



## Analyzing the Structural Connectivity in a Qur'ānic Chapter Using Fractal Schema (The Case Study of the Spider Chapter)

Soodeh Assdai<sup>1\*</sup>; Aḥmad Zarezardini<sup>2</sup>; Maḥdī Motia<sup>3</sup>; Abolfazl Ḥorri<sup>4</sup>

1. PhD Student of Qur'ān and Ḥadīth Sciences, Faculty of Theology, Meybod University, Meybod, Iran

2. Associate Professor, Department of Qur'ān and Ḥadīth Sciences, Faculty of Theology, Meybod University, Meybod, Iran

3. Associate Professor, Department of Qur'ān and Ḥadīth Sciences, Faculty of Theology and Ahl-al-Bayt Studies, University of Isfahan, Isfahan, Iran

4. Assistant Professor, English Language and Literature, Faculty of Literature & Foreign Languages, Arak University, Arak, Iran

(Received: July 24, 2021 ; Revised: September 25, 2021 ; Accepted: January 9, 2022)

© University of Tehran

### Abstract

One of the most important components of coherent understanding of the Qur'ānic semantic system is correct knowledge of a chapter as the main component of this systematic structure. The complex connecting network of the beginning, body, and ending of a text indicates its hidden semantic layers. In particular, the conceptual chain of the beginning and ending plays an important role in providing a summary of the meanings to audience. In this regard, this article seeks to answer how it is possible to understand the harmony and systematics governing structure of a chapter by examining the elements of the beginning and the ending. It is inspired by the fractal schema which highlights the role of meaningful repetition of self-similar components in creating the main structure of a coordinated design. Indeed, the analysis of intra-sectoral verbal-semantic evidences leads to a coherent reading of the concepts of a chapter. As a case-study, the interconnected structure governing the components of the beginning and the ending of the Spider chapter, through the conceptual chain of jihād, can be received in two levels of jihād for truth and jihād for oneself. In addition, mentioning the effects of choosing faith and guidance or not choosing them, which leads to the formation of believer and infidel groups, and the destiny of each of these two groups of the people related to the divine messengers are considered the interconnected space of the Spider chapter.

**Keywords:** interconnectivity, structure, fractal geometry, the Spider chapter.

### 1. Introduction

The significance of the connections between the verses and chapters of the Holy Qur'ān, in the form of traditional studies of Qur'ānic sciences from the past until today, is one of the important concerns of scientists and commentators in this field. Coherence and harmony between the components of revelation is one of the effective features in understanding the integrated meanings of the Qur'ān. In this regard, the study of the connection between the verses of a chapter due to its importance in providing a coherent reading of the chapter is one of the notable issues that have attracted the attention of commentators and even Western scholars in the form of various approaches under contemporary studies such as linguistics. In

---

\* Correspondent Author, Email: ?

fact, it can be said that the various attitudes and approaches evolved today are the same views and studies of the order and relations of ancient traditional studies (Buqā'ī, 2006, vol. 1: 5; Zarkashī, 1990, vol. 1: 133) which have been developed methodically but have discussed the connection between verses and chapters with different words and interpretations.

Structural coherence is one of the new linguistic approaches that analyze the structure of the chapter and the connections between the components of the verses and the chapter. The noble chapters of the Qur'ān are composed of components, and a holistic and systematic view to their relations brings about a more comprehensive reading of the concepts presented in that chapter's content (Mir, 1993: 211). Accordingly, a chapter is considered as a unit with a coherent and harmonious whole, which is studied in order to better understand its literary concepts and structures, and ultimately the whole Qur'ān as a sacred text with a single concept. Therefore, the macro-structure of the Qur'ān is based on the study of the micro-results of its structure, i.e., the chapter and its components (Balata, 2013, vol. 3: 311).

The beginning, body, and ending are the three main components of each chapter. These have an important place in extracting the interconnected concepts of the verses. The present study also tries to analyze the systematic and coherent structure of the chapter with the focus on the connection and continuity of the two main components of the chapter, namely its beginning and ending, and by emphasizing the verbal and semantic connections between the elements of the chapter, provide a more comprehensive and methodical analysis of interconnected concepts in the verses. In this regard, in order to better convey the complex and interconnected relationships between the elements of a chapter, the theory of structural analysis of the chapter has been methodized through the use of systematic fractal schema. The similarity and closeness of the various and networked connections between the components of fractal structures with the type of connections of the components of the Chapter and the Holy Qur'ān is one of the reasons for using this schema to draw more operationally the internal relations of the structure of the chapter. The pattern governing fractal geometry depicts the relationship between the components of a whole through the meaningful repetition of the same components as before at different but constant scales. The purpose of selecting and localizing this model in the overall atmosphere of a chapter is to try to present the central concept of the chapter through a systematic look at its internal elements, all of which are puzzle pieces that intend to convey a single meaning to the audience. Therefore, the connection between its elements, including the beginning and ending points of the semantic package, is considered necessary.

One of the necessities of dealing with such integrated and interdisciplinary views is that the impact and permanence of a message will be greater and is placed in an organized and integrated way in the mind and heart of the audience. Therefore, it has always the ability to become an action and applying it. This is doubly important in relation to the valuable teachings of the Holy Qur'ān. To relate a wide range of different ideas and thoughts of the audience – such as cognitive, logical, visual, etc., coming from different sciences beyond any belief – with the text of the Holy Qur'ān is one of the important concerns of this research so that it may be possible to use the methodical approaches of geometry, or more objectively in the humanities, it facilitated the way for different understandings of the sacred texts, especially the Holy Qur'ān. Hence, if the studies and works of this field can provide an interconnected space with a suitable beginning and ending, and in general, an understandable and practical image, and of course with an aesthetic dimension, appropriate to those concepts and the beautiful human soul, it seems that the desire to search for the meanings of the transcendental parts of the Qur'ān might increase. This is a necessity that is felt in the present age because of the spiritual and behavioral needs of human beings. In this regard, the effort of

the present study is to respond to how to discover and extract the harmony and systematicity governing the structure of a chapter by examining its main elements such as its beginning and ending, and present a model derived from the text of the Holy Qur'ān.

## 2. Theoretical and methodological bases of research

Linguistic approaches and literary criticism have a wide range of dimensions, one of which is the study of text structure. In a structural approach to the text, various components such as words, sentences, and the like are examined to gain a deeper understanding of the text. The Holy Qur'ān, as a rich literary text, has attracted the attention of the Qur'ānic scholars familiar with the new ideas and methods of literary criticism such as Neil Robinson, Michel Kuipers, Angelica Newworth, etc., and has made them examine the various dimensions and components of the Holy Qur'ān and other sacred texts. In addition to paying attention to the results of traditional studies such as *Tafsīr al-mīzān* by Muḥammad Ḥusayn Ṭabāṭabā'ī, *Fī zilāl* by Sayyid Quṭb, this research has also applied the novel structuralist views and opinions (suggested by modern thinkers and studies) to the text of the Holy Qur'ān as a methodological concern. Extracting a methodical and systematic view to present a new analysis of the findings of previous commentators and scholars, the results of this study can deepen in the existing works of the traditional and modern analysis arenas.

