



Sufism and Black Holes

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Stars and Black Holes

There are various branches of science that examine the sky and the mysterious structure of the universe, for example Astrophysics and Cosmology. These sciences examine the formations, structures and sinks of objects in the sky. Among the celestial bodies examined, stars and black holes occupy an important place.

The star is a plasma cure, mainly composed of hydrogen and helium, which appears as a spot in the sky, emitting light in dense and dark space. There are

about six thousand stars in the universe visible to the naked eye. The closest star to earth is the sun. The reason for the brilliance of the stars is that the energy emitted in the nucleus fusion reaction in the nucleus of star is spread out in the outer space after passing through the star.

The formation of stars is conceived in science as follows: Stars are formed in molecular clouds consisting of large regions at high density in the universe. These clouds are mostly made of hydrogen and helium. An example of this kind of nebula is Orion nebula.

Black holes of stellar mass are expected to form when very massive stars collapse at the end of their life cycle. After a black hole has formed, it can continue to grow by absorbing mass from its surroundings. By absorbing other stars and merging with other black holes, supermassive black holes of millions of solar masses may form. There is general consensus that supermassive black holes exist in the centers of most galaxies.

Black hole is an astrophysical object like other astrophysical objects. Its basic feature is that its gravitational field is strong at all times, not allowing any material formation and radiation to escape from itself and its mass is great.

Black holes are defined by Einstein's general relativity theory. They were discovered through indirect observation techniques that use various wave lengths, not directly observable. Direct observation of black holes is very difficult. The central region is not described satisfactorily by theories of physics. The physical rules that apply at the center of the black hole are not a physical rule in the style we know. There is a situation called gravitational singularity there. There is no theory that can define this gravitational singularity today. In contrast, the physical conditions surrounding the black hole and their impact on the environment can be defined.

Black holes can only be defined by three parameters. They are mass, electrical charge and angular momentum. Other parameters (size, shape, etc.) of black holes are determined by these three parameters. The properties of mass and electrical charge can be studied by classical physical rules. However, the effect of angular momentum is characteristic of the general relativity theory. The result of the rotations of the black holes around their axes has the ability to bend the spacetime in the immediate vicinity.

Although black holes are the most stable and longest lived objects in the universe, they can not live forever. They lose their energy very slowly by making Hawking radiation. Hawking radiation is a conceived idea in purely theoretical ways.

The largest black hole so far is at the center of CID-947 galaxy, which is 220 million light years away from the Milky Way galaxy. According to NASA, this black hole is about 7 billion times the size of the sun. It is estimated that the age of black hole is 11,7 billion years. The black hole has 1/10 of the galaxy's mass. This black hole grows at a speed faster than the expansion speed of the galaxy it is in. It means that this black hole swallows the galaxy around him with a great speed. This situation is surprising according to today's models. In these case, models related to black holes need to be revisited.

Dark Matter and Dark Energy

Dark matter is a substance that does not interact with electromagnetic waves (radio waves, visible light, x-rays, etc.) in astrophysics, but can be determined only by the effect of mass gravity on other matter. It has been determined that there are far more dark matter than the materials visible in the universe. Dark energy is a kind of energy which is supposed constantly to enlarge the universe and remove galaxies from each other. Since the creation of the universe, according to the theory of the Big Bang, there must be an energetic source that provides this expansion. This energy, which is not know exactly today, is called dark energy. The darkness in these two concepts comes from the fact that they do not enter into any interreaction with light. So they are not seen because they have no interreaction with the light.

It has been determined that only 4% of the estimated total energy density is directly observable, which is the result of examining the gravitational energies in the universe. In other words, material laws we know are about only 4% of the know universe. It is also calculated that 22% of universe is made of dark matter. The remaining 74% is considered to be formed by the dark energy which is spread to the universe in a balanced manner.

Mystical interpretation of stars

The sky is standing without any visible post. The post keeping the sky standing is the reason. It is imperative to have a holder for the sky. The sky is a real property and must have an owner who possesses it. This owner is the reason which is keeping the sky standing. The owner of the sky and the reason keeping it standing is Allah Almighty. This point is expressed in the following verse in Quran: *“Surely, God holds the heavens and the earth, lest they should deviate (from their places). Were they to deviate, none could hold them after Him. Surely, He is forbearing and most forgiving.”* (The Creator, verse 41).

