Entropy as an Approach to Inferring Cosmic Order and Proving the Existence of the Creator: A Study Under the Framework of Modern Science and Islamic Creed

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Abstract

Objectives: This study aims to analyze the concept of entropy in modern physics and employ it as an inferential approach to understanding cosmic order and proving the existence of the Creator, within an integrative framework that combines contemporary scientific findings and the fundamentals of Islamic creed.

Methods: The study adopted the descriptive-analytical method to describe the concept of entropy and its scientific implications, and the inductive method to trace relevant religious texts and physical data, with the goal of identifying points of integration between the modern scientific perspective and the Islamic theological framework.

Results: Entropy is shown to be a central concept in explaining the direction of natural processes toward increasing disorder, without negating the existence of cosmic order. It also reveals a precise legal structure governing the evolution of the universe, supports the statistical interpretation that links phenomena to probability rather than absolute randomness, and is associated with the arrow of time that defines its physical direction. The initial low entropy of the universe raises a profound scientific issue, and entropy can be used as a supportive tool in theological inference within methodological constraints, while an overall harmony is observed between modern physics and the Islamic worldview based on divine laws governing cosmic order..

Conclusions: The study concluded that entropy can be employed as an indirect epistemic approach in supporting the inference of the Creator's existence, within precise methodological constraints that distinguish between definitive and theoretical scientific evidence, while preserving the independence of both the scientific and theological domains while achieving integration between them.

Keywords: Entropy, Cosmic Order, Islamic Creed, Proof of the Creator's Existence, Modern Science, Divine Laws.

Introduction

Praise be to Allah, Lord of the Worlds, and may peace and blessings be upon our master Muhammad, the Seal of the Prophets and Messengers.

Scientific knowledge has witnessed a great development since the nineteenth century, especially with the emergence of the concept of entropy in physics and its expansion to include multiple fields, while the Islamic doctrine presents a conception of the universe based on order and judgment according to fixed divine traditions. Hence, the problem of the relationship between the scientific and doctrinal interpretation of the universe emerges, which makes the study of entropy an entrance to understanding the cosmic system and the possibility of inferring it from the existence of a wise Creator, which this study seeks to explain in a framework that combines modern science and the origins of faith Islamic..

Study Problem:

The problem of the study is to answer the main question: To what extent is it possible to employ the

concept of entropy as a scientific approach to inferring the cosmic order and proving the existence of the Creator in light of the integration between modern physics and Islamic faith?

It is divided into the following sub-questions:

1. What is the scientific concept of entropy in modern physics and what are its basic characteristics?
2. How do you understand the relationship between entropy and the cosmic order in the light of Islamic faith?
3. To what extent can entropy indicate the existence of a master of the universe according to a disciplined scientific vision?
4. What are the scientific and methodological controls that control the use of physical concepts in doctrinal inferences?

Objectives of the study:

This study aims to:

1. Analysis of the concept of entropy in modern physics in terms of its origin and development within the framework of thermodynamics, statistical mechanics, and information theory.
2. Clarifying the scientific significance of the concept of entropy and its relationship to order, randomness, and the direction of time in the universe.
3. Highlighting the complementarities between modern scientific data and the Islamic doctrinal conception in relation to the universal system and divine traditions.
4. Examine the possibility of employing the concept of entropy as a scientific approach to inferring the existence of a mastermind creator of the universe within a disciplined methodological framework.
5. Determine the scientific and methodological controls necessary for the use of physical concepts in doctrinal inferences without falling into uncontrolled interpretation or pretentious interpretation.

Importance of the study:

The importance of the study lies in the following:

1. The importance of this topic is highlighted by the growing need for a sober scientific dialogue that combines modern physics and Islamic faith in an era in which scientific discoveries are accelerating and questions about existence, order and purpose are deepening, which has created a clear knowledge gap that needs to be addressed in a specialized methodology.
2. Modernity of Treatment: Many Islamic studies have dealt with the proof of God's existence from a philosophical or theological perspective, but the use of the concept of entropy specifically as a disciplined inferential approach that integrates physics and doctrine has not received sufficient analytical study to provide an integrated integrative vision.
3. Cognitive Impact: Entropy has very important scientific connotations related to understanding the direction of time and the cosmic system, and employing these connotations within a disciplined doctrinal framework that contributes to enhancing Islamic awareness of the importance of natural sciences as a field of God's verses in the universe.
4. Scientific Contributions: This study seeks to enrich the Islamic knowledge stock on a very important topic, and to provide theoretical and practical frameworks that reconstruct the dialogue between science and faith on the basis of precise methodology away from over-interpretive or unfair exclusion..

Previous Studies:

The first study: "The Relationship between Modern Science and Islamic Faith: An Original Methodological Study", (2020), by Dr. Yousef Al-Qaradawi, Dar Al-Shorouk.

This study aims to explain the nature of the relationship between empirical scientific knowledge and the Islamic doctrinal system, and to identify the methodological controls to control this relationship away from imaginary contradiction or costly projection.

