

## Universe and rotation

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It is quite enough to look at one of the numerous [photos of the universe](#) and its parts to realize that it is a volume spreading away in all directions for as far as our telescopes and space-researching satellites can see through. That fact should never be forgotten, even for a moment; otherwise it could easily happen that we perceive the voluminous space as a surface, [a plane](#), or compare it to the objects or occurrences on Earth.

There are no lines, curves or any other geometrical objects in a volume; there is only an open volume spreading as far as some [13.8 billion of light-years](#) away. That number is valid for an object (a galaxy), detected and registered by our instruments from the surface of Earth. That was possible only due to constant emission of radiation by the objects, larger than 10% of the Sun's mass (and some [smaller](#) smaller ones, too, that meet the requirements for it). Our instruments register that radiation as light.

Let's assume that in that space there are only two objects, stars. No matter how great the distance between them may be, radiation, as well as the force of attraction (or, gravity), will reach one from another, if given enough time. The thing that radiation and gravity transferred from one object to another during the time of 13 billion of years, while traveling at the speed of ~ 300 000 km/sec., tells us nothing about the history of these objects. It can only be concluded that it takes that much time for the radiation to traverse across that space. You have to realize that galaxies consist of stars, radiation of which can only be registered. The stars should live at least for the time, needed by radiation to traverse that way and be registered by our instruments. Why am I pointing that out? From the explosions of stars (Novas and Supernovas) it became clear that the period from the beginning of the explosion until its turning down is [very short](#). After that, radiation is at stop. If there is no star, there are also no instruments' readings. The remaining nebula does not emit light – only deflects it – if there is no radiation source to illuminate it.

Let's also check the following statement that some 400 000 years from the [start of the expansion](#), or the creation of universe – recently, it became 300 000 – a compact mass started to brighten up and that was the time when radiation (light) appeared for the first time. Without a shred of evidence or a basis for such thing, that mass is claimed to have been very hot, hotter than all stars. That seems to be logical if you cram up the whole universe in such a small space. For that to be true, we should today already have some evidence for it. The most convincing and most simple evidence would be to have that objects on our photos. The problem is that there is not such an object, because if it existed, due to its mass, heat and quantity of radiation it would have cast its shadow over a great part of the universe or its photos. The saying, "If it is not here, it doesn't mean that the object doesn't (or, didn't) exist", does not apply here; the instruments are devices that register existing and radiation-emitting objects; they are unable to make

things up. Such an object would be impossible not to detect, even with the less powerful instruments.

The statement that galaxies were created the first is totally illogical. Without radiation-emitting stars, galaxies would have been dark objects, undetectable to our instruments at these distances. Universe is an extremely cold and dark place and if there were no radiation-emitting objects (i.e. stars), we would not be able to see or register anything, unless we would be physically close to an object of observation. It is absolutely certain that the galaxies, which are registered as the furthest from us, are only a sum of a large number of stars that create light inside galaxies. That is the only way for us to detect them.

Now, if we were to claim that stars also are older than 13.8 billion of years, we would be right. It would be a great mistake to claim that these stars were created from the disintegration of other stars or from something else that was older than them. Such a claim would be contradictory to the constant expansion of the universe and galaxies that are in the process of formation (protogalaxies), as it would imply that the earlier size of the universe had been larger or at least the same as now. That idea would automatically rule out expansion and further development of the universe on that basis.

I am not trying here to defend the viewpoint of the expansion of universe, but to the contrary: I want to point out the incoherence of that depleted idea, built on imaginary assumptions and without evidence, or at best, with inadequate explanations of the particular evidence. As for the age of the radiation-emitting objects from that distance, the only correct thing to claim is that they exist there for all these billions of years and that they are stars by which galaxies were created. We register only the total radiation of the group, because an individual object fades away after a few million (not billion!) of light-years.

Let's get back to the example of two stars, with the distance of 13 billion of light-years between them. With given time (in this case: 13 billion of years), needed to these stars to "feel" each other begins the activity of stellar forces, as well as the formation of their interrelation. If the objects are of the similar masses, there is a dual system. All the observed stars, without an exception (up to date, millions of stars were already observed), [rotate around their axis](#) and that is a basic principle, from which any statement or conclusion can be made. Here, we can investigate the statement that a rotation of one object causes and influences the rotation of another one, no matter the distance between them, if given enough time to traverse that distance.

The force of attraction (gravity) and the rotation of objects are basic preconditions to create dual or more complex systems (spherical and other groups of stars, galaxies and groups of galaxies). If gravity was the only existing or even dominating force, there would be no universe at all. Without the main creator of all systems – the rotation of objects, which places the falling objects into their orbits – the objects would fall vertically one upon the other. Rotation should not be observed only in the frame of a rotating object, but as a whole of an object and the space, with the attraction forces in it. Not only an object rotates, but the forces within its space rotate with it, too. With the

increase of distance, decreases the power (intensity) of radiation and attraction forces. The closer the objects are to a star, the greater is the influence of its force upon them. The observations support that claim; in our system, the [fastest is Mercury](#) and the slowest is Pluto (of course, the objects in the Kuiper belt are even slower).

Distance is no real obstacle which would prevent the realization of one object's activity upon another. The only obstacle to it would be the lack of needed time, i.e. if the life span of an object is shorter than the distance between the two objects. In reality, these distances are shorter and the longest ones are measured in millions of light-years; that is the distance between the neighboring galaxies. According to some estimates, there are around 100 billion of galaxies; I haven't found any data or statement about the quantity of them existing in the present time, opposed to the quantity having existed in the past time. Just as well, I have found no data explaining where the present stops and the past begins.

