

# Nature of Torsion Fields

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*It is the greatest truth that compiled and disembodied facts come to harmony if a hypothesis is put on them*

after Herbert Spenser

*It can be undoubtedly affirmed that every well-known physical phenomenon originates from the depth of matter; therefore we should look for the causes and laws of phenomena neither on matter nor among matter but in the most inaccessible for our perception areas of matter...*

A. Chizhevskiy "Problem of Matter"

## Torsion Field and Its Spin

Nowadays torsion fields are widely discussed. On their basis the newest scientific theories are composed; by their means diseases are treated; metals with unusual qualities are produced. Experimental science has accumulated rather extensive information about the display of these fields. Nevertheless, there is still no rational explanation of their nature.

One of the first attempts to give the only explanation of torsion field was made in "Physical Theory of Vacuum". The creators of this theory offered to consider the torsion field as generated by spin, that is some quantum-mechanical magnitude. According to quantum mechanics, every elementary particle has a spin whether it is an electron or atom. If the spins of elements, which constitute one or another material form, have some primary direction then it can be said that the subject is *spin-polarized*. Such a *spin-polarized* form creates Torsion, Axion or Spinor field (the name is depended on individual preferences). Nevertheless, in the present time nobody knows exactly what spin is. There is an opinion that spin is connected with the angular moment of particles, i.e. with their rotation. However, this idea is contrary to such postulates of theoretical physics as the postulate that matter cannot move at super-light speed. Let us illustrate the postulate. In physics atoms and other material particles are accepted to be shown as little sphere bodies, i.e. bodies, which have real mass and volume. (Probably, there is some sense in the heart of this idea). These bodies rotate on their axis. The angular velocity of rotation of the bodies increases as their geometric size decreases. The angular velocity of rotation of some atoms and elementary particles is equal to the light speed. This is where a contradiction is revealed. There is no problem in the fact that angular velocity of rotation is equal to the light speed because it is just the speed

of 360-degree turn of an imaginary axis. However, if given particle has no imaginary but real size then every point of its volume will have linear speed, which value will exceed light speed value that depends on the distance of the point from the axis of rotation. The more the distance is the more the speed. This very notion is contrary to the basic postulate of theoretical physics, viz matter cannot move at super-light speed. To avoid this contradiction quantum mechanics considered spin as just quantum-mechanical magnitude without going to the heart of its nature.

It turns out that the offer to consider spin to be a torsion field source does not clarify the essence of the phenomenon. On the contrary, it makes the essence much more incomprehensible. Thus it should be admitted that the attempt to explain the nature of mysterious torsion field by the more mysterious spin was obviously unsuccessful. There can be objections caused by the fact that electric field generated by some unknown charge is considered to exist. It is the truth but in this situation the intermediary, the charge carrier, i.e. electron, is known. Thanks to this intermediary electricity exists. As for spin, its intermediary is unknown to the science. There is no particle, which is the support of unit spin. Spin is just mechanical turning moment veiled by quantum mechanics. This magnitude is just the evidence that Something must rotate to generate a torsion field.

## About Sphericity of the Earth and Something More

Indeed, the Earth has sphere shape. This is a well-known fact. What is the cause of torsion field? What is that Something the rotation of which generates this field? The exact answers for these questions do not exist. However, there are some doubts in the modern science ability to answer these questions. Of course, it must be something that can help to untangle the problem.

When material matter moves a peculiar gravitational field is generated alongside with the appearance of the common gravitational field. This special kind of field is generated only by moving bodies and interrelates only with moving bodies. This field can be used as that something, which can help to untangle the problem of torsion fields. By analogy with generation and structure of similarity with gravitational one this field was named **gravimagnetic**. The other name of the field is **gravidynamic**, i.e. gravity field generated by motion. This name was given to the field by Soviet physicist and mathematician, Academician A.F. Mitkevich, who described this type of fields by combined equations, which are similar to Maxwell's equations of electromagnetic dynamics [1]. However, Academician Mitkevich was not the first to begin to speak about gravimagnetic fields. In 1912 A. Einstein published a brief article named "Does Gravitational Influence Analogical to Electromagnetic Inductance Exist?" [13]. In this article he derived an affirmative reply for the question.

