

**PHYSICS OF THE NEW MILLENIUM
(Alive Physics. Its place and task)**

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Yarcev V.V. In the article the author defined the direction of the development of the new physics, its purposes, tasks and correlation with the old approach to the physics.

In system of sciences physics occupies the central position, it is intersected by other sciences. It's physics that is the basis for the integration of natural sciences. Physics influences significantly upon forming a man's world outlook.

Physics has always been in the closest connection with philosophy. Philosophical ideas determine the direction of cognition and forming of a certain world model.

Let us have a look at the hierarchy of physical theories. It would be more obvious and convenient to represent physical theories in a spatial aspect as a peculiar system of co-ordinates (Fig.1).

At the beginning of this system of co-ordinates from all physical theories there rightly stands classical mechanics.

The vertical axis displays the importance of gravitation in phenomena of the studied sphere. The completed classical theory of gravitation may be marked out on this axis as a circle.

On the third axis we can indicate another completed theory – the restricted theory of relativity (RTR). On the first axis we can also mark out a completed physical theory – quantum mechanics. In quantum mechanics a wave is connected with a moving particle. So quantum mechanics describes perfectly the wave characteristics of the matter (not touching high-speed motion).

All these 4 physical theories deal with particular certain states and conditions. As life is diverse and not so simple, in the planes of the 2 theories there appear new ones which include and unite the concepts of these two theories.

The general theory of relativity takes into account the forces of gravitation and deals with speeds commensurable with the velocity of light, but quantum effects are also taken into consideration here. That's why it can be put at the cross of the classical theory of gravitation and the restricted theory of relativity.

If we allow for speedy motion and wave characteristics of the matter, it's the quantum theory of the field (not completed nowadays) that arises at the cross of the restricted theory of relativity and quantum mechanics.

If we connect these areas on the scheme with the lines parallel to the axis of co-ordinates, we get a cube and have a point (the vertex of the cube) maximally distant from the beginning of the co-ordinates. If we look at this point from the position of the system of co-ordinates, we can see that the above mentioned physical theories are nothing but its projection upon these co-ordinates and planes of co-ordinates. The uniting all nature forces theory is concentrated at this point, at this sphere of cognition.

To create such a common theory it's necessary to point out and determine (in the world and nature) the object of research which obtains both two physical realities (i.e. matter and field) and two types of motion: the first one – with the speed almost equal 0 in respect to the velocity of light; and the second type – with the speed more than the velocity of light. Besides the law of gravitation should be important for this object on the one hand, and on the other hand it shouldn't have any importance, i.e. this object should combine the 2 realities. It's a man himself who is such an object.

In point of fact a man reflects in himself all the Universe laws and is both a laboratory and a laboratory assistant; both an object of the research and a researcher; both an experimenter and that very experiment; both a scientific director and an opponent.

Ancient philosophers were right when said: "If a man has known himself, he has known the whole world".

From what has been said above we can make a conclusion that the general, uniting theory can belong to the alive physics studying the real life processes that occur in the alive matter (fig.2).

Having determined the object for studying in this general, uniting theory and having taken a man for this object, we should define the way of carrying on the process of self-knowledge as well as that of the environment study.

Not to get lost in the process of cognition it is necessary from the beginning to define or expose from the whole sphere of ignorance a certain simple plane of the studied sphere comprehension. But to get the certain plane we should have three certain points being a basis for getting the only correct and integral comprehension of all current processes and phenomena (Fig.3).

Gazing at the life and the Universe we can reveal 3 things constantly existing in all processes and phenomena. They are Space, Matter and Motion. All processes and phenomena occur in space due to the matter motion in it. These 3 physical things give birth to the other phenoma, which are their derivatives. The important conclusion of the triple comprehension of the Universe is that the Matter Motion in Space gives birth to Time, i.e. Time is a derivative of Space, Matter and Motion. So Time is not a fundamental principle or an independent reality. Considering Time as a basis we exclude Motion - one of the fundamental principles - from the simple plane of the Universe arrangement comprehension. So we get the other combination: Space, Time, Matter. The Triplicity principle seems to be saved and we should have had a simple comprehension of processes

and phenomena, but we have not. Both life itself and the whole historical way of science reveal it.

