yedi
SANAT, TASARIM VE BİLİM DERGİSİ
JOURNAL OF ART, DESIGN & SCIENCE

Araştırma Makalesi
Research Article

KIŞ 2024/SAYI 31
WINTER 2024/ISSUE 31

Kolbay, S. D. (2024). A proposal in search of the form of the theory: Monument for Mihri Rasim *yedi: Art, Design and Science Journal,* 31, 59-73. doi: 10.17484/yedi.1228097

A Proposal in Search of the Form of the Theory: Monument for Mihri Rasim

Formu Kuramla Örgütleme Arayışında Bir Deneme: Mihri Rasim Anıtı

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Abstract

More than just constituting the material substance of the object, structure establishes a peculiar way of transferring meaning via metaphor. In design phases, the content constructed with manifestos brings out a context by the form. Both in disciplines of art and architecture, in monument design, the link between the order of elementary geometry and the symbolic values conveyed through it becomes apparent. A monument is a structural object in which meaning, and form integrate. Monument and memorial space-themed design competitions are idea-generating processes in which this desire stands out sharply. In this study, it is aimed to investigate the semantic equivalent of a product with its form through semiotic matching of structural components in its qualitative aspects. For this purpose, the expansion of the correlation will be questioned through a monument proposal for İstanbul Senin/Design Artwork Competition Mihri Rasim (Müşfik) category. The conditions, defining the abstracted person life cycle and way of integration with life are the design layers of the monument. The next stage is aimed to establish the relationship between abstraction and the design principles. The inferences drawn include the pursuit of a conclusion on the monopoly of this hypothesis and a methodology for reading the architectonic expression of other monuments. So, it may be possible to carry the structure beyond being an object by surveying the structure in a holistic order with the theoretical base of design values.

Keywords: Form, structure, Mihri Rasim Monument.

Academical Disciplines/Fields: Architecture, plastic arts.

Özet

Strüktür, nesnenin maddi özünü oluşturmanın ötesinde, metafor yoluyla anlamı aktarmanın kendine özgü bir yolunu da kurar Tasarımda, manifestolarla yapılandırılan içerik, form ile bir bağlama tutunur. Sanat ve mimarlık disiplinleri arakesitinde, anıt tasarımında, formu tanımlayan elementer geometrinin düzeni ve bu yolla taşınan sembolik değerler arasındaki bağ belirginleşir. Anıt, anlam ve formun bütünleştiği yapısal üründür. Anıt ve anma temalı tasarım yarışmaları ise, bu arayışın keskin biçimde ön plana çıktığı fikir üretim süreçleridir. Bu çalışmada, yapısal bileşenlerin göstergebilimsel eşleştirilmesi yoluyla, bir ürüne form ile yüklenen semantik karşılığı nitel yönleriyle araştırmak hedeflenmektedir. Bu amaçla, İstanbul Senin/Yeşil Alanlarda Sanat Yapıtları Tasarımı Yarışması'na Mihri Rasim (Müşfik) kategorisinde sunulan öneri çalışmanın kuramsal temelleri üzerinden söz konusu bağıntı sorgulanacaktır. Anıtın atfedildiği kişinin yaşam koşullarının, yaşam döngüsünün ve yaşam ile bütünleşeme yolunun soyutlanışı üzerinden tasarım katmanları belirlenerek alt başlıklara ayrılır. Bir sonraki aşama, soyutlamada ulaşılan değerler ile tasar ilkelerinin bağıntısını kurabilmeye yöneliktir. Elde edilen çıkarımlar, bu öneri tekelinde bir sonuç elde etme, başka anıtların ifade dilini okumada bir yöntem oluşturma arayışlarını içerir. Böylece, strüktürü bir nesne olmaktan öteye taşıyarak, tasarım değerlerinin kuramsal karşılığıyla bütüncül bir düzende yorumlamak mümkün olabilir.

Anahtar Sözcükler: Form, strüktür, Mihri Rasim Anıtı.

Akademik Disiplinler/Alanlar: Mimarlık, plastik sanatlar.