Among its most prominent findings: that science and religion do not contradict the validity of the two evidences, that the disciplined dialogue between them enriches human knowledge, and that modern physics in many of its concepts is in harmony with the Islamic view of the universe as a tight system based on fixed traditions.

***The Second Study*:** "The Scientific Miracle in the Noble Qur'an and the Controls for Dealing with It", (2018), by Dr. Zaghloul Al-Najjar, Al-Shorouk International Library.
This study aims to explain the methodology of dealing with scientific miracles in the Holy Qur'an, and to define the boundaries between the legitimate use of scientific data in the interpretation of texts and the costly interpretation of the texts.
One of its most prominent results is that scientific miracles are a fertile field that enhances faith, but it requires strict methodological controls that prevent texts from carrying what they cannot bear, and that the scientifically proven regularity of the universe is one of the most prominent proofs of the oneness of the Creator and the tightness of His creation**.**
***The Third Study*:** "Modern Physics and the Problems of the Relationship between Science and Religion", (2021), by Dr. Nadim Al-Jisr, Dar Al-Fikr Al-Muasir.
This study aims to analyze the major physical concepts in modern science and examine the possibility of employing them in a doctrinal inferential framework, while examining the dimensions of the intersection between scientific and religious visions in the interpretation of the universe.
One of its most prominent findings is that major physical concepts such as the Big Bang theory and the principle of precise control open real horizons for dialogue between science and doctrine, and that this dialogue requires a precise distinction between conclusive evidence and theoretical hypothesis.
***The Fourth Study*:** "Monotheism and the Universe: A Study in the Relationship between Theoretical Physics and Islamic Faith", (2022), by Dr. Iyad Qunaibi, Dar Al-Yaqeen.
This study aims to study and analyze the concepts of modern theoretical physics in the light of the Islamic doctrinal vision, while revealing the harmonies between the cosmic truths revealed by physics and the evidence of monotheism confirmed by the Revelation.
One of its most prominent results is that the regularity and proof of physical laws is one of the most instructive proofs of the existence of a wise legislator of this universe, and that the concept of precise control in cosmic constants represents a fundamental point of intersection between modern physics and Islamic doctrinal reasoning.

What this study adds to the previous one:

This study is unique from its predecessors in a number of scientific features and additions, most notably: the precise specialization in employing the concept of entropy specifically as an inferential approach, instead of sufficing with general physical concepts, which allows for a more in-depth and focused study in this precise field. In addition, this study is characterized by providing specific methodological controls for the use of the concept of entropy in doctrinal reasoning, in a way that preserves for science its empirical nature and for doctrine its revelatory constants without excesses or excesses. It is also unique in combining three interrelated axes at the same time One: the physical rooting of the concept of entropy, the analysis of universal traditions in the Islamic framework, and the construction of a disciplined integrative inferential model that contributes to enriching the literature on the relationship between science and faith.

Study Methodology:

The study followed:

1. **Descriptive-analytical method:** by describing the concept of entropy in modern physics in terms of its origin, development, and basic characteristics, then analyzing its scientific significance and its relationship to the concepts of system, randomness, and the direction of time.
2. **Inductive Method:** By tracing jurisprudential texts, Quranic texts, hadiths of the Holy Prophet, and the sayings of scholars related to the subject of the cosmic system and divine traditions, in addition to extrapolating the scientific and physical data related to the concept of entropy.
3. **Deductive Method:** By devising the methodological controls necessary to employ scientific concepts in doctrinal reasoning, and deriving the complementarities between the modern physical vision and the Islamic doctrinal method from the extrapolated and analyzed scientific material.

Study Plan:

The study is divided into two main topics, each of which has two requirements:

The first topic: The conceptual framework of the terms entropy and doctrine.

- The first requirement: the definition of entropy in thermophysics and statistical mechanics.
- The second requirement: the definition of the Islamic faith and its characteristics.
- The third requirement: words and concepts related to entropy.

The second topic: The relationship between modern science and doctrine with a focus on entropy.

- The first demand: The relationship between modern science and the Islamic faith.
- The second requirement: Entropy and its scientific implications.
- The third requirement: Entropy as an inferential approach to the existence of God Almighty.

Conclusion

Sources and References.

First Topic: The Conceptual Framework of the Terms Entropy and Doctrine

This research included a number of essential terms that must be considered when defining their concepts and controlling their semantics, as conceptual clarity is a basic condition for the correctness of scientific construction and the soundness of inference. These terms revolve around two main axes: entropy as a multidimensional physical concept, and Islamic doctrine as a fixed system of certainty based on divine revelation. In addition, a number of words related to the concept of entropy constitute the conceptual framework necessary to understand the dimensions of this study.

