



Review Article

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Quantum Fluctuation of Vacuum Particles in the Electretic State of the Human Body Energy-Mass

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Abstract

The paper examines the concept, methods and manifestations of a human body electretic structure provided by the Self-Organization of Nature. It has been proved that initial manifestation of the cause-and-effect relationship in the material world origin is the mother energy-mass in the state of vacuum particles. The paper considers scientific assumptions of A. Chizhevsky and G. Garbuzov about positive effect of free electrons introduction from negative hydrogen ions on the human body vital activity. It has been proved that electrons, due to possession of a dualism of electromagnetic and corpuscular essence, are unable to penetrate into the body due to skin effect. They originate inside the human body. It has been proved that there are no free electrons in the bioelectretic current structure. However, the elementary particles (electrons) are produced in a body limited by the skin effect when two gamma quanta collide and the distance between the vacuum particles decreases to the size of the electromagnetic wavelength. And also in a state of ionization and super-precession. It is argued that the longevity and the original state of the human body depend on the number of free and fixed vacuum particles, namely on their proportion in the general structure of the human body elementary particles.

Keywords: Self-organization of Nature, Bioelectric state, Electron, Vacuum particles, Skin effect, Longevity, Proportion of vacuum particles

It's hard to get rid of the feeling that mathematical formulas exist independently of us and have their own minds, that they are smarter than us, smarter than those who discovered them, and that we extract more from them than they originally contained.

Hertz

It is the Electrons that are the true features of the invisible world, its basic modifications, formations and transformations.

A.Chizhevsky

Introduction

Nature provides man with the necessary methods for understanding its world content and its vital activity at the micro and macro levels of energy-mass condensation, while using mathematical formulas in natural science to discover solutions to physical reality through them. Therefore, there is definitely no

need to prove mystical premises when studying its existence in the surrounding world. Nothing originates in Nature for no reason, out of nothing and suddenly. Any natural process has its own time frame and spatial dimension, both in formation of the energy - mass and in its vital activity.



Initial manifestation of the cause-and-effect relationship in the material world origin is the mother energy-mass in the state of vacuum particles. At the beginning of the twentieth century, scientists discovered and described elementary particles using quantum mechanics. Currently, the properties of particles with an average geometric scale of 10^{-40} cm and a mass of 10^{-74} kg have been theoretically studied. Particle density in a vacuum volume is 10^{-29} g/cm³, minimum kinematic viscosity is represented by the following formula: $\eta h/(2m)$, where the mass is 10^{-74} kg.

It has been proved by calculations that the electromagnetic field is formed from vacuum particles. Discovered using quantum mechanics at the beginning of the 20th century, elementary particles are described in sizes equal to 10^{-13} cm and consist of vacuum particles. The vacuum particles form a crystalline structure in elementary particles by changing the properties of vacuum particles with the arbitrary rank of a multipole. Thus, the state of photon quanta is determined by the vacuum particle structure and the multipole rank. The crystal structure formed by vacuum particles in elementary particles determines their immobility. In the free state, vacuum particles move and form electromagnetic field, so there is a random probability of realizing the electromagnetic wave "clouds" density. In other words, probability density of the electromagnetic wave formation from vacuum particles and its "vital activity" is a real function of world space. It is quite obvious that these cloudy electromagnetic wave formations can be attributed to quantum systems from which quantum fields of an electromagnetic wave with random size and density are formed. As noted earlier, the vacuum particle mass is negligible, therefore, approximately 1027 vacuum particles will be needed to form one elementary particle. There are different vacuum particles that form a range of their rank. Each specific rank is characterized by a "mission" of creating a specific elementary particle and has a corresponding index of a vacuum particle density and other "originality" characteristics of this elementary particle (for example: long-lived electron or positron).

We are interested in an elementary particle – electron, its formation from vacuum particles (birth dynamics), dynamics of the vacuum particle transformation into the "skeleton" of the elementary particle, and further vital activity in the atomic and molecular structure of the human body. And also, what kind of energetic effect causes introduction of an "external" free electron on the energy state of atoms and molecules with a disrupted quantum structure or their painful state. We know *A. Chizhevsky* and *G. Garbuzov* concepts about positive effect of free electrons introduced from negative hydrogen ions on the human body vital activity. However, the positive experiments that were carried out by these scientists do not have sufficient theoretical confirmation and scientific explanation of the physical, chemical and mathematical evidence of this effect manifestation.