Excluding of Motion and replacing it by Time, its derivative, lead to dualism (Space and Matter) not to triplicity.

Through 2 points in the sphere of ignorance one can get an endless number of planes of notions meeting there 2 conditions. Being a derivative of Space, Motion and Matter Time is an imaginary reality in this case and can't be a basis for getting a simple theory and integral comprehension of the Universe arrangement. Being guided by Time as a fundamental, independent reality a researcher will have to rotate constantly his cognition plane in the sphere of ignorance around 2 bases – Space and Matter – and will get as a result a number of notions and theories meeting these primary postulates taken as a bases (Fig. 4). As a result we get a great number of theories, views, notions that have mutual points of contiguity or add each other or are even mutually exclusive in regard to one and the same phenomenon or process. There arises uncertainty and vagueness in comprehension of the integral Universe picture. It results in the absence of the united, principal model of the Universe arrangement and development and doesn't give an opportunity to reveal the real laws existing in the Universe.

The physics of the new millenium will be the alive one based on the triplicity of the Universe, where there are 3 independent realities as the basis: Space, Motion and Matter. Being a derivative of these 3 bases Time is being considered by the alive physics as 2 different in its nature phenomena. It's connected with the fact that there are 2 types of Matter in Space: alive and inert, and so the motion of these 2 types of Matter in Space creates 2 types of Time. The first type of time is alive motion matter, the second one is mechanical time for the inert (non-alive) matter. That is a very significant aspect so one mustn't mix them or transfer the properties of one type of time to the matter of the other type. But that is exactly what we do with the existing method of cognition.

