

Theory of Byuon and Pharmaceuticals of the Future

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Abstract

The article considers the quantum information channel (QIC) described by the byuon theory (BT)—the theory of the appearance of the world around us: physical space, the world of ultimate particles, living matter etc., based on the interaction of non-observable objects (the byuons) nature. The information transporter in the QIC is object 4b (four contact interaction of the four vacuum states of the byuon), carrying information about the information image of the object in physical space—a quantum medium formed by objects 4b. The article proposes a hypothetical model explaining the effects of ultra-high dilutions of chemical and biological substances (UHDS), the search for the physical nature of the action of which is currently underway. UHDS could be the base of the pharmaceutical industry of the future.

Keywords

Byuon, New Force, Quantum Information Channel, Medicine

1. Introduction

It is well known that any medicine used in modern medicine not only heals, but also injures. Therefore, if the amount of the drug is significantly reduced, and its action remains the same effective, then these will be the drugs of the future, since they will cause minimal harm to the human body. Since the end of the last century and at the beginning of the current one, the results of research on the biological effects of ultra-highly diluted substances (UHDS) (chemical and biological) began to appear [1] [2] [3] [4], about the possible physical nature of the action of which there is much debate, in particular about homeopathy. It is known that modern classical medicine considers homeopathy a pseudoscience.

1) The author of the article works in the field of fundamental physics and has

developed a new non-gauge model for the formation of the world around us: physical space, the world of ultimate particles, living matter (the theory shows that controls the work of a living cell [5]), the emergence of consciousness [6], etc. This non-gauge model called Byuon Theory (BT) [7] [8] [9].

2) This theory predicts the existence of several new physical phenomena. Firstly, it predicts the presence in nature of a new fundamental constant—the cosmological vector potential (\mathbf{A}_g). Secondly, it predicts the existence in nature of a new non-gauge force of nature, which is qualitatively different from the open, known forces: strong, weak, electromagnetic and gravitational. Thirdly, it predicts the presence of a quantum information channel (QIC), by which all objects of inanimate and living nature are combined into one common information field.

3) In this article, we will try to draw the attention of readers to the fact that, using the QIC, it is possible to explain the effect of some long-known methods of treating people, such as homeopathy, as well as modern manufactured medicines based on ultra-high dilutions of chemical and biological substances UHDS.

4) The article consists of two sections and a conclusion.

2. Byuon Theory, Non-Gauge Force and Quantum Information Channel

In order for the reader to understand the new approach to the production of drugs of the future, we must say a few words about BT, a new force of nature and QIC.

Any theory begins with axioms, that is, with basic postulates accepted without proof.

Thus, let us assume that there are no space, no time, no world of ultimate particles from which all surrounding us physical bodies consist, but there is a object, a byuon $\Phi(i)$, being unobservable in itself and characterized by discrete states (*i.e.* numbered by the series of natural numbers) having inherent “vectorial” property [7] [8] [9]. The expression for $\Phi(i)$ is

$$\Phi(i) = \begin{cases} [\mathbf{A}_g x(i)], \\ -\sqrt{-1}[\mathbf{A}_g x(i)] \end{cases} \quad (1)$$

where $x(i)$ is “length” of the byuon, a real (positive or negative) value depending on the index $i = 0, 1, 2, \dots, k, \dots$. Index i is a quantum number for $\Phi(i)$ ¹. The value A_g is some inner potential equal, in magnitude, to the cosmological vector-potential \mathbf{A}_g , a novel fundamental vectorial constant introduced by the author in Refs. [10] [11]. It is not an ordinary potential of any field theory since we have yet no notions of field and its potential. We have to do with a special property of the byuon that we call therefore the inner byuon potential. The dimensionality of $x(i)$ is that of distance, so we will measure $x(i)$ in centimeters (cm), and \mathbf{A}_g in

¹It should be explained that the vector $\Phi(i)$ is not an ordinary vector in some space but an object with “inner” vectorial properties that are manifesting themselves when the value $x(i)$ changes in the process of physical space formation.

Gauss centimeter ($A_g \approx 1.95 \times 10^{11}$ Gs·cm). That is, our fundamental object is dimensional. That was presumed by many authors which searched for so called “universum” (that thing from which all the other things are built up), since the real world cannot be constructed from the dimensionless 0 and 1. But the question of dimensionality of that object remained an enigma. Our object, the byuon, has dimensionality of Gs \times cm², as also have (in CGSE-system) such physical objects as electric charge, magnetic flux, and Dirak’s monopole [12] a hypothetical object not yet detected in experiments.

The entire set of states $\Phi(i)$ can form a one-dimensional space R_1 relative to index i . In R_1 , the distance between byuon states is defined as the difference of their “lengths”, *i.e.* between quantities $x(i)$. Such a metrix is known as Archimedean metrix.

