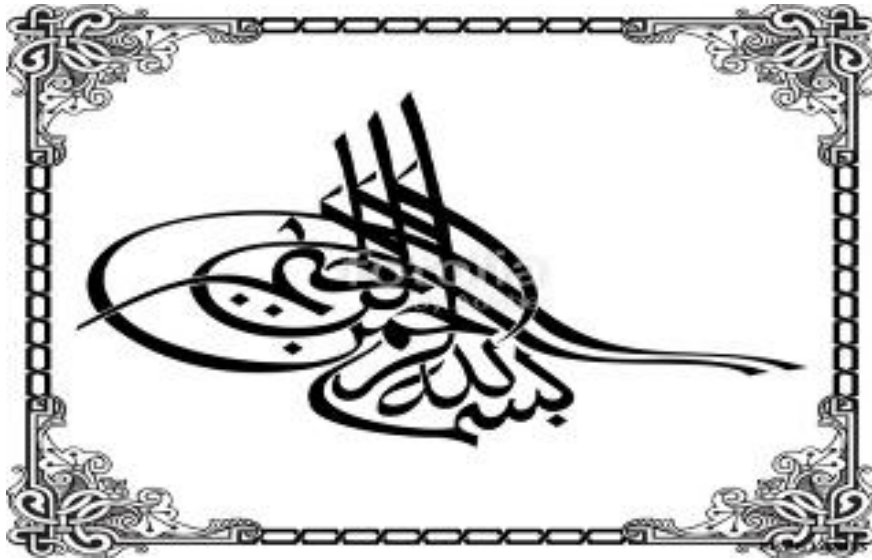




Sufism and Entropy

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What is Entropy?

Entropy is a function that thermodynamically characterizes each state of a closed physical system. The concept of entropy was introduced by R. Clausius in 1850 and as a result of the second law of thermodynamics, it was proved that in a closed system, the entropy of the system increases continuously in non-reversible events. The spontaneous changes in a system are always in the direction of increasing entropy.

This result determines the direction of all events in the universe. For example, heat energy automatically flows from the warm environment to the cold environment; this increase continues until the temperatures are equal. In the meantime, the entropy of the system increases. But the contrary never occurs

spontaneously. In other words, heat energy does not flow automatically from a cold environment to a warm environment. If we consider the whole universe as a closed system, total entropy must always increase in spontaneous changes in the universe. Positive scientists have interpreted this increase in entropy as an increase in disorder in the universe. However, the term irregularity is used here incorrectly. Why this is wrong will be explained later in this article.

Entropy depends on the number of micro-states in the system. This is related to the information obtained about the system. While it is generally possible to make determinations with macroscopic properties of systems, it is almost impossible to know microscopic details. For example, it is impossible to know the velocity of each of the air molecules in a room. But we can say the temperature of the air in the room. As the number of micro-states of the systems increases, so does the unknown information about the state of the system. This determination is seen as the increase of entropy. Therefore, increasing entropy actually means increasing the number of micro-states of a closed system and consequently increasing the unknown about the system. For this reason, entropy is considered very high in black holes, because our knowledge of micro-states within black holes is almost zero.

According to positive scientists, entropy law has the most important place among all laws of nature. None of the laws that contradict the entropy law have any chance of being valid.

According to physicists, entropy law is based on probability. Because information about the micro-states of a system can only be obtained with a certain probability. For example, it is impossible to calculate the motion of each of the molecules of a gas in a closed environment. However, it may be possible to calculate the entropy based on the information about their distribution because the number of molecules is too high. Therefore, although the law of entropy seems definite, it is thought to have a probabilistic structure. However, it is still accepted to be the most exact physics law.

The entropy law shows that a certain order in nature is designed to ensure that life continues on earth. It means that events in nature do not depend on coincidences. For example, the probability that air molecules in the world will be collected in a certain region of the world and that other regions become airless is almost zero. It is possible to calculate the probability. We can think of a similar

case for air molecules in a room. We can calculate that the air molecules in one room are collected in a certain half of the room, and the probability that the other half is airless is almost zero: In a medium-sized room there are approximately 10^{27} air molecules. The probability of an air molecule in a given half of the room is $1/2$. It is therefore the probability that all molecules will be in the same half of the room is $(1/2)^{10^{27}}$. This number is also almost zero. Because of this number is very close to zero, it is impossible for all air molecules to be collected in a certain half of a room.

