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Conceptual Error in Contemporary Science

Joseph J. Smulsky
Institute of Earth's Cryosphere, Siberian Branch of Russian Academy of Sciences
625000, Tyumen, P. O. Box 1230, RUSSIA; e-mail jsmulsky@mail.ru

Although today we consider many historical conceptions of the world naive, herein we argue that many modern abstractions used in science are equally fantastical. We argue that it would benefit progress in science to concentrate research on those objects actually found in the material world, rather than objectifying abstractions and then considering them real. **Key words:** interaction, force, motion, electricity, magnet, gravity, black hole, Big Bang, expanding Universe.

1. Introduction.

In contemporary science the material world around us is described employing the terms: "energy, field, curved space-time, black holes, expanding Universe, Big Bang, *etc*. In the course of time, many of these abstractions have come to be understood as concrete objects existing in the material environment. Herein we shall analyze these conceptions in terms of their origin in physics theory and with respect to the issue of what they can ontologically represent.

2. Representation *vs*. Reality

Consider Homer's tale in which Achilles launches a javelin towards Trojan's Aeneas, son of Anhis, which, although it pierces his shield, lands harmlessly on the ground. In complete surprise, Achilles exclaims:

> "The immortal Gods! My eyes see a great miracle: The spear is lying on the ground; but it is nowhere seen the man, In which I launch a javelin and which I had meant to kill. This Anhisid is truly very found for Olympic deities!"

From this we may infer that Achilles actually believes that Aeneas' otherwise inevitable demise was prevented by intervention from the gods. This was not meant as a metaphor or literary allusion. From reading the ancient authors we learn that they truly accepted that gods controlled the winds, rain, Sun and Moon, that they directed mankind and ordained its fate. Nowadays we consider these notions naive. We understand the nature of air and the effect of the pressure differences in the atmosphere generating wind or even hurricanes. Our knowledge is so reliable, that we have no doubt, we simply consider these ancient beliefs mistaken.

Nevertheless, in this regard, questions still can be posed: Are our contemporary conceptions really free of error? Which of them will our descendants reject as naive? Can we not already now identify such mistakes, and correct some of them—thereby precluding criticism from coming generations?

The world around us is filled with objects, *e.g*., sky, stars, trees, our home with its fill of common things, *etc*. We see that these objects have influence on one another. We study them to discover the reason for the changes they undergo; and, in this way acquire an understanding of the workings of the world. Whereas in ancient times, such changes were ascribed to deities and demons for explanations, we now we call on 'fields', 'aether', 'energy', 'space-time' and so on. However, even though we see that through the ages explanations have changed, the actual objects themselves have not.

3. Non-Hypothetical Description of Electromagnetic Interaction

3.1. Interaction Among Static Charged Particles and Magnets

The contemporary understanding of the physical world is based on the Theory of Relativity. At its basis lies a means to describe the electromagnetic interaction employing the concepts of 'fields', 'space' and 'time,' which are used to express the interaction of particles via the alteration in the dependence of the relative velocity of motion of the interacting particles. But is it correct? Let us look at the interaction of magnets and charged particles on the basis of those laws of electromagnetism resulting from empirical experience. Static, electrically charged particles with charges q_1 and q_2 and magnets with magnetic charges M_1 and M_2 exercise forces on each other (See Figs. 1a, 1b), given by the expressions:

$$\mathbf{F}_{el} = \frac{q_1 q_2}{\varepsilon R^3}\mathbf{R}\ ; \qquad \mathbf{F}_{mg} = \frac{\mu M_1 M_2}{R^3}\mathbf{R}\quad , \tag{1}$$

which are known as COULOMB'S Laws for the electric and magnetic interaction.

These relations were established empirically, on the basis of observations. Under the influence of this force, a particle takes up motion and reaches, say, velocity $\mathbf{v}$. Now the question arises: does a moving particle with charge q_2 (See Fig. 1c) affect the stationary particle with the same force, Eq. (1), or it is different? Unfortunately, electrodynamics, as developed in the 19th and 20th centuries in order to explain such interactions, introduced the concept of 'field', the strength of which is determined by the scalar and vector potentials φ and $\mathbf{A}$, and then, as is well known, expressed as the field strengths $\mathbf{E}$ and $\mathbf{H}$, or $\mathbf{D}$ and $\mathbf{B}$, and other related quantities. The question regarding the force, $\mathbf{F}$, of the mutual interaction remains open to this day, however. The fact is though; all measurements are carried out directly on the interacting particles (bodies) themselves. Let us not take recourse to hypothetical agents, *i.e*., fields and their in-

tensities, rather, let us go directly to the results of measurements on the particles to determine the forces between charged bodies.