First Requirement: Definition of Entropy in Thermophysics and Statistical Mechanics

The First Section: The Emergence and Development of the Concept of Entropy in Clausius, Boltzmann and Shannon

First: Entropy in Clausius's Thermophysics

Entropy is one of the most fundamental concepts in thermodynamics, as it represents a thermodynamic physical quantity used to describe the state of a system in terms of energy distribution and the degree of regularity in it. It is a state function that depends on the thermal variables of the system such as temperature, pressure, and volume. It is seen as a measure of the direction of natural processes, as it is related to the change in the amount of heat transferred in a reversal process divided by the absolute temperature. The scientist Rudolf Clausius formulated this relationship when studying heat cycles, when he decided that The differential change in entropy is given by the relation: ($dS = \delta Q_{rev}/T$), which shows that entropy is determined by the amount of heat inversely transferred and its relation to temperature (Clausius, 1865, p. 137).

The second law of thermodynamics states that the total entropy of an isolated system tends to increase over time, which expresses the tendency of natural systems towards more stable, bearable, and less capable of performing work (Çengel & Boles, 2015, p. 220).

Second: Entropy in Boltzmann's Statistical Mechanics

This concept later developed within the framework of statistical mechanics, where Ludwig Boltzmann interpreted entropy as related to the number of possible microstates that a system can take in a case, and formulated this by the well-known statistical relation: ($S = k \log W$), where (S) represents entropy, (k) represents the Boltzmann constant, and (W) represents the number of possible microstates (Boltzmann, 1877, p. 373). This interpretation is the basis for understanding entropy as a probabilistic property that reflects the degree of randomness and internal distribution of energy in the system (Çengel & Boles, 2015, p. 234). Thus, the concept moved from a total thermal characterization based on direct experience to an accurate statistical interpretation based on the probabilities and internal structure of matter, which was further enhanced by Feynman's

work, which confirmed that understanding entropy at the statistical level tells us about the nature of natural processes in their deepest form (Feynman, Leighton & Sands, 1963).

Third: Entropy in Shannon's Information Theory

Claude Shannon addressed the concept of entropy in the context of information theory, reformulating it as a measure of the uncertainty or quantity of information expected in a system, adding an informational dimension to the physical concept (Shannon, 1948, p. 393). Shannon asserted that entropy is essentially a measure of the degree of irregularity or dispersion in the distribution of probabilities within a system, thus giving the concept a general mathematical character that goes beyond its thermal limits to become applicable in multiple areas of knowledge.

Thus, it can be said that entropy in its historical course of development started from the physics of heat in Clausius, and then rose to a deep statistical framework in Boltzmann, before its epistemological connotations expanded with Shannon to become a multidimensional concept in which the physicist intersects with the statistical and the informative (Çengel & Boles, 2015, p. 213).

Section II: General Characteristics of Entropy and Related Concepts

First: Entropy is a measure of order

Entropy is a measure of the degree of irregularity within a physical system, with high entropy values indicating a state of chaos or dispersion in the distribution of energy or particles, while low values indicate a state of relative organization and order. This understanding has been confirmed in modern physical interpretations linking entropy to the degree of randomness in the system (Çengel & Boles, 2015, p. 236).

Second: The Correlation of Entropy with the Number of Possible Cases

Entropy is directly related to the number of possible microstates that a system can take, according to Boltzmann's statistical explanation. The more possible arrangements of particles within the system, the greater the value of entropy, reflecting an increase in the degree of randomness and indeterminism in the physical state of the system (Boltzmann, 1877, p. 344). This correlation is a mathematical basis for the understanding of entropy in statistical mechanics, and its understanding has deepened with the work of Reif, who linked the number of microstates with the degree of indeterminism in the description of a physical system (Reif, 1965, p. 141).

Third: The Law of Increase in Closed Systems

The second law of thermodynamics states that the total entropy of an isolated system tends to increase over time, and not decrease in non-reversible natural processes. This explains that systems tend to move from less likely states to more likely states, i.e., from organization to randomness, which makes entropy an indicator of the direction of time in physical processes (Clausius, 1865, p. 128; Çengel & Boles, 2015, pp. 236-237). This law has been expressed by Atkins and de Paula in a comprehensive formulation that combines chemical and physical nature, asserting that the increase in entropy in isolated systems is the universal law of which there is no exception (Atkins & de Paula, 2014, pp. 120-130).

The Second Requirement: Definition of the Islamic Faith and its Characteristics First Section: Definition of Doctrine in Language and Term, Its Subject and Sources

First: The definition of the creed is a language

The word 'aqeedah in the Arabic language is derived from the root ('aqd), which indicates binding, tightening and bonding, and it is said: knotting the rope, i.e., tightening and tying it tightly, and the contract of the covenant, i.e., affirming it and fixing it, which indicates the meaning of strength, necessity and inseparability (Ibn Manzoor, 1414 AH, vol. 3, p. 296). It is understood from this meaning that the 'aqeedah refers to that which is tightly bound in the heart so that it does not accept disintegration or hesitation, as it is an expression of a state of inner certainty and certainty. It is stated in linguistic dictionaries Belief is called the matter on which the heart and mind are held and it becomes the subject of firm and undoubted belief (Fayoumi, 1999).