The result of the continuous increase of entropy in the universe has influenced positive scientists and philosophers very closely and has changed their beliefs and imaginations about the universe until that time. This result strengthens the notion that the universe has a beginning and an end. Thus, ideas gained power that the universe is a design and that the operation of the universe is based on a software program, so that a software author should exist. Thus, the validity of religious beliefs such as the existence of God, the creation of the universe and the apocalypse will be broken one day, have been revealed to people through positive science. Many philosophers and positive scientists who do not believe in religion have expressed their depressed expression of having to abandon the universe models they had previously conceived. For example, Bertrand Russell, an atheist, expresses his sadness in his book "Why I Am Not A Christian" as follows:

"All the labor, devotion, all brilliant ideas, all the brilliant genius of mankind, condemned to extinction with the death of the Solar System, and all the achievements of mankind is inevitable to be buried in the ruins of universe. Even if all this is not entirely unquestionable, it seems so precise that no philosophy that denies them should hope to survive."

There are, however, important differences and a few similarities between the evaluation of entropy theory by positive scientists and philosophers and the Islamic faith and the understanding of Sufism. These issues are discussed below.

Sufi comments and criticisms about Entropy

1) It is claimed that because of the continuous increase of entropy, the universe becomes more erratic as time goes on.

It is completely wrong to interpret the increase in entropy with disorder. Because there is a certain order in every point and every time of the universe. In the verses 3 and 4 of Surah al-Mulk, Allah Almighty says:

"...You will not find any flaw in the creation of the Gracious One. Then look once again: Can you see any flaw? Then look again and again. Your gaze will come back to you confused and exhausted."

In the light of this verse, according to Muslims, there is no disorder at any point in the universe. On the contrary, there is always a determined order everywhere. The increase in entropy indicates that the number of micro-states in the system increases and thus the information obtained about the system decreases. This reduction of information does not imply an irregularity. We have no information from the Black holes, so entropy is of the highest value. But this does not mean that the black holes are irregular. There is also an order of its own, but we do not know this order.

Another feature of the increase in entropy is that energy is constantly changing from a more usable form to a less usable structure. It is wrong to interpret this as an increase in disorder. Because if we don't control something, we can't say it's irregular. Likewise, if the energy in a system cannot be used, we cannot say that it is irregular. But positive scientists and philosophers try to evaluate everything from their own sights. However, the absolute truth is a fact that takes place outside them. The entropy law tells them how wrong they are.

The functioning of the system that reigns in the universe continues with the laws and rules set by God. People can see and know very few of these laws and rules. In this case, calling them irregular is very wrong and an expression of helplessness. In a verse from the Holy Quran, *"... You have been given very little of knowledge."* (Surat al-Isra', verse 85).

If there was indeed an irregularity anywhere in the universe, this irregularity would suffice to disrupt and abort the order in other parts of the universe with the effect of a butterfly. But such disturbance and deterioration is not seen in any way in the universe.

2) The continuous increase of entropy is interpreted as the messenger of the end of the universe.

The continuous unidirectional increase of entropy is interpreted as showing the future of the end of the universe. According to positive scientists, if the disorder increases, the end is chaos. This means the collapse of the system in the universe. It is predicted that the solar energy will end in 3 billion years and it is envisaged that at the end of this period, the sun can no longer function and thus the world life will end. The same applies to other stars. After a certain period of time, a heat death would occur due to the absence of heat movements in the universe, which is interpreted as the collapse of the universe and its destruction.

According to Islamic belief, the present structure of the universe will end with apocalypse and after the apocalypse a new order will be built again. Here are some verses and hadiths about it:

“They ask you when it's time for the apocalypse to break. Say, its knowledge is only with my Lord. It is none other than Him who will break him in time. There is no one in the heavens and the earth to withstand his weight. He will come to you suddenly...” (Surat al-A'raf, verse 187)

“On that day We shall roll up the heavens like a scroll of parchment. As We originated the first creation, so shall We repeat it. This is a promise binding on Us. Truly, We shall fulfill it.” Surat al-Anbiya, verse 104)

“(O Muhammad!) Say, “Allah gives you life, then causes you to die, and then will gather you together for the Day of Resurrection, about which there is no doubt. But most people do not know.” (Surat al-Jathiya, verse 26)

Abu Hurairah narrated: *“The Messenger of Allah (pbuh) said: 'People sweat so much on the Day of Judgment that these sweats go down to the depth of seventy-pound in the ground and this sweat (on the ground to make people unable to talk to their mouths) reaches up to his ears. ”*(Bukhari, Muslim)