Results of Scientific Research of A Chizhevsky's Concept

Scientists have proven that high-frequency electromagnetic

waves which include an electron in a state of energy-mass are unable to penetrate the human body. It penetrates only the thickness of the skin layer which tends to zero at low conductivity and high frequency. The electromagnetic wave creates a sound wave as a maximum, and this wave can penetrate the body and generate resonant sound frequencies that can act as an appropriate electromagnetic wave to provide resonance with the resonant frequency of the body. The sound resonant frequencies are equal to the square of the speed of sound divided by the kinematic viscosity. This is the medium dynamic viscosity divided by its density. It is the value of the resistance to fluid flow when the fluid layer with an area of 1 cm² moves over a distance of 1 cm at a speed of 1 cm/sec. This ratio has the dimension of reciprocal of a second (sound velocity of ultrasound propagation in human tissues):

$$W = Cs^{2/v},$$

This formula includes the organism sound velocity and kinematic viscosity.

This means that treatment in a high-frequency electromagnetic field is impossible due to the fact that a high-frequency electromagnetic wave cannot penetrate the human body through the skin layer. Also, the "so-called" free electrons cannot pass through the blocking skin layer. Therefore, it is proposed to inject a specially prepared intranasal emulsion in a bioelectric state which could bring an electromagnetic field to the treatment operator and create original elementary particles and original matter by means of sound frequency resonance. It should be borne in mind that modules of frequency should be the same for the electromagnetic and sound waves. In this case, the sound wave of equivalent frequency will be

generated in the human body. It creates (forms) a biological entity capable of transmitting the electromagnetic wave pondermotive force. Scientist EG Yakubovsky [1] believes that electromagnetic wave vibrations are transmitted to a sound wave by the pondermotive forces of vacuum particles which fill the vacuum and have a density of 10^{-29} g/cm³. This physical phenomenon naturally confirms a certain effect of ultrasound on human tissues and possibility of treatment with them. However, "treatment" is bringing the human body to its original state that is possible only by creating resonance and its "struggle" with harmful resonant circuits which form conditions for diseases. For example: The virus is a resonant circuit which develops exponentially as a functional dependence:

$$X(t) = \frac{A \exp(i\omega t)}{W_0^2 - W^2 + i b \omega},$$

, where W_0 is the resonant "harmful" frequency

which adapts in the body to another, useful, frequency Wt . As a result of this process, a pair of stochastic coupled nonlinear oscillators is created which ensure occurrence in them of stochastic oscillations of harmonious excitation providing conditions for energy exchange between them by means of resonant "impact".

It can be stated that the electromagnetic wave affects the human body material structure by transition of the oscillation frequency through the skin layer occurs as a sound wave. This process is possible due to the presence of vacuum particles which are a dynamic medium transmitting the electromagnetic wave forces. This is quite achievable, since vacuum particles, in a free state, are a medium where electromagnetic waves propagate. Therefore, we can say that electromagnetic velocity and force are the sound vibrations of vacuum particles. Vacuum particles in a free state are not only a medium, but also the structural state of all matter in our Universe, including elementary particles. Elementary particles are bunches of vacuum particles in a gaseous, liquid, or corpuscular state. Limiting value of vacuum particle number is equivalent to the electromagnetic wave weight $m = \hbar k / c$ and is equal to:

$$N = 10^{30},$$

When this number of vacuum particles is exceeded, the electromagnetic wave exhibits corpuscular properties. When the sound wave formed by the electromagnetic one is introduced into the human body, it creates an elementary particle of a given type (for example, electron) from free vacuum particles in the body. Thus, in the bioelectretic current of the body, free electrons appear which are immediately absorbed by positive ions of hydrogen atoms or attached to negative ions of hydrogen molecules. As a result of this process, the human body structure is enriched with new original elementary particles, atoms and molecules, thereby "rejuvenating" your body.