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- **Available Online:** 06.11.2023 **Recieved: 02.01.2023 / Accepted:** 17.08.2023
- **doi:** 10.17484/yedi.1228097

1. Introduction

This study aims to investigate the correspondence of the context attributed to the form, in the ontological intersection of art and architecture disciplines, in monument design through the argument that the content structured with manifestos, clings to the context by the form integrated with the imaginative references. The structuration of the object establishes a path to create meaning. Phenomenologically, the structural, theoretical, and semantic decoding of content, defined by material and form, manifests itself in the areas of action diversified by the construction of the ontology of art and architecture. Design initiates with the desire for the harmonization of form and its context. The output is not only the form, but the whole that unifies form and context, that is, the structure (Alexander, 1964, p. 12). Grounded on the ontological plane where objects have no worth as entities, the structure is in its self-acceptance, which is extracted from the non-existent to the existent (Sartre, 2009, p. 12). In this regard, the embodiment of the object as an artwork is considered the revelation of the entity (Heidegger, 2011, p. 113). Form bears the power to create the context and the field of expression. While the image is being transferred from the objective world to subjective consciousness, it is reorganized in such a way as to carry meaning. Abstract thought is materialized in the object. According to Tunalı (1998, p. 33), the essence of forms is perceived with inner sense, the work of art is a set of perception. The form has different expressive correspondences that are effective in perception depending on the order of the design element organization. Therefore, it can be said that structure - irrespective of whether it is designed or implemented - constitutes a wide space of speech in the way of approaching the semantic root of the object molded by the influence of material, technology, and society. Based on the theoretical foundations of a proposed project in Istanbul Senin/Green Spaces Art Design Competition Mihri Rasim (Müşfik) category[1], this study strives to achieve the organizing values of form in monument design.

Research focused on interpreting information proposes theories on how the form can be transformed into signs, signs, and images. Sayın and Gorbon (2009) states to analyse design pattern of an object is possible in hermeneutic expansion. In both architecture and plastic arts, the ontological fundamentals of the product can be determinable based on the encoding of knowledge in the consciousness with hermeneutics, a theory of meaning in qualitative research (Image 1). A reading is executed to discover the meaning inherent in the object. A deep insight into how the parts are associated with the whole is sought to be developed. Abstraction happens in the comprehension based on reduction to simplicity through the act of perceiving the whole in parts. In this direction, theories associate the productive power of abstraction with Aristotle's principle of entelekheia - the production of particulars by universals (Arnheim, 2007, p. 198), then at XIX. century it has also been interpreted with an inductive approach in Peirce's theory of signs (Short, 2007). With the same approach, current propositions that maintain their validity on meaning readings in design can be put forward with analyses based on geometric syntax.

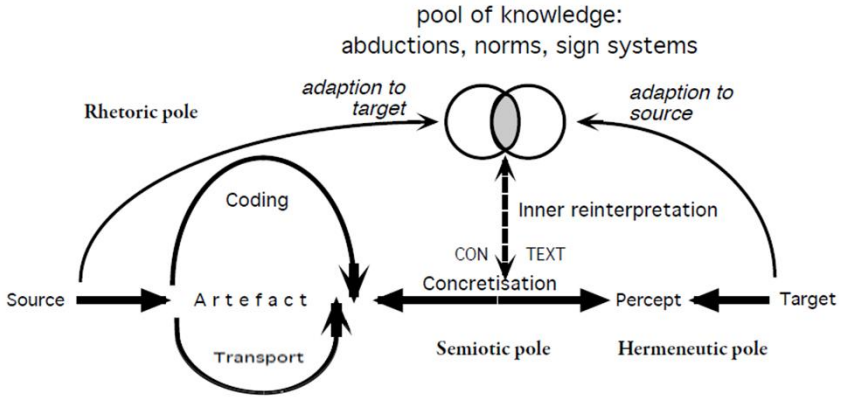

Image 1. *The way of conveying meaning with semiotic elements* (Sonesson, 2006)

[1] The 'Istanbul Senin, Design of Artworks in Green Spaces Competition', which is the subject of the study, was opened in line with the Regulation on Architecture, Landscape Architecture, Engineering, Urban Design Projects, City and Regional Planning and Fine Art Works with the aim of obtaining works that will be placed in Gülhane and Sirkeci parks and that will refresh the place of seven people who are related to these spaces in some way and save their trace to collective memory (IPA Istanbul, 2023).

While the main idea of the design can be defined in a deductive understanding that reaches from the whole to the part, the functions of the elements can be revealed in the inductive approach, which seeks the equivalent of the whole in parts. According to Özer (2018, p. 244), deduction is a means of reaching a judgment about prime functions by the main form. So, induction, provides a general conclusion based on the prime forms that have been brought together. Although the knowledge that is formed by the coding of perception in the interaction between human and object cannot be reduced to a purely logical inference-oriented proposition or elementary contents, the determination of the dominant elements in a universal order brings with it the expression of abstraction. This process creates a way to derive theoretical inferences. In other interpretation of Neuman (2006, p. 90) the true meaning is seldom encountered on the surface; the meaning of the whole can only be ascertained by looking for the linkages between the pieces. A feature that is not concrete and observable and includes mental creations can be handled with inductive reasoning in a qualitative research setting. Studies organized with this approach begin with the collection of empirical data. Evidence-based generalizations are made, and abstract ideas are formed. Theoretical inferences are obtained by interpreting the observed values. Then, the data is tested in the opposite way to validate the theory. A theoretical proposition is established through abstract concepts or by making use of the main lines of the logical connection between the concepts and the data is transformed into inferences.