An object that rotates around its axis also has the direction of movement. Our Sun moves at the [speed](#) of around 200 km/sec. inside our galaxy. The galaxy has a similar speed of movement inside our local group of galaxies. Recent researches determine that speed to  $552 \pm 6$  km/sec. related to the cosmic background radiation. Some of them determine the speed to 630 km/sec. Related to our galaxy, there are slower galaxies, moving at the speed of around 100 km/sec. As the distance towards the end of universe increases, the speed of galaxies also increases; those that are the furthest from us are also the fastest ones. Their speed is close to the speed of radiation, 270 000 km/sec.

A great obstacle to accepting the idea of the rotating universe was the attempt to relate the rotation of universe to the perspective and construction of galaxies, i.e. the existence of a dominant center, the galactic structure that is very impressive in comparison to the rest of a galaxy. All of the observations of universe failed to find anything similar to that structure; the universe seemed identical in all directions. Furthermore, for the galaxies it goes just the same as for the stellar systems: the objects closer to the center are faster than the more distant objects. It is opposite to that in the universe: the most distant objects move close to the speed of light, while the speed of the internal galaxies is relatively very slow.

There were other systems in the universe that could have been observed instead, but galaxies are so popular that their fame hasn't faded for the last 80 years. Apart from their beauty, spherical groups of stars weren't observed at all and it can also be stated that the groups of galaxies were discovered as such only a few years ago. The structures of these groups lack dominant centers; they are only supposed to exist. Everyone agrees that they rotate by the speed above zero (0), otherwise they would have collapsed. Due to the intensive glow that interferes with our instruments, it is not easy to gain these data from the group of stars, while the groups of galaxies are still too far away; nobody has probably tried to gain those data yet. We can only conclude with the assistance of mathematics that the outer stars or galaxies move faster than the interior ones, otherwise there would be no spherical groups.

Relatively recent researches showed, to the utter surprise, that the observed groups of galaxies move in the same direction. That was unexpected to find in the expanding universe, where the movement should be in outward direction. The authors of these researches hesitated for three years to publish these data, because they were unable to include the results neither in the generally accepted theory of the Big Bang, nor in some other, less famous theories. Finally they proclaimed that some [dark flow](#) is pulling the groups of galaxies in an unknown direction.

It is important to mention that the observed groups of galaxies are situated in the half of universe where we are situated, too. Therefore, it is impossible to talk about the expansion of universe or the space between galaxies, because, if that was the case, the groups of galaxies would have an outward direction, which they don't. It can be concluded from the published results that they move horizontally towards the convex part of the universe – a feature that majority of objects have in their equatorial areas.

The radical supporters of the expansion of universe don't allow the statement that it is a photo of universe, but a photo of proto-universe, an image from the moment of 400 000 years after the beginning. If that is the case, it is very difficult, rather impossible, to answer the question: where did our galaxy, neighboring galaxies and nearer groups of galaxies come from in our universe? Either that is the universe that used to be and there are no objects from the present time in it, or that is the universe as it really is. There is a famous case of Andromeda, the galaxy that is more than two million of light-years far from us; it is going to collide with our galaxy in a few billion of years. According to the expansion supporters, that event is developing from the past towards present time, because they claim it is more than two million of light-years far in the past. It would be a collision of past and present time, which is impossible: past events, without exceptions, remain in the past and don't get interwoven with the present or future time.

The case is similar with the cosmic background radiation; a new source of its origin should be looked for and named, because nothing and nobody has ever arrived from the past. However, the authors of "Dark Flow" managed to evade that trap. They simply presented their results in the photo of the universe, where the results were obtained from, and stayed away from the polemic with the past, presenting the results in the terms of distance, which was the only correct thing to do anyway.

[The collisions of galaxies](#) are no rarity; on the contrary, they are very frequent occurrence in the universe, just as approaching and evasion of objects. If the universe (space, expansion) gets larger, where do collisions and other interrelations of the neighboring galaxies come from? The galaxies should be constantly spreading away and distancing one from another. The observations show something different to that; the obtained results are the photos of a large number of galaxies closely interrelated or in the state of collision, regardless of the distance from us. Of course, this can be brought down to the level of the rotating groups of galaxies, but they are also an inexplicable anomaly of space and expansion being enlarged. If there is a certain code of behavior (i.e. expansion), then the objects are expected to abide that code, with one or a few possible exceptions, but completely opposite behaviors – such as: the collisions of galaxies and smaller objects; the rotation of galaxies and groups of galaxies; the rotation

of stellar systems and their groups; and coordinated direction of movement with the rotation – are by no means expected.

Let's discuss from the viewpoint of expansion the decrease of galaxy movements from the surface to the center of universe. Our galaxy is in the present time and it moves at the speed of 200 km/sec. The furthest galaxies, often named as protogalaxies, are 13.8 billion of light-years far from us and they move at the speed of 270 000 km/sec. Let's have a look at the Hubble Constant. It says that universe expands ever faster. Let's try now to reconcile this constant with the idea that the oldest objects were moving nearly at the speed of radiation and today, the speed is only 200 km/sec.

Either the expansion is almost over or there is something seriously wrong with the idea of expansion. If we have it their way and move ever further to the past, why does the speed increase and why does Mr. Hubble claim the universe spreads nearly at the speed of light?