Explain the above said. If, for example, the object $\Phi(i)$ has, in one of its states, an enormous magnitude of $x(i)$ equal to 10^{28} cm, and in its another state, $x(i+k)$ is equal to that same enormous magnitude of 10^{28} cm plus 1 cm, then the distance between those states in the one-dimensional space R_1 will be an insignificant 1 cm.

Further, the notion of time is introduced. In accordance with our conception, by the discrete time of byuon is meant a sequence of events corresponding to discrete changes in index i of 1 up or down, which means a transition from one state to another. In connection with discrete time, a time quantum τ_0 and space quantum \tilde{x}_0 are introduced in the one-dimensional discrete space R_1 formed by states of byuon ($\tau_0 \approx 0.9 \times 10^{-43}$ s, $\tilde{x}_0 \approx 2.8 \times 10^{-33}$ cm). As R_1 is discrete, one way to parametrize (represent) $x(i)$ is $x(i) \approx \tilde{x}_0 \cdot i$ or $x(i) \approx -\tilde{x}_0 \cdot i$. As is seen, the magnitude of $x(i)$ can be both positive and negative. Similar parameterization for time $t = (\tau_j)$ gives only positive magnitudes of t (here t is an always increasing index taking only integer positive values and the number 0). Note that in the existing physics of elementary particles [13], a notion of negative time is used to introduce antiparticles. This is not necessary in the present model.

Thus the byuon is characterized by indexes i and j ($i \leq j$). We will consider only the case of $i = j$.

Statics. In the set $\{\Phi(i)\}$, no static states with time $t > \tau_0$ are meant. That is, the byuon is always in state of continuous changing.

Kinematics. A free byuon state (that is, not interacting with another state) can correspond only to one of four so called vacuum states II^+ , I^+ , I^- , II^- depending on whether the vector $\Phi(i)$ is real or imaginary, its length $X(i)$ positive or negative, decreases or increases in modulus. More details about vacuum states II^+ , I^+ , I^- , II^- (VS) can be found in [7] [8] [9].

Location of byuon in one or another VS is of probabilistic character and described by four ψ -functions with indexes corresponding both to VSs and magnitudes of quantum number i : $\Psi_{II^+}^{i+2}$, $\Psi_{II^-}^{k-i}$, determining the processes of byuon length magnitude origin and increase at positive and negative $X(i)$, respectively; $\Psi_{I^+}^i$, $\Psi_{I^-}^{k-i-2}$, determining the processes of byuon length magnitude cancellation

and decrease at positive and negative $X(i)$, respectively.

Assume that for the byuons with the length greater than \tilde{x}_0 , only contact interactions are realized, by which we will mean existence of at least two byuons at a quantum of space R_1 .

Hypothesis 1. *Assume the observable three-dimensional space R_3 to appear as a result of minimization of the potential energy ($E(i)$) of byuon interaction in the one-dimensional space R_1 formed by them. More precisely, the space R_3 is fixed by us as the result of this byuon dynamics. In the space R_3 therewith the dynamic processes for objects with the residual positive potential energy of byuon interactions originate, and in consequence, the wave properties of elementary particles arise.*

So, the BT is a non-gauge theory of the formation of physical space and the world of ultimate particles on the basis of unobservable objects named “byuons” which containing a new fundamental vector constant—cosmologic vector potential \mathbf{A}_g .

Unified pattern of all existent interactions in BT consists in the fact that they are associated with one or another character of changes in fundamental scales of physical space ($\sim 10^{-17}$ cm and $\sim 10^{-13}$ cm) [7] [8] [9] originated in the process of byuon VSs interactions. These scale changes are corresponded by one or another change of \mathbf{A}_Σ that is taken in the traditional physics for the action on a particle by one or other field. Thus in terms of traditional physics, the byuon theory is a theory of “addition” of potentials of all the existent fields with some fundamental potential \mathbf{A}_Σ that cannot be more than $|\mathbf{A}_g|$ in magnitude. This is just the solution of the problem of unified field theory of Albert Einstein.

BT shows the nature of the quantum mechanics [7] [8] [9] [14]. The object with the minimum value of that residual potential energy $E_{k_{\min}}^0$ has own energy $m_{4b}c^2 = 33$ eV. This object is named in the theory the “four-contact interaction of byuon VSs Π^+ , I^+ , Γ , Π^- ”. It was denoted as “object 4b”. In the BT we have shown that all objects of the Universe are bound into unique information field due to the huge interval of uncertainty in coordinate ($\Delta x = L = 10^{28}$ cm) of objects 4b forming the surrounding space. The author has named this information field the new quantum information channel (QIC). BT shows a dark matter and real physical space is same object [15]. The gravitational interaction of objects is described by objects 8b (in one quantum of space there are two objects 4b at the same time), that have a spin equal to 2, which corresponds to quantum gravity models.