The text of the Holy Qur'ān, like any other text, has a generality that includes components that are interpreted as chapters. Each of these chapters in its own scale is a structure that conveys important and valuable concepts to the audience. These concepts are derived from the relationship between internal elements in the form of a systematic and coherent interconnected structure. Possible connections between the components of the chapter are examined in different schemas from different angles. One of the most important links between the components of a chapter in better understanding and discovering the meaning and content of the verses is the connection between the beginning and the ending of the chapter.

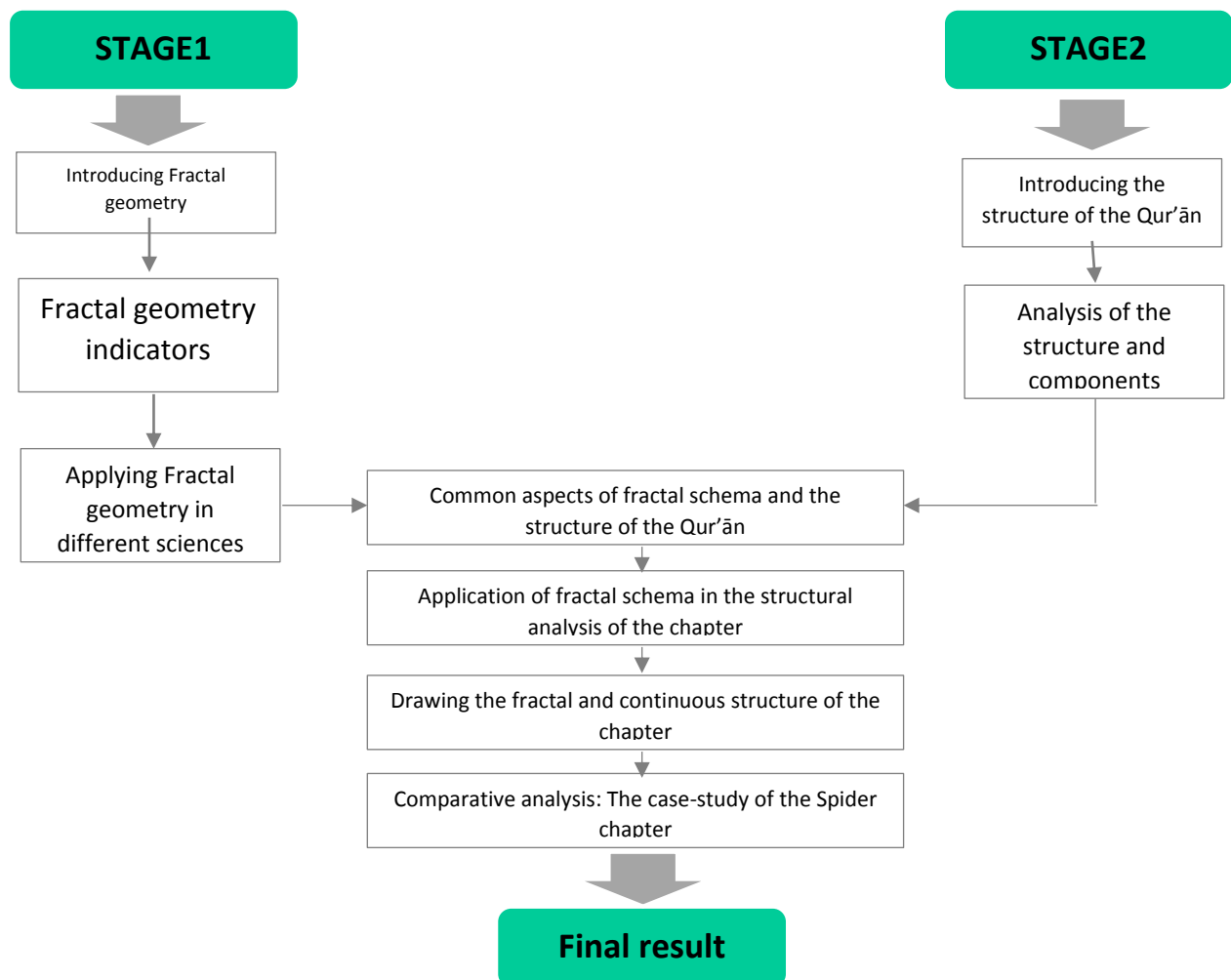
Therefore, after examining the suitability of different interdisciplinary models for the analysis of the complex and layered relationships of the verses of Qur'ānic chapters, the present study adopted the fractal geometry model, which is derived from the structure of natural events and has an outstanding presence in the Islamic architecture. In this regard, after explaining the interior atmosphere of the chapter and the importance of its main elements such as beginning and ending, the relationship between fractal geometry and this issue has been introduced and explained.

## 3. Overview of fractal attitude

The word "Fractal" is derived from the Latin word "Fractus," meaning fragment, which was first coined by Mandelbrot in 1975 (Bovill, 1996: 153). Contrary to the Euclid geometric shapes, the fractal shapes are not as the common definition at all and the irregularity degree is the same on all scales. In other words, it may be said that they have another type of order in themselves and are self-sustaining, and each component of the object is like its whole (Vicsek, 1992: 31, 139-146).

Fractal science is an approach derived from the geometry of the nature's structures. It is an approach to understanding and discovering the complex aspects of the world's phenomena in the form of real geometry. In Mandelbrot's view, it is rooted in mathematics, which is why he attributes the formation of various forms in nature to nonlinear geometry and fractal laws (Briggs, 1992: 148). Phenomena with a fractal pattern are created through an active and

dynamic process. These structures include sets, each of which is formed as a larger set. On the other hand, as an efficient way to describe the mathematical form of many objects, it is considered to be a complex and seemingly irregular phenomenon in the natural world. For this reason, the term geometry is used in relation to fractals (Briggs, 1992: 148).



**Figure 1.** Research Process

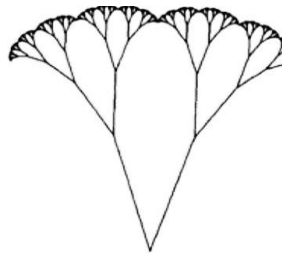
### 3.1. Characteristics of fractal geometry

Studies on some phenomena with complex and seemingly irregular structure show common features that help us understand their inner complexity more easily. One of the most important characteristics of fractals is that they are seen as a single shape from distant and close standpoints, similar to the pieces of a cauliflower, fern, etc. In this regard, we can refer to the geometric properties that cause the structure of an object to be called fractal: 1) self-similarity, 2) repetition, 3) the process of repetition has rhythm and balance in links, and 4) micro-scale, decimal dimension (Mandelbrot, 1982: 15; Vicsek, 1992: 31, 139–146).

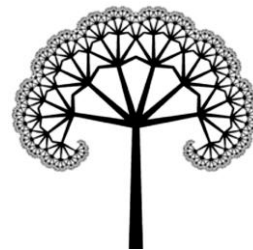
#### 3.1.1. Self-similarity

The term is rooted in the science of mathematics and is called self-sustaining, as the whole structure changes with a single scale and eventually a new main structure appears. The

resulting shape may be rotated, smaller, larger, or transformed; but it will still be the same as the original. The constant relative proportions between the internal faces and the angles of the shape are considered to be the most important features of their similar patterns. An important application of the self-similarity law in the fractal model is creating the rotation and dynamics that will lead to changes and transformations in the geometric nature of the main components (Ruskin, 1857: 258)



**Figure 2.** Fractal tree (Source: Mandelbrot, 1983: 155)



**Figure 3.** Fractal structure (Source: Ramzy, 2015: 98)

### 3.1.2. Repetitive rhythm and balance

Another feature of fractal geometry is related to the stages of their formation, often a repetitive process that establishes meaningful relationships between similar components to each other and leads the structure to equilibrium. This feature is called repetition (Feder, 2013: 11).