Second: Definition of Belief in Terms

There are many definitions of the creed among the scholars, and the most important of what is mentioned in it can be summed up in one coherent formulation, as the creed is defined as the firm faith that has no doubt, which is stable in the heart, and is based on the legal evidence from the Qur'an and Sunnah, and is related to the fundamentals of religion and the attributes that God Almighty must have (Al-Ashqar, 2003, p. 15). It is also understood as a decisive mental judgment that is identical to reality based on evidence that stabilizes the soul in a way

that prevents hesitation or doubt (Al-Tahan, 2002, p. 12). Ibn 'Uthaymeen has confirmed that the creed These are the things that the souls believe in, the hearts are reassured by, and they are certain with their owners that are not mixed with doubt or doubt (Ibn 'Uthaymeen, 2006, p. 10). These definitions unanimous that the creed is based on three main elements: certainty, stability of the heart, and reliance on legal evidence, which distinguishes it from other types of speculative or philosophical knowledge.

The Holy Qur'an has indicated this meaning in the words of the Almighty: "Except those who believe in Allah and His Messenger and then do not doubt" [Al-Hujraat: 15], where the saying "they did not doubt" indicates certainty and non-hesitation, which is one of the characteristics of the correct creed. It is also mentioned in the Sunnah of the Prophet (peace be upon him) the hadith of Jibril (peace be upon him), which explains the fundamentals of the creed, where the Prophet (peace and blessings of Allaah be upon him) said: "To believe in Allah, His angels, His Books, His Messengers, and the Last Day, and to believe in destiny, good and evil" (Muslim, no. 8), which is an explicit text in defining the pillars of the Islamic faith.

Third: The Subject of the Doctrine and Its Sources

The subject of the Islamic faith revolves around the fundamentals of faith that a Muslim must believe in categorically, which are the belief in God Almighty, monotheism, divinity, names and attributes, and belief in angels, the heavenly books, the messengers, the Last Day, and destiny, both good and evil (Al-Ashqar, 2003, p. 21). The creed is derived from two main sources: the Holy Qur'an, which includes the principles of faith and its proofs, as the Almighty said: "An explanation of all things, guidance and mercy" [An-Nahl: [89] The Sunnah of the Prophet (peace and blessings of Allaah be upon him), which explains the Qur'an and elaborates on its entirety, urged the Prophet (peace and blessings of Allaah be upon him) to adhere to it, saying: "I have left it in you, and you will not go astray after me: the Book of Allah and My Sunnah" (Muslim, no. 2408). Therefore, the sources of the doctrine are limited to the two revelations, and it is not acceptable to rely on abstract reason or undisciplined philosophies in their matters (Ibn Taymiyyah, 1995, p. 40).

Section Two: Characteristics and Sections of the Islamic Faith First: Characteristics of the Islamic Faith

The Islamic faith is characterized by a number of essential characteristics that distinguish it from other human belief systems: first**, it is fixed**, as it is based on divine revelation that does not change with the change of time or place, as the Almighty said: "There is no change for the words of Allah" [Yunus: 64], unlike human systems that change and transform (Ibn 'Uthaymeen, 2006, p. 22). Second, it is **comprehensive**It covers all aspects of life related to faith, whether related to the unseen or testimony and man's relationship with his Lord and others (Al-Tahan, 2002, p. 34). Thirdly, it **is suspended**, i.e., it is taken only from legal texts, and there is no room for ijtihad in its origins, which protects it from distortion and innovations (Al-Ashqar, 2003, p. 28). Fourthly, it is **certainty**, in the sense that it is based on absolute certainty and not on conjecture or conjecture, which makes it impervious to doubts and suspicions when it is based on sound evidence.

Second: Sections of the Islamic Faith

The Islamic faith is divided into three main integrated sections: **divinity**: it includes what relates to God Almighty in terms of His monotheism, names, attributes, and actions, and belief in His oneness, lordship, and divinity. **Prophecy** is related to belief in the Messengers (peace be upon them) and the guidance they have sent with them, while believing in all the heavenly books. **Auditory** is the unseen things that are not perceived by the intellect but are known by revelation, such as belief in the angels, the Last Day, Paradise, Hell, and the signs of the Hour (Al-Ashqar, 2003, p. 35). The Qur'an has compiled these principles in the words of the Almighty: "The Messenger believes in what has been revealed to him from his Lord, and the believers believe in Allah, His angels, His Books, and His Messengers" [Al-Baqarah: 285].

The Third Requirement: Words and Concepts Related to Entropy

The study of entropy in its physical framework requires a set of closely related concepts, as the behavior of thermal systems cannot be understood without adjusting the terms that describe the state and evolution of the system. The importance of these concepts is that they form the explanatory framework through which thermal changes and the direction of natural processes are read.

First: Order and Chaos: In physics, a system refers to a group of particles within specific limits whose state can be described by macro variables such as temperature and pressure, while chaos refers to the irregularity in the distribution of these particles or energy between them. Entropy is related to the amount of irregularity within the system, as its value increases with the increase in dispersion and the multiplicity of possible arrangements (Çengel &

Boles, 2015, p. 243).