According to Pauwels et al. (2012), abductive reasoning mode captures the reciprocal of the human mind's functions of generating hypotheses, making predictions, making calculations, experimental design, and learning. The experiential knowledge generated from this constant repetition is based on the interaction between specific low-level patterns and high-level invariant patterns in the human mind. This process may explain how meaning and knowledge can be constructed by generating high-level patterns from low-level data. The analogies defined at this point are the way designers and artists interpret situations and conditions. The design process proceeds by making analogies. The designer establishes hypotheses by making analogies. In other words, new knowledge is created by analogy. The guiding principles in this process are based on objective and factual knowledge. For this purpose, the semantic network is widely used. The underlying object and syntax bring together various information schemas in a correlated network data. Personal information or guiding principles are used to reach conclusions by reasoning. The value studied may be part of a conventional context, or it may have a specific content. Various configurations can occur at the pattern level. Format grammar has a content layout that is functionally equivalent to artificial intelligence rule-based system categories. Petrova and Pauwels (2021) explains in detail the working principle of the system based on topological algorithms. Data is encoded as subject-predicate-object. The predicate is the link that associates the subject with the object. In other words, the expression subject-predicate-object can take any subject and connect it via the predicate to any other object to indicate the type of relationship that exists between the subject and the object. The data network creates an algorithmic composition with a triple structure that allows to describe information with syntax and semantics. The data network is built with ontologies-vocabulary. Ontologies are explicit specifications of shared conceptualizations. Shape grammar syntax can be used effectively to understand a rule reasoned in the semantic network (Image 2).

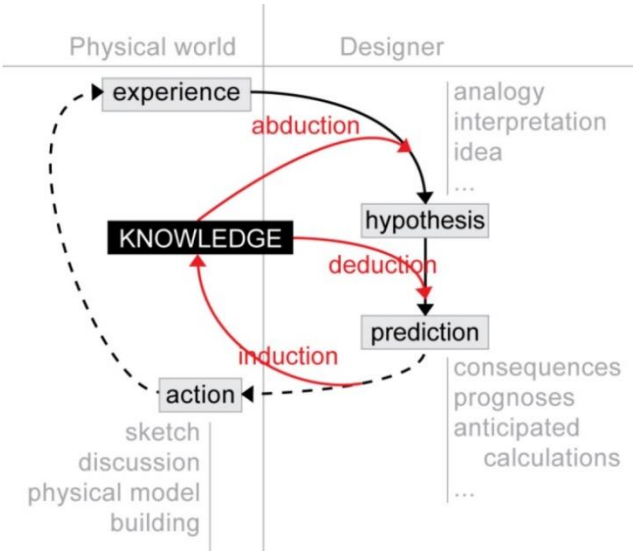

Image 2. *The use of deductive and inductive reasoning in semantic inferences* (Pauwels et al., 2012)

Form grammar has its origins in linguistics. Chomsky (1956, p. 114) characterizes formal grammar as a set of rules that mathematically describe varying combinations (algorithmic structure) over a generally finite alphabet. Formal grammars fall into two main categories, iterative and analytical. Iterative grammar is a set of rules by which all possible sequences can be repeatedly reproduced based on a given starting image. This process reveals the patterns of an algorithm that contains repetitions in terms of form. Analytical grammar, on the other hand, allows to identify parser elements within the input array of an arbitrary string. Discrete items make up the vocabulary. Thus, while an analytical grammar format focuses on reading, the generative grammar format provides derivation by coding. Each architectural product/work of art has characteristic/features. These features constitute a design language. Language consists of the sequence of words in phrases. Similarly, design is an organization of components. Many form combinations can be encountered in design, but all combinations don't have meaning. At this point, shape grammar provides a way to identify the compositional principles of components. Form is a tool to interpret the equivalent of what was produced in the historical context (Kolbay &Bursa 2022; Kolbay, 2023). There are studies in the literature that take shape grammar as a model to analyze traditional and local building techniques. While the method can be used to determine the architectural identity, form grammar can also be used to suggest compatible building elements (Teboul, 2011). In semantic analysis, meaningful connections defined by form features are established. The syntax implicitly defines the design space. Thus, as much as it is possible to make sense of the existing order, it is also possible to establish a formal order that is compatible with the existing one. The same process applies in the field of art. There are applications where the form is derived with parametric rules (Kunkhet, 2015; Stiny & Gips, 1971; Wagner et al., 2020).