Ubey Ibnu Ka'b explains: *“The Messenger of Allah (pbuh) said: When the Day of Resurrection has come, I will be the imam of the prophets, the orator and the intercessor (among them). No boasting about this.”* (Tirmidhi)

According to Islamic belief it is not expected billions of years for the occurrence of Apocalypse. It is believed by Muslims that there will be an apocalypse in less time. However, the occurrence of the apocalypse will not be due to the growth of entropy. The decrease in the faith of the people of the world, the spread of corruption and mischief, as a result of the abandonment of Islamic Shari'a will

decrease the number of Muslims on earth. As a result, when there is not a single person on the world who says “Allah”, there will be an apocalypse. Some hadiths related to this are as follows:

Haz. Enes says: *“The Messenger of Allah (pbuh) said: ‘Resurrection will not break on anyone who says “Allah”.”* (Muslim, Tirmidhi)

Ibn Masud narrates: *“The apocalypse is only broken to the bad people.”* (Muslim)

After the Resurrection, the life of the Hereafter will begin with a re-creation. Humans' souls will enter their newly created bodies and emerge from their graves. The life of the Hereafter will have its own order. However, this order will be established with the will and power of Allah Almighty, the Saint and Judge, and will continue eternally.

Philosophers interpret human aging as an increase in entropy and thus disorder, and it is stated that human death is inevitable. But there is a point that philosophers overlook. It is that man has a spiritual and material structure. Aging is related to the body, the material structure of man. But there is no aging for the Spirit, the spiritual structure of man. Death is the leaving of the soul the body. Since the human soul is from the world of spiritual, death is not the case for him. After the apocalypse, the soul will enter the new body that will be created for itself and the life of the Hereafter will begin for the human being.

There is a point that both philosophers and positive scientists are mistaken. They try to explain everything with the information obtained by reason and senses. However, reason and senses are not enough to fully explain the events. Because there are always two aspects of events: one is apparent (visible), the other is the unseen (hidden). If the comments are made only in the apparent aspect without knowing the hidden direction of the events, incomplete and incorrect information is obtained. So is the information about entropy. Only information about the universe that is acquired by senses and reason is incomplete and can be misleading. Because there is a hidden aspect alongside the visible part of the events in the universe, which can only be understood by information obtained through revelation and discovery. For this reason, the imaginations put forward by the positive scientists about the end of the universe do not exactly match the absolute truth. The reason for this is that they do not accept the information of revelation and discovery on this subject. Therefore, their determinations are

incomplete and misleading. This has been the case throughout the history of science.

3) Under the law of entropy, it should be considered that something that will be exhausted in a finite time cannot exist from time immemorial, so that the universe existed a finite time ago.

When people came to the idea that there would be an end to the universe, they came to the idea that it had a beginning. Because if the universe were eternal, that is to say, it is not created at a certain time, it would not be meaningless to have an end. The idea that the universe had a beginning has disturbed many philosophers and positive scientists, and the invalidity of the eternal universe model that they think has disappointed them. The only reason people are disappointed in this kind, is the thinking that they can explain everything with reason and senses. We have stated in our various articles that this is not possible.

Starting from the idea that the universe was expanding, the idea that the universe emerged with a big bang was put forward after the 1920s. This idea is confirmed by the entropy law. However, these two theories cannot accurately explain how the universe was first created. The full explanation of this subject can only be made with the knowledge of revelation and discovery which is the Science of Secrets. The explanations regarding this were made in our article "Sufism and the Big Bang". Here are some explanations from this article:

"For physicists, it is generally accepted that the starting point of the universe is the last zero point in the reverse direction. But this conception is wrong. Because in the belief of Islam, it is accepted that the universe was created by Allah as a truth in absence and then brought out to the realm of being by Allah again. So the beginning of the creation of the universe is not the zero point, but the creation of the first truths in absence. "

"He is the Originator of the heavens and the earth. When He decrees something, he would just say, "Be", and it would be." (Surat al-Baqara, verse 117).

Physicists conceive the formation of bodies in the universe, starting from the first elementary particles, occurring in various stages under high temperature and over intensity. Sufism, on the other hand, acknowledges that the truth of every object that emerges in the universe has been created in the realm of nothingness

before, and then they have got the existence in the nature through the manifestation of existence. So Allah Almighty, creates the objects that we see in nature through this manifestation in the time. We can perceive them with our senses immediately after their existence in nature. According to Islamic belief, Allah always repeats creation in the universe. This fact is expressed in some verses as follows:

“Allah originates the creation, and shall repeat it, then to Him you shall be returned.” (Surah Rum, verse 11).