The universe contains many mysterious facts and features with its boundless structure. In these mysterious cases, we can consider stars and black holes. There are millions of galaxies and stars in the cosmos. They are in motion and move by drawing circular orbits. Hz. Mevlânâ (ks) describes this fact as follows: *“The heaven with its innumerable stars on its breast as an immense object, rotates as a millstone around Allah’s Power.”*

The sun is a star. According to Sufism, the sun and the stars are the seeds that Allah brings forth in heaven. As the seeds develop over time and cause new formations, the stars cause the new formations in the universe by their movements and changings. In the verse *“...Every day He manifests Himself in a new state.”* (Al-Rahman, verse 29) this metamorphosis is indicated. This metamorphosis has been brought by Allah to the existence. Some of the metamorphosis are secret and can not be perceived. Some are as clear as the human will perceive them.

Every star has a circular orbit. The star moves in this orbit. This movement is a form of swimming. Because in the 40th verse of Sura Yasin, it is expressed as follows: *“The sun can not overtake the moon, nor can the night outpace the day; each floats in (its own) orbit.”* The feleks occur by the walking of stars in their orbits. “Felek” means a structure which arises by the movement of stars in their orbits. This structure is spiritual and not visible. In this structure the secrets of cosmos are embedded.

Allah has settled the knowledge of all metamorphosis and changes that will take place in the realms of the components into the treasures of stars which moves in feleks. These are divine secrets. By the reason of the movements of stars in their orbits, it is created some events and situations in the world of the

fundamental principles and in the derived subjects. These created events and situations are because of the revelations that are revealed to the feleks. However, these revelations are divine secrets and their nature is unknown. In this way, the stars were made by Allah not causes but means.

The stars we see are also some sort of duplicates. They have souls that consist of angels. These spirits rule the stars. This is similar to the human body which has a soul. If the stars have not the souls, it would not be possible for the stars to move. So the feleks are the residence of angels. It is occurred the thoughts of human as the number of these angels everyday. Whether you are a believer or not, seventy thousand thoughts come to every human per day. This could be known only by wise men.

The moon and other stars move in their feleks and take place to bring forth the beings. During this cruise, the actions that take place in the realm of elements occur. The putting the stars into motion in their feleks by Allah, the existence of 28 letters come to fruition in 28 stages.

Just as the lights of the stars are in the sunlight, the light of the knowledge is intrinsic to faith. The knowledge remove the decree of the skeptics and the light of the faith shows the real interpretations of these skeptics. The light of faith means the command of sharia.

By moon and solar eclipse there is no change in moon and sun. But these eclipses are the metamorphosis of the reflection of moon and sun to the eyes of people. The fear of God in the sun and in the moon appears as disappear of light in the human eye. This is done by natural screening in the lunar eclipse and by informal screening in the solar eclipse.

The fixed and moving stars are the dark houses. Because all of their essence are dark. The lightening of the moving stars takes place thanks to the lights they borrow. According to this, the true truths of all stars are dark but they appear illuminated in the universe. Because God wish in themselves occurring some reactions when they are in the world of being.

After the Apocalypse, all the stars are found in Hell as dark and big creatures. The sun and the moon are in Hell too. They born and sink there constantly. But the sun in the Hell does not illuminate. The things that come out of its movement are unique to its place.

In verse 6 and 7 of the Sura Saffet, Allah Almighty says: *"We have adorned the lowest heaven with the beauty of the planets; and guarded it against all rebellious devils."* In the same way, in verse 5 of the Sura of Mülk is expressed: *"We have adorned the lowest heaven with lamps, and We have made them for driving away devils. For them We have prepared the punishment of the blazing fire."* In these verses, it is stated that the stars are the light sources adorning the heaven. Why are the approach of the devils to the stars blocked here? The reason of it, as we have already said, the movements of the stars have been filled with information of changes and events in the world. The group of demons, especially devils, want to know what this information is. Therefore they try to approach the stars and listen to the talk of the angels in the feleks. But it is not given any chance to the devils to understand this information, as a result of wisdom from Allah. The devils are chased away by a piece of broken star. If the devils had already known about the events in the world beforehand, they would share this information with their own followers in order to bring up the suffering in the world. In this way the Muslims are guarded against the mischiefs of the Satan. This is a blessing of Allah to the Muslim.