Note that the known fundamental constant, light speed, appears in the TB as a result of byuon changes. In what follows the reader will know that, when having specified only three constants: modulus of \mathbf{A}_g , τ_0 , and \tilde{x}_0 , we obtain values of all other fundamental constants and basic properties of the entire world as well. [6] [7] [8] [9].

TB predicts the presence in nature of a new non-gauge interaction that is different from the four known ones: strong weak, electromagnetic and gravitation-

al.

It was shown in [7] [8] [9]. that ultimate particle mass ($\Delta mc^2 \approx 33$ eV) is in party proportional to the modulus of summary potential A_Σ ($A_\Sigma \leq A_g$). Variation in the modulus of due to other field potentials (ΔA_Σ) should lead to the emergence of new natural force that is nonlinear, nonlocal and non-gauge. It can be represented by a series in terms of ΔA_Σ . (Then nonlocal is the relative position of the sensor and test body). These changes being equal, the force will be absent. Depending on the relative position of the sensor and test body ΔA can take as a positive, so a negative value.

To account for the non-locality of the phenomenon, we will take ΔA equal to the difference in changes of the summary potential $|\vec{A}_\Sigma|$ at the location points of a test body ($|\vec{A}_\Sigma|_T$) and sensor element ($|\vec{A}_\Sigma|_D$) (See **Figure 1**).

The efforts to experimentally test the properties of the new force were supported by academicians of USSR Academy of Sciences (AS) Belyaev S.T. and Nobel Laureate Prokhorov A.M. who presented for use their experimental installations with very high magnetic fields. The experiments were carried out at a period from 1987 till 1994 with the use of various measuring devices. The results are published in Refs. [7] [8] [9] [16] [17].

In this article we consider only two experiments performed in the Institute of General Physics of RAS (director RAS acad. A.M. Prokhorov) in March 02, 1990. For investigations, the most strong resistive (*i.e.* fabricated from resistive conductors) electromagnet in Moscow, with the field up to 15T, was used. To study the new force, a special torsion balance was manufactured. It was arranged in a non-magnetizable metallic tube which was evacuated in order for the convective flows of air do not influence the experimental results. As a test weight, a piece of beta-tin, very weak paramagnetic (that is, the substance very poorly attracted by magnetic field), was used. A metallic tube with the balance was arranged in the opening of a cylindrical magnet so that the action of the magnet upon the weight was minimum. The tube could be rotated together with the weight in the opening of magnet for the weight to be placed in its various opening sectors.

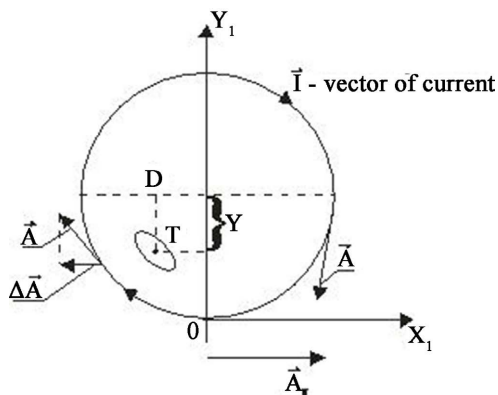


Figure 1. The system of coordinates and directions of vectors A_g and \vec{A} —vector potential of electric current, “T”—position of the test body, “D”—position of the sensor, X_1 —space coordinate [3] [4].

The procedure of measurements was the following. By rotating the tube, we moved the test weight into regions 1, 2, 3, 4 of the magnet (Figure 2).

In each region, an angular deviation x of the weight when increasing the magnitude of magnetic field up to 14 T, was measured. In Figure 2 the results of the experiments are shown. As is seen from the figure, the weight was attracted to the wall of the solenoid practically identically in regions 1, 2, 4, but the attraction was considerably weaker in the region 3 as if some force repels the weight from the wall. After six hours, the weight in region 3 was attracted as before in regions 1, 2, 4, and the zone of repulsion was moved into other region. The general conclusion from the run of experiments with high-current magnets was that the zone of repulsion moved inside the solenoid with a velocity of $15^\circ - 18^\circ$ degrees per hour. The magnitude of the force was 0.01 - 0.07 g at the weight mass about of 30 g.