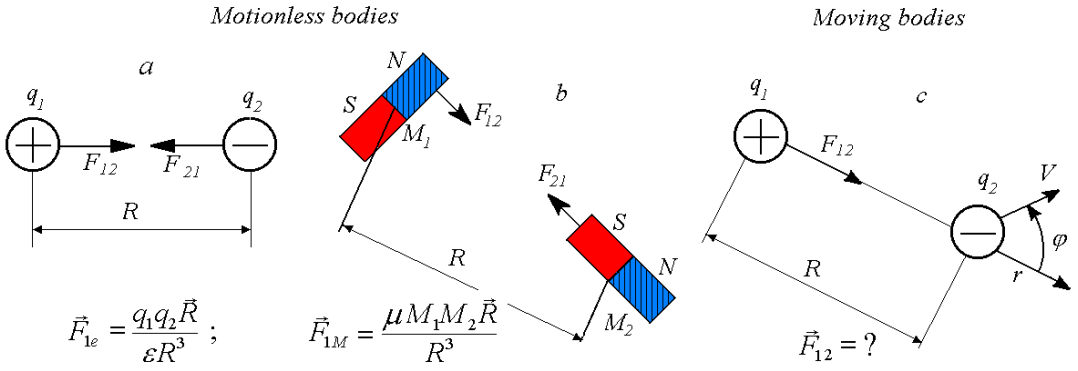

Figure 1. As magnets and the electrified bodies interact.

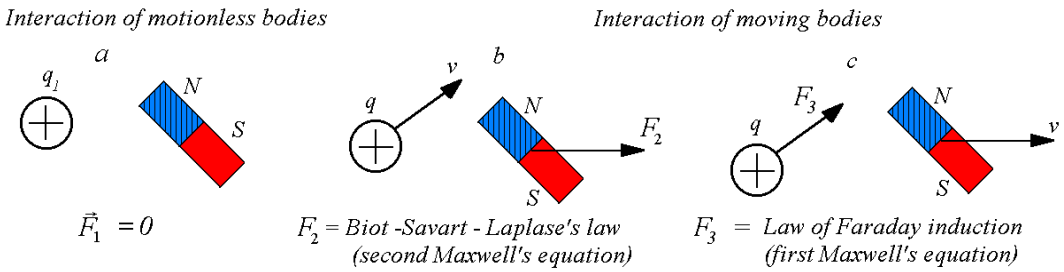

Figure 2. How shall the interaction of motionless and moving bodies be defined?

For this purpose, let us consider the interaction of a body with charge q and another body with magnetic charge M. If they are at rest (See Fig. 2a), then they exercise no force on each other, that is $\mathbf{F} = 0$. If, however, this electric charge q moves with respect to the magnetic charge (See Fig. 2b), it is understood that then, according to the Biot-Savart-Laplace Law, there will arise a magnetic field at the location of the magnetic charge. In that case the electric charge exercises a force $\mathbf{F}_2$. Ignoring the field interpretation and considering only the empirical facts: a moving charge exercises a force on a magnet according to the mentioned law:

$$\mathbf{F}_2 = \text{Biot Savart Laplace Law} \qquad (2)$$

If, on the other hand, the magnetic charge moves with respect to the electric charge q (See Fig. 2c), then we call on the Faraday Induction Law, according to which an electric field is engendered at the location of the electric charge giving rise to a force $\mathbf{F}_3$. Again if we ignore the interpretation involving fields, and focus again on the empirical facts, we can say that moving magnetic charge exercises a force on an electric charge according to:

$$\mathbf{F}_3 = \text{Faraday Induction Law} \qquad (3)$$

Thus, we have three experimental facts showing that: a static pair comprising a magnetic and electric charge do not interact, but if one moves with respect to the other, then they do interact. From this we deduce an important conclusion: electric and magnetic charge interaction depends on the velocity of the relative motion.