Second: Energy: It is the ability to accomplish a work and exists in multiple forms such as thermal and kinetic energy. Entropy is related to how energy is distributed within a system, as it tends to diffuse more homogeneously over time, leading to an increase in entropy in natural processes (Atkins & de Paula, 2014, pp. 92-100).

Third: Randomness: It expresses the absence of a specific pattern in the behavior of particles within a system, and is clearly manifested in systems that contain large numbers of particles. Entropy is related to randomness in terms of being a measure of it, as its value increases with the increase in dispersion and irregularity in the movement and distribution of particles (Çengel & Boles, 2015, pp. 243-247).

Probability: It is used in statistical mechanics to describe the possibility of a particular state being realized from a set of possible states. Thus, the increase in the number of these cases leads to an increase in the value of entropy as a statistical measure of the probability distribution of the system (Boltzmann, 1877, pp. 370-373).

Fifth: Micro and Macro States: The macro state refers to the description of a system with macro variables such as pressure and temperature, while the micro state represents the finer details of the movement, velocity, and positions of the particles. Entropy is related to the number of possible microstates that achieve a particular macro state, and the higher the number of microstates, the greater the degree of indeterminism in the system and the higher the entropy value (Reif, 1965, p. 141).

Thermal Time and Time Arrow: Thermal time is related to the direction of thermal processes in physical systems, as it is inferred by increasing entropy with time in isolated systems. This trend reflects the transition of the system from less likely states to more likely states, which
gives physical processes a specific direction that can be distinguished at the macro level and is known as the "time arrow" (Penrose, Clausius, 1865, pp. 140-142).

Dynamic equilibrium: It refers to the state in which the system reaches relative stability so that the internal processes are balanced and there is no net change in the total variables over time. In this case, the entropy is at a maximum value in the isolated system, reflecting a stable distribution of energy and particles within it (Çengel & Boles, 2015, pp. 243-247).

The Second Topic: The Relationship between Modern Science and Doctrine with a Focus on Entropy

Since the relationship between modern science and Islamic faith is one of the central topics in contemporary studies, and the concept of entropy represents a central point of intersection between order, randomness, and time, this topic included three demands: the first of which is concerned with the complementary relationship between science and religion and the fields of their intersection, the second is concerned with explaining the scientific significance of entropy and its relationship with the cosmic system, and the third is concerned with employing entropy as an inferential entry point for the existence of God Almighty within tight methodological controls.

The First Demand: The Relationship between Modern Science and the Islamic Faith

Section One: The Concept of Integration between Science and Religion

The integration between science and religion can be defined as the methodological relationship that combines revelatory knowledge and scientific knowledge in a coherent framework that achieves a comprehensive understanding of the universe and man, so that each of them works in its field without a real conflict when it comes to the validity of the evidence (Al-Faruqi, 1982, p. 15). It is also defined as "a cognitive framework in which revelation is in harmony with reason in the interpretation of existence and the direction of human knowledge" (Nasr, 1990).

Sayyid Qutb believes that Islam does not oppose science, but rather stimulates the study of the universe and the discovery of its laws, as it links faith and contemplation of the creation of the heavens and the earth (Qutb, 2003, vol. 1, p. 45). Ibn Taymiyyah also asserts that the correct rational evidence cannot contradict the correct legal texts because both are from God, and that the
apparent contradiction is the result of a defect in understanding or one of the two proofs (Ibn Taymiyyah, 1995, pp. 87-95). Science and religion is based on "the intersection of the fields of revelation and reason within an ethical epistemological practice" (Taha Abdel Rahman, 2006, pp. 45-55).

Therefore, integration does not mean forced integration or elimination of methodological differences, but rather it means a functional harmony that allows both science and religion to play their role within a single knowledge system. Nasr asserts that the Islamic tradition has a well-established approach to dealing with the

natural sciences based on considering them as universal verses that reinforce and invalidate the certainty of faith (Nasr, 1990).

Section Two: Areas of Intersection between Modern Science and Islamic Faith

First: Cosmology: Cosmology deals with the origin, structure, and development of the universe, a field that witnesses a clear intersection between legal texts and modern scientific theories. The Holy Qur'an refers to the origin of the creation of the universe when the Almighty says: "Did not the disbelievers see that the heavens and the earth were one and the same, so We split them?" The great is that the universe started out of a very dense and hot state and then gradually expanded (Hawking, 1988). This intersection does not mean a perfect match between the text and the theory, but rather a harmony in referring to the truth of the origin of the universe.

Second: Cosmic Order: The cosmic order refers to the regularity of the movement of the celestial bodies and the immutability of the laws that govern them. The Qur'an refers to this order in the words of the Almighty: "The sun and the moon are in reckoning" [Al-Rahman: 5] and in the Qur'an: "And all in the Ark praise" [Yasin 40]. These verses indicate the existence of a precise system that can be observed and measured, which is confirmed by classical and modern physics through the laws of motion and gravity. Einstein pointed out that "the most understandable thing in the universe is its regularity according to Mathematical Laws" (Einstein, 1936, p. 349). Muslim scholars understand this system as one of the signs of Allah's power and wisdom, as the Almighty said: "And you will not find any change in the Sunnah of Allah" [Fatir: 43].