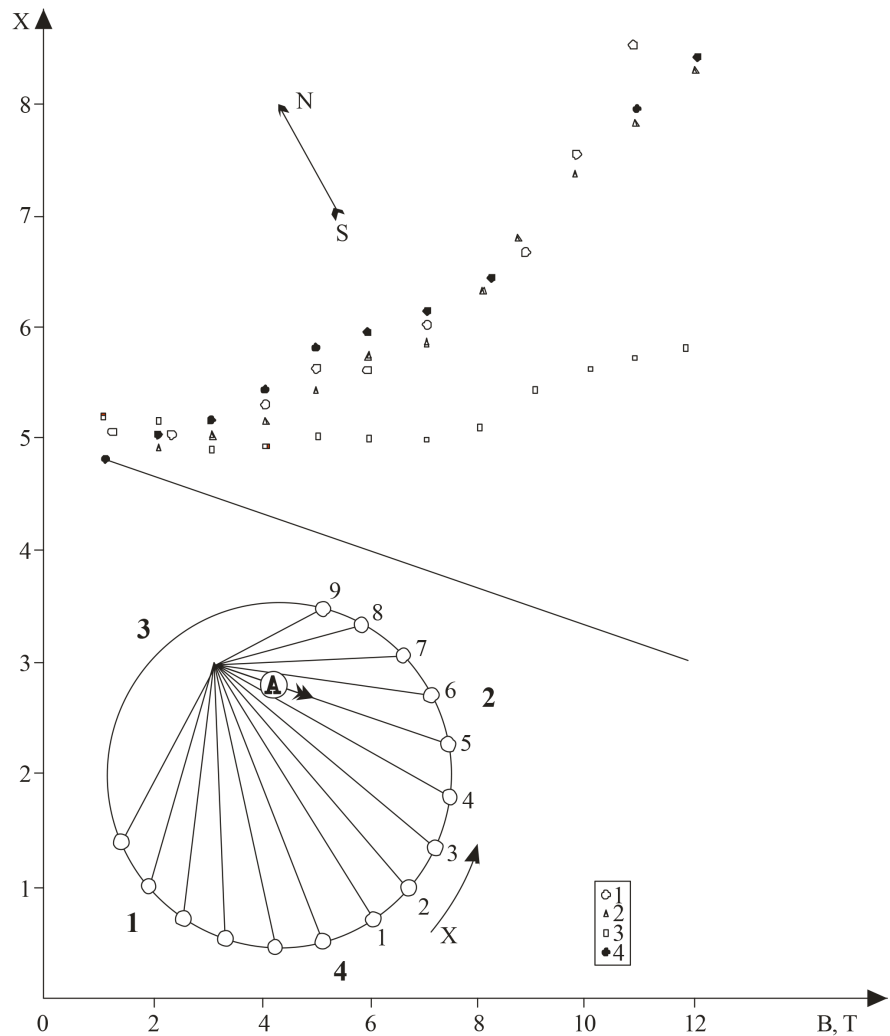


Figure 2. The deflection x of the weight depending on magnetic flux density B in the regions 1 - 4 of the solenoid aperture; $t = 13$ h 45 m (1), 13 h 00m (2), 14 h 15m (3), 15 h 00m (4); the straight line is a linear approximation (theory); A is the weight from β -tin [7] [8] [9] [16].

Since a torsion balance cannot hold the thread tension for a long time (many hours), we used a piezoresonance balance based on quartz crystals to study the new force [7] [8] [9] [16]. On **Figure 3** shows the results of two experiments lasting more than a day, when the deviations of a test body fixed on a special holder were studied at constant magnetic fields (B) of 1T and 14 T.

In the experiments carried out in 1987-1994, one coordinate of vector \mathbf{A}_g direction in the second equatorial coordinate system was firstly determined: the right ascension $\alpha \approx 270^\circ$. An analysis of great run of experiments with strong magnets and torsion or piezoresonance balances carried out throughout many years, has shown that the new force is of nonlinear and nonlocal character as to variation of some summary potential \mathbf{A}_Σ (that is, the force depends on the arrangement, in the magnet, of a test body and sensor made, for example, in the form of a torsion filament). The summary potential \mathbf{A}_Σ contains potentials of all existent fields of all possible sources (Earth, Sun, Galaxy, etc.), and the new force can be represented as a complex series (sum) in terms of changes in this summary potential \mathbf{A}_Σ . An analysis of great run of experiments with plasma devices [7] [8] [9] [18] [19] and of astrophysical phenomena [7] [8] [9] [20] [21] has shown that the direction of vector \mathbf{A}_g in the second equatorial coordinate has the following coordinates: $\alpha = 305^\circ \pm 5^\circ$, $\delta = 40^\circ \pm 5^\circ$.