Further the idea of gravitation magnetism was developed in Thirring and Lense's works. They proved that if any gravitational mass is rotated then along with gravitational static field the other field of vortex type (gravimagnetic) is also observed. This field is similar to the magnetic field of a charged sphere [2], [3], [12]. Later on this phenomenon was called Thirring-Lense's effect. Only after the publication of Academician A.F. Mitkevich's works gravidynamic fields have got the official status. They were recognized but soon forgotten because according to the opinion of the most of scientists these fields could not be practically applied.

Some time later torsion fields became to be discussed in science. Spin theory failed. Probably, there has come time to appeal to Academician A.F. Mitkevich's works. Especially since private solution of his equations demonstrates that his gravidynamic fields are similar to so-called torsion fields by their properties and characteristics of interactions with the other field or matter. So-called "reduced equations" are especially convincing. In these equations the Academician uses energy flow instead of mass flow, as Maxwell used displacement current in his equations. These equations allow cover the whole spectrum of phenomena connected with torsion fields. Moreover, they allow affirm that any energy flow (or the system of flows), which cubic density satisfies the conditions of continuity, and generates gravidynamic (or torsion) field in the ambient space. The value and direction of the field depends on the value and direction of this flow.

Thus, gravidynamic theory based on Academician A.F. Mitkevich's equations, regards objective and really existent energy flow as the main source or cause of torsion field appearance in contrast to quantum-mechanical magnitude of spin. However, gravidynamic theory does not refuse spin as a magnitude of field source. It offers to extend this notion and regard spin as summarized gravidynamic moment. This moment consists in the gravidynamic moment of rotation and gravidynamic moment, which is obtained due to the energy exchange between a particle and medium.

### **Causes and Consequences**

In gravidynamic theory an elementary particle, either electron or atom or molecule, is endowed with gravidynamic moment. It is considered that torsion field actively interacts with substantial matter. This interaction becomes apparent in the phenomenon of matter polarization. Physically phenomenon of polarization means that under the action of external gravidynamic (torsion) field molecules, in a matter atoms or free electrons obtain strict orientation toward the field, which acts upon them. This ordering of the structure of matter outwardly becomes apparent in different effects, for example, in ponderomotive effect or Myshkin's effect at which the freely pendulous body acquires the moment of rotation. Partly the so-called "zero drift" effect caused by the use of high-precision dial measuring instruments is connected with this

effect. For the first time this effect was noticed and partly investigated by Russian professor V.P. Myshkin in the beginning of the last century. Basing on the phenomenon discovered by him there was designed a measuring instrument of the type of torsion balance. This instrument was designed to measure the intensity of torsion field, which is generated by the beam of light [5].

The other effect is the changing of matter cubic resistance to continuous current. This changing occurs due to the re-orientation of free electrons in metal or semi-conductor (the so-called Kozyrev's effect). This phenomenon was discovered and firstly used by Soviet astronomer N.A. Kozyrev in his sensor designed for the registration of plant bio-fields and stars locus [6].

In addition, it is indicated in gravidynamic theory that since the direction of magnetic moment vector coincides with the direction of gravidynamic moment vector then stable magnetic fields can be used as gage fields for sensitivity enhancement of registration devices.

However, the most interesting consequence, which follows the gravidynamic theory of torsion field, is the statement that torsion fields are generated during the process of chemical reaction. The intensity of these fields is proportionate to the energy, which is generated or absorbed in the process of those chemical reactions, and to the intensity of this power exchange. Moreover, generated torsion fields have well-defined polarization, which depends on the type of chemical reaction. The reactions can be exothermal or endothermal, i.e. they can proceed along with generation or absorption of energy. Basing on this field asymmetry it can be supposed that if some value of interacting chemical matters is placed to external torsion field then the change of speed of this chemical reaction can be observed. If the direction of one field coincides with the direction of the other one then the speed of chemical reaction will increase; if the directions are opposite then the speed of the reaction will decrease [8].