Third: Natural laws: Natural laws are mathematical relationships that describe the behavior of physical phenomena, the most prominent of which is the second law of thermodynamics, which states that entropy in an isolated system tends to increase (Clausius, 1865, p. 142). In the Islamic conception, these laws are understood as fixed divine traditions, as the Almighty said: "The Sunnah of Allah is in those who have been devoid of it before" [Al-Ahzab: 62]. Ibn al-Qayyim has asserted that the divine traditions in the universe are fixed and unchanging, which indicates the regularity and tightness of creation (Ibn al-Qayyim, 2008, pp. 1/70-1/75).

Section Three: Controls for the Use of Scientific Data in Doctrinal Inference

The process of employing scientific data in contractual reasoning requires adherence to precise methodological controls, the most important of which can be summarized as follows:

First: Verification of the conclusiveness of scientific evidence: Scientific theories are not based on speculative scientific theories in doctrinal reasoning, but rather the data must be fixed by repeated experiment. Karl Popper pointed out that scientific theories are falsifiable rather than certain (Popper, 1959, p. 40), which means that doctrinal inference should be based on stable scientific facts rather than hypotheses that are likely to change.

Second: Not to oppose definitive texts: If a legal text is definitively proven, it is not permissible to present a scientific theory on it. Ibn Taymiyyah has determined that the contradiction between reason and transmission stems from the corruption of one of them (Ibn Taymiyyah, 1991, pp. 149-155), and therefore any apparent contradiction between a scientific data and a legal text requires a reconsideration of the understanding of one of them rather than acknowledging the contradiction.

Third: Distinguishing between the unseen and the testimony: Empirical science is limited to the world of testimony, while the unseen is only perceived by revelation, as the Almighty said: "The world of the unseen, no one appears to it" [Al-Jinn: 26], which means that entropy as a physical phenomenon can be used as evidence of order, while the proof of the divine self and its attributes is within the competence of revelation.

Fourth: Beware of pretentious miraculous interpretation: Texts should not be loaded with scientific meanings that were not intended by their appearance, because this leads to an uncontrolled interpretation. Yusuf al-Qaradawi stressed the need for balance in dealing with modern sciences without overlinking them to texts or making excessive use of them (Al-Qaradawi, 1996).

Fifth: Adherence to the principles of interpretation: It is not permissible to interpret legal texts based on scientific hypotheses without taking into account the rules of language and context, and Al-Tabari also decided that it is necessary to rely on language and the sayings of the predecessors in understanding the texts (Al-Tabari, 2000, pp. 45-50). Kuhn stressed that the interpretive structures of science change over time in the so-called "paradigm shifts", which means that linking texts to simultaneous scientific interpretations may lead to serious caveats (Kuhn, 1962, pp. 52-65).

Second Requirement: Entropy and its Scientific Significance

Section I: The Law of Entropy II and the Direction of Time

The second law of thermodynamics states that entropy in an isolated system tends to increase over time, or remain constant in a few ideal states. It is understood that natural processes automatically tend toward more random and less organized states. Rudolf Clausius formulated this law in quantitative terms, and then developed by Ludwig Boltzmann within a statistical framework that relates entropy to the number of possible microstates of the system (Atkins & de Paula, 2014, pp. 120-130).

This law not only determines the behavior of energy, but also explains why there is a "trend" of time in nature. While the fundamental laws of physics allow for time reversal, the second law dictates a distinction between the past and the future through increased entropy, which is known as the thermal time trend (Reif, 1965, p. 145). Feynman and his colleagues showed in their famous lectures that this law is the only one of the laws of physics that gives time direction, making it of paramount importance in understanding the structure of the universe (Feynman, Leighton & Sands, 1963).

From the Islamic point of view, this concept can be linked to the meaning of the Qur'anic texts that refer to the regularity of the universe according to fixed Sunnahs, such as the words of the Almighty: "The Sunnah of Allah is in those who have been devoid of it before, and you will not find any change in the Sunnah of Allah" [Al-Ahzab: 62]. The immutability of the universal laws reflects a tight order that is not subject to chaos, which is consistent with the idea that the universe operates within precise laws that govern its evolution over time.

Section Two: The Principle of Increasing Disorder in Closed Systems

This principle suggests that any isolated system that does not exchange matter or energy with its surroundings is gradually moving toward a state of increasing disorder or randomness, i.e., toward an increase in entropy. This is statistically understood that more random states represent a greater number of possible arrangements than organized states, and therefore are the most likely, which Kuhn founded in his understanding of the major paradigm shifts in the history of science (Kuhn, 1962, pp. 66-76).

From an Islamic perspective, this principle does not contradict the idea of a controlled creation, but can be understood within the framework of the "divine management" that has deposited laws in the universe that operate according to a fixed order. The Qur'an indicates that the universe is not chaotic, but is based on a precise balance: "And the heavens lifted it up and set the balance"
[al-Rahman: 7]. This balance is understood as the balance of the natural laws that regulate the movement of matter and energy. Taha Abd al-Rahman has pointed out that the cosmic system reflects a divine rationality that is manifested in the regularity of phenomena and not Just a random interaction (Taha Abdel Rahman, 2006, pp. 70-85). Al-Faruqi also stressed that the existence of regular natural laws in the universe is one of the most prominent proofs of monotheism in the Islamic philosophy of knowledge (Al-Faruqi, 1982, p. 45).