Shape grammar is a system of transformational rules that describe the attributes of a shape. Shape grammar algorithm, which was used for the first time by Stiny and Gips (1971, p. 127) to classify works of art, was created with shapes and spatial relations between shapes, points, lines, planes, and volumes, assuming the word elements that define shapes. The algorithm built with the format grammar offers a set of transformation rules to distinguish or combine elements while interpreting the design. Shapes are the vocabulary of shape grammar in a syntax. The primary purpose of a shape grammar is to understand diagrammatic and parametric rules. Each shape rule creates a parameterized function to interpret all the elements. Variations due to the use of parameters, such as changes in lines and angles of shapes, define new vocabulary generated by the rules. Reviewing a product to capture its structure as simple grammar rules provided by analysis. The process is about finding simple geometric classification techniques so that information can be easily codified. Accordingly, it defines the schematic image as a set of instructions defined on a finite plane. At the center of schematic description is the organization of finite lines. Any shape is characterized by certain features. Schematic coding is carried out through a sequence of Euclidean transformations (Stiny, 2006, p. 134).

It is predicted that it will be possible to interpret the meaning-tectonic relationship with this methodology by taking the existing literature data as a reference, and shape grammar has been chosen as the method that can be used in design language analysis in the study. Within the scope of the study, the correspondence of the shape possibilities in the context was investigated. In this context, the data collection phase of the study begins with the determination of the abstracted values. The first stage is to determine the design principles of Mihri Rasim Monument with a deductive approach. Effective questions in data collection are such as to reveal the living conditions, life cycle and way of integration with life of the person to whom the monument is attributed. With structural analysis, the design layers are determined and divided into sub-headings. What emerges is the structural construct of the object that has meaning. The next step is to establish the relationship between the values achieved in abstraction and the principles of design. Design principles are effective in the production of ideas as well as in the criticism of the work that will emerge, and where the application will be held in the collective memory. Therefore, first the meaning-tectonic relationship is discussed with its effective counterparts in perception. Then, semiotic analysis was tried with an inductive approach in the expansion of form grammar. Mihri Rasim Monument has been studied at morphological, syntactic, and pragmatic levels in the shape grammar algorithm. The simplest way to verify that structural and semantic analysis can be made in any other architectural product/artwork with the hermeneutic-based method tried in a single work here is to examine different designs comparatively. For this purpose, inferences were created by evaluating the other proposals presented within the scope of the competition within the algorithm established with the shape grammar.

2. Structural Organization of the Monument for Mihri Rasim

The components that delineate the intellectual whole within the composition of Mihri Rasim Monument consist of 3 distinct layers with sharp borders. The transformation of theory into the structure is abstracted in the metaphor of "shell+obstacle", "elevation" and "brush mark". The conditions/boundaries Mihri Rasim[2] is in are depicted with the metaphor of "shell" and the difficult path of life with the metaphor of "obstacle". The image of the "shell" in structural analysis is generated with wooden beams and an "obstacle" with a sloping reinforced concrete base. The transformation of her stance against these conditions into form reveals the second stage. Mihri Rasim's progress beyond the conditions she is in is represented by metal profiles in the expression of "elevation". By integrating the "brush trace" of Mihri Rasim's life path with the surrounding landscape, all traces of existence are reflected in the workspace (Image 3).

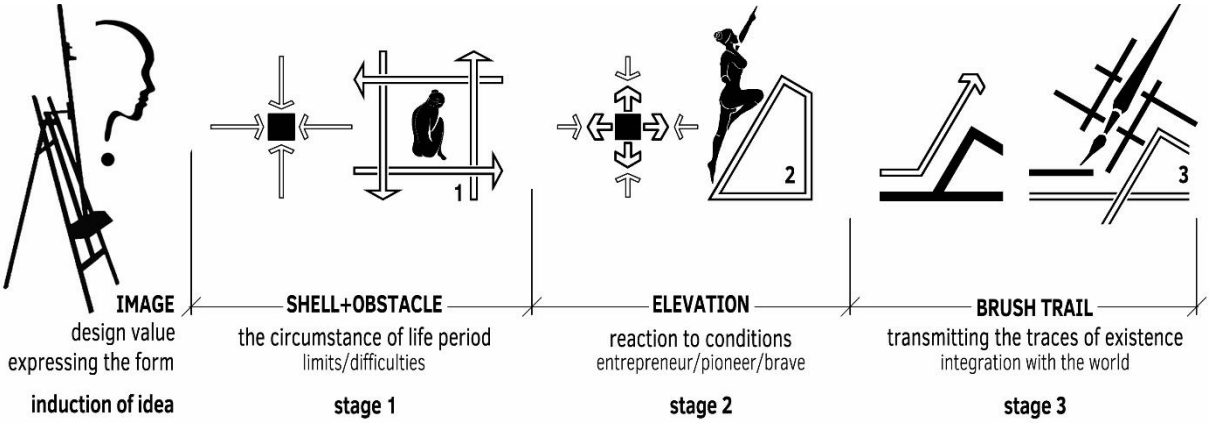

Image 3. *Transformation of abstract thought into expression in search of form* (Konkur Istanbul, 2023).