There are some verses in the Quran which say that the celestial realm is made up of seven layers. It is said in the verse 3 of the Sura Mülk: *"He created seven heavens one above the other in layers. You will not find any flaw in the creation of the Gracious One. Then look once again: can you see any flaw?"* According to this verse, celestial realm is made up of seven layers formed on one another. Islamic scholars have stated that the thickness of each layer is so long that one can go through in 500 years. There is neither a post nor a connection between the heavens. The bottom sky surrounds the world all around. The first sky is surrounded by the second sky and so on. Finally Arsh embraces all the skies. The Prophet Hz. Muhammed (sav) have passed these heavenly layers one by one in Mirac night and have seen other prophets there. The sky where the stars and other celestial bodies we can see with our eyes is in the first layer. The orbits of the stars are in the first layer.

Stars are used to determine the direction of people at night. This point is expressed in the 97th verse of Sura En'am: *"It is He who has set up for you the stars so that you might be guided by them in the midst of the darkness of land and sea. We have made signs clear for people who want to understand."* In the same way, the wise men of Allah are considered stars, because they show the

true way to the people. Who live outside of the Islamic line are in darkness. To get rid of this darkness, people need to be guided by the wise men. The above verse may indicate this fact. Indeed, in a hadith of our Prophet (sav) is said that *“My companions are like stars. Whose way you follow, you will be saved.”*

According to the results we have outlined above, the structure of the skies is different from the explanations of the astronomers. According to Sufism, the sky is like a tent not a concave sphere. The knowledge of astronomers is terminated at the zodiac. The zodiac heaven is also called the Atlas heaven. The zodiac heaven is woven and colored with twelve zodiac signs. In reality, on top of this is the Mükveb (becoming starry) heaven which is also called the heaven of Menziller (journeys in spirituality). This heaven has all the other heavens in his hand. The Mükveb heaven, in other words, the Menziller heaven, can not be perceived by the human mind and senses. But some can be perceived through revelations.

Interpretation of black holes in Sufism

Among the colors is the black color, which indicates mastery. The wise men have black faces in the world and the after life. The divine manifestation only takes place in this group exclusively. They are individuals and single. The face means the reality of faith and the black face means the truth of mastery.

The existence is light and the absence is darkness. All the lights have come to illuminate what is born on it. Heyula, or in other words, Heba is the first thing in which the darkness occurred. So the heyula is a dark essence in which the transparent objects and others appeared on it. In addition, every darkness in the universe is from the Heba essence.

The truth is pure light, the impossible things are dark. The darkness, that is the impossible, will never turn into a light, nor will the light turn into darkness. The universe is an isthmus between light and darkness. Because of its essence, this isthmus can not be characterized by darkness, nor by light. The world is in the middle. For this reason it has the judgments of two ends. Because of this, it is expected to be found lights and darkness in the universe at the same time. Black holes, dark matter and dark energy must be understood in this context.

The reason for the perception of what is seen is that the light of eye is combined with the light of illuminated object. The discoverer perceives what he sees with the light of imagination. The existence of things is not the reason of its being seen. God has given ability to the things to be seen. It is no matter to be existed or to be absence for the seen object, because sight is attached to itself.

If there was no any creature's eye on the world to be able to see the sun, the sun could not have any light to be spread out on the world. Because the light of every creation is limited to itself and no one else can be enlightened with it.

To perceive a thing can be realized only through the light on the thing. The light provides cognition, but it can not be perceived. However, the dark can not realize the perception, but itself can be perceived.

God has created the darkness as an envelope of His creation. For this reason, we can think the dark things in universe as the place for the formation of new things. The process of the creations in darkness is to accept the preparation and emergence of the reality of creatures and so the creatures can be appear in the form of existence outside. When God got glory cover, the minds were prevented from perceiving the acceptance of the reality of creatures its creation. Because the event is in the dark and can not be realized. Everything can not know how it is created, how accepted the creation and how has become an appearance place of God and how is characterized as existence. This is a situation that has been covered by the darkness.