When we consider the rotation of universe, there are no confusions or inaccuracies of this kind. The outer objects move faster, while those at the center move slower. The objects that are 13.8 billion of light-years away from here need to be at least a bit older than that, in order for the radiation to constantly fill in the space between here and there. As long as radiation keeps arriving, we know that the radiation-emitting objects physically exist out there.

For already a few years, the researches of galaxies have continuously been prolonging the list of galaxies, which have a Doppler [blue shift](#). The number of these galaxies has already arisen to 7 000; however, a part of the scientific world does not approve that quantity and acknowledges approximately 100 galaxies with spectral blue shift. No less than 100 galaxies have a negative speed related to our galaxy; that means the distance between us is decreasing – either they approach to us or we approach to them.

Today I have read on some portal that there is not a single one absolutely blue shift; if it were, our main ideas about the structure of universe would be changed. I wondered, is this really something to think about? What does “absolutely” mean to them? Some time in the future Andromeda is going to collide with our galaxy; what is relative there? Either they will collide, which would mean that the distance between the galaxies is decreasing, or they won't, which would mean that the evidence are false and that many people know nothing. The existence of blue shift is undisputable evidence that the structure of universe is not created by expansion, but by rotation.

Expansion stands for rectilinear movement of the objects towards outside, but all the researches point out that all systems in the universe rotate (stars, groups of stars, galaxies and groups of galaxies) and that all move in curves, not in rectilinear trajectories. That clearly points out that objects move in elliptic orbits in universe. The universe can only be a sum of the objects' movements in it and the universe is exactly that, because there is no universe without objects existing in it. The universe is just another group, a group of galaxies and galactic groups. In order for a group to exist, it



must have a speed of rotation higher than zero (0). Evidence shows that the most distant objects move at the speed of 270 000 km/sec.

The activity of attraction force (gravity) between objects is impossible in the universe, where objects move towards outside nearly at the speed of light. The intensity of attraction force is not adequate to oppose to that great or much slower speeds. 1684. Sir Edmund Halley proved that gravitational force between Sun and planets decreases with the square distance. The same goes for the other objects. Although the range of attraction force is practically endless, its intensity weakens fast; that can be seen in our system's planets' speeds: Mercury 47.362 km/sec., Pluto 4.7 km/sec.

Actually, even the lowest speed in the universe, 100 km/sec, is enough to overcome gravity, i.e. to prevent attraction force from realizing effects of creating interrelations between two or more objects. The reason for the realization of gravitational effects is that the neighboring objects have the same direction (curve) of movement. In observing our close surroundings, small differences in distance of objects from the central part (volume) of universe give to the more distant object a bit greater speed. It contributes to the evasion of objects (galaxies) if the distance is enough to overcome the attraction forces of both objects. In the same trajectory it can be expected that even the lowest intensity of the attraction force during a longer period of time can cause objects to join, or, more popularly said, to collide, even though it is more correct to use the term joining (by approaching). The objects on the same trajectory have the same speed of movement.

Among a hundred billion of galaxies there are also some other events, caused by the structure of universe. For example, two groups of galaxies, because of the different directions of their rotations, may cause a classic collision of two or more galaxies. The same goes for the galaxies themselves. In the multitude of objects, a multitude of different events can be expected, because of the complexity of the system itself.

The same direction of the objects' movement explains that there are galaxies in the outer area, where they move at the speed of 270 000 km/sec. That is the speed of all other objects in that area, therefore the activity of attraction force is similar as at the lower speeds.

Let's check now the validity of the Hubble Constant (the constant of expanding the universe) under the conditions of the rotation of universe. "By using the Doppler effect, [Hubble](#) concluded that the distances of galaxy and its speed of distancing were proportional, i.e. further galaxies are distancing from us at higher speeds." The speeds of the other galaxies, compared to ours, are generally higher and the further they are, the faster they proportionally get, with the exception of those galaxies, which have a blue shift and negative speed. The number of them is 100 to 7 000, with a note that this number constantly increases. When the groups of galaxies, which by their rotation create different speeds of their own galaxies, are included in Hubble's law, we can see that law is not the best solution, taking into consideration the basic mistake of the objects moving towards outside.

A rotating object (universe) has a direction of movement. Based on everything that has been proved about the universe so far, it means that direction can't be outside some kind of a system and there can't be only one whole.

That space (multi-universe) has one basic characteristic and it is that the temperature of that space is lower than the temperature of universe, since the background radiation arrives from that area and its temperature is  $2.4 - 2.7^{\circ}$  K. It is a higher value that will be decreasing on the ends of that space, and the speed of rotation of that next group will in the outer region be higher than the speed of universe's rotation (270 000 km/sec.). The end of constructing ever larger groups would be at the temperature of  $0^{\circ}$  K – the absolute zero temperature.

The space of the absolute zero temperature would possess a very great number of groups, in one of which we are. The temperature between stellar systems and galaxies is  $\sim 4^{\circ}$  K. That means it decreases by  $1.5^{\circ}$  K between greater systems. It makes it possible to conclude that beyond our universe there are no more than 3-4 levels. The height of temperature depends on the source (stars); when the space increases, the temperature's influence gets ever lower. The last level is similar to a spherical group of stars, outer side of which is a pure energy.

It is necessary to realistically evaluate the behavior of matter below the melting temperature of helium ( $-272.20^{\circ}$  C); it would provide a better description of the upper level.