2.1. Description of Circumstances: Shell and Obstacle

Numerous obstacles on the road to modern civilization were overcome by the power and endeavors of women in twentieth-century Turkish civilization. At the beginning of this century, Mihri Rasim pushed the envelope of the country's conditions and made efforts to overcome the existing oppression imposed by the monarchy on art production and art education. Since there was no educational institution that provided art training for women in this period, she took the initiative and paved the way for the establishment of the Inas Sanayii Nefise Academy. In painting workshops, modelling in harmony with reality can only be accomplished through production based on models. In this context, Mihri breaks new ground during this period, allowing nude models to enter the studios when the "Harem-Selam (genders sitting separately)" order was prevailing in Ottoman society (Tansuğ, 2012, p. 139). The circumstances of the period she was in came to the forefront with restrictions and difficulties. During the transition period from the Ottoman Empire to the Republic, it is obvious that she was aware of the oppressions of this process and tried to break them. The painter, who migrated from Istanbul to New York in the last epoch of her life, undergoes different struggles depending on the process of spatial change (Tongo and Dağoğlu, 2019, p. 28). Looking at Mihri Rasim's literary traces (Toros, 1988, p. 16), it becomes legible that she expressed the material and moral challenges she suffered and tried to make visible the obstacles that an artist might confront. In this context, in the design, expression of idea was put into creating a shell image that integrates with Mihri Rasim's circumstances. A sloping pedestal/reinforced concrete base is installed on the floor of the structure which creates an obstacle, representing the fact that the painter's path in her life journey is not straight. The environmental conditions that surround her and restrict her capabilities are portrayed as a shell, and the geometric construction is abstracted with wooden beams that do not impede the visual flow but merge to form sharp corners. Considering the challenges the painter encountered all around, it is envisaged that 6 laminated wood beams with dimensions of 20x20x180cm reinforce the effect if they are interlocked with opposite directional transitions and are included in facade images and plan projection in the same way (Image 4).

[2] Mihri Rasim is one of the talented portrait painters of the first half of the 20th century. She establishes Inas Women's Industry Nefise School and raised woman painters in the art community. In her half-century career stretching from Istanbul to Rome, Paris and New York, she went far beyond being an artist with the students she trained, the works she produced and her pioneering personality, and left a deep mark in her lifetime (Tongo and Dağoğlu, 2019, p. 26).