“He is the One who originates creation, then repeats it, and it is very easy for Him...” (Surah Rum, verse 27).

4) The most important feature of the entropy law is that it is unidirectional and irreversible.

According to Sufism, even if there are rotations in the universe, there is no repeat. It's all about going towards.. There is no turning back. This is because of the richness of creation. Therefore, the fact that entropy is unidirectional (increasing) and irreversible is consistent with this information in Sufism.

In our article titled “Circular Model of Existence in Sufism” it is stated:

“According to Sufism, movements are the meanings and reasons in which transfers and displacements occur in themselves. According to Sufism, movements are proportions. These proportions give judgments according to what he belongs to. According to Sufism, the movement is a natural and voluntary movement to reveal some secrets by divine command.”

The movement of entropy towards greater value can be thought as the reason for the emergence of some secrets in the formations in the universe. For example, the secret of not being able to collect all air molecules in a particular region of the world is to ensure the survival of life on Earth. The increasing movement of the entropy may be the cause of the formation of black matter and black holes. We can hope that many events in nature can be explained by the use of the data of Sufism by positive scientists.

5) The increase of entropy is in the same direction as the progression of time. Entropy law shows the share of time in physical formations

According to Sufism, time is a relationship and has no outside existence. However, it is connected with the events and beings in the realm. But it does not exist like a substance. In this respect, time is a divine relation. In this relationship of time, all events take place in the realm. Accordingly, time is dominated over everything. The increase of entropy is one of these events and it is dominated by time.

Everything in the realm changes from one state to another. The transition from one state to other state takes place at any time in the realm of time. The difference of states is due to the difference of times. Time cycles, such as days, months and years, do not return substances to their original state. At any moment, beings are in new formations. For example, the present world is not the same as the world tomorrow. Surely it has undergone a metamorphosis.

The beginning of time is the creation of the soul of Prophet Muhammed (pbuh) by Allah Almighty. The divine name in which time is related is ed-Dehr. In other words, all the things that ed-Dehr does and will do in the relationship of time. We learn from a hadith that when our Prophet was born, time returned to the day when it was first created. Because the spirit of Muhammad ruled in the unseen world when it was first created, and time began with the creation of his soul. The dominating feature of the Prophet in the unseen world has also emerged in the apparent world when he was born. Therefore, in the context of the judgment of the Prophet, time has returned to the beginning of the first day.

Allah Almighty has abstracted the acting from Himself and attributed it to the cause. We observe that every action is based on a reason. But the real subject here is Allah. This applies to all natural phenomena, and therefore to the increase of entropy. Some people believe that time is the real subject, and that only time will destroy themselves. As a result, they took nature as their deity and claimed that there was no real subject outside of nature (Panteists). The verse 24 of Surah al-Jathiyah gives the following answer:

“They say, “There is nothing but our life in this world: we die, we live , nothing but time destroys us”. They have no knowledge of this; they only follow conjecture.”

The verse above points out what kind of misconception that those who think that people will disappear when they die, and who look at the time with the view of deity are wrong.

6) Entropy law shows the universe operating in a determinist and probabilistic structure

The determinist structure of the universe is possible only when the visible (apparent) and the unseen (hidden) sides are considered together. The apparent face perceived by the senses and the mind alone does not show us a deterministic structure. For example, uncertainties in Quantum Theory explain this.

Allah Almighty has put the reasons in the world and left them fixed. So they don't change. Everything has to do with a reason. But in fact Allah is the main reason. Therefore, in this sense, there is a determinist structure in the universe.

Sufism has objections about the existence of a probabilistic structure in the universe. Because no matter how large the probability space in the universe is, it imposes a restriction on the events that will occur. However, Allah Almighty can never be restricted. He is the One Who does what He wants, in the way He wants, without any condition. The following verses are relevant:

"He creates what He wills, and Allah is Able to do all things."(Surah al-Ma'ida, verse 17).

"Allah forgives whom He will, and punishes whom He will. Allah is Able to do all things " (Surat al-Baqara, verse 284).

"Allah gives His estate to whom He will." (Surat al-Baqara, verse 247).

"He gives wisdom to whom He will." (Surat al-Baqara, verse 269).

"He guides whom He will." (Surah Yunus, verse 25).