## Processes in Universe

As it is obvious from the process researches on Earth, processes are of the circular nature: they are formed, developed and ended. Nothing is different in the universe either: matter is formed, grows by consolidation and gets disintegrated. Matter disintegration is a very frequent event in universe. The most drastic examples are the explosions of stars, named as novae and supernovae, depending on the size of the exploding star. Other ways of matter disintegration occur with the collisions of objects in universe and radiation colliding with visible matter.

The first evidences of matter disappearance (disintegration) were noticed in laboratories all around the world, where short-living formations (one in  $2.2 \times 10^6$  parts of a second) were registered. They were named muons. The following researches went in two directions: the first one wanted to prove that matter, in general, disintegrates. Then a construction of basins filled with a liquid matter was started (the order of magnitude was above  $10^{33}$  of protons), with a large number of detectors deep underground, to avoid the interference of cosmic radiation.

Evidence gained by this experiment was that matter doesn't disintegrate on its own.

The second direction was the collision of long-living particles (protons, neutrons and electrons) in the more and more powerful accelerators, the most powerful of which is the still active Collider (LHC) in Switzerland. The initial goal was to split an atom (proton) and determine its elements. It was also important to establish, whether its structure corresponded to the already existing atom definition, which determined the features of atom as a system similar to that of the Solar system.

All these formations were short-living, one billionth part of a second. A discovery of muon was also very interesting; that discovery had then become a basis on which it was immediately concluded that similar collisions occur when radiation hits the atmosphere of Earth. Having in mind that a muon is ~ 8 times smaller than a proton, one may ask: when a particle is disintegrated in universe, why do we register only muons, but not other particles, obtained by the split of proton? The reason is trivial: the difference of charges between a muon and Earth; Earth has a positive charge and it attracts that part of a proton, which has a negative charge. The rest of a proton has a positive charge and therefore could not have been registered in the laboratories.

Official science still rejects the idea of a proton as a three-pole particle, two of which carry a charge (the dominant one is positive, the other pole is negative) and the third one has no charge. The existence of three poles was exchanged by three quarks, which became visible when a proton was bombarded with an electron. The problem remained the same, because when a proton was being split, it didn't split into quarks (sporadic events were ascribed to quarks). If quarks were real, they would be long-living particles, which they are not.

A great contribution of these experiments was the discovery of the smallest long-living particle, named neutrino. In every single one proton split experiment, a proton would finally, after a number of interphases, split into electrons and neutrino. Earlier, just as it is now, the scientific world had been fascinated with short-living particles and interphases of proton-splitting; therefore, this evidence hasn't been widely discussed at all. It doesn't fit into the existing paradigms of atom or in the hypotheses of its appearance.

The probable problem with [neutrino](#) was the fact they were too small for our instruments to be detected. Even today, it is difficult to precisely determine their mass; more recent data of the neutrino mass are  $0.320 \pm 0.081 \text{ eV} / c^2$  (sum of three flavors), [wikipedia.org/wiki](http://wikipedia.org/wiki). When there is a lack of data, fanciful and sensational statements begin to appear. Generally, they have nothing in common with science. A basic problem with neutrino is that it is been observed outside the laws of matter, although it is a product of matter. Neutrinos take part in the formation of neutron, as well as electrons. That is why a neutron has a bigger mass than a combined mass of a proton and adjoined electrons. As I frequently point out, it is easier to tell people fanciful fabrications – such as: neutrino act as ghosts; they pass through matter so easily, as if there were no matter at all; tens of thousands pass through your eyes every second (“How is it possible that you don't see them?”), etc. – than to say the truth. There is not much of it in these statements anyway, but what can be done about it...



Only long-living particles, such as proton with its variants, neutron, electron, neutrino and energy (photon), take part in the formation of universe. If the process of atom splitting is turned opposite, i.e. if an atom is created from the split particles – abiding the rule that only long-living particles take part in the atom formation – there is a result that it consists of a large number of neutrino, electrons and energy. All the interphases finally split into electrons, neutrino and energy. It is not to be expected that a formation lasting less than a one-billionth part of a second can separately exist or that so short period of time is enough for a particle to be formed out of these transitive formations. Finally, these transitive formations have never been registered to exist separately in nature. An electron is ~1836 times smaller than a proton; it can, therefore, be expected that it also consists of a large number of neutrino, similar to this quantity.

Now the two atom poles need to be explained. In chemistry, a hydrogen is said to be univalent, but there is also [a weak hydrogen bond](#), occurring in the chemical processes C-H...O. Depending on the acidity of a compound, the force of this bond is estimated around 5% of the usual bond.

Material particles can only get combined if they have different charges. The most obvious example for it is that a proton (H) doesn't exist alone or with an electron, but in a pair (H<sub>2</sub>). Why would a particle join another same particle with the same charge and not the electrons, which are omnipresent and have a different charge?

The only possible reason for it is the bipolarity of a particle, in which one pole is dominant over the other; however, the dominated pole is much stronger than a few electrons that are unable to overcome the other pole (here, the negative pole of a proton). The process of proton joining another proton makes indisputable evidence of the existence of two poles. Electrons are not the only one having a negative charge, because, if they were, there would be no atom joining.