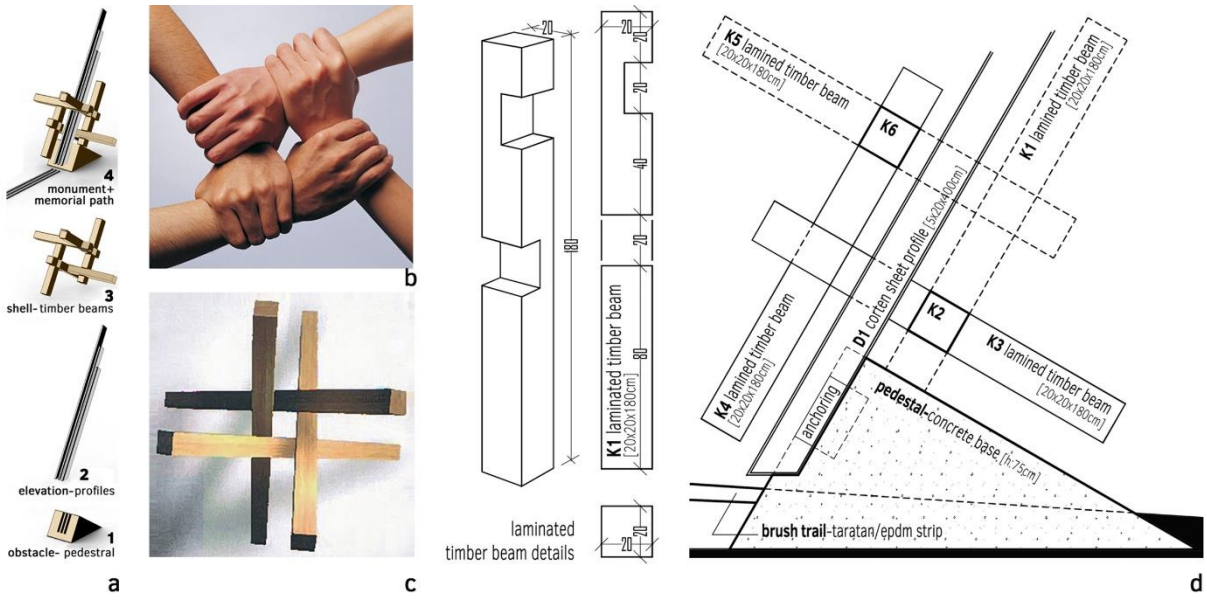

Image 4. *Installation of the uneven base/reinforced concrete base and the bounding shell/wood beams. a- Theory scheme* (Konkur Istanbul, 2023), *b,c- Joining wooden components* (BauNetz, 2023), *d- Operational set-up designed for the proposed monument* (Konkur Istanbul, 2023).

2.2. Transmitting the Traces of Existence into Structure: Elevation

On the way to reach the level of national modernization, Atatürk used the great intellectual-impelling power of art with the principle that *revolutions will not be considered complete unless a revolution is made in art* (Hızal, 1983, p. 891). In this context, Mihri Rasim is a Pioneer in terms of contemporary artistic production as she is in her educational approach. She stands out with her solid drawing, qualified portrait, and figure works. Her inclination towards art is not confined to painting; after Tevfik Fikret's death, she realized the first application of the masking technique by taking a mold of his face and took a noteworthy step in the art of sculpture (Pelvanoğlu, 2013, p.168). Although the trace left by Mihri on her life's journey is embodied in a portrait depiction, this trace is grounded on the sharp momentum that art and art education gained in the progress of modernization. In the work, the state of moving forward by transcending its own margins is abstracted with a structural fiction consisting of multi-layered and parallel components at different elevations, which tend to rise out of a shell (Image 5). In her youth, adulthood, and old age, Mihri Rasim has always attempted to advance further by getting rid of the shell around her on the rough road.

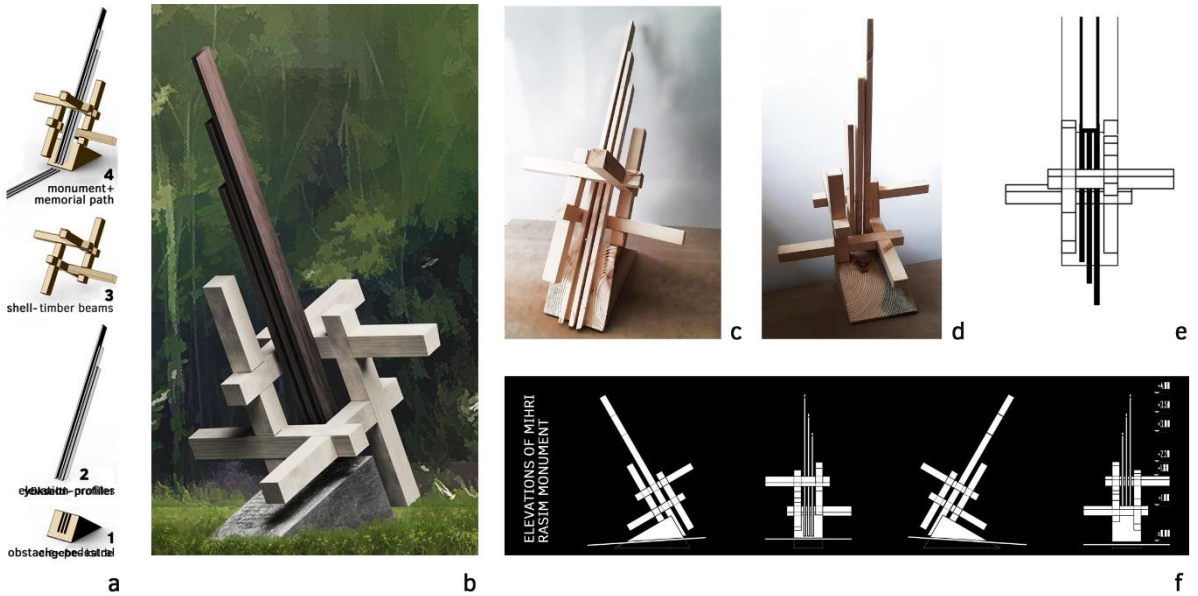

Image 5. *Addition of elevation/corten sheet profiles fixed on the pedestal, located in the shell* (Konkur Istanbul, 2023).