However, it should be borne in mind that electromagnetic waves propagate only in a medium of free vacuum particles, since only they have an electromagnetic structure capable of dynamically "generating" elementary particles (for example, electrons). If there are no free particles in the structure of microelements (for example, iron atoms) or there are very small amounts, then the electromagnetic wave does not propagate. There is a weak electromagnetic wave in the human body and it is possible to indirectly judge the presence of a small number of vacuum particles in it. To obtain information about the free vacuum particles density in bodies, it is necessary to determine the density of the additional electromagnetic static voltage, added to the free atom voltage. There is a hypothesis that the electromagnetic wave generated by this voltage induces a weak electromagnetic field and its dipole state value is of external origin and is controlled by time-varying electric charge. This weak electromagnetic field is the Schumann field which forms a change in the state of biological entities from elementary particles and vacuum particles and also brings the body structure to its original quality (i.e., treatment) using the method of Natural "self-organization". Thus, the study and mathematical research of the "free vacuum particles" effect on the human body healing will provide Humans with a Natural treatment model the methods of which it uses in the treatment and healing of human body. This process is characterized by the intensification of the "birth" of electrons from free vacuum particles which are simultaneously absorbed by the nuclei of ionized atoms and hydrogen molecules

and form the original, healthy microelements of tissues.

To analyze the electron vital activity in the human body, we use the method of scientific approximation which makes it possible to simplify the problem solution. For this purpose, we will consider the human body as an electrical conductor through which an electric current flows. At that, the blood water flow and other aqueous states of the human body are an electrolyte which gives us the right to use in our research the concepts of physical phenomena studied and proven for an electrical conductor.

Determination of the Water Electretic State Effect on the Dynamics of a Living Cell State

The ionic theory of the water electretic state proves that, when the electric fields of all the particles making up the body are superposed, a strong long-lasting electric field of the system (as a conductor) is created - characteristic of the electretic state of this substance. This electretic state of the body's substance generates the bio- electretic field of a living cell in the human body, including blood water flow. A bioelectretic field is an electrostatic field which causes the working dynamics of all aqueous solutions of the body due to the resulting pondermotive energy action or remote force action on the electrically charged areas in the cells. Source of the electretic field of the human body aqueous solutions is nano-electrets arranged in an

orderly manner, namely, superposition of their energy fields. These formations continuously generate a strong electrostatic field due to hydrogen atom ionization and constant formation of negative ion dipoles in them. Interaction of these electric fields initiates their continuous motion, rotation and axial movement that is the physical basis of vital activity of the human body cells due to dynamics of elementary particles, atoms, ions and molecules. It has been proved that the main driving force of this mechanics in the living human body is the bioelectretic field and, accordingly, it is also the initiator of the launch of all human vital activity processes.

In the study of water magnetic activation mechanism, Scientists of the Kuban State Agrotechnical University [1,2] came to the conclusion that the mechanism of water molecules ionization in magnetic field with a uniform energy distribution is ionization of hydrogen atoms. With a significant force of interaction between the magnetic field strength vector and the moving electron charge equal to the magnitude of the ionization potential, the electron detaches from the nucleus of the hydrogen atom. In this case, water molecule decomposes into H^+ and OH^- ions. The electrons left their atom or ion move chaotically or are strictly directionally due to influence of the pondermotive force generated by the bioelectretic field interaction. As a result of ionization, atoms and ions which have lost an electron and received a positive charge appear. Therefore, a positive dynamic structure is formed from positrons which form hydrogen atom nuclei and instantly attach the released electrons. As a result of this process, updated elementary particles of the original state are created. In the presence of a predominant number of healthy (corresponding to the original structure)

elementary particles (electrons) in the ionization system, the body general structure acquires the predominant original structure and condition of the body, or, figuratively speaking, is treated. A. Chizhevsky turns out to be right in this.