The “Sierpinski” triangle (Figure 3) is one of the most famous fractal structures and is a prominent representation of repetition and equilibrium rhythm. Each of the smaller elements of this structure is a copied objective of the original shape. In addition, when a picture is formed around a specific center or along a line, it is rotated and repeated continuously, and it is said that the balance has a rhythm (Brunori et al., 2018: 595–609)



**Figure 4.** Sierpinski triangle (Brunori et al., 2018: 596)

### 3.1.3. Micro-scale and decimal dimension

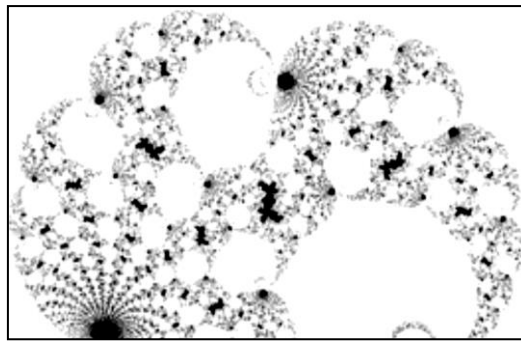
One way to identify the phenomena consisting of fractal patterns is to make them look the same on any scale. The mountain range and the cauliflower fragments are examples of this. Fractal structures are structures consisting of several elements, each of which is a series of larger and more complex sets. Again, these subcategories have smaller subdivisions. Because each of these subdivisions looks exactly like the larger, more original combinations, this feature is called micro-scale. These phenomena have certain dimensions that are expressed in mathematical language (Mandelbrot, 1982: 16; Vicsek, 1992: 31, 139–146).



**Figure 5.** Sierpinski-carpet (Allouche et al., 2003: 405–406)

### 3.1.4. Unity in plurality

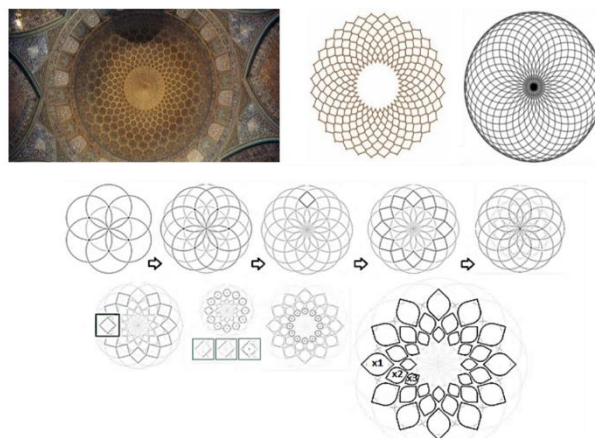
The meaningful connection between the components of phenomena in existence expresses the irreplaceable order and purposefulness of each of them and is a manifestation of the deep concept of beauty in different layers. The determining factor in this beauty is the unity existing in compounds whose type of communication is self-organized, and in which the most precise proportions are seen in the best possible form. According to the law of unity, fractal structures tend to be united and make the several repetitions of branches meaningful. This leads to the formation of a systematic pattern of a set (Mandelbrot, 1983: 190).



**Figure 6.** The manifestation of unity in Mandelbrot theory

## 4. Application of fractal schema to the structural analysis of Qur'ān

The advent of methodological and holistic studies in modern era has caused exchanges between different sciences that go beyond the framework of each individual discipline. Therefore, in order to benefit from different views, the researchers tried to transfer the concepts of a science better to its audience which still continues, such as medical sciences, and geography (Mīrkatūlī et al., 2014: 60). These are affected by the delicate order and harmony of nature, which is the fractal pattern between the components of the phenomena and is clearly seen in the buildings, monuments, and designs of some architects (Mustaghni & 'Alīmuḥammadi, 2016: 120).



**Figure 7.** Respectively from right to left, centrifugal abstract motifs in the form of fractal pattern



**Figure 8.** Image of the internal and complex connections of the human lung

Changes of three rows x or the main component forming the whole structure (Tukhmachiyān et al., 2017: 124)

As one of the systematic methods to deal with literary texts such as the Holy Qur'ān, the structuralist attitude tries to identify the elements of a literary work and then move towards discovering the patterns based on which they are composed and arranged. The outcome of this kind of view is understanding how that particular work is formed. In this regard, the Holy Qur'ān can be studied as a literary text from the viewpoint of the structuralist theory. The fractal geometry can be used in this regard because of the commonalities in examining the network of relationships between components of a phenomenon to methodize this theory. In the following, the internal structure of the Qur'ān, which consists of specific units called chapters with unique features, is explained. Fractal schema is one of the examples of patterns that express harmonious and nested connections in different structures and phenomena. A geometry that is used to illustrate the types of order while the disorder lies in the relationships between the components of a whole. This model allows the representation and operation of structuralist theory. The reason is that it shows a meaningful order in the heart of a complex but well-coordinated system considered to be among the elements of a set. In fractal structures, the components of a set in small and big scales represents its main shape and its placement in different angles that finally shows a unified image of a whole structure.

Nonetheless, what makes this kind of view important is the coherence in understanding and receiving the divine messages, underlying all of which is the fact that the human's mission is to reach that endless level: "And unto Allah belongeth the Sovereignty of the heavens and the earth, and unto Allah is the journeying" (Qur'ān 24: 42).

#### *4.1. Common aspects of the coherent structure of the Holy Qur'ān and the fractal systemic attitude*

The Holy Qur'ān is also a collection that in the form of a whole consists of its own components called *sūra* (chapter), each of which in the next layers, including its own sub-categories with the interpretation of "Verse." According to the different linguistic and semantic levels of the structure of the Holy Qur'ān, each verse is also divided into more detailed components such as sentence, phrase, word, and letters. The existence of the unity in the concept and meaning in spite of having plurality of components is another feature of the fractal geometry with the structure of the true word. The variety of formats, small and large scales, various instances, content expression, stories, orders, areas, rulings, and ethical points all together express the unity and oneness of a fact through a special arrangement. The purposefulness of the interconnected concepts suggests that the concepts hidden in this text requires the use of appropriate methods and tools for each era and time in order to benefit

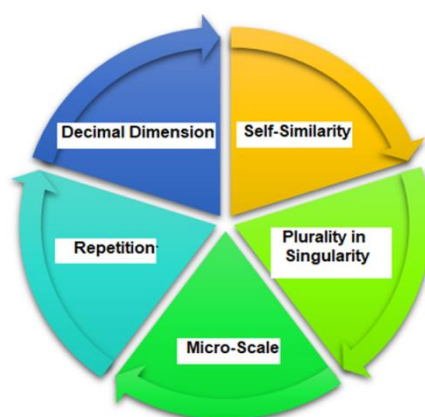
from its highest capacities in various aspects of life. The systematic and continuous fractal approach has been used in this study to understand the complexities of the relationships of the components of the Qur’ān. The common features of these two are as follows.