Section Three: The Concept of the Time Arrow and its Significance

The "time arrow" refers to the direction in which time moves from the past to the future, which is asymmetrical in physical reality, although the fundamental equations in physics do not directly impose this distinction. This trend is due to the increase in entropy, where time is "oriented" towards states with higher entropy (Penrose, 2004, pp. 100-105). The temporal arrow can be explained by several dimensions: the thermodynamic arrow associated with increasing entropy, the cosmic arrow associated with the expansion of the universe, and the perceptual arrow associated with one's awareness of time and its direction.

Hawking argued that the universe began with a very low entropy in the case of the Big Bang, and then gradually began to escalate, which gives time its definite cosmic direction (Hawking, 1988). In this context, the scientific concept is integrated with the Islamic vision that links time to God's creation and estimation, as the Almighty says: "And everything is in measure" [al-Ra'd: 8]. The existence of a direction of time that can be understood within a predestined cosmic system does not occur in vain, but according to a precise divine estimate. The Sunnah of the Prophet (peace and blessings of Allaah be upon him) also refers to the limitation of human time and its impact on work, as the Prophet (peace and blessings of Allaah be upon him) said: "Two blessings in which many people are deprived: health and leisure" (al-Bukhari, no. 6412), reflecting an awareness of the value of time as a finite resource heading towards the end.

The Third Demand: Entropy as an Inferential Approach to the Existence of God Almighty

Section One: The Cosmic System and its Significance of Precise Control

Through his physical study, the universe shows a high degree of fine-tuning in its physical constants such as

the gravitational constant, the Planck constant, the speed of light constant, and other constants that, if slightly changed, would disrupt the existence of matter or life as we know it. This adjustment is not explained within the physical framework alone, but rather refers to a comprehensive regularity in the structure of the universe. In his general theory, Einstein pointed out that the universe is characterized by an enormous amount of mathematical harmony that makes it understandable, which raises questions Fundamental about the origin of this harmony (Einstein, 1916).

The Holy Qur'an has referred to this meaning in the words of the Almighty: "He who created the seven heavens according to what you see in the creation of the Most Merciful" [Al-Malik: 3], as the text indicates that there is no imbalance or disturbance in the cosmic order, but rather a precise harmony and harmony. The concept of "balance" is also highlighted in the words of the Almighty: "And the heaven raised it and set the balance" [Al-Rahman: 7], which the exegetes have interpreted as justice, balance, or precise laws that regulate the universe. Al-Tabari argues that the verse It refers to the establishment of justice in creation and estimation, so that the universe proceeds according to a controlled and undisturbed system (Al-Tabari, 2000, pp. 45-50).

In the Sunnah of the Prophet, there are references to the regularity and use of the universe, such as the Prophet (peace and blessings of Allaah be upon him) saying: "The sun and the moon do not break for the death of anyone or for life, but they are two of the signs of Allah" (Al-Bukhari, no. 1041), which indicates that the cosmic phenomena are governed by fixed laws that are not affected by human events. Ibn Taymiyyah asserted that the regularity of the world is proof of the wisdom of the Creator and that this regularity cannot arise from chance, but rather from a deliberate arrangement based on Knowledge and the Will (Ibn Taymiyyah, 1991, vol. 3, pp. 300-310). Ibn al-Qayyim also pointed out that contemplating the regularity of the creatures indicates the oneness of God and the perfection of His power (Ibn al-Qayyim, 2008, pp. 2/10-2/15).

Section Two: The Impossibility of Creating a Complex System from Absolute Randomness

The principle of increased entropy in isolated systems demonstrates that the left nature goes from order to chaos, not the other way around. Thus, the emergence of a complex system organized from absolute randomness without an external entity is contrary to the natural orientation established by the second law of thermodynamics (Reif, 1965, p. 153). The universe we observe is characterized by regular laws and precise physical constants; this level of organization is not led to by absolute randomness, but logically requires the existence of a master who gives the universe its initial order.

The Holy Qur'an has demonstrated this fact by saying: "Were they created from nothing, or were they the creators" [Al-Tur: 35], which is a Qur'anic mental evidence that proves that existence can only be explained by a Creator who exists, because creation is from nothing and without an impossible Creator. Roger Penrose, through his mathematical analyses, asserted that entropy at the beginning of the universe was very low in a seemingly intentional way, and that this initial state indicates a precise adjustment that cannot be explained by randomness alone (Penrose, 2004, pp. 730-735). Ibn al-Qayyim linked this idea to what he mentioned in the chapter on contemplation of creatures, as he decided that whoever meditated on this universe fairly, he found in it innumerable proofs of the wise maker (Ibn al-Qayyim, 2008, vol. 1, p. 92).