The black holes are the regions in the universe where we do not know. In Sufism, we have learnt that we did not know everything about our universe. We have already mentioned in our previous articles that there are things in the universe that Allah has hidden to us. There are secrets in black holes which we do not know. This is also the case with dark matter and dark energy. Especially when there is no light coming to us from an object, we can not get any information about it. Just as it is hidden to us how it is to escape from the darkness of absence to the light of existence. We know that it is not possible through mind to fully perceive everything in the realm of existence. The word "akıl" means the mind in Arabic. This word is derived from the word "ikal". "ikal" means the limitation in Arabic. Therefore "akıl" (mind) is limited. In Sufism we also know that some information can not be reached through revelation. For it is the result of the grandeur of divine knowledge. If we think about it in proportion, it is understood

that the rate of what we do not understand is very big. Because, as expressed in the following verse, very little knowledge has been given to us: *"... and you have been granted but little knowledge."* (Al-Isra, verse 85). Some Islamic scholars say: *"I know an unique thing that I know nothing."*

Absence which is darkness is essential. Other things are obtained from the darkness. An example of this is available at night and day. As declared in the verse 37 of Sura Yasin, the day is withdrawn from night. It means that the daytime is hidden in the night. In this coherence, God has removed the appearance from unseen and our existence from absence.

Mystical interpretation of dark matter and dark energy

Understanding takes place thanks to the light in what is perceived. The fact that dark matter is not perceived is because of that any light of it does not come to our eyes. What may be the nature of dark matter and dark energy? It is known that dark matter affects according to the law of gravity. Therefore, such a substance exists in the realm of existence. But it is covered to us and our perception of it is impossible. Dark energy is a hypothesis. It is thought as the energy that causes the expansion of the universe. There are other models explaining the expansion. The needed energy for expansion can be given to the universe through recreation by God. For this reason, the expansion of the universe may have been provided by newly created entities. Therefore, dark energy is a power manifestation of God that is at His disposal and unknown to us. With this manifestation of power, many new phenomena may occur in the universe. The above considerations show that some things in the universe are hidden to us. However, Muslims believe in that this unknown can only be known by God. In the verse 38 of the Sura Fatır is said: *"God knows the hidden reality of the heavens and the earth. He has full knowledge of what is in the hearts of men."* So there are hidden things in the universe that are known only by God, but impossible for people to know. Black holes, dark matter and dark energy are to be understood in this context.

Conclusion

According to Islamic faith, the world is surrounded by seven heavens. Above all these seven layers is the highest heaven (Arsh of Allah). Allah Almighty settled on His Arsh with the attribute Rahman (the Compassionate). From here, God rules all the realm. The sky which is closest to our world is the sky we see and can imagine with mind. The world that astronomers define as the universe is the first sky. What we mentioned above belongs only this first sky. In this sky, there are the orbits of stars which arise from their movements. In these orbits the knowledge of events and changes that will be in the scene in the universe is embedded by Allah. This knowledge is applied by the angels over time and thus the events and changes are taken place.

Among the first layer or sky objects are black holes, dark matter and dark energy. The whole information about the structure and the features of the first sky has not been given to us. It is not possible to obtain all of this information either by reason or by revelation. In this regard there are many things we can not see and do not know in the universe. Black holes, dark matter and dark energy should be considered in this context. The hope of the astronomers is that one day all of this information will be acquired by reason of people. However, the judgment of the Quranic verses that is the rules of sharia, are certain. It is said in Quran that “We have given a little knowledge to you”, then it is not possible for people to reach all information up to doomsday. But Islam is not against that people do new experiments and investigations in the universe. They also have the advantage that all of them show us how the universe has been created in the most beautiful form and without any deficiency. These become the evidence of reaching Allah.

Friends! The earth and the heavens were created by the wisdom of Allah Almighty. Our duty is to increase our believing and knowledge about this creation. This is possible only through learning sharia thoroughly. In other words, we must we must understand the Quranic verses and Hadiths very well and strive to live and see them in our lives. We wish to God that all of God’s people should study the universe with the principles of Islamic Sharia and apply them.

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