#### 4.1.1. Structuralism and self-similarity

A set consisting of elements with significant hierarchy and similarity, under complex sub-branches, show a manifestation of the same original form, describing the structure of fractal phenomena. Therefore, we can hypothesize the existence of an internal relationship between this type of geometry and structures in similar structures (Vicsek, 1992: 31) The Qur’ān is also a whole whose components are called “chapter.” Despite their different themes, these chapters have the same format. The one hundred and fourteen main elements of the Qur’ān are chapters that consist of a common format, including the beginning, central core, and the ending. The “verses” throughout the chapter are intended to convey the messages. In addition, each verse contains more detailed elements such as sentences, words, and letters. Therefore, with a systematic view to the totality of the Qur’ān, one can find meaningful links between self-similar structures and different scales that help understand the original structure of this Scripture.

#### 4.1.2. Repetition and unity between components

This feature, in which the phenomena with fractal geometry are seen the same from faraway and near, is the result of the rhythm of repetition and equilibrium. This rhythm in the smaller subsets represents a purposeful connection between the elements of a whole. The existing balance between the components ultimately reflects the overall unity. In addition, in the fractal pattern, each component has its own unique characteristics, but it is defined in relationship with other components; they together offer a specific format (Mandelbrot, 1982: 15; Vicsek, 1992: 31, 139-140) The same can be applied to the Holy Qur’ān, despite the conceptual chain at both micro and macro levels (‘Abd al-Ra’ūf, 2003: 79). The Qur’ān, as a systematic whole whose components are chapter (as semantic units) and has been delivered in the main form of one hundred fourteen chapters, has smaller subsets, each of which has its own scale, variety of instances, and unique content. They all have spoken about one single axial point, i.e., the truth of monotheism and oneness of truth (Balata, 2013, vol. 3: 314). Knowing the links at the micro level provides a way to understand the macro structure of the text of the Qur’ān. This order and unity in spite of the multiplicity of components is considered as one of the most important common points between the fractal pattern and the structure of the revelation.



**Figure 9.** Different aspects of fractal schema

## 5. The verbal and semantic components of the connectivity of the beginning and ending of the chapter: Analyzing the fractal schema of the chapter's components

The present study also seeks to provide a picture of its overall structure in order to derive the interconnections of the components of the chapter, specifically with an emphasis on the beginning and ending of the chapter. This goal is obtained through using the verbal evidences such as objective repetitions, keywords, publishing, parallel introductions, as well as semantic tools such as publishing, contradiction, and conversion (Halliday & Hasan, 1976: 277). After applying each of these items to the components of each of the opening and closing sections, which provide pieces of the conceptual puzzle of the chapter, it is time to compare and examine the degree of similarity and connection between these two sections. Therefore, the verbal and semantic tools are considered according to the interrelationship of opening and closing, and the obtained results are used to attain a systematic reading of the atmosphere of the chapter. Finally, with the meaningful arrangement of the intra-sectional data and the insightful findings of the chapter with the focus on the beginning and the ending, a related and connected reading of the central concepts in the chapter is achieved. The following is a report on the conventional classification of the beginning and ending of the holy chapters in traditional studies, which play a decisive role in connecting these two sections.

### 5.1. Types of beginning and ending of the Holy Qur'ān's chapters

Due to its importance in understanding the high meanings of the qur'ānic chapters, the beginning of the chapters of the Holy Qur'ān is one of the topics that scholars of Qur'ānic sciences in the field of traditional studies have long been concerned with. As a result, they have provided some categories in this regard. Qur'ānic scholars have mentioned various interpretations for describing and expressing how the chapters of the Holy Qur'ān begin in the form of ten titles, and call them as "Fawātiḥ al-suwar."<sup>1</sup> These titles are: 1) praising initiation, 2) proclamation initiation, 3) disconnected letters initiation, 4) predicative initiation, 5) oath initiation, 6) conditional initiation, 7) interrogative initiation, 8) prayer initiation, 9) Tahlīlī initiation (Hujjatī, 1993: 111-115; Suyūṭī, 2000, vol. 3: 361; Zarkashī, 794 AH, vol. 1: 164).

The ending part of the chapters, which may consist of one word, phrase, one or more verses, is called "Khawātim al-suwar" or "Khawātim al-suwar." The ending of chapters are divided into several groups regarding their subject: 1) induction ending, 2) praising ending, 3) consolation ending, 4) magnificence ending, 5) Tahlīlī ending, 6) prayer ending, 7) duty ending, 8) panegyric ending, 9) preaching ending, 10) testamentary ending, and 11) promising ending (Ma'rifat, 2009, vol. 5: 237; Suyūṭī 2000, vol. 3: 366-368; Zarkashī, 1990, vol. 1: 182-186).

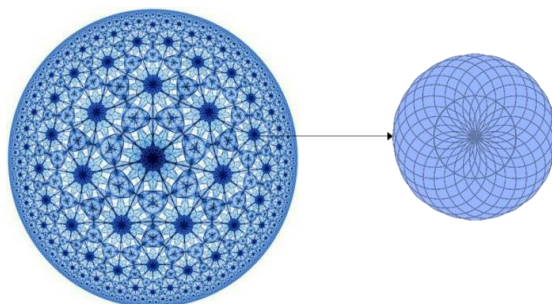
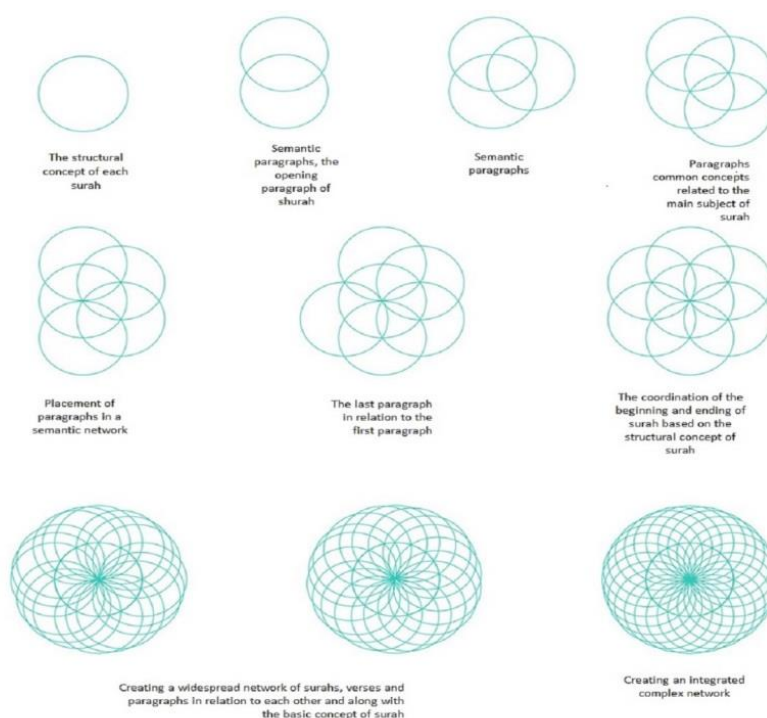


Figure 10. ?