"..... Allah gives sustenance incalculable to whom He will." (Surat al-Baqara, verse 212).

"Allah astonishes whom He will, and guides those who give their hearts to Him." (Surat ar-Rad: 27)

“He is such a God that the dominion of the heavens and the earth belongs to Him. He has no children, he has no partners in the sovereignty. He created all things and arranged them according to some measure.” (Surat al-Furkan, verse 2).

Therefore, it is not possible to think of the events in the universe in a finite dimensional space of probability. However, the probability spaces in physics are all finite dimensional. Even if finite dimension is considered for the apparent face of the universe, this is not the case for the hidden face. Therefore, it is not valid to consider a probability model for the absolute structure of the universe.

Spiritual face of the entropy law

All physical phenomena in the universe have a spiritual aspect. The spiritual aspect of a physical event is that it knows its Lord, who wills and causes it to be, and glorifies Him with praise. This is the result of the spread of the secret of vitality to the whole world. Material events are also alive. Therefore they know their Lord, who gives them life. If the material events were not alive, they would not have been able to hear the “be” order given to them, and therefore would not have appeared. This applies to all events in the universe.

There are examples of this in the Qur'an. In Surah Rad, verse 13, the following is related to thunder:

“..... Thunder praises his Lord.” Thunder is a physical event. This event occurred with the will of God. This physical event has two sides. One is against the seen nature and the other is against the realm of the unseen. The side to the seen realm is seen by people as noise, lightning, electrical discharge. The side of the unseen is that the thunder, as stated in the above verse, knows his Lord and praises Him. The thunderous event is also alive and knows his Lord who wills his being and glorifies Him with praise. Similarly, in the Qur'an, it is explained that the mountains and the birds glorify Allah and that the stones are rolled to the ground because of the fear of Allah. This is true for all physical events in the universe. Therefore, it is also valid for the increase of entropy. This is clearly stated in the following verses:

“There is nothing in the universe so that he does not glorify Allah with praise and commemorate Him and does not pray Him. But you do not realize their prayer beads and dhikr.” (Surat al-Isra, verse 44).

“Everything in the heavens and the earth glorified Allah. He is Saint and Judge.” (Surat al-Hadid, verse 1).

The whole being is constantly moving in the world and hereafter. Because creation does not occur from stability. Therefore, there is no stability, only movement. According to Sufism the movement is a natural and optional process for the emergence of a number of secrets by divine command. According to the discovery information, there is always an increase in movements. Increasing entropy is also a kind of movement. In this movement, the universe moves from low entropy to a greater value. The increase movement of entropy also aims to reveal some secrets by divine command. What could these secrets be? As I said before, the increasing of entropy prevents the accumulating of air molecules in a certain region of the world. Thus, the continuation of life on the world is provided. The increase in entropy causes us to decrease our knowledge about the universe. Because with the increase of entropy, many new situations emerge. It is unclear what we know about these new situations. So we don't have all the new information. In this case, the increase of entropy indicates the emergence of unknown new formations in the universe. This can be understood as the formation of new black matter and black holes.

We can understand the expansion of the universe in this context. New situations emerge as a result of the growth of entropy in the universe. The balance between the galaxies may be disrupted when these previously non-existent situations occur. The expansion of the universe may be necessary for these balances to regenerate.

This is not all a coincidence. They are based on a will that knows everything correctly, an unknown appreciation and a destiny. This is an act of Allah Almighty and an event does not occur until it occurs in His knowledge.

The collapse of positivist and materialist philosophy

Although people have known about the increase of entropy since the last two centuries, and as a result of the existence of God, the beginning and the end of the universe, positivist philosophy has been very popular among people during these centuries. This is because people do not want to believe in religion. Christianity came to the fore as religion for the western man. But the western

man did not want to be attached to it because he found many contradictions in Christianity. If these people had studied Islam, they would not be in contradiction and surrender to Allah. However, the falsified Bible and the Papacy, which mislead the truth, did not give them this chance. This is the weakness of the western people. Why didn't they study Islam? This is because the dominant forces in society (including the Papacy) have misled Islam with false and deliberate propaganda in order not to jeopardize their authority over the people. Many scientists have not been objective against this propaganda and have become anti-Islam. The same situation continues today. Islam is shown as a source of terror by deflecting to the western people. But unfortunately, western scientists are under the influence of these propaganda because they cannot fully digest science. They do not want to understand true Islam. This is in fact evidence that most of the so-called scientists are not real scientists.