3.2 Interaction Between Moving Charged Particles

Now let us return to the question of the interaction of electrically charged particles. If the particle carrying charge q_2 (See Fig. 3) is moving with velocity $\mathbf{v}$ with respect to stationary charge q_1, then their mutual interaction is determined with the three measurements mentioned above. The first component force, $\mathbf{F}_1$, consists of the interaction of the charged particles themselves; *i.e.*, $\mathbf{F}_{e1}$. Then, on account of the motion of charge q_2, at the location of charge q_1 there appears an effective magnetic force $\mathbf{F}_2$. This is the second measurement. Since the distance from charge q_2 to this apparent magnetic charge is changing, the influence on it is changing. The change in influence we consider to be due to motion of a magnetic charge located at the position of q_2. The third component force $\mathbf{F}_3$ results from the motion of the magnetic charge on q_1.

The auxiliary forces $\mathbf{F}_2$ and $\mathbf{F}_3$ depend on the velocity of motion, as we already remarked, are described in terms of the Biot-Savart-Laplace Law, ($\mathbf{dH} = I\left[d\mathbf{l} \times \mathbf{R}\right]/R^3 c$), and the Faraday Induction law: ($u = -\frac{1}{c} d\Phi / dt$). For infinitely small sized charges distributed on coordinates that are the characteristics of

the motion and are given by the second and first Maxwell equations:

$$\vec{\nabla}\times\vec{H}=\frac{\varepsilon}{cq_1}\frac{\partial\vec{F}}{\partial t}+\frac{4\pi}{c}\rho\vec{v} \quad , \quad \nabla\times\mathbf{F}/q_1=-\frac{\mu}{c}\partial\mathbf{H}/\partial t \ ,$$

respectively. After eliminating $\mathbf{H}$ from them, we get a differential equation for the interaction forces of q_2 on stationary charge q_1 in the form:

$$\Delta\vec{F}-\frac{1}{c_1^2}\frac{\partial^2\vec{F}}{\partial t^2}=\frac{4\pi q_1}{\varepsilon}\left[\frac{1}{c_1^2}\frac{\partial(\rho\vec{v})}{\partial t}+\text{grad}\ \rho\right] \quad , \qquad (4)$$

where $c_1=c/\sqrt{\mu\varepsilon}$, the velocity of light in the considered medium, and ρ is the charge density for which $q_2=\int_V \rho dV$.

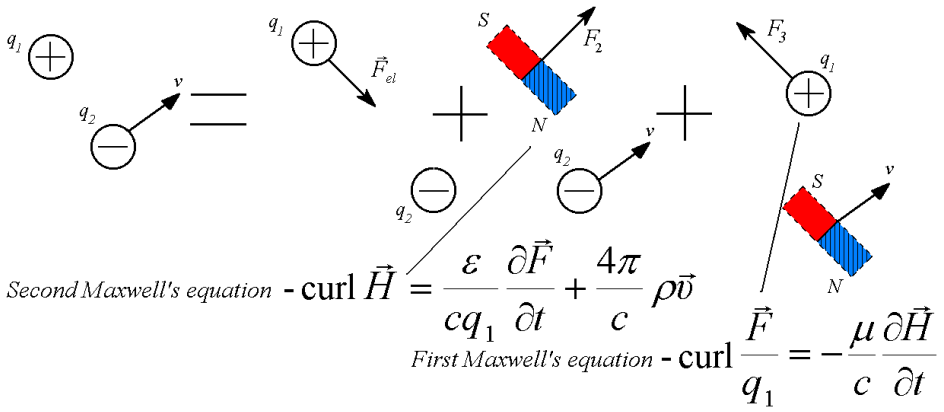

Figure 3. How the forces between moving bodies are defined.

The solution of Eq. (4) gives the following expression for the force

$$\vec{F}=\frac{k\left(1-\beta^2\right)\vec{R}}{\left\{R^2-\left[\vec{\beta}\times\vec{R}\right]^2\right\}^{3/2}} \quad , \qquad (5)$$

where $k=k_e=q_1q_1/\varepsilon$ and $\vec{\beta}=\vec{v}/c_1$.