VS Bukreev [1,3] proved that the elementary particle charge is a dynamic characteristic. At that, electrons differ from positrons only in the direction of axial motion and direction of rotation. Therefore, hydrogen atom ionization process should be considered as a dynamic interaction of identical elementary particles in terms of charge and mass (energy-mass) in a dynamic energy-mass structure which simultaneously has two qualities transforming into each other, in one whole. Such a structure is the Benard Vortex. In the internal flow of the hydrogen atom, the particles move upward with one direction of rotation (that is, they are electrons), and in the external flow of the vortex, the particles descend with another direction of rotation (that is, they are positrons). Based on this statement, dynamics of ionization, namely, electron separation from the Benard vortex structure (hydrogen atom) is clear. This phenomenon is associated with the hydrogen atom structure destruction due to action of vortices on the structural elements. As a result of this dynamic action, the electron is squeezed out of the Benard vortex internal flow, since it is in the ortho state at that moment, into the external flow where it acquires a dynamic vapor state. This dynamic is due to the fact that the external flow has the proton structure made of positrons, and its matter density is $7.29 \times 10^{19} \text{ kg/m}^3$, and the electron density is $9.11 \times 10^6 \text{ kg/m}^3$. In this dynamic way, the molecule ionization (the paper discusses ionization of water molecules) occurs only in a magnetic field with uniform distribution of energy of the field in a non-excited state. However, at the water molecule ionization in a magnetic field during electromagnetic process resonance or during magnetic coherent wave interference, or at critical force of precession, the ionization process has a critical character and can be characterized as strongly disrupting the quantum structure of elementary particles. For example: - in the case of circulation of an aqueous blood solution through a permanent magnetic field, electronic paramagnetic resonance phenomenon occurs spontaneously without additional external influence and, according to scientists, can occur at external magnetic field energy equal to $1.9 \times 10^{-25} \text{ J}$ which is 10^7 times less than required for ionization. In this case, Levashov's theory of the space-time inhomogeneity works. However, only additional 1×10^4 water molecules are ionized. But if you create additional indicators of a high-value external magnetic field, amplitude of the electron precession oscillation can increase 108 times due to resonance. However, negative effects of an extremely high-power electromagnetic field on the human body can be shown by the example of the process which took place during the Philadelphia experiment and "Rainbow" project.

At the same time, it should be noted that the concept of electron ionization in Benard vortices is based on the discovery of AA Shadrin [4] of absence of orbital motion of electrons in atoms around nuclei, so modern concepts of particle structure are

described by physicists as Benard vortices. Therefore, it can be stated that atoms are a dynamic formation or dynamic structure in the form of a combined composition of elementary particles with a certain degree of corpuscular and wave concentration and vacuum particles.

In a vacuum environment, vacuum particles rapidly group with a Compton frequency into elementary particles and back into vacuum particles. The vacuum particle mass is negligible, 10^{-72} g , and their total density is 10^{-29} g/cm^3 . The elementary particles are produced when two gamma quanta collide, at the moment when the distance between the vacuum particles decreases to the size of the electromagnetic wavelength. This is how the particles and antiparticle are formed, in particular electron-positron pair. When the energy density in a body is equal to the density of a static electromagnetic field, vacuum particles in the body matter begin to change between a bound state to a free one. At a certain point in time, equilibrium is established between the bound and free states of the vacuum particles. This state of the vacuum particles concentration contributes to formation of biological structures in human matter which intensify resonant processes between elementary particles "alien" to the healthy (original) structure and particles of the individual balance of vital activity of the intracellular system. At the same time, the ionization potential increases, that means the electron separation from the nucleus and appearance of a free or "working" electron. As we noted earlier, the working electron strengthens healthy, original state of the human body.

Theoretical Representation of Electrons and Positrons in Ortho and Para States

The paper argues that electrons and positrons, by their dynamic structure, are ortho and para dynamic formations of Benard vortices. Analysis of the vortex structure dynamics shows that the directed movement of the electrons and positrons energy-mass in alternating ortho and para states generates ortho and para-atoms and molecules of hydrogen, as well as water molecules in ortho and para states. Due to the fact that the Benard vortices interaction with the environment occurs at the outer surface of the vortex; it receives the qualification name depending on ortho or para modification of the energy-mass currently located on the outer side of the vortex. The electron and positron energy-mass bundle (in alternating ortho and para states) constantly changes structure concentrations that form conditions for electron ionization.

Earlier, it was stated that Benard vortices exist in two modifications transforming into each other: ortho and para modifications. Direction of the vortex elements axial motion and rotation are opposite in the internal and external flows that is initiated by the movement of ortho or para modification of hydrogen molecules. Benard vortices form a torsion force which depends on the surrounding magnetic field magnitude and acts in the direction of the internal flow (of electrons). It propagates strictly in the direction of the internal flow of electrons. This force

guides the electron to the photon emission. At the same time, the electron axis of rotation undergoes precession (Larmor's frequency) under the influence of all external energy fields. Lots of magnetic moments are formed in the human body, therefore, a person has his/her own, individual, resulting magnetic moment, called, in particular, "magnetic weight". This indicator (his/her) is one of the characteristics of dualism of the human matter structure, as energy-mass. In some cases, the human body can manifest itself and be defined in the numerical value of mass, however, when exposed to the surrounding energy space, for example, during experiments, it appears as an energy (electromagnetic) formation.

