more attractive properties than technical computers. They operate on a sequence of bases in DNA, which allows them to pack information very densely. Biocomputers provide an extremely high degree of parallel processing and are very energy-efficient.

5.1. The brain, as a bio-computer, unlike a biological machine, which is a product of mathematical techniques, does not need external software, since it has its own software built into the cell; therefore, in biology, structure cannot be separated from function [49]. A biological computer runs on algorithms, and the role of a programmer is played by consciousness and unconscious physiological processes, which are programmed in a heuristic way. Enzymes, through conformational changes, can act as molecular switches [56,59]. The electronic interpretation of a living organism is very inspiring, as it shows that the organs that collect information from the environment

are not only receptors of the sensory, perceptual, and motor systems but also biological systems in which biocomputers are built [49]. These devices are responsible for quantum processes and the individual's mental adaptation to the environment in which they live. Man has innate knowledge, so information processes cannot be reduced to purely biochemical-physical processes, because information systems react to information and are guided by the laws of binary or quantum informatics. The reception of a perceptual stimulus, understood as a stream of material and energetic factors, is carried out in such a form that the received stimulus must be identified by comparing it with the resources of the individual bioplasm, which contains in the form of archetypes specific patterns of perception of the world, style of thinking, and manner of behavior characteristic of a given personality. It should be borne in mind that identification and comparison are not physical categories, but informational ones. Information can be both something intangible, with abstract content, and something encoded in matter. Information is the link between what is physical and what is psychic. ***From the point of view of bioelectronics, cybernetics, and quantum psychology, living systems are considered cybernetic systems capable of self-reproduction (with a specific error) and of using streams of matter, energy, and information for their functioning*** [63].

6. Electromagnetic Field of the Heart and Emotional States

The movements of electric charges in the heart generate an electromagnetic field that can also be measured at considerable distances from the body using modern medical diagnostic methods. **The heart is the most potent source of electromagnetic energy in the human body, producing the largest rhythmic electromagnetic field among the body's organs.** The heart's electric field has an amplitude about 60 times that of the brain's electrical activity. This field, measured via an electrocardiogram (ECG), can be detected on the body surface. Moreover, the magnetic field produced by the heart is more than 100 times stronger than the field produced by the brain and can be detected at a distance of approximately. 90 cm from the body, in all directions, using magnetometers based on SQUID technology and others based on modern quantum mechanics.

6.1. The magnetic field of the heart is an essential carrier of information for humans

various emotional states modulate the magnetic field of the heart, Magnetic signals generated by the heart can influence those around us. This happens in cooperation with solitons, because they contain the content of emotions and all emotional states. Electric and magnetic fields are carriers of solitons, because soliton needs such a carrier. [20] In 2003, Brizhik showed that solitons are resistant to interference and do not change shape even after collisions, except for a slight reduction in amplitude. Solitons possessing these properties can spread throughout the universe without disappearing. Which means that our emotional and volitional states do not degrade; they are still with us and around us. We need the correct language to understand them and to proofread. The space is densely filled with a network of soliton waves, from the earliest appearance of life to today, carrying the content and meaning of our thoughts, feelings, behaviors, and relationships with the environment. Biosolitons have a strong relationship with melanin and neuromelanin synthesis, since the synthesis of these substances generates soliton waves that transmit signals in biological systems. The transmission of soliton signals takes place not only in biological structures but also in the psychological and spiritual spheres. These are our mental, emotional, and conscious states, which can interact with one another [21]. Soliton psychology is a way to read our emotional states and learn about the nature of all mental processes, which has not been explained to this day. The heart has not only a biological nervous system, but also an electronic, IT, and cybernetic system. The heart communicates with the brain through an extensive network of neurons in an

electronic and computerized way. In many cases, the heart plays a more important role in the body's management than the brain, and it is the main element of our emotional system and conservative [41]. The heart generates a pressure wave that travels quickly through the arteries, much faster than the actual blood flow we feel as a pulse. These pressure waves force blood cells to pass through capillaries to deliver oxygen and nutrients to cells and widen the arteries, generating a relatively high electrical voltage in the process. These pressure waves exert rhythmic pressure on the cells, which leads to the polarization of biological piezoelectrics (various types of proteins found in the biological membranes of cells). Moreover, generate an electric field, which is essential for the functioning of cells, tissues, etc. [64]. Every psychological and social interaction depends to a large extent on the formation of a spontaneous emotional connection between individuals. When people are engaged in deep conversation, they begin to fall into a subtle dance, synchronizing their movements and postures, the pitch of their voice, the pace of their speech, and the length of the pauses between responses [65]. Experiments such as these indicate that psychophysiological information can be encoded by behavior and, consequently, the electromagnetic fields produced by the heart are affected [5,66]. **The heart is associated with positive emotions and intuition, and these flow from the heart and link different cultures, religions, and spiritual traditions throughout history. There has long been a common belief that it is a source of love, wisdom, intuition, courage, etc. There are such colloquial expressions as "put your heart into it" and 'speak from the heart'. This means that the heart is more than a physical life-sustaining pump** [67-70]. The rhythm of the heartbeat changes significantly depending on the emotions we experience. Negative emotions, such as anger or frustration, are linked to anomalies in the heart's work, its chaotic rhythm, and an increase in blood pressure. Positive emotions, such as love or gratitude, are associated with a smooth, harmonious, consistent heart rhythm [71].