This force law describes all electromagnetic interaction. And as we see, this force depends on the velocity of motion. If the velocity of motion tends to the speed of light, *i.e.*, ($\beta\to 1$), then this force tends to zero. Naturally, motion of charges does not lead, as it does in the Theory of Relativity, to a change in space, time or mass. These presumptions from the Theory of Relativity, we conclude, are erroneous and should be rejected.

4. Errors in the Basis of General Relativity Theory

Towards the end of the 19th century, physics explained natural phenomena in terms of an aether and fields. It was assumed that light waves propagated through the aether. The smallest particles of matter were considered to be composed of aether. Electric charges and magnets engender around themselves corresponding fields that were taken to affect other bodies. Then the idea that gravitational interaction could also be attributed to a field was found alluring. If adapted, this idea would render all natural interactions of the same type, all expressible in terms of fields. Thus it would be possible to construct a single unified theory of the Universe.

This notion deserves consideration. Theoretical physicists take their task to be to find such representations of the natural world for describing the behavior of the objects found in it. However, for others, these explicatory theories become something more than just representations, they are taken to be a portrayal of the world as it exists. That is, they begin to see the Universe as actually comprised of such conceptions or imaginings derived from mental activities. Ontological substances are ascribed to these imaginings, and are promulgated so that following generations think of them as actual material objects in the world. Thus, aether and fields, for example, really are only conceptions to help explain Nature. They are just hypothetical objects, not real objects.

Let us return to gravity. In the Special Theory of Relativity the interaction of particles with each other is explained in terms of changes in their space-time relationships. In connection with these notions certain logical problems arose, in so far as for the explanation of gravitational interaction there was no need for space-time alterations. But the desire to create a unified theory or conception of the world was so strong that a finite velocity, equal to that of light, for gravitational interaction was posited. A description of gravitational interaction of bodies in motion was found in analogy to that for the electromagnetic interaction. Furthermore, this description was formulated in terms of generalized curved, four-dimensional coordinates. Thus, there arose in the General Relativity Theory (GRT) a new type of formulation completely rendered on the basis of mathematical notions. These imagined constructions for GRT do not resemble any object in the material world. Therefore for humans this science is irreconcilable with the everyday material world. Many of its conceptions cannot be associated with objects in the material world; and, it is replete with logical contradictions. In fact, I doubt, that

the number of such contradictions could be greater, were GRT constructed, as was electrodynamics and gravity by the ancients, by simply attributing it to machinations of the gods.

If the concepts for GRT are converted to 3-space coordinates, then the force of gravitational interaction is described by a differential equation, Eq. (4), for which a solution can be written as Eq. (5), where the mass of the static body – $m_1 = q_1 / \varepsilon$; ρ is the mass density of the mobile body m_2, $k = k_g = -Gm_1m_2$, and G is the gravitational constant. But here again, there is no reason to assume that the speed of gravity must equal the speed of light.

One considers that the empirical justification for GRT consists of three phenomena: the precession of the perihelion of Mercury, the deflection of light grazing a massive body and its change in frequency moving toward or away from a massive body. I think an unshakeable law should obtain: **unfounded assertions deserve no scrutiny.** The only 'basis' for GRT is the desire to create a unified field theory; although Nature does not cater to the desires of mortals.

Let us in this instance ignore our rule and reexamine this 'desire.' Support for GRT is taken to be the 'fact' that the velocity of gravitational interaction equals the speed of light. This idea arose virtually at the moment of the formation of Newton's theory of gravity, and has been tested repeatedly since then. Ever more exact solutions and deeper analysis of additional technicalities failed to confirm this assertion. For example, when accurate account was taken of the gravitational interaction of the Moon with the Earth in 1787 by Laplace, he came to the conclusion, that if the speed of gravity is finite at all, then it is at least 100 million times greater than that of light.

Evidently, and I have examined all chains of evidence for GRT coming to this conclusion, none of these chains has a valid foundation. This analysis is presented in my works [1-6], all of which are publicly available.

5. Conceptions About the Macro-World

Thus, just as for Special Relativity, the foundations of GRT are incorrect and should be rejected. Let us examine a few of them.