Positivist philosophy has collapsed. Because positivism tried to eliminate all metaphysical arguments. He rejected religion and spirituality by not including real religion. They based humanity instead of God and scientists instead of prophet. Thus, they wanted to create societies that pursued only secular (worldly) goals. However, the law of entropy confirms the righteousness of religious beliefs as well as the existence of God, the beginning and end of the universe. Thus, the entropy law overthrew positivist thought.

With the entropy law, materialist philosophy has completely collapsed too. Because in materialist philosophy, the universe was believed to be without beginning or end. However, the entropy law requires to be the beginning and the end of the universe. Materialist philosophers were disappointed by this result. While some of them surrendered the truth, some of them opposed this situation with some mental models. For example, for them, the beginning of the universe is a state of chaos, and at this point it is in a black hole structure where its entropy is maximum. The complex order seen in the universe today cannot be the result of an added design at the time of creation. Because, according to them, there are no traces and data about what happened before the big bang in the universe.

These views are the efforts of materialism to try to cover up the frustration. They are still resisting not to believe in the truth. How will today's perfect functioning order form from chaos? Which common sense would accept this? If, as they say,

there was chaos in the beginning, it would only be possible to evolve into a perfectly functioning universe today, only by the intervention of an external force. This power is the power of God. But how will materialists escape from this contradiction when they do not believe in God?

They say that they didn't meet any signs which indicated that the universe was created by God. However, the prophets of all heavenly religions have clearly revealed these signs. There are no contradictions in the religion of Islam, but other religions contain contradictions for the present day. The Qur'an describes how the universe was created and how it works. Materialists are blind to all this data, but they have no consistent explanation and proof of how this perfect order in the universe came into being. Some say that this order is a result of spontaneous coincidence, and some argue that this order is provided by nature. But they do not explain how these models leave their mark and data. They falter in contradiction and desperation. What message will the nature give them in which they believe? This consists of the situations of people who do not want to accept the Islamic faith in wavering and remaining in a ball of contradiction.

The continuous increase of entropy has caused the collapse of pantheism, which considers nature as God. Because the law of entropy points out that the universe was created in time and that its destruction was inevitable. This means that God is not nature and nature is not God. Because a conception of God born and dead contradicts with the real concept of God.

Islam is the only belief system that responds correctly to these contradictions. This system has been explained in various ways with the articles on our website. Persistently rejecting and denigrating the Islamic belief system does not justify anyone. On the contrary, they are suffocated in their own contradiction and negativeness. Because when the truth comes, all superstitions have disappeared. This is confirmed by the following verse in the Qur'an:

"Say: The truth came, superstition disappeared. Surely superstition is condemned to disappear." (Surat al-Isra, verse 81)

Result

The entropy law is a law of physics that has never been rejected up to today and viewed with certainty. There is no chance of acceptance of any theory and thought system that contradicts this law.

Entropy is an important parameter that characterizes the structure of the universe, which is thought to be a closed system and thus a closed system. The entropy law states that this parameter increases continuously in irreversible events. As a result of this continuous increase, it was thought that the universe should have the end and the beginning. Thus, the existence of God, the universe was created by God, and the truth of religious beliefs such as the future of an end was confirmed. This has led to the collapse of the notions of many positive scientists and philosophers about the universe. Thus philosophies such as positivism, materialism and pantheism collapsed.

Nevertheless, the issues that positive scientists and philosophers understand from the results of the entropy law differ widely with Islamic Sufism and have little resemblance. These differences and similarities are explained in detail in the above article.

The law of entropy is the manifestation of the Signs of Allah Almighty to the outside world. The following verse clarifies this:

"We will show them Our Signs both in the universe and in their own souls, until it becomes clear to them that this is the Truth. Is it not enough that your Lord is the witness of all things?" (Surat al-Fussilet, verse 53).

By entropy law, proving the beginning and end of the universe is to show people that the Qur'an is the Truth. Because the verses described in the Qur'an confirm the results of the entropy law. This again shows how the Qur'an is a miracle.

The provision of the above verse appears in all physical events. As long as one can handle these physical events with sincere faith. The analysis of the events in the universe and the events within the human being from the perspective of faith shows us the truth of the verses of the Qur'an. In the face of these facts, man increases his faith in his Lord and surrenders. That is what is required of people in the world life. The task of the Muslim is to understand and live the world life in the light of the Qur'an verses and hadiths. That is the real salvation.

Resources:

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For Your Comments: <mailto:oryanmh@gmail.com>

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