Atoms would be saturated with electrons and matter wouldn't exist at all. In the particle accelerators has been discovered that there are positive electrons and neutrino, which is a clear indication of bipolarity of these particles, too. It can be estimated through the weak hydrogen bond that the force of the negative pole is worth over 90 electrons. That is indeed a great barrier, which can't be filled with electrons and neutrino. The composition of neutron tells us that only two electrons and neutrino enter that bond and that it is not stable at all (it is stable for only around 17 minutes or  $1.01 \times 10^3$  seconds). On the other hand, a bond H<sub>2</sub> is permanent, at least until the moment of entering a chemical process.

A large number of neutrino and electrons with energy create a thread, which at its ends has different charges. When these ends are connected, a thread becomes a small spherical object. During an electron impact in a collider, three peaks can be registered: neutral one at the place of connection and positive and negative charges on the sides. Here we immediately see the existence of atomic geometry, which changes as the atoms grow by joining.

Joining is not similar to arranging little spheres or blocs; it is obvious from the van der Waals radius: the atoms with 200 protons and neutrons have a smaller radius than the atom of oxygen (16 elements) or nitrogen (14 elements), etc. When a proton is influenced by a sufficient amount of charge, greater than his weak bond, a thread opens and joins with the similar one, a “newcomer”. That is the only possible explanation of great differences among argon, potassium and calcium, all of which have the same or very similar number of protons and neutrons. Their differences originate from their different structures of connecting protons and neutrons.

An atom begins to reduce when the joining overgrows the natural sustainability conditions. The joining and growth of atoms are constant because of the constantly incoming new particles. That is why an atom needs to discard the surplus, may it be a proton, a neutron or a helium core – all the same. Radiation appears with that process. Discard of the surplus and radiation are only the consequence of balancing atom from an unfavorable into a more favorable state.

Growth doesn't stop with atoms; on the contrary, joining goes on. Through joining, chemical reactions and combined, gas, dust, sand, the rocks named asteroids and comets, etc., are all created. Even further, planets are created the same way. Then, when planets grow to the 10% of Sun's mass, they become stars, which can be really gigantic (super-giants).

Millions of craters scattered around the objects of our Solar system are the evidence of objects' growth. Constant impacts of asteroids into our atmosphere and soil are the evidence of these processes being uninterrupted today, just the same as it used to be in any earlier period of the past. It is estimated that 4 000 – 100 000 tons of extraterrestrial material falls yearly to Earth. We had seen the impacts of objects with Jupiter, Moon, etc. It is completely impossible to talk about a primeval formation, even less about a simultaneous one. There is a particular history, age and mass in each and every object; they are not the same with any other object. Generally, a bigger object should also mean an older object, but there are also some corrective factors, because of the conditions in which the objects exist.

Inside this process there is a process of growth and disintegration of elements, which is related to temperature and rotation. The atoms of the lower order are generally present on smaller objects: asteroids, comets and the majority of satellites and smaller planets. When an object's mass is sufficiently increased, given other forces, too, it becomes geologically active. Its temperature grows inside and outside its crust, due to the formation of heated core. The atoms of the higher order are created under these conditions. The more active and warm a planet is, the higher is the presence of the higher order elements. However, at certain point temperature begins to destroy (disintegrate) higher elements.

As temperature gets higher, a variety of elements gets poorer; the heated stars generally consist only of hydrogen and helium, with other elements below 1%. Both of these processes can be traced on Earth; the other one is visible through the composition of magma. Magma consists of the lower order atoms, which is confirmed by its cooled

rocks. Neither gold nor silver or any other higher order element, exist in magma; for them to be created, more conditions need to be met.

The temperature of stars is directly related to the speed of its rotation. Those with slower rotation are red, while with the increase of the rotation speed, also increases the glow and temperature of a star. As a consequence, it turns white and blue. If we consult [the Hertzsprung-Russell diagram](#), it is obvious that both very small and super giant stars can have the same glow; they can be white, red or blue. The mass and quantity of so-called fuel that they supposedly burn is obviously an unacceptable answer – there are stars of the same mass, or sizes, but with a completely different glow. If we were to try to explain that by the presence of different elements, it would make no sense. Diversity of elements depends exactly on the temperature heights: the higher the temperature, the lower the diversity and order of elements. The lower the temperature, the higher are diversity and presence.

If stars were to burn some fuel, they would lose their mass, which is not the case. On the contrary, they constantly gain mass with the outer mass incoming from the system (comets, asteroids, planets). Furthermore, it is wrong and opposite to the evidence to claim that stars shine because of the radioactive processes deep inside them. Beyond any doubt, they are not radioactive; besides other facts, there is magma on Earth, which shows no sign of radioactivity. To claim that these processes occur deep in the interiority of a star is unacceptable, because, due to high temperature, matter dislocates from the interiority towards surface. It goes vice versa, too, because this is one and the same object, not two distant worlds. All that we don't understand about stars is evident here, on Earth. It is also heated, except for the crust, the thickness of which is less than three part per thousand, related to the melted part. If radiation doesn't exist on Earth, it doesn't exist on stars either, because the principle needs to be the same. But there is information that the objects, the mass of which exceeds 10% of Sun's mass, produce glow. The force of attraction is a correction factor to this percentage: if an object is in its orbit closer to a star, the mass of the glowing object is significantly below 10%. That is proved by the vast majority of exoplanets discovered so far ("hot Jupiters").

Earth shouldn't be forgotten in this sense; although it hasn't lost its crust, it is hot. The limit when pressure, due to the mass growth, causes the melting of an object needs to be determined more precisely. Once more, we can determine that the forces of pressure are solely responsible for that; objects are hotter in their centers than closer to surface or on it. The events take place exactly on the place where the forces of pressure are the strongest. It was thought until recently that planets Jupiter, Saturn, Uranus and Neptune have cores of frozen liquid hydrogen. Of course, that can't be true because Jupiter and Neptune emit two times more heat than they receive from Sun – that is a clear evidence of the melted core.