Let us imagine an electron energy-mass characteristics: - charge - 1.6×10^{-19} C, mass - 9.31×10^{-31} kg. In interaction with the environment, the electron manifests itself as dualism of these indicators, energy-mass. A human body is a conductive mass surrounded by an imperfect dielectric, the skin. A human body should be represented in experiments as an electrolyte which is not homogeneous in the quality of its chemical and physical parameters. At the same time, frequency of changes in the bioelectretic field parameters, and, accordingly, the electric current magnitude is not constant. Therefore, it can be classified as an alternating current conductor. It was said earlier that dynamics of the human body vital activity (including blood water flow) is generated by the bioelectretic field and thereby ensures the life of a living human cell. The bioelectretic field is the driving force of cellular biomechanics and movement of the blood water flow. This field is an electrostatic field which has inherent pondermotive action, i.e., forceful remote action on electrically charged bodies in accordance with Coulomb's law. The pondermotive force is a nonlinear force acting on a charged particle in an inhomogeneous oscillating electromagnetic field. A molecular substrate for bioelectric effect is the natural electretic state of bound water in the hydrate shell of protein molecules. A characteristic manifestation of the electretic state of matter is long-term generation of a relatively strong electrostatic field which is formed due to the superposition of electric fields created by electric charges of ions, ion molecular complexes and polar molecules. A force factor of cellular and subcellular biomechanics which causes the fluid flow is bioelectretic field of protein molecules which intensity in the intracellular space reaches values of about 10^7 V/m. This voltage is sufficient to carry out directional movement in cells.

It has now been established that water consists of liquid water and water clusters. The water clusters are associations of water molecules which, due to high intensity of the electretic field, can contain from two to several thousand or more molecules. Maximum cluster size reaches 0.1 mm. An electrically positive stable water cluster consisting of 21 water molecules and a hydroxonium ion has been discovered. The water clusters have the following properties: specific density of 1.4 g/cm^3 , specific electrical resistance of $10^8 \text{ Ohms} \times \text{cm}$, hydrogen index of 5-7.5, as well as large dipole moments and liquid crystal aggregation state. Unlike liquid water, water clusters are characterized by an ordered arrangement of molecules

and, accordingly, an ordered arrangement of their electric dipoles. Due to this, water clusters rotate in an electric field as an integral supramolecular formation, and their electric field vectors are set parallel to the vector of the external electrostatic field strength. Therefore, such a cluster state of the electretic water formation of cells and blood water flow forms the dynamics of their movement as that of alternating current conductor in an electromagnetic field. In the creation and maintenance of this structure, a special role is played by polarization of electronic pairs - "partner" elements in the cluster "chain" due to formation of instantaneous microdipoles in which the dipole moment value continuously fluctuates around a certain average value. As a result of this process, electron pairs are born and annihilated with the "loss" of the electron in both cases. Therefore, in order to maintain the dynamics of biological "conductors" electretic movement (compensation of lost electrons), free electrons are necessary.

In a living human body, main dynamics of bioelectretic movement of the "electrolyte" water flows is initiated and occurs in microscopic blood vessels. So, the electric current values in different vessels are not have the same. That is, the alternating current flow frequency is different in magnitude. At the same time, current density turns out to be unequal along the cross-section: its value is the largest on the surface and the smallest on the axis of the vessel. This phenomenon is called a skin effect. It generates a vortex electric field of electromagnetic induction which acts on the electric current conductor. This current creates inside the conductor a magnetic field H with lines of force in a plane perpendicular to the conductor axis and on the conductor surface directed identically to the current direction, and on the axis of the conductor - opposite to the current. Therefore, this field will enlarge the current on the surface and weaken it on the axis. This effect is generally present at any frequency, but it becomes especially noticeable at high ones. Thus, at significantly high values of external electromagnetic fields, when they affect the conductor (for example, blood water flow), high frequencies of the conductor's wave field are generated, dynamics of vital activity of the aquatic components of the overall energy structure- the mass of the human body - is disturbed. When studying the circulatory system of the human body in order to normalize the dynamic parameters of the blood water flow movement, it is necessary to take into account the skin effect. As a result of the skin effect, at high frequencies, an electric current tends to be formed or moved to the outer shell of the vessels. At that, the vessel wall bioelectretic current density increases, speed of movement decreases and pressure increases according to the Laval effect. Accordingly, the effect of water component activation is disrupted due to enrichment with negatively charged ions. The skin effect is also manifested in weakening of the bioelectretic electromagnetic field as it penetrates deep into the blood vessel due to the fact that the exciting field creates a vortex electric field along the flow axis which, in turn, creates eddy currents. Magnetic field of the eddy currents will be directed toward the initial exciting magnetic field and weaken it. Therefore, density and intensity of the