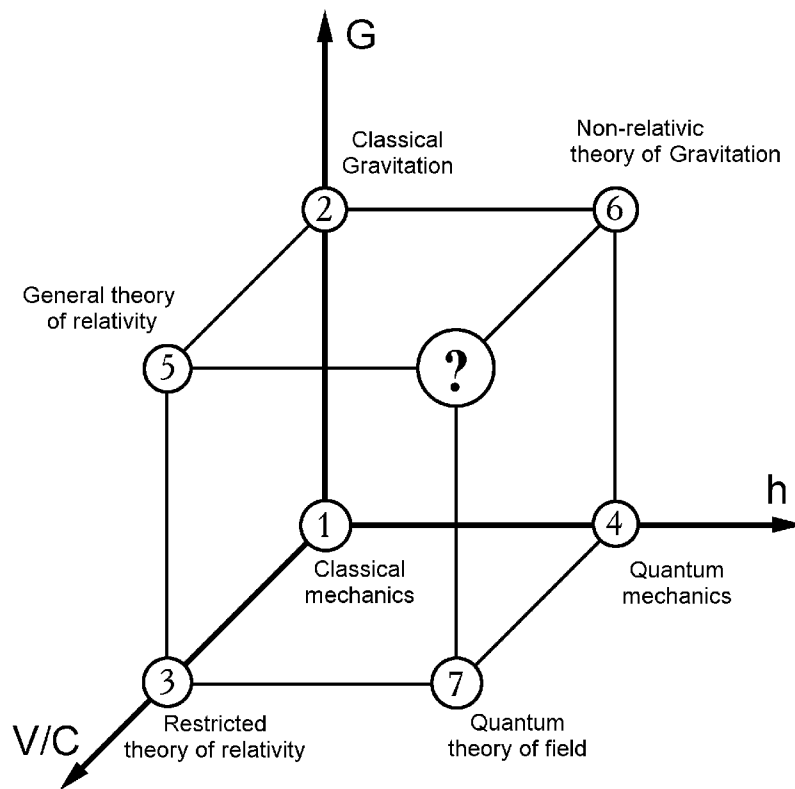


Fig.1. Classification of physics theories

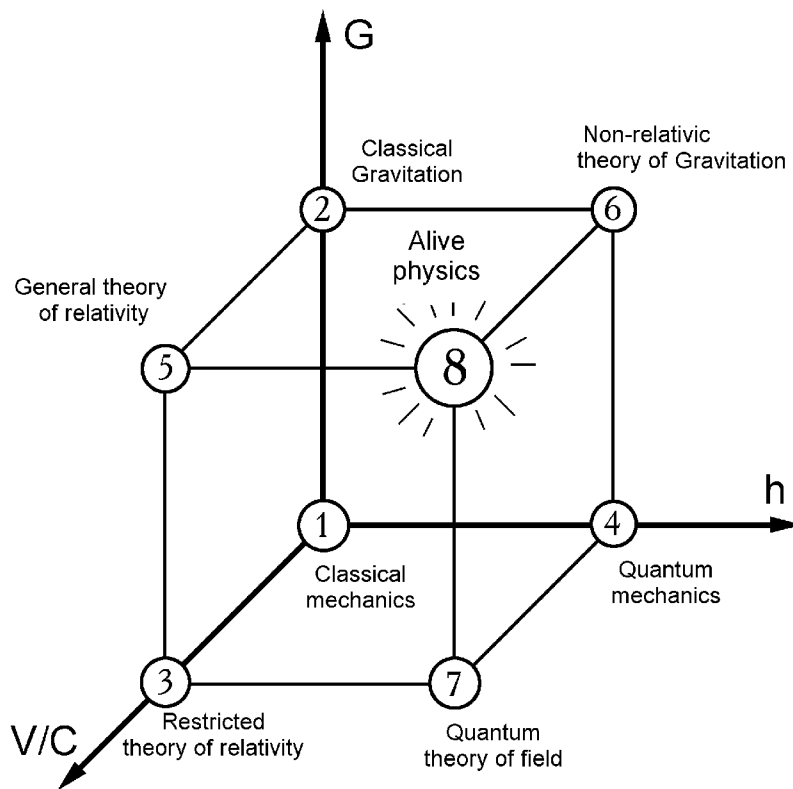


Fig. 2. New classification of physics theories

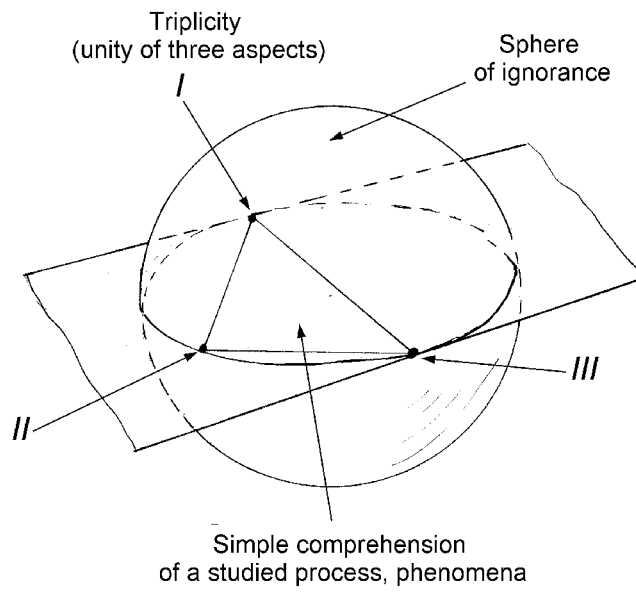


Fig.3 Triplexity

Dualism
(unity of two aspects)

Endless number of concepts,
theories, views on a studied process

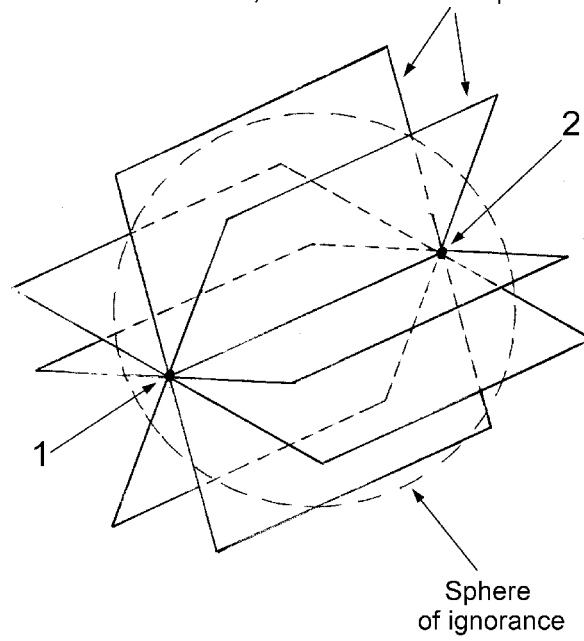


Fig.4 Dualism