

BASIC MECHANISMS OF MATTER ASPIRATION TO FREE STATE**Academician of NAS of Azerbaijan H.H.Guliyev**

Mechanisms of aspiration of matter structural components to free state were proposed within the paradigm of the Eternal Cycle of Matter (ECM). It is shown that the specification of participation of all components is related with the term of correlations of energy and material characteristics of the matter in cycle processes.

Keywords: matter, free state, eternal cycle, information, energy

Some notable results obtained within the paradigm of the ECM (the Eternal Cycle of Matter) [3] created new prerequisites for further development of our knowledge on the Universe.

According to the paradigm of the ECM, in essence, the matter conditionally consists of three basic forms: physical, biological and informative. Results of direct observations as well as the lack of any theoretical (results of the secondary sensations) objections prove that. Each of these forms have a peculiar participation in the ECM. The assumption on the existence of the information form (IF) of the matter especially of its cognitive form allowed coming to a conclusion on the existence of the free state of the matter [6].

The matter tends to take a form of minimum potential energy in the ECM. And the energy - free state. Consequently, the matter and energy tend to be free, i.e. tend to take free state in the most complicated cycles of matter. Specificity of participation essentially of three structural forms of the matter is directly related with characteristics of the occurred specific cycle.

If transformation processes of energy recourses in the equivalent material (mass) predominate, so formation of black holes occurs in the considered stage of the ECM. There are ideas based on principles of physics and on the interpretation of results of some astrophysical observations that such processes occur within the growing supergiant value of compression in the current science. The opportunity of existence and realization of the commonly accepted fundamental forces of interactions except of gravitational disappear gradually (in scales of

huge astronomic units of time) in these conditions. Gravity occurs in the form of absorption processes of all energy and material recourses of surrounds (within the framework of a certain scale). Although, there is also an idea that energy flows are distinguished and radiated on the surface of black holes [5]. There is no need for the existence of basic fundamental forces of interactions except of gravitational in these cycles. Consequently, the matter, getting dark states (both energy and matter) and state of black holes doesn't reach its goal - freedom. Naturally, conditions on the existence of biological forms disappear in any stages of such cycles and there is also no need to cognitive systems. Furthermore, such systems aren't created in these conditions. At the same time, there are restriction processes of IF role of matter in the ECM all the time. IF role in the ECM is reduced to a particular participation in the form of gravitational interaction getting dark state and state of black holes.

Other opposite events occur in conditions when the ECM is dominated by transformation processes of material recourses in the equivalent energy recourses. Each of essential forms of matter make their contributions to the effectiveness of cycle data. Biological forms of matter appear due to the need to find more efficient cycles in some phases i.e. new opportunities are revealed which weren't explicitly involved in cycle data so far. Reasonable type of the biological form appears further in the ECM. IF participates in these processes all time. The diversity of IF participation grows in the ECM. Cognitive systems of matter IF appear along

with the physical and biological components. According to its nature, IF is energy potential precedes free-form as an analogue of dark material and energy forms preceding the formation of dark holes. Part of the IF moves to the free form of matter and vice versa in subsequent cycles.

Naturally, the above described mechanisms of the development of events occur in coordination and they support the ECM. The main conclusion is that its free form exists in matter composition in space form. Free form of matter isn't exposed to impact of conventional types of fundamental forces of interaction. At the same time, all forms of matter having energy and material characteristics are in space and have obligatory spatial dimension.

All other forms on various not yet known mechanisms are absorbed or generated by this form in the ECM.

Despite the fact that cognitive systems are created by homo sapiens exposed to multiple limited impacts, they are free and not exposed to any fundamental impacts. Genetic roots of this fact is related to the fact that cognitive systems appear as a result of the secondary sensations. The secondary sensations are free according to its definition and nature. Results of the secondary sensations are materialized only in conjunction with other forms of matter.

We emphasize that cognitive systems are created by homo sapiens in conditions of the Earth planet. Interaction of cognitive systems with other forms of matter as well as information forms are realized by direct participation of homo sapiens. Moreover, the participation of homo sapiens is the required condition in this case. Other types of information form in cycle processes take also part due to the necessity and under appropriate conditions. The necessity arises due to the requirement of efficiency of cycle processes.

Homo sapiens applies some cognitive systems while deciding specific tasks (ECM phase) at his discretion (also the result of the secondary sensations). As a result, along with other information forms this part is also materialized. On the other hand, the used cognitive system isn't worn and exhausted in this case. The cognitive system may disappear together

with homo sapiens and with his community. However, the materialized part continues to participate in the ECM in this case.

The free form of matter doesn't have wearing and exhaustiveness property as a whole. As a peculiar and universal form it can disappear just with the disappearance of all forms of matter. But it is impossible as it is necessary to disappear "somewhere". And that "somewhere" already implies the existence of space, i.e., matter. This logical conclusion confirms once again the conclusion about infinity and limitlessness of matter and cosmic concepts of homo sapiens.