What is still there to be discussed is the matter disintegration via stellar explosions. The observations affirmed that a majority of matter disappears when a star explodes. As old laws prohibit the loss of matter because of the principle of mass conservation (it is claimed that all mass has appeared at once and that there can be no changes), the missing matter had been replaced with a black hole, an object that doesn't belong to

physics, since its laws are out of it. The astronomers stated that matter disappears; they didn't see or measure the formation of a black hole. Its mass should be measurable in the terms of mass, but it is not done. There are only speculations and assumptions, of course, without evidence. It makes no sense to claim that certain objects were discovered somewhere in the universe rotating around something that we are unable to register as a black hole. There has been nothing so far in the physical research that couldn't be subdued to the laws of physics. There has been nothing that would tell us that density could be out of the laws of matter. It is even more inconvenient to make such a quasi-physical theory, which provides no hard evidence, a part of the official science and school handbooks. All stellar and galactic systems, with the exception of the spherical groups of stars and galaxies, have a central object that makes more than 90% - generally more than 99% - of the total mass. The diameter of the central object also is near these figures. It would be reversed with the black holes: larger objects would be rotating around smaller ones, which is contradictory to all the facts gathered by observation from the beginnings of observation till today.

A cyclone is already confirmed occurrence in the universe. It is created because of the rotation of object, system and universe itself. All stars, as well as [fluid planets](#), have cyclones on their poles. There is nothing different in the centers of galaxies and that is probably the only explanation of the void, in which the presence of objects can't be detected, yet there are stars rotating around it. A reason for the impossibility of registering is in the slower rotation of an object or system in their respective centers. Therefore, light can't penetrate through the gaseous layer. Besides, a cyclone can be created out of the dark matter, which is registered with difficulties.

The accelerator experiments have shown that particles disintegrate during collisions; it transfers from the visible into the invisible matter. The forces of the same values, as well as an endless quantity of collisions, occur during the explosions of stars, similarly as it happens in the accelerators. That proves beyond any doubt that the majority of matter from the exploding star disintegrates from the visible into the invisible matter and energy.

During the 1980s the experts of subatomic physics discovered that particles jump out of field, with the remark that only those that have been fully formed survive, while the others (a vast majority) immediately return to the field. This is exactly the opposite process to the split of atom: the invisible matter becomes visible to our instruments through the particle joining.

Since this goes against the majority of laws and theories, all further researches were stopped there, just as Sir Fred Hoyle's suggestion about the particle formation in order to explain the expansion of universe.

The colossal process of matter circulation in the universe is closed by the formation of particles. No less than one star per galaxy explodes in a 100 years (some claim, one in a 1000 years). There are 100 – 200 billion of galaxies in the universe. If the frequency is one star (nova) in a thousand years, in only a million of years there are 1000 explosions

that disintegrate a majority of matter. That number needs to be multiplied with at least 100 billion – a number of galaxies in the universe – to get a total number of explosions in the universe in a million of years.

Let's check some rules of behavior, imposed to matter in the universe. Even though there are 100 billion of galaxies in the universe and in average 200 billion of stars in our galaxy, there is a complete dark in the space between the objects. Everyone likes to say that universe is a vast space and that there are not enough stars, but it is enough to look at the night sky to see a large number of stars and conclude that these claims don't remove the doubt about something being wrong.

It is a complete dark only some 20 km from the surface of Earth. We can see Earth glowing when we look at the photos of it taken from Moon or even from a further place. It is obvious that when Earth glows, Moon glows, too, but it is a complete dark between them. How can that be? If light consists of photons and if its range is practically unlimited, why is it dark?

Let me make two examples that "explain" that phenomenon. The first is the official viewpoint that space is void and light has nothing to reflect off to be registered. It is unclear why something that glows needs reflection to start glowing. Why that light is not visible in the universe? If it arrives to Earth, with or without reflection, why is it dark only 20 km from the surface of Earth? What is actually arriving?

The second one is the explanation given by Isaac Asimov. He said we were looking into past when looking in the universe. Also, he said that the universe has a red shift and because of a phase shift we see a dark universe. It sounds convincing. When we look at the galaxies, according to that, they represent the regression to the past, but we see the galaxies that are distanced (I apologize: old) 13 billion of light-years. Obviously, there are two kinds of light: one that shines and the other that doesn't. Yet, it doesn't explain why there is dark only 20 km from us? It is present time there, not the past.

As this is something completely new, I will use only the most obvious evidence.

The Sun emits radiation (not light), which by itself is not made of photons and it doesn't glow either. There is a dark space without a visible matter between the Sun and Earth. Light appears when radiation collides with the visible matter; in our case, with the atmosphere. On the Moon, it is the Moon's surface, etc. Radiation doesn't glow, nor does matter, except for the radiation-emitting objects. Light is created when there is a collision of radiation and matter.

The space between objects (between Sun and planets, etc.) is closely related with light or dark. Let's check if there is anything in that space, which is officially considered to be void.

A void space can neither increase nor decrease the speed of objects in it, or in any way participate in creating interrelations with objects or radiation. If an astronaut's rope that ties him to the ISS were to break, we know he would be permanently moving through space.