The analysis of the results of experimental investigations of new non-gauge interaction using high current magnets, torsion and piezoresonance balances [7] [8] [9] [16] [17] has led to the following expression for the new force:

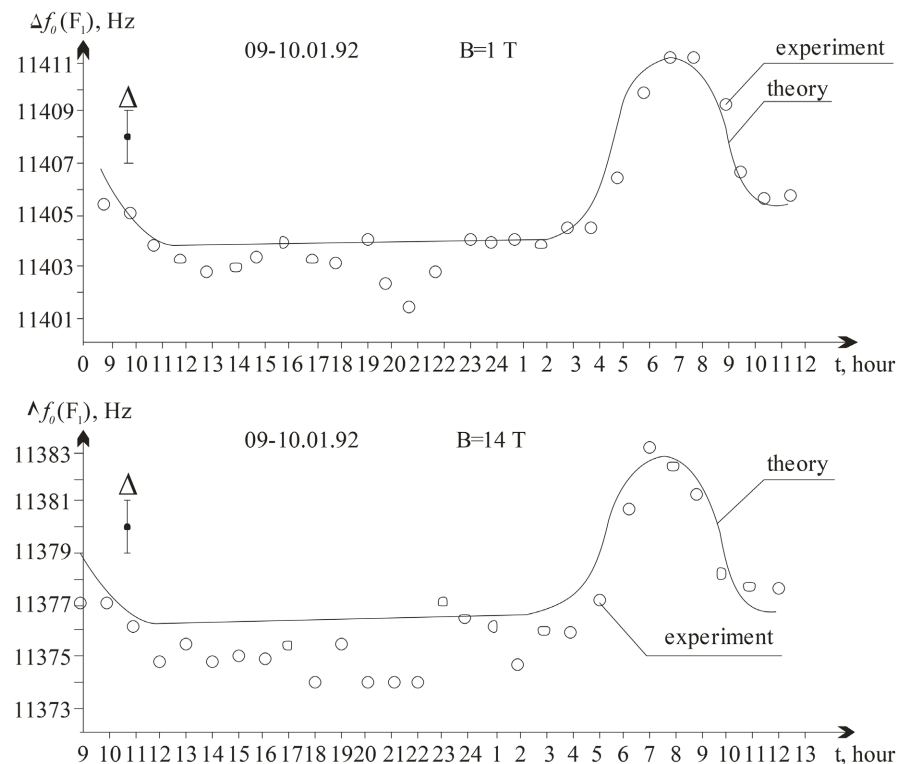


Figure 3. $\Delta f_0(F_i)$ is frequency deviation of the frequency-meter, t is day time. 09 - 10.92 -days of experience.

$$|\vec{F}| = -2Nm_0 |\vec{A}_G| \cdot c^2 \lambda(\Delta A) \cdot \frac{\partial \lambda(\Delta A)}{\partial \Delta A} \cdot \frac{\partial \Delta A}{\partial X_1} \quad (2)$$

where N is the number of stable elementary particles in the body.

$$\lambda(\Delta A) = \sum_{k=1}^{\infty} \lambda_k \exp \left\{ - \left[\frac{\Delta A}{A_G} \cdot \frac{r}{\Delta y} \cdot \left(\frac{ct^*}{x_0} \right)^{3/2} \right]^k \right\} \cdot \Delta A^k \quad (3)$$

where r is the radius of the circle which the test body is located on; Δy is the difference in y coordinates of the sensor and body (**Figure 1**); $(x_0/ct^*)^{3/2}$ is the part of the energy $2m_{\nu_e} c_0^2 = 2m_0 |\vec{A}_G| c_0^2 = mc^2 = 33 \text{ eV}$ ($\mathbf{A}_g = \mathbf{A}_G$) which can be acted upon by the electromagnetic field potentials, it is the 4b object mass; X_1 is the coordinate measured from the place of the maximum decrease in $|\vec{A}_z|$ due to the vectorial potential of the field source in \mathbf{A}_g direction (see **Figure 1**).

To estimate the value of F , we can use the first term of the series (2):

$$F = -2Nm_{\nu_e} c^2 \lambda_1^2 \Delta A_z (\Delta A_z / \Delta X), \quad (4)$$

where λ_1 —the first coefficient of the series ($\sim 10^{-12} \text{ (Gs}\cdot\text{cm)}^{-1}$); X —the spatial coordinate in three-dimensional space R_3 .

The existence of a new force of nature is quite firmly established and confirmed by many astrophysical observations (the movement of pulsars [7] [8] [9] [20] and the Sun (the natural space object carrying us under the action of this force to the Hercules constellation); on its basis, the nature of dark energy, pushing apart of galaxy clusters [15], and other phenomena can be explained.

The discovery of a new force of nature was officially announced at a conference in Italy (Sicily, San Flavia, September 2013) by Italian physicists dealing with solar energy and new energy sources [22].