The actual state of the Universe and astrophysical observations show that compression of matter occurs in the formation process of black holes but space remains. Sealant process of matter is implemented by releasing space from its structures. The necessity of existence of separate fundamental forces of interaction gradually disappears due to the decrease of space volume in matter composition. Fundamental interactions are realized in movements. But it requires sufficient space and a freedom degree. Restrictions are imposed on these opportunities of movement due to the decrease of space volume in matter composition. There is an impression that there is a lower spatial (geometric) limit of existence for each fundamental force. They can't be implemented and move to the potential when the limits are reached. On the other hand, the loss of this ability means that there is no need in these fundamental forces of interaction in the considered phase of the ECM. This question is more fundamental than it might seem at first glance. On the one hand opportunities on geometry are restricted. On the other hand, choice opportunity of principle type of the least actions or probabilistic principles of quantum mechanics disappear as the effect of geometric restrictions energy is converted to mass equivalents. Consequently, there is not enough space and energy to implement the selection.

The nature of gravity and its role in the paradigm of the ECM was discussed in [3]. This is also advisable to note the following.

All material bodies gravitate each other on the principle of the universe gravitation. According to this principle, more massive body

has stronger influence on smaller. Such situation was also reflected in a non-uniform distribution of the field of force impact. Energy intensity of force field increases due to the approaching of more massive bodies to the neighborhood. At the same time geometrical form of distribution of values of gravitation intensity will be uneven due to the geometrical form of the black hole itself. Apparently, it is related with the concept (and incorrect concept on gravity as a peculiar curvature of space) on space curvature in the neighborhood of massive celestial bodies such as galaxies. The reason of great value of energy intensity of impact of large bodies is their mass. In case of black holes, smaller massive bodies stick to them entering into a stronger force field and gravitating. Their mass and energy are added to the mass and energy of the evolving black hole. Similar but more complex and diverse processes occur at the atomic and smaller scales relative to the electromagnetic and nuclear forces of interaction [4].

First, opportunities of the existence of electromagnetic forces disappear in compression process, dark energy and matter are formed. Next - nuclear forces and black holes are formed. Only gravitational forces influence in this state. And the energy of these interactions are converted into corresponding mass equivalents.

It follows from the above mentioned that the unlimited and inherent space exists everywhere as a form of matter. It doesn't appear as a result of secondary sensations, i.e. as conclusions of some theories, model representations and other conclusions. Another question is how various theories can describe this form. Space is taken as one of matter forms in general theory of relativity (GTR). The determination of space isn't given and question on its genesis and nature wasn't clarified in GTR. These questions found their solutions in the paradigm of the ECM which allow making significant clarifications to the basic problems of the universe. First of all, it can be argued that space is absolute and free form of matter. "Time" isn't a matter form. Space - is three dimensional. There isn't

space of other (4 and more) measurements.

"Time" problems were considered in [1,2] from the standpoint of the ECM paradigm. It's necessary to make the following additions to these results with the clarification of problems related to the space.

Cycles with infinite duration were used in [2] as a background state. There is no need for it due to inclusion (with recovery in some way) of absolute space concept to theoretical constructions. Absolute space is a uniform background itself and it is possible to organize any markers, scales and other divisions and to measure the duration in various systems, scales and velocities on its basis.

The fact is time isn't a matter form as a space. Duration is an integral part of any movement of matter and characterizes their duration. Time is a convenient method to measure the duration and establish the sequence of various movements of any scales and velocities. Shapes and scales of these movements are irrelevant, i.e. their oscillative, rotating, wave, translational and other characteristics irrespective of their geometric scales.

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ALƏMİN AZAD HALA ÇATMASI ÜÇÜN ÇALIŞMASININ ƏN ƏSAS MEXANİZMLƏRİ**H.H. Quliyev**

Aləmin mahiyyətə struktur elementlərinin sərbəst hala keçməsi üçün çalışmalarının AƏD paradiqması çərçivəsində mexanizmləri təklif olunmuşdur. Göstərilmişdir ki, bütün elementlərin iştirakının spesifikasiyası dövrən proseslərində aləmin enerji və maddi xarakteristikalarının qarşılıqlı münasibətlərinin şəraiti ilə bağlıdır.

Açar sözlər: aləm, azad hal, əbədi dövrən, informasiya, enerji

ОСНОВОПОЛАГАЮЩИЕ МЕХАНИЗМЫ СТРЕМЛЕНИЯ МАТЕРИИ К СВОБОДНОМУ СОСТОЯНИЮ**Г.Г. Кулиев**

В пределах парадигмы ВКМ предложены механизмы стремления сущностных структурных составляющих материи к свободному состоянию. Показано, что специфика участия всех составляющих связана с условием взаимоотношений энергетических и вещественных характеристик материи в круговоротных процессах.

Ключевые слова: материя, свободное состояние, вечный круговорот, информация, энергия