Gravitational waves Mathematically, waves result from the wave equation

$$\nabla \mathbf{F} - \frac{1}{c_1^2}\partial^2 \mathbf{F} / \partial t^2 = 0 \quad ,$$

which is in fact Eq. (4) when its right side equals null. If the speed of light $c_1 \to \infty$, then the wave equation does not arise. The force law Eq. (5) for the case in which $c_1 \to \infty$ and $k = k_g$ becomes the gravitational equation of NEWTON. Since evidence does not support a contrary assumption, we must take $c_1 \to \infty$, and then the arguments for the existence of gravitational waves collapse. Researchers, having invested now nearly a half of a century in efforts to discover gravitational waves, might be well advised to study our arguments, and then rethink what appears to be efforts to uncover the nonexistent.

Closed and open Universe, spatial "wormholes", transition through zero-hyperspace *etc*. These imagined constructions are the products of GRT. As noted above, GRT is based on two propositions: 1) the speed of gravity equals the speed of light, and 2) the gravitational interaction is to be described using four dimensional curved coordinates systems. The identification of curved coordinates with ontological objects has lead to these imagined constructions, which, we note, cannot be deduced from three dimensional Cartesian coordinates.

Thus, from this view point, 'wormholes' and null hyper spaces do not exist in the real world. They should be purged from Physics and forgotten. Their existence for public culture is pregnant with psychological pathologies and trauma.

'Black holes' are an illogical construction from GRT. The essence of their formulation consists in the following notions. In order for an object to escape completely from the gravity of the Earth, its velocity according to Newton's law of gravity must be at least 11.2 km/sec, likewise to escape from the Sun, it would have to be 500 km/sec. Thus, it is imaginable that there is a massive body for which the escape velocity equals the speed of light: 300000 km/sec. Such an object is called a 'black hole'. Presumably light from such an object could not escape to be seen by a distant observer, so that it would not appear at all and be perceived as a 'black hole'.

This conception was developed within the framework of GRT, but contains a logical error. As the velocity of an object approaches that of light, its interaction with other charges tends to vanish (in the terms of theory of relativity, its mass becomes infinite). Thus, an object moving at an escape velocity equal to the speed of light would not be in interaction with a massive object and would escape without resistance. In other words, within GRT, 'black holes' are impossible, and should they be discovered in fact, that would be actually substantiation for Newton's theory of gravity.

Once again, a basis for 'black holes' does not exist. Astrophysicists occupied with the search for evidence of their existence might be well advised to devote their efforts to the study of the real properties of newly discovered astronomical objects.

The expanding Universe and 'Big Bang'. The further away an object, for example a galaxy from the Earth, the lower the spectrum of light it emits. One says that it was "red shifted" in proportion to its distance from the observer. It is well know that by cause of motion of a source, its light is modified according Doppler's formula. If the source recedes from the observer, there is a corresponding red shift. With this fact as basis, the red shift of distant galaxies is explained as resulting from being at the center of an expanding Universe such that everything is moving away from the Earth. This is the basis of the claim that the Universe is expanding, which logically, then, must have originated as an explosion at some time from a point; *i.e.*, there was a 'Big Bang'.

From these considerations we see that these notions do not flow directly from GRT. However, thanks to the complexifying methods of GRT, knowledge of the Universe in the form of advanced hypotheses and their consequent explanations, such paradoxical constructions became acceptable.

An expanding Universe and a 'Big Bang' violate much understanding mankind has acquired of the Universe. Let us focus

on one such contradiction. In so far as bodies gravitationally attract each other, one may describe their interaction in terms of mechanical energy, E, which equals the sum of kinetic T and potential Π energy, *i.e.*,

$$E = \Pi + T = \text{const.} \quad (6)$$

When bodies move apart, their potential energy increases, and as their relative velocity diminishes, their kinetic energy decreases in accord with Eq. (6). This law, known as the 'conservation of energy', is one of the basic ideas of our civilization; it governs celestial mechanics, astrodynamics and many other fundamental sciences.

According to the interpretation of red shifts by Doppler's Law, the recession velocity of distant objects increases with distance. Thus, galaxies distributed at great distances have greater kinetic and potential energies, that is, their total energy increases with their distance from the Earth. This implies that an expanding Universe is one for which its total mechanical energy is continuously increasing.

If scientists were not befuddled with the paradoxical Theory of Relativity, they would surely come to a different conclusion, namely: because an increase in total energy for a closed system is not possible, the observed red shift of light from distant galaxies cannot be explained by the Doppler effect. This would have occurred some 70-80 years ago and in the interim another explanation would have been found.