In [7] [8] [9] we have considered experiments carried out with the aid of various measuring devices being capable to sense signals passing through QIC.

The information about the state of physical space in some of its areas, transferred by the QIC, is contained in coefficients λ_k in the expressions (2, 3) for the new force.

As a rule, all information on Earth is transmitted with the aid of electromagnetic field in the form of radio waves, TV-waves, photons of various frequencies. But here we will be dealt with information which cannot be transmitted in the ordinary way by the electromagnetic field but can, at the cost of changes in the structure of the physical space, formed by the objects 4b. The values of the new force and A_g direction will be indicators of this new information.

In more detail, then the individual image of any object in the Universe is encoded by coefficients λ_k (3), which indicates how this object perturbs the physical space—the quantum environment of objects 4b. BT [7] [8] [9] shows that one electron is bonded to another electron using a 10 cm QIC. Each minimal object creates a zone around itself at a distance of 10 cm, where there is information about it with 100 percent probability. The minimum information about an object can be distributed up to 10^5 cm using a QIC.

3. On the Biological Effects of Ultra Highly Diluted Solutions

Having considered the basics of BT, the essence of QIC, let us turn to the applied, controversial issue of the influence of UHDS effects on biological objects [1] [2] [3].

For many hundreds of years, homeopathy is known in the life of mankind as a form of alternative medicine that uses highly diluted preparations [23] [24]. In homeopathy, the active substance causes symptoms in healthy people similar to those of a patient's illness. The concept of "like cures like" (lat. *Similia similibus curantur*) is opposed by homeopaths to the principles of rational pharmacotherapy. The scientific community regards homeopathy as a pseudoscience.

It is generally accepted that the theoretical substantiation of the homeopathic principle does not correspond to modern scientific ideas about the functioning of healthy and diseased organisms, and the clinical trials of homeopathic preparations carried out often do not reveal the difference between the effect of homeopathic medicines and placebo [23] [24].

This means that any positive feelings after homeopathic treatment are due to the placebo effect and the natural recovery from the illness. Simple calculations show that in preparations with dilutions hundreds of times and higher, the probability of the presence of at least one molecule of the active substance is close to zero. But note that the generally accepted method of vaccination of the population is in many ways similar to the method of homeopathy. Therefore, not everything is so simple under the Moon.

Note that in recent years quite a few works have appeared on the experimental confirmation of the homeopathic effect based on modern research methods: spectrophotometry in the ultraviolet, visible and infrared ranges [24], nuclear magnetic resonance [25], etc. Therefore, we will try, using BT and QIC, to look at the old problem (the existence of homeopathy) and new methods of treating patients using UHDS in a new light.

In Ref. [26] it was first established that UHDS of any substance, both in the body and outside it, has a modifying effect on the initial substance underlying the action of UHDS. The term "release activity" was introduced to emphasize the technogenic origin of the modified UHDS activity. So, the technology of preparation of drugs based on UHDS is of decisive importance.

In this article, we will not go into the intricacies of this technology (reducing the concentration of the starting substance, shaking and transferring a small volume of the intermediate product into an intact medium), we will only turn to the substantiation of the effect of UHDS on biological objects using BT and QIC.

Let us explain our approach to the study of the operation of UHDS on the basis of the ideology of forming a space connection between spacecraft, using QIC [27]. In this work shown is the ideology of building space communications based on the existence of "byuon twins" (BB) as well as the results of the first experimental studies of receiving devices.

The essence of the implementation of communication based on the BB is that

if we can create two completely identical objects, then these objects will feel each other at any distance. The latter is understandable, since they will have the same coefficients λ_k in the expressions (2, 3), corresponding to the change in \mathbf{A}_Σ , and practically identical objects 4b, which form their physical space.

Of course, with a large distance between the BBs, other external sources will also influence the formation of objects 8b (as mentioned above), but the most important is the short-range order of the objects according to the \mathbf{A}_Σ change. From [7] [8] and [27] it can be seen that in the vicinity of the Earth, the most important sources of \mathbf{A}_Σ change are the Earth and the Sun.

In the study of QIC based on quartz oscillators during the alternation of the seasons of the year, the signal value changes 6 - 7 times. In this case, the character of the signal is reproduced with high accuracy in a year [8]. Some change in the signal after a year can be explained by the transition of the solar system to its other position as it rotates around the center of the Galaxy.

Since the author is directly related to technical systems for transmitting information, he would like to say a few words about this direction of using QIC.