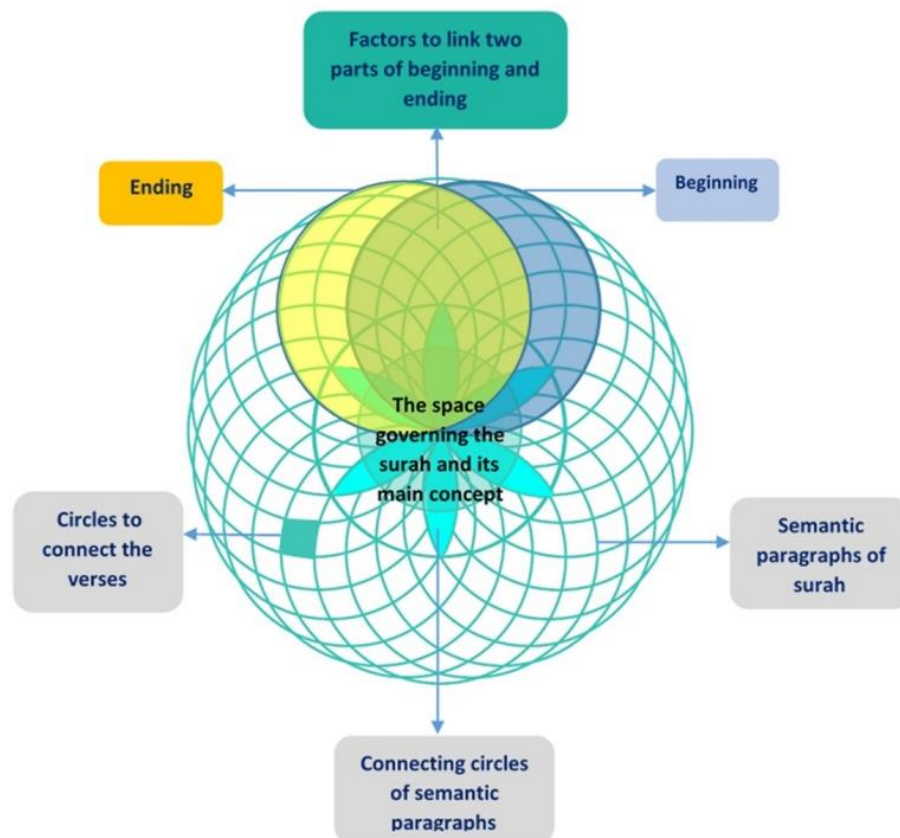
## 5.2. The steps of drawing the fractal structure of the continuous components of the chapter

In order to explain the steps of drawing the shape of the atmosphere of a chapter, it can be said that first a circle is drawn for each paragraph of the chapter. The first circle is considered as the opening circle and then the other circles are rotated side by side, thus leading to common parts due to the semantic paragraphs overlap in different ways. These circles are rotated together to reach the starting point again and represent a kind of conceptual overlap or fit of the opening and closing paragraphs. In addition, all these paragraphs are somehow in common with each other either in word choices, meaning or both dimensions implicitly or explicitly. As it was mentioned before, the process of creating the final image in fractal geometry is such that the shapes are repeated and rotated regularly. When drawing this shape, 6 circles are rotated three or four times at an angle of 45 degrees to obtain the image in front. The reason for rotation is that it causes complexity. Therefore, it can be said that using the word rotation of a self-similar form, in order to explain the semantic system governing a chapter, despite the semantic complexity and the relationship between verses, words, paragraphs is considered to better mental imagery of the audience. Rotation between components is a phenomenon that in fractals also accurately reflects the complexity of the system that governs them.



**Figure 11.** Application of fractal geometry pattern in drawing the interconnected structure of Qur'ānic verses

Figure 12 is a representation of the atmosphere of a chapter. Each of these circles represents a semantic paragraph and each of those rhombuses is considered a symbol, verse, word, or phrase of a chapter. In the next step, the concepts that are common between the verses and units (semantic paragraphs) are determined with blue color. In addition, in line with the main theme of this article, two circles have been selected as the opening and closing areas, which reach each other at the end due to the structural connectivity of the chapter and the existence of significant semantic layers between these two pillars.



**Figure 12.** Graph of the general atmosphere of the chapter based on the pattern of structural continuity of the opening and closing sections of the chapter

### 5.3. Comparative analysis of fractal schema in the interconnected structure of the Spider Chapter

This section seeks to illustrate the system of fractal communication between similar components within a chapter by examining an example of a chapter of the Holy Qur'ān. The focus is on the Disconnected Letters initiation type. The existence of a whole, which contains the same elements and on constant scales from different angles that lead to a focal point and unity, is the common feature of the fractal structures and internal relations of a chapter. The fact that the analysis of each component shows a representation of the main whole and deepens the central message in the same direction is another reason for using fractal geometry in examining the interconnected structure of the chapter with the focus on opening and closing. The decisive role of the two components of the beginning and the ending of the chapter in extracting the conceptual chain between the verses is an important factor that should be considered. Achieving unity from plurality between different angles of the text or image is the final goal of this kind of analysis, which induces meaningful beauty to the audience. Therefore, the present article tries to match the structuralist theory to the concepts of the chapter with the focus on the chapter opening and closing to explain the connection between these components at different scales and instances in the form of a fractal schema.

The first step in this direction is reviewing the chapter several times and obtaining its semantic paragraphs, especially the opening and closing verses, in which the main message of each speaker lies. This chapter transfers the summary of concepts to the audience in the form

of the opening verses (1-13) and the closing verses of Chapter (57-69) (Quṭb, 2004, vol. 5: 2717 & 2743; Ṭabāṭabā'ī, 2011: 16, 97, & 147).

Verses 1 to 13 of the Spider Chapter include topics that contain the meanings of the entire Chapter in a concise and abstract manner. The first paragraph of the chapter is a kind of basis and principle of meanings on which other verses of the chapter are based. The Spider Chapter, by proposing two interpretations of jihād for oneself and jihād for the sake of God at the beginning and end of the chapter, emphasizes that the results of the efforts that are defined at different levels belong to man himself and no benefit is conceivable for the Almighty God (Ṭabāṭabā'ī, 2011, vol. 16: 120). To achieve this interactive function, a network of conceptual and textual relations must be established throughout the chapter. In this regard, both verses 6 and 69 refer to the concept of jihād:

“And whosoever striveth, striveth only for himself, for lo! Allāh is altogether Independent of (His) creatures” (Qur’ān 69: 6).