In the elevation, the gradation and hierarchy emerging as a result of the fragmentation of the fiction according to the balances of functioning refer to the transitions between the stages of her life. To emphasize Mihri Rasim's entrepreneurial, pioneering, and daring side, corten sheet metal profiles, which embody power with the hardness of the material, are placed on the sloping pedestal in such a way that it is clearly and firmly held. Even though the surface is uneven, the profiles in Mihri's representation stand firmly on the ground. The elevations consisting of corten sheet metal profiles are fixed with threads and anchor sheet bars inside the pedestal. Mihri Rasim's name and her point of view on art are engraved on the reinforced concrete sloping pedestal, leaving a mark on the reinforced concrete surface. The boundaries of absolute influence are expanded by expressing all kinds of values that are desired to undergo imagery transformation with different materials. This layer is the center/heart of the monument.

2.3. Integration with the Surrounding: Brush Trail

The imprints of Mihri Rasim's existence tend to spread around. The traces of this influence in the academy, in her country, and in the world are open to being traced. Based on this, in the final stage, the monument is intended to spread from the center to the periphery in the representation of a brush mark with the landscape layout. In the project area situated in Gülhane Park, the monument path, which will serve as a gateway to guide visitors to the focus of the fictional structure in question, is identified with epdm/tartan strips in the representation of an active brush mark in places. For this central approach, in which the monument+memorial path represents Mihri Rasim's brush and brush mark, not to emerge in a dominant form, but to develop as a part of the place, it is aimed to spread to the defined area by dividing the park into modules with tartan/epdm strips and to organize action areas within the green area (Image 6).

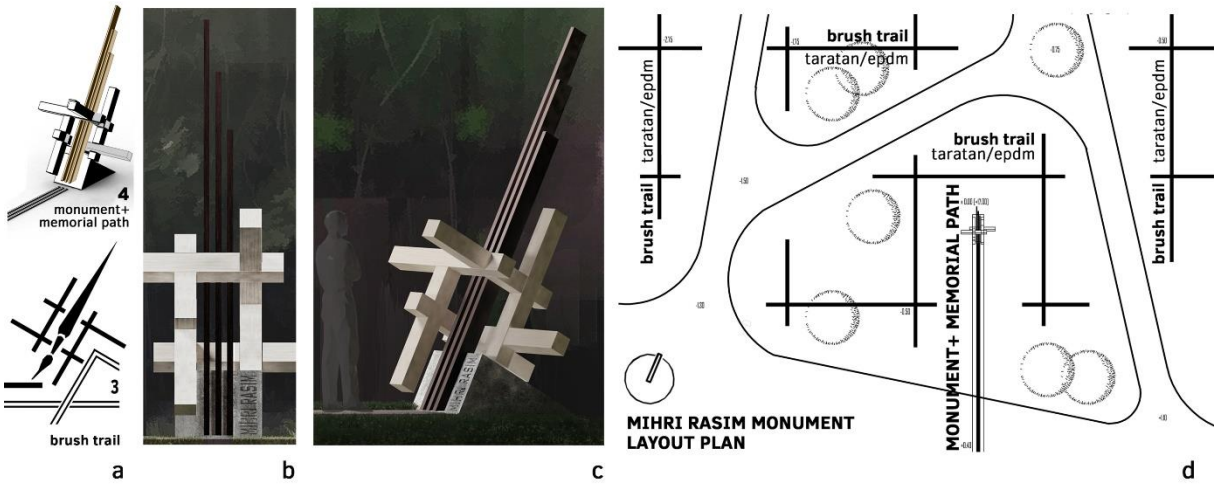

Image 6. *Integrating brush trail with the landscape* (Konkur Istanbul, 2023).

3. Semantic Tool and Tectonics

Güngör (2005, p. 6) defines the specific and effective relationship between the elements in an arrangement or established with another group of elements as meaning. Accordingly, if the elements that come together in a design are prevented from being in an irrelevant, haphazard, and irregular position; and if they are brought into order by fusing with each other in terms of similarities, affinities, and unity of purpose, the style of placement in this order and the unity between the elements becomes the meaning of that design. The main idea dominating the arrangement is grasped through different forms of expression. In three-dimensional space, the notion of abstraction is maintained through the order, versatility, and proportional balance of formal elements. Genç and Sipahioğlu (1990, p. 54) characterizes form as the visible manifestation of content. When we perceive a shape, we assume that it represents something and thus we deem to accept that it is a form of the content. The form defines the volume that can be perceived with all the senses, the space that the object will cover in the built environment. The shape of elementary geometry in objects elucidates the semantic correspondence of form. The hints of the image are lurking in the spatial orientation of shape and form. At this stage, which constitutes the theoretical basis of the study, the diversity of composition that can be defined in form and space has been sought. The reflections of the pattern strings in perception have been defined by utilizing the basic design principles. Necessary material has been collected and classified by making use of the studies focusing on the reflection of form and perception, distinguishing the design elements that create the form and the generation methods of the form.