One of the most important reasons slowing down the development of mankind is the absence of fast information exchange between people, especially between scientists generating novel knowledge about the surrounding world. As a rule, tens of years pass from an appearance of an idea, formulated in the form of an article in a journal or an original invention, to their realization in actual practice. With the advent of Internet and computerization of our life, the solution of the problem becomes somewhat nearer, but the entire communication we now have is based on the electromagnetic field or, more precisely, on transverse electromagnetic waves and their properties (final velocity of propagation, limited canal capacity, etc.) Such a type of communication does not allow to solving new tasks set before the humanity.

The great inventor N. Tesla attempted to construct communication on the basis of Coulomb (electrostatic) field but his venture was not very efficient with respect to huge dimensions of installations. But it is worth to note that an alternative to transverse electromagnetic waves existed already at Tesla's times.

Let us address once more to the foregoing paragraphs of this article, analyze them, and attempt to propose to the people of XXI century a novel type of communication which qualitatively differs from what we have now. First, the experiment carried out suggest that there exists in nature, quite possibly, a new quantum channel of communication for which the concept of information transmission speed is absent at all. The objects 4b forming the physical space are located, roughly speaking, instantaneously at all spatial points unifying all objects of animate and inanimate nature into the common information field. Let's look around. All that we see is such or another form of motion of charged particles. The directed motion of particles of the same sign is called the current. That always generates a field of vector potential. Therefore all information on the surrounding objects, the human himself, the whole mankind, etc., is instantly trans-

ferred over vast expanses on the order of the characteristic dimension of the Universe (10^{28} cm is the third period of byuon VSs' interaction, see [7] [8] [9]).

And how can we use this information? In paragraph 2 we have said that the new force is represented in the form of a complex series in terms of changes of certain summary potential containing in itself the potentials of all the known fields of nature. That series has a final but very great number of coefficients λ_i (where i equals $1, 2, \dots, N, k, P$ -byuons interaction periods) encoding the disturbance of the summary potential brought into the world by some certain current system, for example, by micro currents in the human DNA. Then two men with identical or very close DNA can feel one another at any distances as their current systems similarly disturb the field of the summary potential appearing in the definition of the byuon and hence in the objects 4b connecting those people through QIC. That is probably a cause of the frequently observed phenomenon when close relatives sense each other being widely separated.

If similar engineering systems were created on the basis of the same principle, the mankind would acquire a novel type of communication. Its importance is very great, if only for the communication between the terrestrial services and spacecrafts at distances up to many astronomical units (1 a. u. is equal to the distance to the Sun). If, for example, an in-flight accident will occur on a spacecraft and its antenna will deflect from the direction to our planet, the on-earth services will not be able to react instantly because the signal even from Mars region goes to the Earth many minutes, and so the spacecraft will be irrevocably lost. Unfortunately, such situations were more than once in reality bringing great material losses for the humanity and acute disappointment to scientists and engineers having put their labour and dreams into the spacecraft.

Let's go back to the UHDS and look at two specific examples. The first is the use of UHDS antibodies produced in animal organisms for the introduction of human interferon into them. The second is a drug derived from the fusion of the UHDS diclofenac (pain reliever) with the conventional drug diclofenac.

First example. Let us explain that interferons are a family of proteins produced by many cells in response to viral infection [28] [29]. There are three types of interferons: gamma, alpha, beta.

Each of them has its own structure, therefore, to send a command to start the synthesis of proteins, using one of the indicated interferons that block the production of viral nucleic acids, the same interferon for which the antibodies used in UHDS are obtained, should be most effectively used.

The work programs of interferon are laid down by the process of universal homeostasis, but as indicated above, in the hierarchy of decision-making, the short-range order of arrangement of objects in physical space plays the primary role.

First of all, everything said above about the effect of interferon on the cells of the body and the synthesis of proteins that block the production of viral nucleic acids, refers to lymphocytes, leukocytes and macrophages—the main defenders

of our body. Interferon blocks viral replication in cells.

These proteins are also involved in the interaction of cells of the human immune system with each other. In this article, we will not deal with the medical aspects of interferon action and deep immunology [28], but consider only the issue of command transmission based on the spatial structure of antibodies.

When an animal body develops antibodies, for example, to gamma-interferon, the spatial structure of this interferon changes, while the antibody contains complete information about these changes in the spatial structure of this interferon.

Objects 4b, due to QIC, carry this information on a scale of ~ 10 cm and change, due to the force (2), for example, the gamma-interferon geometric shape transforming it into that most effectively used to perform the functions of interferon above described.

Thus, antibodies in UHDS give only a command, using the QIC, written by the coefficients λ_k in expressions (2, 3), to obtain the geometric shape of interferon that most effectively fights against viral infection.

Second example. The drug obtained from the fusion of UHDS diclofenac (an analgesic agent) with the conventional drug diclofenac has shown very high efficacy with minimal adverse side effects that are often observed with standard diclofenac [30].