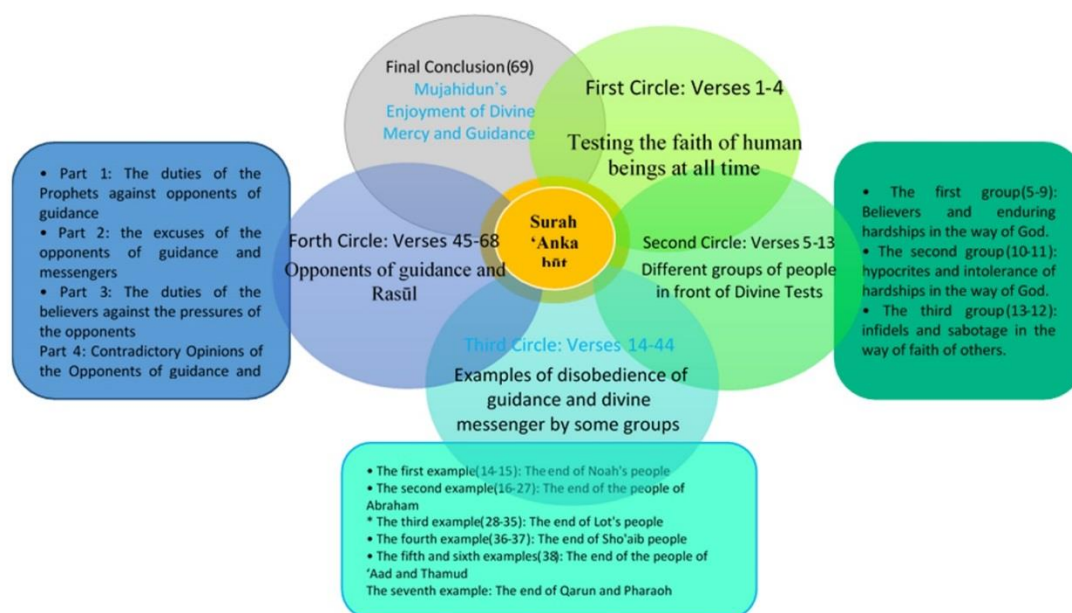
“As for those who strive in Us, We surely guide them to Our paths, and lo! Allāh is with the good” (Qur’ān 69: 69).

Therefore, the links of the chapter are rotational and transcendental. The fractal communication system connects the beginning and the ending of the chapter in the form of nested and overlapping rings and draws the main structure of the chapter. By taking a systematic and methodical look at the relationship between the two main elements of the chapter, namely the relationship of beginning and ending with each other in the generality of the chapter, the interconnected structure governing its components can be expressed as the connecting point of the beginning and ending of this chapter, which has expressed an important concept in the first part of the verse 6 of the Spider chapter together with the last part of verse 69 of this chapter (Ṭabāṭabā'ī, 1417, 16, 148).

“Jihād” is a topic that is discussed on two levels and underlies the atmosphere of the chapter. God Almighty mentioned once in the verse 6 with the expression “līnafsihī,” denoting the concern for the growth and attainment of human perfection and the realization of his inner capacities. Again in the verse 69, with the phrase “wal ladhīna jāhadū fīnā lanahdīyannahum subulānā,” He refers to gaining the satisfaction of the truth and attaining divine pleasure. They are blessings from God for the servant. The connection of this concept with the word “Muḥsinīn” in the verse 69 shows the usefulness of this effort in every rank and level for the human himself. Undoubtedly, He is free from the need to any effort, praise, or movement by creatures. Rather, His kindness and mercy require such guidance and prudence in the path of human servitude.

God Almighty describes jihād done by a human for personal causes as “For himself,” but in verse 69, He recounts another position of this concept, “وَالَّذِينَ جَاهَدُوا فِينَا.” Therefore, it can be said that what forms the initial atmosphere of the Spider Chapter in its collection of initial verses is the important concept of “jihād.” This concept is explicitly mentioned at the end of the chapter and is also known as the complementary component of the semantic circle of the chapter.

The communication circles of different parts of the chapter in the form of 4 categories show the interconnectivity continuity of the structure of the chapter.



**Figure 13.** Communication network of the concepts of the Spider Chapter

As it is obvious, the concept of belief in God and standing in the way of truth to achieve the goal and the opposite point of disbelief to the guidance and divine messengers and the consequences of this choice has been expressed and emphasized in the nations of the divine prophets throughout the chapter with various examples. Therefore, in the circular and trans-linear course of connection between the verses from the beginning of Chapter 1-10 to the end (57-69) one can observe the concept of faith, jihād for oneself and for the sake of God, as well as the two groups of people and the conditions of each group against their action.

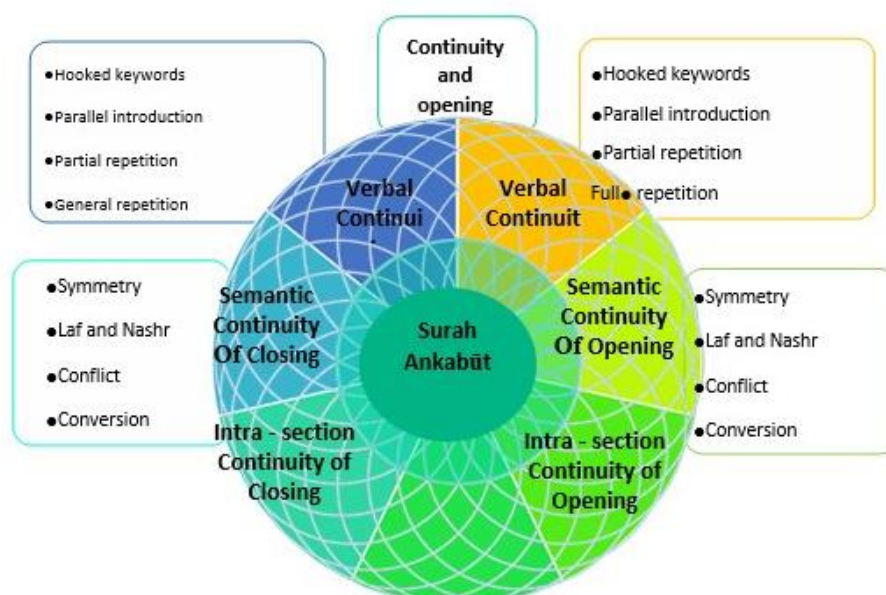
Regarding the semantic connection between the verses at the end of chapter, we can refer to the Qur'ān 69:57: "Every soul will taste of death. Then unto Us ye will be returned". This expresses the point that finally one day the difficulties of effort in the way of truth will end and all people are born again and return to Him. In this reference to the truth, people are divided into two groups: the group who turn to God and are the people of faith and righteous deeds, which are mentioned both in verse 58 and at the beginning of verse 7 of the Spider Chapter: "And as for those who believe and do good works." It has considered for them a desirable end in the pavilions of Paradise with the best rewards. Those who showed a lot of patience and endurance in the way of jihād to reach the divine guidance and relied on the guardianship of their God: "Who persevere, and put their trust in their Lord!" (Qur'ān 69:59). Consequently, God endowed them with a new and true life to meet Him. The second group are those who, on returning to God, turned their backs on the truth and disbelieved by hiding the divine blessings and beauties and seeing the signs of life (Ṭabāṭabā'ī, 1417, 16, 145). They did not take it seriously and spent it on worthless worldly affairs and just had fun. These formed a group that lied and denied the divine verses and oppressed God. So He called them to the Hell.