6. The Central Error of Contemporary Science

Constructing fantasies instead of studying nature is the central error of contemporary science. Thus, we maintain, the notions of an expanding Universe and a Big Bang are erroneous concoctions in a contemporary science. Herein we considered objects concocted within the framework of the Theory of Relativity. However, in addition to relativity these same tendencies arose in Quantum Mechanics, the theory of the nucleus, the theory of elementary particles, and in contemporary astrophysics. In these sciences too many imaginary concoctions have been introduced which are often seen as ontological objects in the material world. These concoctions are used to explain both micro and macro nature; but, they exist only in the human imagination.

I think, and many agree with me, that the explanations current at the time of HOMER are more attractive. ZUES, GERA, POISIDON, HEFEST and other gods are more appealing than aether, field, space-time, Big Bang, charmed quarks, *etc.* The gods we can fathom, in so far as they were created for mankind's convenience. The constructions of modern science, however, are clothed too often in illogical structure. So as not to shock our progeny with our naiveté, let's quickly divest our science of fantastical concoctions.

Acknowledgment

An earlier version of this paper, entitled "The Main Mistakes Of Modern Science," was read at the VIII International Conference on "Space, Time and Gravity" (29 August 2004, Saint Petersburg, Russia). A.F. Kracklauer translated this version into English and, I am most grateful for his assistance.

I also thank a referee for careful analysis and helpful comments.

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Appendix

This Appendix had not been published.

Review comments

Some true statements

The author rightfully puts forward several criticisms against flawed theories and some true statements. For instance:
Item 2: Explanations and understanding of the world constantly change, but the world practically remains changeless.
Item 4: There is a contradiction between special and general relativity.
Item 5: There is no change of space, time, and mass due to motion of charged bodies.

"Wormholes" are imaginations.

Item 5: The Big Bang contradicts much of our knowledge.

The Doppler effect does not explain the reddening of light.

Energy conservation is true and important.

Several shortcomings

The paper has several shortcomings, however.

The Abstract presents a too generalized attack. Not all conceptions of previous civilizations are erroneous. Physics has certainly had some splendid scientific successes[1] ([1] –author's comment on this topic follows below).

The paper offers no essential arguments to reject the theories in question[2]. I feel the author makes unjustified attacks on good successful theoretical concepts and experimental evidence in his attempt to criticize flawed theories.

Some examples:

Item 1: Does the last sentence on page 1 (after Eq. (1)) mean TR the field concept is not used in what follows? Fields are a very successful physical concept. What could be offered and what would the author offer in their place[3]?

Item 4: Even if they are also results of GTR, Mercury perihelion precession, deviation of light and a change of its frequency when passing near a gravitating body should be accepted as established facts[4].

The basis for gravitational waves does not necessarily depend on the failure of their detection. Gravitational interactions may prove to be much too weak and to vary too slowly in order to exhibit wave behavior detectable with our present means[5]. The discussion of gravitational waves should start with a specification of what is expected to propagate at all. Like the bending of light beams passing strong gravitational fields[6], the existence of gravitation waves would not establish GRT as a true physical theory.

The propagation velocity of gravitation (if it ever can be measured) is still an open issue. It cannot be used for or against GRT[7].

Some of the laws mentioned do not hold in general.

The Biot-Savart force formula works only for a closed current loop.

The Faraday induction formula is not as fundamental as is generally believed. The true cause of induction is the changing vector potential. The magnetic field flux does not give rise to induction. There is no magnetic field at the site of conduction electrons outside a closed iron core as in transformer induction[8].

Item 3, Eq. (5) Is this really the law for all(?) electromagnetic interactions? For instance, individual currents seem not to be included[9].

Editor's comment

My own feeling as your editor is TR the paper is way too ambitious for its small size. It attacks so much, but so briefly, that people who believe in the standard line could not possibly be swayed. On the other hand, it is way too long to serve as a succinct position statement for people who mistrust the standard line[10].