However, it is not all like that. The radiation from Sun loses its power (intensity) with the increase of the way they traverse. There is a sunset on Pluto, and a hot day on Moon; this is the evidence that something deprives the power of radiation. If we take a look at the night sky, we will see the radiation of stars arriving, but they are very weak. The weakening of intensity is obvious in comparing the objects' temperatures: Mercury, minimum - 173°C, maximum +427°C; Mars, minimum -143°C, maximum +35°C; Pluto, minimum -235°C, maximum -210°C; etc. The objects closer to Sun are warmer on the sunny side and less cold on the dark side. Let's compare this to the visible matter. Let's take water for the example. The intensity of light is very expressed closer to surface; as we go deeper, the intensity gets weaker and dark begins to dominate. Temperature is at its peak on the surface and it decreases as we go deeper.

It is obvious that the visible matter – in this case, water – follows the same laws as the space outside our atmosphere. This space doesn't act as a void space; on the contrary, it seems to be very similar to the space with the visible matter. Therefore, this space is not empty and it intensively participates in the processes in the universe. That can only be so-called dark matter and energy.

Besides similarities, there are differences, too: as the consequence of the collision with radiation, the visible matter produces light, and dark matter doesn't. Medium and high temperature is a characteristic solely of the visible matter, while low temperature is a characteristic of the dark matter, but also of the visible matter, when it is outside the intensive radiation. It is a bit warmer than dark matter, however, because of the low radiation. Even though, the difference between them is minimal.

There is another key difference: the visible matter has a significant charge that is easily registered. The invisible matter has no charge, at least nothing that our instruments could register. However, if it is partially made of neutrino, some charge should be registered, nevertheless. That may be impossible to register today, but at least it will be possible in the future, when the instruments are going to be more accurate. Not before we fill the space of universe and outside it with the elementary matter (dark matter and energy) will we be able to observe the universe in real terms. Temperature can be credited for some strange laws in the universe. Gravity is a sum of the attraction forces and the rotation of an object. Due to the effects of gravity, the objects that are closer to the central part (a star or a galaxy) rotate faster around the central object than the more distant objects, because of the increased intensity of gravitation. However, at the edge of the system of a star and a galaxy, that rule is rejected by the low temperature.

When the low temperature falls below the critical point, together with the weak gravitational activity it makes possible for the objects to create higher speeds in orbits. The observations have confirmed these for the other galaxies. When we talk about our system, it can be confirmed based on the comets arriving from the Oort cloud; some of them have greater speeds than Pluto and some are even faster than Mercury. On average, that speed is about 2.5 times higher than Pluto, but those more than 10 times higher are also possible. The change of behavior occurs when temperature falls below the melting point of hydrogen (-259.14). The temperature in the Oort cloud is between 4 and 12°K, which is enough for the objects to accelerate.

The rotation of objects causes one specific thing that is generally present in the universe: the cyclones. They exist on the poles of Saturn, Jupiter, Sun, stars and galaxies. Liquid objects (stars), as well as gaseous ones (fluid planets), create cyclones on their poles due to rotation and magnetic forces. The stars with higher speeds of rotation around their axis have more significant cyclones with higher speeds than the objects, which rotate slower. These objects have more objects trapped in their orbits and they gain mass faster, because a higher speed of rotation means a stronger gravity (gravity as a sum of attraction forces and rotation). In general, their masses are larger than these of the objects with the lower speeds of rotation. The flow of time shouldn't be neglected; time is a strong corrective factor: an object, tens of quadrillions of years old, is superior by its mass to a younger object.

There are two ways of creating galaxies with their recognizable rotating center. The first is that a star with a higher speed of rotation survives all the challenges of the dynamic universe and sufficiently increases its mass so that the number of objects in its orbit can be considered a further growing galaxy.

The other is to create a cyclone out of gas or invisible matter inside the irregular galaxy and with the assistance of rotation. That cyclone turns the irregular galaxy into a regular one.

The similarity of these ways is obvious, because even the fast-rotating stars, just as all the rest, have a cyclone in the center, from one pole to the other. A switch of poles occurs when there are slower cyclones on the stars; the cyclones then fail to reach one another. Due to that, matter on the poles rotates faster than the one in the center, in the equatorial area. Faster rotation balances an object and alternating switches of poles are then unexpected. A compactness of crust (surface layer) is what prevents the switch of poles on Earth.

Galaxies also have their maximum of size, sustainable in the universe. Just as atoms, they should also discard a surplus of matter. There are some indications of it, but I will leave it for some other time, as I haven't studied the evidence thoroughly.

Even though they are credited for the preservation of its integrity, the cyclones on the poles of a star are also its Achilles' heel and they cause its disintegration in two ways. The first is that, due to an outer activity, a cyclone stops or significantly slows down. It would cause an annular disintegration of an object, because the mass of the object, lead by inertia after the cyclone slowing down and the loss of a major part of gravity (rotation), starts to distance itself from the center. If the cyclone stopped, the center remains empty and if it only slowed down, a part of mass remains in the center as a new object: a planet, a star or some other object in the formation around the cyclone. The other way of disintegration is the one that causes the explosions of stars. This way of disintegration is mostly spoken of, out of obvious reasons (it looks colossal and tickles the imagination) and out of objective reasons (it creates an emission of strong radiation, which is easy to detect, unlike the annular nebula, where there is none). Essentially, it is the same event that takes place when an object arrives from the outside vertically to one

of the stellar poles, hits the eye of a cyclone and penetrates deep into the interiority of the star. If the incoming object is not large, its explosion will influence the speed and rhythm of the cyclone and if it is larger, its explosion will cause the star to explode.