bioelectretic field will decrease, and, accordingly, electromagnetic induction which forms dynamics of the bioelectretic current (blood water flow) will decrease. It can be concluded that unstable fluctuations of the ambient magnetic field, as well as the magnetic field created inside the human body, lead to declining of the human body "healthy" state.

It is known that, when a magnetic field changes over time or when a material medium moves in a magnetic field, electric polarization, electric field, and electric current occur sequentially. This phenomenon is generated by action of magnetic induction. That is, ionization of hydrogen atoms occurs, for example, in the water stream of blood when electrons leave atoms or molecules. This flow of electrons directed by electromagnetic induction is an electric current. However, after reducing or disappearance of the electromagnetic field energy, the electrons do not become free, but are re-embedded in atoms. The conclusion suggests itself that there are no free electrons in structures shielded with skin-effect. As we can see, Chizhevsky and Garbuzov were mistaken in giving the main role in the human treatment to non-existing "actors".

The skin effect not only prevents "so-called free electrons" from entering the human body, but also does not release them into the surrounding space. There are physical and chemical effects of the hydrogen atom ionization process causing an electron, as an energy-mass, to acquire a wave character of its structure. The main reason for this phenomenon is emission of virtual photons by bound electrons. This can be represented as an exchange of virtual particles which leads to a change in the electron relativistic mass. Origination or annihilation of electron-positron pairs plays an equally important role. Also, as a result of micro-fluctuations in the chemical bond polarity, electron density distribution in the atom space is disrupted due to electron "flipping" relative to the precession axis. When the electron precession axis is deviated by 180 degrees, the electron spin will reverse its direction of rotation, and the electron axial motion and direction of rotation will change accordingly. The electron becomes a positron.

A concept by *E. The Yakubov* for effect of the vacuum particle fractions on the bioelectretic state of cells

According to the concept of *E.G. Yakubovsky* [5], a "relatively free electron" of a hydrogen atom located in a strong electromagnetic field can bring into its energy-mass a vacuum particle of a micro-dipole state in an amount which will allow it to cross the boundary between corpuscular and wave properties and continue to exist as a wave entity. In this case, the vacuum particle boundary concentration for a hydrogen atom is $n = 8 \times 10^{14} \text{ 1/cm}^3$, and boundary distance between vacuum particles is $L = 1.6 \times 10^{-15} \text{ cm}$; at that, the system should exhibit corpuscular properties like a de Broglie wave, and wave properties like an electromagnetic wave, that is, it should not form particle-antiparticle pairs as it takes place in the case of precession. It can be seen from these particular examples, how a shortage of electrons occurs in the bioelectretic

field of the human body. There are a number of other cases of the "free" electrons deficiency in the bioelectretic field and flow of the human body which have not been studied by science.

The bioelectretic field attenuation and, consequently, decrease in the bioelectretic voltage value below the naturally established indicator of the body viable dynamics leads to a halt in intracellular movement. Such a condition can be recorded as a person death. To provide proper values of the bioelectretic electromagnetic field of the electrically conductive liquid current, including blood water flow, in the vessels and cells of the human body, it is necessary to ensure, due to the influence of the energy of an external electromagnetic field, maximum possible efficiency of the current movement dynamics along the vessel axis. The main role in providing bioelectretic current is played by negative hydrogen ions and electrons which were captured in their structure and are poorly bounded by other atoms. It should be recognized that there are no free electrons in the bioelectretic current structure. There are only weakly bounded electrons in the atomic structure or electrons captured by negative ions which are formed by creating a combined electron pair. It should be noted that the electron-electron bond strength is determined simply by the colossal electric field equal to $2.448 \times 10^{14} \text{ V/m}$. It exceeds the intensity of man-made electric fields by almost 7 times. However, this electric field strength depends on the degree of ionic bonding in the electron cloud. At any given moment in time, instantaneous microdipoles are formed, dipole moments occur, so a hydrogen molecule can be considered as a collection of charged microdipoles changing in size and direction very rapidly. This confirms that bioelectretic current can be considered, from a scientific point of view, as an alternating current conductor. Thus, the electrons form a bioelectretic current of body fluid, its dynamics and motion, as a physicochemical formation having a quantum mechanical nature. It follows from this statement that the value of negativity on the Linus Pauling scale affects formation of a bioelectretic current which meets conditions of normative vital activity of the human body.