7. Stress and the consequences of experiencing

Stress is the body's natural reaction to a difficult situation or challenge. It is a state in which the body mobilizes its resources to cope with a given situation as effectively as possible. Importantly, stress is not always negative. It can be motivating and help you cope with challenging situations. The sources of stress depend on individual experiences and life situations, but they are most often related to interpersonal relationships. A source of stress can be, among other things, loss of a job, an unstable financial situation, or family problems. When the body is exposed to stress, it activates its sympathetic system, preparing to act in the face of danger. Stress hormones, such as adrenaline or cortisol, prepare the body "for fighting". Adrenaline increases heart rate and raises blood pressure. Cortisol enhances the effects of other stress hormones, preparing the body to react to a problematic situation. Stress is often associated with various pathological conditions, such as hypertension [72], latent myocardial ischemia [73], sudden cardiac death, [74] coronary artery disease Long-term exposure to stress can lead to the development of several abnormalities.

Somatic consequences of stress:

- Increased risk of developing cardiovascular diseases such as hypertension, atherosclerotic lesions, coronary heart disease, increased risk of heart attack or stroke; [75,76].
- Migraine and tension headaches;
- Disorders within the digestive system; [77,78].
- A decrease in the body's overall immunity and thus increased susceptibility to harmful viruses and bacteria;

- Accelerated aging rate of the body;
- Increased risk of developing certain cancers;
- Increased risk of premature death [75].

Psychological consequences of stress:

- Difficulties in making an objective assessment of the situation;
- Difficulty making realistic plans for the future;
- Problems with maintaining attention and concentration;
- Increased irritability;
- Manifesting a tendency to excessive impulsive reactions;
- Increased risk of developing anxiety disorders;
- Increased risk of developing insomnia [79],
- Increased risk of developing eating disorders;
- Increased risk of developing addictions;
- Increased risk of developing mood disorders;
- Increased risk of premature death by suicide [77,78,80,81].

Impact of stress on the employee:

- Reduced motivation to work;
- Feeling of not being influenced by one's own actions;
- Feeling of reduced effectiveness at work;
- Taking chaotic actions;
- Visible nervousness during interpersonal contacts;
- Reluctance to receive support from others;
- Not coping with current tasks;
- Avoiding the performance of duties;
- Increased absenteeism from work [82-86].

Studies have shown that emotional stress is a stronger predictor of death from cancer and cardiovascular disease than from smoking; people who were unable to manage stress effectively had a 40% higher mortality rate than those who were not stressed [87]. Separate studies have shown that the risk of developing heart disease is significantly higher in individuals who impulsively express anger, as well as in those who tend to suppress anger [88].

8. Summary and discussion

Modern science must adopt a new way of thinking that has emerged from the rapid accumulation of knowledge at different levels, which requires the integration and interconnection of biological organization at many scales - from proteins to cells, tissues, organs and organ systems, as well as from quantum physics, computer science and cybernetics - in order to understand the complexity of the interaction between the form and function of the heart, which plays a vital role in the human biological system. It is essential to educate people on how to deal with stress. Our education systems are highly focused on improving children's cognitive skills from the moment they enter kindergarten. There is virtually no emphasis on educating children to deal with the internal conflicts and unbalanced emotions they bring to school every day. More and more educators are realizing that cognitive

abilities are not the most important factor determining young people's ability to succeed in today's society. Proficiency in emotional management, conflict resolution, communication, and interpersonal skills is essential for children to develop an inner sense of security and the ability to effectively deal with the pressures and obstacles that inevitably arise in their lives. More and more teachers agree that children come to school with so many problems that it is difficult for them to focus on complex mental tasks and assimilate new information related to their child's education. The more teenagers feel loved by their parents and have comfortable conditions in their schools, the less likely they are to start sex early, start smoking, abuse alcohol, drugs, or commit violence and suicide, and be healthier because there will be no eating disorders in the broadest sense, which will translate into a healthier heart and the whole body. Our lives will soon face a new reality. It will be forced to adapt to the biological requirements of computers and many electronic devices known as readers that record information in the brain. The process of teaching the school curriculum will be based on a new teaching style, in which devices that support memorization will play a dominant role. The recording of information in the brain (as a biological piezoelectric semiconductor) will occur not only through the senses but also through technical devices. It will resemble the principle of recording as on a tape or compact disc. In the new system of teaching, the amount of information in the brain will double to the X power, and mental development will take on a new dimension of reality. However, not every psyche will readily accept this demanding teaching style, which will repeatedly lead to pathological states in the personality. A computerized and electronized environment, understood as an AI information environment (commonly used artificial intelligence and AI language modules), will forget the traditionally understood freedom, and the student will become an electronic prisoner of AI, unaccustomed to thinking independently. Any exchange of information must be carried out according to the rules set by the electronic device. There is not much left for man to be able to do with his spontaneity, fantasy, improvisation, and above all, what makes us human.

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