Under these conditions, a clear definition of the law that causes the disintegration of stars can be found, opposite to the so-called burning and consumption of fuel. Stars explode no matter what the size is and whether they are a central object or a rotating object around another star. That is an insurmountable obstacle for the explanation about the burning of fuel, which needs to answer, why the mass of an object is not the condition of the fuel consumption. Now we can see why there is no chain reaction and why the object, exploding in the orbit around a star, doesn't destroy the main star, too. The reason is trivial: side impacts don't cause explosions because matter melts with the central object (the part that is captured by the attraction force). I will maybe some other time speak about a mathematical model explaining this.

We can get to know better the processes of growth of the objects and their interrelations from the viewpoint of our system. Whatever object inside the Solar system is observed, it is obvious that it is covered with [craters](#), formed after the impacts of the larger or smaller asteroids and comets. It is a pretty lucky circumstance that we were able to visit from a short distance all planets and many satellites, asteroids and comets. "New Horizons" is soon going to approach Pluto – which is a bit planet, a bit not – and bring us more or less known facts, which we could have calculated anyway. But, you never know, maybe there will be some surprise, even a little one.

The craters on Moon, Mercury, Callisto... are particularly interesting to observe, because these are solid objects without the significant geological activities that would abrade or devastate them.

It certainly doesn't mean that the craters are there from the so-called beginning of the system. On the contrary, the photos show the older craters, which were eroded in consequence of the arrival of new objects, which again create new craters. The research of Earth tells us that craters are no old news; their age is not measured in billions of years. Earth is geologically active; it erodes the craters relatively fast. The meteorite of Ob took place more than 100 years ago, and during these years we have seen a large number of asteroid collisions with Earth. Many of them managed to pass through the atmosphere and hit the ground. We have seen comets hitting Jupiter and Sun. We even have a photo of the impact on Moon. It all witnesses a constant activity that constantly increases the mass of planets and other objects. It is beyond any doubt that formation was not an instantaneous event, but a process, which lasts at the same intensity, consolidates objects until they become stars. They finish their voyage in explosion and matter disintegration at the very beginning, in the elementary matter (dark matter and energy).

This comprehension opens up new questions or imposes new answers that differently define the age of the space objects, as well as the age of the universe itself. The age of Earth can't be related any more to the age of its crust; it was obvious even before that

doing so is not the best solution. Besides that, based on the circular processes in the universe – such as the formation of visible matter, growth, disintegration and regression to the beginning – the age of universe can't be determined even by far. It is particularly funny to talk about the age through the distance of objects, registered by our instruments. When radiation starts from the formatted star, it lasts until the star becomes a nova, if it was younger and smaller, or supernova, if it was older and larger.

The age of Earth itself is very difficult to determine approximately. The calculation needs to start with the age of a small asteroid, the age of which had been estimated to 4.5 billion of years. It was tried to set that same value as the age of the Earth's crust, even though there was not a single evidence or any similarity link between these separated worlds. Earth constantly renews its crust, just as a snake does with its skin; it happens through the plate tectonics, volcano activity and constant approach of the new, extraterrestrial matter, which is estimated to be 4 000 – 100 000 tons per year.

This data are the next fact by which the age could be determined. Its shortcoming is that its value decreases with the size of an object or increases if the object increases. The intensity of approaching or enlargement is similar in very long period of time. There are data for Earth that its mass, with the help of the Sun's gravitational effects, created a melted core; in fact, only the crust is solid, but its relative thickness is measured in parts per thousand. The melted Earth is in terms of age significantly further than the solid objects as Mercury, Mars, Moon, etc. – their age, compared to the age of Earth, is measured below one part per thousand.

When I speak of a quadrillion of years in my estimates of the Earth's age, that is only the estimate of the lower limit of age, gained from the age of the asteroid – which is, by the way, questionable – and from its annual growth, calculated from the facts of 4 000 – 100 000 tons of the incoming extraterrestrial material per year. At the moment, that quantity is enough to break the illusion of 4.5 – 4.8 billion of years of the Earth's age. That quantity had been calculated for the crust and very carelessly applied to the whole Earth.

Generally: the larger the object, the older it is. When it grows up to 10% of the Sun's mass, it loses its crust and becomes a solar object, a star. However, it shouldn't be forgotten that this questionable limit had been established long ago; the recent researches, conducted with the use of more advanced instruments, have significantly lowered that limit. There also exist objects, which become solar objects, even though their mass can be compared to the mass of Jupiter or even less; the cause of that are the forces of attraction and the rotation of the central object.

The age of universe can be estimated only from its disc form. We can assume that it takes a high outer speed, a long period of time and large number of rotations to achieve this form. If we determine the distance of the furthest galaxies from us, which is estimated to be 13.8 (13.7) billion of light-years, to be the radius of universe from the approximate center – where we are situated – to the outer parts, and by calculating the circumference with the formula  $2r\pi$ , with taking the speed of the outer region in the

calculation (270 000 km/sec. / 0.9 of the speed of light), there is the result: the universe makes a single turn in approximately 94.5 billion of years.

This result should be multiplied with a large number of rotations, needed to create a disc form. It is clear now that the age of universe is not really important, because it is an enormous number, which, due to its enormity, has no theoretical or practical value to us.

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