Finally, the chapter is ended with the same key and significant concept of jihād for God mentioned at the beginning of the chapter, and the end of jihād in the way of truth is to be guided in the divine path (Ṭabāṭabā'ī, 1417, 16, 148). Therefor by referring to the good end, the chapter mentions a group as good-doers whose efforts are all for truth and are in His way rather than for their own desires and inclinations. At the lexical level (i.e., examination of verbal evidence for the connection of verses), the conceptual chain is strengthened by lexical

coherence. In the sense that some words are used elsewhere in the text of the chapter. Such as two structures of “أَحْسِبَ” and “أَمْ حَسِبَ” in verses 2 and 4 in such a way that the following verse addresses the believers and the general public and those who claim to have faith.<sup>1</sup> And the following addresses those evil-doers and sinful people.<sup>2</sup>

In addition, the verbal repetition of the word “jihād” in verses 6 and 69, along with the semantic connection and differences mentioned in the previous section, conveys the connection of the beginning and ending of the chapter. Moreover, the repetition of the word “lie” in verses 3 and 68; the word “sedition” in verses 2, 3, and 10; the word “faith” in verses 2, 7, 9, 10, 11, 12, and 58; “defamation” in verses 13 and 68; “infidelity” in verses 7, 12, 66, and 68 are other cases of verbal coherence in the chapter.

The purpose of this type of view is to discover the system governing the components of the chapter with more emphasis on the starting point and doing it, a process that makes it easier for the audience to understand the concepts by accurately recognizing the main role of these two elements in each text. A network that contributes to a set of links between verses of different dimensions and levels helps better understand the general atmosphere of the chapter. In other words, the clue of the main purpose of the chapter in these two sections is presented as the beginning and end of the word of the Almighty God. It is considered as a whole from different, yet purposeful and center-oriented, angles. The lack of linear communication limitations in the communication of components with each other in this network pattern has been one of the most important reasons for choosing fractal geometry in order to draw intra-chapter bonds. Providing the possibility of understanding the central message of the semantic components of the chapter, without reviewing all its verses, through thinking about the opening and closing components is considered as one of the prominent features of this method. The theory of structural analysis of the interconnectivity of the components of the chapter is considered to be the innovative idea of this article.



**Figure 14.** Components of studying the fractal connection of the Spider Chapter

١. "أَحْسِبِ النَّاسُ أَنْ يُتْرَكُوا أَنْ يَقُولُوا آمَنَّا" (٢).

٢. "أَمْ حَسِبِ الَّذِينَ يَعْمَلُونَ السَّيِّئَاتِ" (٤).

Structural coherence of the opening and closing of the Spider Chapter			
Closing	Opening	Dimensions	Type of connection
Disbelief	sedition, science, people, jihād, carrying	Hooked keywords	Verbal interconnectivity
”وَلَيْسَ سَأَلْتَهُمْ“	«أَحْسِبْ»، «أَمْ حَسِبَ»، «وَالَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ»	Parallel introductions	
Daily bread, death, science, promise, heavens, earth	Assumption, faith, righteous deeds, knowledge, people, evil, promise, error, weight, carrying, jihād, sedition	General repetition	
disbelief	Science, sin	Partial repetition	
-	First Laf: ”وَالَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ“ First Nashr: ”وَلْيَعْلَمَنَّ اللَّهُ الَّذِينَ آمَنُوا“ Second Laf: ”وَمِنَ النَّاسِ مَنْ يَقُولُ آمَنَّا بِاللَّهِ... رِيكَ لَيَقُولَنَّ“ ”إِنَّا كُنَّا مَعَكُمْ“ / Second Nashr: ”. وَلْيَعْلَمَنَّ الْمُتَافِقِينَ“	Laf and Nashr <sup>1</sup>	Semantic interconnectivity
1-Heaven, earth, sun, moon 2- Providence, power, science	1-Assumption, “أَمْ”، “أَمْ” science and its derivatives. 2- Infidelity and its derivatives, falsehood, evil, hypocrisy, error, defamation, polytheism 3- Truthfulness, faith, righteous deeds, the best reward, the righteous 4- People, man, worlds next to the phrase “those who. . .” and “those. . .” 5- Hope, meeting, recourse, deadline 6- Action, jihād and derivatives of these two	accordance	
The heavens, the earth. Sun and Moon. Death and life. The world, the hereafter. Play and entertainment, animal. Right and wrong. Heaven and hell. Faith and polytheism.	Faith, disbelief, hypocrisy, polytheism, truth, falsehood, righteous deeds, the sin	contrast	
-	A B= A' B' A / «وَلْيَحْمِلْ» B : «خَطَايَاكُمْ» : «بِحَاطِلِينَ» B' : «خَطَايَاهُمْ» / A'	inversion	
Final part: “كُلُّ نَفْسٍ ذَائِقَةُ الْمَوْتِ ثُمَّ إِلَيْنَا” :”تَرْجِعُونَ“ indicates the end of the hardships of jihād in the way of truth, and the rebirth of human beings in the presence of their Lord. In this reference to the truth, people are divided into two groups: 1- Those who have been very patient in the way	The beginning of the chapter with two expressive and interrogative structures “أَمْ” and “أَحْسِبْ” addressed to the general public and those who claim to believe, in particular to those who have abandoned the means of faith in which they have confessed.	The new reading	

1. The closing and opening

Structural coherence of the opening and closing of the Spider Chapter			
Closing	Opening	Dimensions	Type of connection
of jihād to reach the meeting and relied on the support and guardianship of their God so the promise of the truth has been fulfilled. 2-Those who return to God, by covering the blessings and signs of divine life, turned their backs on the truth and disbelieved, slandered the truth, and denied the divine revelations, thereby oppressing God: in the end, He promises hell to this group. Finally, He ends the chapter with the key meaning of jihād for God, which was also mentioned at the beginning of the chapter, and has considered the end of jihād in the way of truth as to be guided in the divine path.	They intend to deconstruct the misconceptions of the people. For instance, in the context of divine, individual, and social tasks, they do not have to say something, but they have no responsibility for it. Then everyone who hopes to meet God should know that sometimes that meeting will come. Of course, this is done by emphasizing true faith and righteous deeds, which will lead to the excommunication of evils and the avoidance of polytheism.		
<p>The opening and closing paragraphs show “Jihād Akbar” as the main concept proposed in the general atmosphere of the chapter. A concept that expresses the effort to activate the divine powers that have been pledged into human existence. He also states at the beginning of the chapter that the motive for jihād must be clear, whether seeking and meeting the Almighty is the end of this effort or the human soul. After mentioning the hardships in the path of divine jihād, in different parts of the chapter, the hard efforts of some prophets such as Noah (a), Abraham (a), the Prophet Muhammad (a), Lūṭ (a), Shu‘ayb (a), etc., are mentioned whose goal is to bring the servants to divine guidance. In the last part of the chapter, by presenting two divisions, He shows that in the course of the return of the whole universe to the Creator of the universe, the actions of individuals are different from each other. In this way, some are the people of faith and righteous deeds and jihād for God “وَالَّذِينَ جَاهَدُوا فِينَا” and endure the sufferings with patience and trust, in the hope of meeting the truth. The second group has turned their backs on the Almighty God by blaspheming the divine revelations, which leads to slander and denial of the truth leading to deprivation and entering hell. وَمَنْ أَظْلَمُ مِمَّنِ افْتَرَى عَلَى اللَّهِ كَذِبًا أَوْ كَذَّبَ بِالْحَقِّ لَمَّا جَاءَهُ أَلَيْسَ فِي جَهَنَّمَ مَثْوًى لِّلْكَافِرِينَ (٤٨)</p>		The new reading	The interconnectivity of the opening and closing

## 6. Conclusion

In order to explain the systematic structure within a chapter with the focus on its beginning and ending, the present study has tried to achieve this issue by benefiting from interdisciplinary studies, including the structuralist view in linguistics. Therefore, in order to create a common language in understanding the contents of the Qur’ān, it has tried to methodize and operationalize this theory through the use of fractal schema, because the type and shape of the relationships in fractal geometry are closely related to the model of the interconnectivity of elements in a Qur’ānic chapter. In addition to the meaningful repetition of self-similar components and their balanced rhythm, achieving unity from the heart of plurality (although through different means and different scales) is considered to be the common and important aspect of these two structures.