This ability of chemical reaction to be the source of torsion field allows affirm that so-called bio-field of living objects is the superposition of torsion fields. Bio-chemical processes, which proceed in the cells of an organism, are sources of torsion field [8].

In conclusion it should be noticed that since in reality energy flows are variable value then torsion fields generated by them would be variable as well. This means that analyzing the character of the interaction of a matter with a torsion field many factors should be taken account. It is not only the intensity of acting field should be considered but also the frequency characteristics of the own torsion field of an investigated matter and the frequency characteristics of the field acting upon this matter. The intensity of gravidynamic fields is lower than the intensity of electromagnetic fields. However, this point of view allows explain why the gravidynamic fields make visible effects, which by

their force are comparable with the effects by electromagnetic fields. Sometimes the effects of gravidynamic fields even excel them. For example, Myshkin's effect, Kozyrev's effect can be mentioned. Kozyrev made experiments with fast-rotating gyroscope. In these experiments to demonstrate the weight decrease of the gyroscope it was required to tune the system of the gyroscope balance in appointed oscillation frequency value by an external oscillator. According to Kozyrev's remark it was necessary to meet this condition. Only in rare cases, if as a result of degradation in gyroscope bearings there were appeared mechanical beatings, then weight defect could be registered without the oscillator use [6]. It can be explained from the point of view of gravidynamic theory. According to this theory all known physical effects connected with the interaction of torsion field with matter, are resonant phenomena. For their appearance the basic oscillation frequency of acting field does not need to coincide with the basic oscillation frequency of the field of matter. It is enough if the harmonic constituents of these oscillations will coincide.

### Final Reflection

In conclusion it is worth to cite the words of Alexander Chizhevsky: "Ability to generalize, find the similarity of different by appearance subjects and phenomena is one of the basic and remarkable qualities of our mind and, therefore, of Nature itself because our brain is its coordinated part. Thus, our mind establishes similarity, generalizes natural phenomena; and this very generalization is a scientific fact, which later on an exactly and briefly formulated law is derived from.

Since it can be said that the method of analogies, which has in its base series of features inherent to different phenomena, is one of those methods which help different areas of knowledge to unite together and approach us to the comprehension of those routs where the grandiose genealogical tree of physical laws or, probably, of physical unified law grows from!"

These words were said in 1920; nevertheless, they are still present-day and very actual for this work, since electromagnetic and gravimagnetic oscillations are the different branches of the same genealogical tree. This is evident from the fact that all basic equations of electromagnetic and gravimagnetic theories are symmetrical. This quantitative symmetry means a lot. It shows that if we prolong electromagnetic spectrum to the direction of oscillation frequency increase then we can find out that in some interval electromagnetic waves change into gravimagnetic or torsion waves.

This conclusion is based on the similar nature of these oscillations. Both types of the oscillations are generated by the same multitude, i.e. by energy flow, which, according to an ancient sage's words, is "impulse essence". There is the question what the cause of the impulse is. Nowadays we just can consider it to be the result of some unknown processes, which proceed in

the heart of matter. These processes will come to light when we are able to understand the essence of aether. Therefore electromagnetic spectrum is worth to be named vacuum or aether oscillation spectrum. The type of the spectrum will not be just linear. Two different branches can be superposed only by equal bottom-up spiral where one turn is electromagnetic oscillations; the other one is gravidynamic oscillations. It is the question for future science to answer of how many turns the whole spectrum has. It is clear that the spectrum can be built either upward or downward.

Let us analyze the obtained tree of aether oscillations then we can come to interesting conclusions. This point of view shows that the spiral frequency scale must have three gangings. One of them is a frequency value. And what do the other two mean?

Our objective world is material. Even a child knows this basic truth. We are surrounded with different forms of matter. Ancient sages named matter "waters" because they associated space with the notion of 'ocean'. Space is filled with matter. Matter represents the notion of Space like waters represent the notion of 'ocean'.

Thus the other ganging will be materiality. This term means the refinement of matter from its coarse forms, such as solid bodies, to liquid and gaseous state, and moreover, to the fine state of plasma, and unknown refined vacuum-aether. Each of these mediums or levels of materiality corresponds to some branch of aether oscillation spectrum.