Author's reply

1. The achievements of science are not rejected in the Abstract. Only it is offered to look, which the modern scientific conceptions may be erroneous.
2. When I read the criticism of the Theory of Relativity (TR) of other authors, I also think, that their arguments are no essential. The reason consists in that the incorrect conceptions contradict the reality by many ways. And each of contradictions indicates against this conception. In my opinion, the main argument is that, from which all others will follow. I think, for 38 years analyzing of TR I have found such arguments and have presented in this paper.
3. Instead of the field as object of world around, nothing it is offered. This object in the world does not exist. People have constructed it. How now with the field explain the interactions, for example, of the Earth on the falling stone? It is spoken: the Earth creates field, and the field acts on a stone. But if we shall recollect, that the people have constructed the field for the description of function $f(x,y,z)$, which is distributed in system of coordinates xyz (it is spoken: the field of function) we may safely reject it.. Therefore we have that is. The Earth acts on a stone. It transmits movement for it, i.e. acceleration. Thus, the mechanical action of one body on another consists in the transmitting of acceleration to it.

The explanation of the phenomena without the field, as the intermediate carrier of action, becomes considerably simpler. It is necessary only to remember the interactions in the plasma where it is necessary to introduce new concepts, as for example, a "frozen" magnetic field. The explanation of the phenomena in plasma or in the solar atmosphere on the basis of direct interaction of one parts of substance on others becomes understandable and consistent explanation.

4. The listed three statements of GTR are put forward by its supporters as the experimental facts. However they are not those, as many researchers, who analyzed them, have proved. As a result of my analysis I also have received this conclusion [1] - [3]. For example, the correct relativistic effect of Mercury perihelion

precession in 200 times less accepted in GTR. In this paper I do not giving results of the analysis because there is no necessity. Here I have shown that there are no bases for correction of the gravity Newton's law. Therefore all conclusions GTR, as well as all its mathematics and conceptions, have no any relation to a reality.

5. I reject gravitational waves not because they have not been detected. I assert that there are no bases for their existence. Why there are no bases? There are no bases for correction of the gravity law i.e. to enter the additive caused by relative velocity of movement of interacting objects. Such additive, as in case of electromagnetic interaction, causes occurrence of waves. Therefore at the gravity Newton's law the waves do not arise.

6. The bending of light beams due to gravity, which is taking place near to the Sun or stars, is not detected. Firstly, refraction of light beam in the atmosphere of these bodies in many times over exceeds GTR effect. And secondly, the mathematical mistake is admitted at approximately solving equations of the GTR: the light beam is not bent at the exact solving them [1] - [3].

7. The assumption of final gravitation propagation velocity has really arisen before occurrence of GTR. This hypothesis, alongside with other hypotheses, researchers, since I. Newton, on an extent more than two centuries is involved for an explanation of discrepancies in movement of the Moon or a planet with calculations under the Newton gravitation theory. However, after more careful integration of the movement equations in view of influence not taken early into account bodies, calculations under this theory began to coincide with observation. Therefore the gravitation Newton's law is affirmed, and the hypotheses were rejected.

I am familiar in details with this problem since I am working at solving of the equations of the movement of Solar system bodies by accurate numerical methods. I have developed the method with the error in 40000 times smaller, than in methods known to me, and have integrated the movement equations for 100 million years. When the task is solved on the basis of the gravitation Newton's law and all same details in bodies' movements, which are observed, are received, it is becomes obvious, that this law does not demand correction. On this basis P. Laplace in 1787 has received conclusion, that if gravitation velocity is final, it should exceed speed of light in 100 million times. Therefore all hypotheses about gravitation including about its final speed of propagation, should be rejected.

8. The statements of the reviewer about infringements of electrodynamics laws follow from conception of electromagnetic action of some object of world around, which is called as electromagnetic field. The field will enter differently contradictions with the observed facts depending on properties, with the field are allocated. I do not consider the Biot Savart law and Faraday Induction law, as consequence of the theory of electromagnetic field. I use them as the description of the experimental facts: force of action of conductor with current on a magnet is determined by the Biot Savart Laplace law (2), and force of action of moving magnet on charged body is described by the Faraday Induction law (3). The laws (2) and (3) are received as a result of multiple measurements. The other laws, which determine these interactions, are not present.

9. The equation (5) describes interaction only relatively moving charged bodies, but not currents. The Ampere's law defines interaction of conductors with currents.

10. The Theory of Relativity is a ravelment of the confusing logic lines. I managed to untangle and receive them single multikilometer line. In this paper I have resulted its small pieces, which are the most important logic chains. These logic proofs will allow understanding this entire problem both to opponents TR, and to its supporters.