Atkins and his research partner have shown that primordial low entropy cannot be a random statistical symptom of the impossibility of such a decline without prior preparation by an isolated worker (Atkins & de Paula, 2014, pp. 120-130). This is precisely what the Islamic doctrine establishes that Allah is the Creator of the universe and deposited its laws in it, starting with His will and will, as the Almighty said: "But He commanded Him if He willed something to say to it, 'Be, and it will be'" [Yasin 5:82].

Section Three: Methodological Controls for Evidence Employment

The use of entropy as an inferential approach to the existence of God Almighty entails adherence to strict methodological controls that prevent falling into pretentious interpretation or an uncontrolled marriage between science and belief:

First: Distinction between scientific evidence and doctrinal reasoning: Entropy is an empirical scientific evidence that describes the behavior of physical systems, while inference about the existence of God Almighty is a philosophical rational reasoning that uses these facts without definitive and independent protest. Ibn Taymiyyah has asserted that the correct rational evidence supports the correct transmission and does not contradict it (Ibn Taymiyyah, 1995, pp. 87-95).

Second: Ensuring that the inference is reinforcementary and not foundational: The proof of the existence of God Almighty in the Islamic faith is based on the evidence of fitrah, reason, and transmission, and scientific data such as supporting these evidences and not having their own origins. Al-Ghazali pointed out that the intellect is

indispensable in inference, but it is not sufficient without revelation alone to reach complete doctrinal certainty (Al-Ghazali, D.T., Ihya al-Uloom al-Din).

Third: Consideration of scientific development: Scientific theories can be reviewed and modified, and therefore doctrinal reasoning should never be based on a particular theory. Thomas Kuhn has explained that the development of science takes place through "paradigm shifts" that radically change the explanatory framework of phenomena (Kuhn, 1962, pp. 52-65), which means that scientific reasoning should be employed as a supporting witness rather than a single pillar.

Fourth: Distinguishing between the Unseen and the Witness: Entropy is related to the world of tangible witness, while the Divine Presence and its attributes are an unseen thing that can only be perceived by revelation. The inference here does not prove the unseen directly from knowledge, but rather alerts the intellect to the signs of the system and prepares it to accept what the revelation brings.

Fifth: Harmony with the Islamic Philosophy of Science: Ismail Al-Farooqi stressed the need to unify knowledge within a unifying framework that combines empirical science with doctrinal values, so that there is no separation between the study of the universe and belief in its Creator (Al-Faruqi, 1982, p. 45). In the same vein, Nasr believes that the Islamic civilization possesses a number of methods that allow the absorption of the natural sciences in a unified framework that promotes knowledge of faith and does not exclude it (Nasr, Hawking's work reminds us that the great questions of existence posed by the physics of the universe do not find sufficient answers in science alone (Hawking, 1988), reinforcing the need for the disciplined dialogue between science and doctrine that al-Faruqi advocated and founded for Nasr.

Conclusion

First: Results

1. The study proved that the concept of entropy is one of the central concepts in modern physics, as it provides a precise explanatory framework for understanding the behavior of natural systems and their orientation towards more probable states according to the second law of thermodynamics, without implying the absence of order.
2. The study showed that the increase in entropy does not eliminate the existence of the cosmic system, but rather reveals the existence of a strict legal structure that governs the evolution of the universe, reflecting a profound regularity in the stability of natural laws.
3. The results showed that the statistical interpretation of entropy enhances its understanding as an expression of probability and the number of possible cases, supporting that cosmic phenomena are not absolute random but governed by precise laws.
4. The study revealed that the concept of the time arrow associated with increasing entropy gives time a clear physical orientation and reinforces the perception of the universe as an orderly dynamic system.
5. The study concluded that the decline in the initial entropy of the universe is a profound scientific problem, which opens the way for explanations that go beyond the physical framework towards the recise tuning of the cosmic beginning.
6. The study showed that the employment of entropy in doctrinal reasoning is possible as a reinforcementary rather than a foundational guide, which directs the mind towards the perception of the system without being independent by proving it.
7. The results confirmed the existence of a systematic harmony between the data of modern physics and the Islamic conception of the universe based on divine traditions, with the need to adhere to methodological controls in this integration.

Second: Recommendations

1. Expanding interdisciplinary studies that combine modern physics with Islamic doctrine, especially on the topics of entropy and the origin of the universe.
2. Adopting a precise scientific methodology in employing physical concepts contractually, while limiting it to scientifically stable data.
3. Establish academic programs specialized in Islamic philosophy of science that investigate the relationship

between the natural sciences and faith.

4. A clear distinction between definitive scientific facts and variable theories when constructing doctrinal inferences.
5. Beware of uncontrolled miraculous interpretation, and adhere to the principles of linguistic and legal interpretation.
6. Promoting mutual scientific qualification between specialists in the forensic sciences and the natural sciences to achieve a more accurate integrative understanding.
7. Supporting the development of educational curricula that highlight the integration between science and religion, and encouraging scientific dialogue among specialists in physics, philosophy, and doctrine.

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