Longevity of the Human Body and Proportion of Vacuum Particles in Elementary Particles

EG Yakubovsky [1,3] proves that duration of life and, in general, life itself is determined by the frequency of processes occurring in the body. The less the frequency, the longer duration of life. The frequency is influenced by the proportion of free vacuum particles which are not bound into elementary particles, since they are aggregated particles of vacuum. Structural presence of vacuum particles in elementary ones creates a certain number of "dislocations" which reduce crystallization density of the elementary particle energy-mass. Thus, the particle hydrodynamic field acquires a high Reynolds number in the dynamics of the elementary particle energy-mass density, namely, in general, high frequency of fluctuations in the processes of the human body vital activity.

EG Yakubovsky [1,4] performed calculations in which he obtained the following result: the less number of vacuum particles formed during formation of an elementary particle, the longer the life. For a life duration of 84.2 years, normal size of vacuum particles should be 4×10^{-61} , and at proportion of vacuum particles equal to 3×10^{-61} , the life duration will be 111 years. It can be seen that proportion of vacuum particles, changed within narrow limits, significantly increases life duration [6-14].

It turns out that proportion of vacuum particles in the structure of elementary ones is the regulator of the state of the human body energy-mass microscopic structure, in terms of life duration. Reducing the vacuum particles number during formation of the elementary particle crystalline structure is possible only by binding them at a time when they are in a free state. That is, it is necessary to bind free vacuum particles into a neutral formation. Such a chemical element is a negative hydrogen ion which has an effective communication operator - an electron. It has been proven theoretically that vacuum particles with the lowest mass (dipoles) have maximum effect. They correspond to the main quantum number, which is 1. Among chemical elements, only hydrogen has a quantum number equal to 1, and it can attach to itself a dipole (vacuum particle) by means of polarization with its electron. This will reduce proportion of vacuum particles in the formed elementary particles which, as a result, will have a minimum number of vacuum particles in their structure to create required level of crystallization. This will provide hydrodynamic and energetic conditions for normal value of the bioelectretic current frequency in electrically conductive liquids, including blood water flow, and in the entire human body, as a whole. Above in the paper, we gave the values of the vacuum particle number which provide the frequency necessary for normal functioning of the human body and its longevity.

EG Yakubovsky gives in his papers the following data on the vacuum particle affecting the human body life duration. Today, the minimum frequency which exists in the body is:

$$\omega = 2 \times 10^{-3} \text{ Hz}$$

The body maximum life duration can be reached at almost zero fraction of vacuum particles, that corresponds to a low frequency of bioelectretic current in the liquid flowing in the body cells equal to:

$$\omega = 6,9 \times 10^{-5} \text{ Hz}$$

At the frequency indicated above, life duration will be equal to
: $t_{\max} = 2431 \text{ years}$

In the Middle Ages, the body's frequency was:

$$\omega = 4 \times 10^{-3} \text{ Hz}$$

Obviously, decrease in body frequency is less due to decrease in the proportion of physical labor affected human longevity in modern conditions. Therefore, increasing the level of mechanization and

automation of labor and human life in general creates conditions for the longevity of the whole society. It was calculated that proportion of free vacuum particles in a normally developing body in 10^{-10} gram is $N = 2.85 \times 10^{11}$.

Conclusion

Based on the above, the following conclusion should be drawn.

To apply treatment method and to implement methods for provision longevity of the human body, modern science needs to accept the concept of existence of vacuum particles and to learn how to measure their concentration and proportion in elementary particles and atoms. And also, to develop scientific physical, chemical and mathematical support for the processes of "birth" of elementary particles from vacuum particles. Academic mathematics has calculated values of the indicators showing existence of vacuum particles in the surrounding world. The next step is to solve the technical problem of applying this concept in increasing longevity of the human body.

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Conflict of Interest

None.

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