At first glance, there is a paradox. How can several molecules qualitatively change the properties of a drug for the better? Typically, the UHDS formulation is prepared from water.

The water molecule [31] is built of two hydrogen atoms and one oxygen atom. As established by studies of the optical spectra of water in a hypothetical state of complete absence of movement, it has the structure of isosceles triangle. Oxygen occupies the top of the triangle, and two hydrogen atoms lie at its base.

The angle between O-H bonds is about 104 degrees. The diclofenac molecule, like any other molecule in the vicinity of 10 cm, changes the structure of physical space, which is reflected in the structure of the physical space of the elementary particles that make up water.

Therefore, when a significant amount of UHDS of diclofenac (*i.e.* a large amount of solvent carrying information about diclofenac) is mixed with a conventional drug diclofenac, a significant effect occurs due to the action of water, which creates an informational effect of action similar to the action of diclofenac itself, using QIC.

It should be noted that the above angle of 104° corresponds to the cone of action of a new force of nature, pushing the substance out of the region of weakened A_2 along a cone with a solution of $100^\circ \pm 10^\circ$ around the A_g vector (see before [7] [8] [17] [18]). The latter suggests that water is a unique object for the perception of new signals from nature passing through the QIC.

As noted in the practice of using UHDS drugs, the most important advantage of UHDS is a significant suppression of all negative side effects during their use [26] [30].

Summarizing all of the above, it can be noted that UHDS of substances have

long been used in homeopathy for specific purposes—individual treatment based on the principle of similarity, which refers homeopathy to personalized medicine and does not allow confirming/refuting its effectiveness using classical placebo-controlled studies.

Biological studies of the effects of ultrahigh dilutions of substances carried out over the past decades [32] [33] [34] [35], the discoveries in the field of the physics of aqueous solutions, which have proved the possibility of the formation of long-lived dynamic structures in solutions [36]-[44], as well as changes in the properties of solutions subjected to physical action [45] [46] [47], indicate the great potential of ultrahigh dilution technology.

It should be noted that the number of molecules of substances dissolved in water, subject to a physical effect on the solvent (as a dominant factor), fades into the background, since the solution treated using the ultrahigh dilution technology (a consistent decrease in concentration with physical (mechanical, electromagnetic) influence on each intermediate), acquires new properties and, regardless of the number of molecules of the solute (the presence of which at the initial stages is important for the formation of the vector of modification of solutions), is able to preserve them for a long time. We have shown the latter on the example of diclofenac.

At the time of the development of the COVID-19 virus on our planet and the disputes over its occurrence, I would like to say the following about the latter. In experiments (see before and [7] [8] [9]) it is shown that alpha and beta decays of radioactive elements are not purely random processes and are influenced by changes in fundamental scales (10^{-17} cm, 10^{-13} cm) depending on the change in A_{Σ} .

It is shown [8] that crystals can also respond to a change in A_{Σ} . Those influence of the change in A_{Σ} on the dimensions of the crystal lattice (scales about 10^{-11} cm) is experimentally seen.

Hence, we can conclude that polymer structures (viruses, the sizes of which are about 10^{-6} - 10^{-7} cm) can also change with fluctuations of A_{Σ} in space at their location under the action, for example, of the potentials of the magnetic and gravitational fields of our planets and the Sun, as well as other cosmic bodies. This will be the physics of mutation of viruses and other microbiological objects in nature based on BT. Of course, this does not override the standard causes of mutation, such as exposure to radiation.

4. Conclusions

The article provides a rationale for the therapeutic effect of UHDS on the human body in the framework of the Byuon theory and the QIC. The use of UHDS can create a new pharmaceutical industry, the drugs of which will lead to minimal negative effects on the human body.

You can look at everything said above from the other side. The author has no doubts about the effective action of UHDS; therefore this action itself once again

confirms the existence of the QIC and the basic postulates of BT.

The author proposes to unite the efforts of pharmacists, physicians and physicists on the planet to understand the effect of UHDS and to implement them as soon as possible for the treatment of people.

It should be noted that in the literature there are a huge number of articles devoted to the search for quantum means of information transmission [48] [49]. But they are all based on classical quantum mechanics, on the mixing of psi-functions.

Note also that by information [7] we mean here not informativity as in theory of information developed by Hartly and Shannon [50] on the basis of entropic approach, but the numbers of information bits (the values “0” and “1”) in one or another information subsystems of the system of considered objects (the combinatoric approach [51]). By “1” we imply here accomplishing the minimal act (minimum action $h/2$) in the system with formation of an object with $E > 0$ from byuons, and by “0” disappearing of the object with $E > 0$ is meant.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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