The last ganging will be the speed of propagation of aether oscillation. It is logically based on the statement that the speed value of the longitudinal oscillations of medium depends on the fineness value of this medium. The finer the medium is the higher the speed. The last fact allows build the tree of the spiral using the standard physical equation. In this equation wavelength value is equal to the quotient of frequency value by the value of speed of oscillation propagation in the medium. Since the higher speed on the new level of materiality every time gives us back to the beginning of the spectrum. At the beginning of the spectrum all the qualities of these oscillations are approximately the same, i.e. all of them are just oscillation essence. At the other end of the branch all the oscillations obtain ability to generate particles. Probably, it occurs as the result of the process during which in medium harsh high-frequency oscillations produce vortices. These vortices can be observed as independent objects or particles. The spontaneous generation of the pair of electron and positron can be mentioned. Since, according to the law of cyclicity, gravidynamic oscillations have the same interval. What matter will be generated by these oscillations?

It can be used the principle of analogies to answer this question. If harsh electromagnetic oscillations generate matter, which particles are, connected with each other by electromagnetic fields, then harsh gravidynamic

oscillations must generate matter which particles are connected with each other by gravimagnetic fields. In short, in nature both the atoms of electromagnetic origin and the atoms of gravimagnetic origin must exist. Taking into account the stable principle of nature that every subject can interact only with similar one, the conclusion can be made that either atoms or molecules will gather to matter forms according to their nature. Thus, at least two types of matter will exist in the world. Paying attention to the size of molecules, atoms, and their particles, and correlating them with interatomic distance and weak interaction of electromagnetic and gravimagnetic fields, it can be affirmed that the existence of two types of matter in the same value of space is possible.

Moreover, nothing prohibits us to affirm the existence of the whole world in our value of space.

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## Russia Instituted Annual Competition in Power Engineering Sciences The award is financial equivalent of the Nobel Prize

In Russia an international prize of "Global Energy" has been instituted. This is the first prize of the world fundamental and applied science, which will be awarded for proposals of outstanding projects in the field of energy and power engineering. Group of well-known Russian scientists headed by Zhores Alferov, the Nobel Prize laureate, proposed the idea of new international prize in the area of alternative energy technologies. The prize should provide more development of theoretical and mainly the practical applied scientific projects in the area of power engineering. It is considered to raise interest of the leading experts from different countries and international scientific societies in solving of the most important problems of power engineering.

The prize is instituted this year and will be awarded annually since 2003. It is interesting that the prize fund is formed at the expense of sponsor contributions of the greatest Russian companies, which are involved in power engineering and oil business: "Gasprom" and "United Energy Systems of Russia" Corporations and "YUKOS" Oil Company.

Some time ago all new energy topics in Russia were in secret, i.e. they were hidden from open scientific society and there were no any serious publications. But history of Russian science has many bright examples of experimental success in this area. In 1888 Prof. Latchinov, who had patented first hydrogen electrolysis system, also claimed possibility to get high efficient hydrogen production and he explained that extra-energy is result of the environmental heat conversion. Also Prof. Yablotchkov, who is Russian inventor of electric lamp, claimed 200% efficiency and described his method of "amplification of electricity" by means of open surface capacitors, French patent #115793 of November 30, 1876. In 1948-1950 N.D. Papaleksi developed topic of parametrical generation of electroenergy and in the case of capacitance parametrical resonance it was claimed that it is possible to create "a very high efficiency".

Modern political and economical situation in Russia is not so good to believe in quick development of the new energy technologies market. Russia is exporter of oil and official plans are to increase the export (also in USA) to get more profit for Russian budget. It is clear that simple and profitable business topic always is more important than risk scientific projects. So, I can assume that innovations in Russian new energy systems market cannot be global in 2003-2005. But today in this scientific area Russia is ready to become one of the most advanced countries of the World. Sure, at the first stage a notion of alternative energy is something related with hydrogen, wind power, solar panels and other classical approaches but I hope that in future any invention of fuel-less energy system can be nominated to this prize. Perhaps in nearest future we'll get possibility to put in the market some real "perpetual mobile"!

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