1. The necessity of extracting the system governing this kind of systemic view in phenomena, texts, and relations is due to the methodical progress of modern sciences. In

order to benefit from Islamic teachings, especially the text of the holy Qur'ān, applying systematic approaches to understand it seems to be necessary.

2. The Holy Qur'ān as a literary text has a systematic structure, with the semantic unit of the chapter in different instances and styles of expression functioning as the most important element in it.
3. Applying the fractal attitude to the atmosphere of the Holy Qur'ān helps the audience adopt a systematic and holistic attitude.
4. The possibility of a unified understanding of the main and sub-components of the chapter in order to understand the atmosphere of the chapter is one of the most important keys for receiving the truths of the Holy Qur'ān.
5. Methodical analysis of the verbal and semantic dimensions of the beginning and the ending of the chapter, separately and in relation to each other, is an important step in recognizing the connections between the components of the chapter.
6. The result of a fractal view to the interconnected structure governing the Spider Chapter: The concept of "jihād" as the main chain of connection between the beginning and the ending is considered at the atmosphere of chapter, in the 6<sup>th</sup> (وَمَنْ جَاهِدْ فَإِنَّمَا يُجَاهِدُ) and 69<sup>th</sup> (وَالَّذِينَ جَاهَدُوا فِينَا لَنَهْدِيَنَّهُمْ سُبُلَنَا وَإِنَّ اللَّهَ لَمَعَ الْمُحْسِنِينَ) and (لَنَفْسِهِ إِنَّ اللَّهَ لَغَنِيٌّ عَنِ الْعَالَمِينَ) verses of this chapter.
7. The concept of "jihād" expresses the effort to realize the divine talents inherent in human beings.
8. The circular course of the chapter at the beginning of it about the importance of the concept of jihād is presented in different instances and levels for the growth and perfection of the human in the path of servitude and reaching a higher level of existence and divine pleasure.
9. After mentioning the possible hardships and sufferings in the path of divine jihād, the middle circles of the chapter speak about jihād and the hard efforts of some prophets such as Prophet Noah (a), Prophet Abraham (a), Prophet Muḥammad (a), Prophet Lūṭ (a), Shu'ayb (a), etc. The purpose here is to bring the servants to divine growth and guidance.
10. The final circles of the chapter, by presenting two divisions, show that in the course of the return of the whole world to the truth, the performance and position of individuals are different from each other. In this way, there are people who turn to God and become believers and do righteous deeds. The second group members, opposite to the first group, uphold blasphemy, hide divine verses, turn their back to God, and embark upon defamation of truth. Their denial results in an agony that leads them to be deprived of beauties and manifestations of truth and causes them to enter hell.

## References

### *The noble Qur'ān*

- ‘Abd al-Ra’ūf, H. (2003), “Conceptual and textual chaining in qur’ānic discourse.” *Journal of Qur’ānic Studies*, vol. 5, no. 2, 71-94.
- Allouche, J-P., & J. Shallit (2003), *Automatic sequences: Theory, applications, generalizations*. Cambridge, Cambridge University Press.
- Balata, I. (2013), *Literary structures of the Qur'an*, Translated by M. Abbasi. In *The Encyclopedia of the Qur'an*, Tehran, Hekmat.
- Bovill, C. (1996), *Fractal geometry in architecture and design*. Boston, Birkhauser.
- Briggs, J. (1992), *Fractals: The patterns of chaos*. London, Thames and Hudson.
- Brunori, P., P., Magrone, & L. T., Lalli (2018), “Imperial porphyry and golden leaf: Sierpinski triangle in a medieval roman cloister,” *Advances in Intelligent Systems and Computing*, 595-609.
- Buqā’ī, I. (2006), *Nazm al-durar fī tanāsub al-āyāt wal-suwar* (3<sup>rd</sup> ed.), Beirut, Dar Al-Kutub Al-‘Ilmiyya.
- Feder, J. (2013), *Fractals*. Springer Science & Business Media.
- Halliday, M. A. K., & R., Hasan (1976), *Cohesion in English*, London-New York.
- Hujjatī, M. B. (1993), *Research in the history of the Holy Qur'an* (6<sup>th</sup> ed.), Tehran.
- Mandelbrot, B. B. (1982), *The fractal geometry of nature*. New York, W. H. Freeman and Company.
- Ma’rifat, M. H. (2009), *Al-Tamhīd fī ‘ulūm Al-Qu’ran*, Qom, Al-Tamhīd Publications Cultural Institute.
- Mir, M. (1993), “The chapter as a unity: A twentieth century development in Qur’an exegesis.” In G. R. Hawting & A-K. A. Shareef (Eds.) *Approaches to the Qur’an*. London, Routledge.
- Mīrkatūlī, J., R. Bārgāhī, & S. Z. ‘Aghīlī (2014), “Explaining the dimensions of using fractal geometry in geography analysis and urban planning,” *Journal of Spatial Planning*, no. 14, 55-82.
- Mustaghni, A., & M. ‘Alīmuḥammadī (2016), “Analysis of the application of geometry and fractal in parametric architecture by examining the internal array of the dome of Sheikh Lotfollah Mosque.” *Journal of Architecture and Urban Planning*, vol. 8, no. 16, 103-122.
- Quṭb, S. (2004), *Fī zilāl Al-Qur’an* (35<sup>th</sup> ed.), Beirut-Lebanon, Dar Al-Shurūq.
- Ramzy, N. S. (2015), *The dual language of geometry in Gothic architecture: The symbolic message of Euclidean geometry versus the visual dialogue of fractal geometry*. Egypt, Sinai University Press.
- Ruskin, J. (1857), *The elements of drawing*. London, Spottiswoode & Co.
- Suyūṭī, A. R. (2000), *Al-Itqān fī ‘ulūm al-Qur’ān* (2<sup>nd</sup> ed.). Edited by F. A. Zamralī. Beirut, Dār Al-Kitāb Al-‘Arabī.
- Ṭabāṭabā’ī, M. H. (1970), *Al-Mīzān fī tafsīr al-Qur’ān* (2<sup>nd</sup> ed.). Beirut, Scientific Foundation for Publications.
- Tukhmachiyān, A., M. Qarā biglū, & A. Nijād Ibrāhīm (2017), “The formation of space due to the conceptual connection between music-mathematics and architecture (case study: the JolovKhan and Asman-e Gonbad-Khaneh of Sheikh Lotfollah Mosque in Isfahan).” *Quarterly Journal of Islamic Architecture Research*, vol. 15, no. 5, 108-129.
- Vicsek, T. (1992), *Fractal growth phenomena*. Singapore/New Jersey, World Scientific.
- Zarkashī, M. (1990), *Al-Burhān fī ‘ulūm Al-Qur’an*. Edited by J. H. Dhahabī, I. A. Kurdī, & Y. A-R., Mar’ashlī, Beirut, Dār Al-Ma’rifā.