3.1. Explanation of Design Elements

The form is effective in the characteristic appearance of the architectural product or work of art and the response to be formed in the perception - the main place where the application will hold in the collective memory. In the literature, there are many studies that deal with the diversity of form as a visual communication way and its cognitive counterpart through design elements. According to Klee (1961, p. 24), form begins with the point that is the source of formal motion. A line is formed where the effect of the point ends. This is the first dimension. If the line is translated to form a plane, a two-dimensional element is formed. In the next stage, in the movement carried from planes to space, the intersection of surfaces creates the object - three-dimensional volumes. This dynamic operation is in kinetic order, which transforms the point into a line and the line into a surface. Thus, while the point determines a position in the built environment, the line constitutes a boundary, the shape a surface, and the volume the object in the third dimension (Image 7).

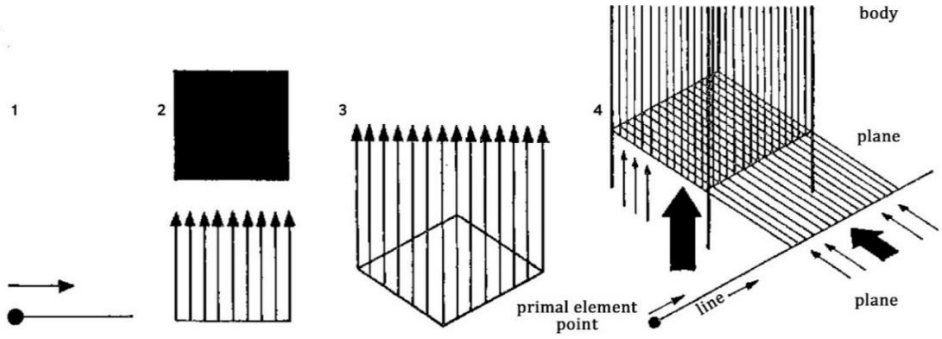

Image 7. *Formation of formal diversity in terms of point/line/shape/volume transition* (Klee, 1961, p. 24).

3.1.1. Point

The point determines a coordinate in space. With the repetition of the point in a certain direction, a line or shape can be formed. A focal point occurs when the position of the point creates a directing effect to a dominant center. The balance of the arrangement in visual equilibrium is also the center of gravity-escape, the projection center with projections on the object. The intersection of two lines can form a point. The points that determine the superpositions of the images are the intersection points of their contours (Genç & Sipahioğlu, 1990, p. 69). A point reveals its presence within a field, although it is formless or shapeless. The point creates a constant center, organizes the elements related to it in its environment and dominates this area.

On the other hand, when it is shifted out of the center, the balances between the point and the surface change and one of the two elements comes to the fore (Ching, 2016, p. 4). While the point creates a static central effect in visual perception, the regularly increasing number of points, evenly distributed in space, can cause rhythm and chaos in unbalanced distribution.

3.1.2. Line

In the case where the point string is indistinguishable, the points merge into a line. Unlike the point, the line is not stationary, it is in an axial or curvilinear direction. A shape is defined by the line effect for two reasons: it is very narrow in width or pronounced in length. The ratio between the length and width values gives the format a linear appearance (Wong, 1972, p. 9). Regardless of its width and length, if an element creates a line effect, if it has a linear feature, it plays a planar role in the design. The horizontal, vertical, curved or curvilinear nature of the line reveals a harmony or contrast in the expression of the lines (Güngör, 2005, p. 38). The flow and cycle provided by the line can create a continuity effect in one direction in the composition. While horizontal components reinforce the sense of continuity, vertical items emphasize the upward trend in this direction (Eco, 2019, p. 97). According to Zevi (2015, p. 146), a line can be weak or dense, tense or loose, strong or flowing. It attributes this situation to the non-stationarity of the form, to the fact that it is in motion even with the course of the sun.

3.1.3. Shape

At least three non-sequential points or the translation of a line define a surface area. Surfaces are either vertically or horizontally oriented in a coordinate plane. A shape emerges in a line surrounded by the plane (Dondis, 1973, p. 45). By means of shapes, the boundaries of the space as well as the volume can be defined.

Each shape has a geometric or free-form surface. Shapes are the means of creating symbols and styles. According to Arnheim (2007, p. 43), shapes in visual perception form concepts that meet shape categories. The optical image transferred to the retina is a mechanically complete reflection of its physical image. The relationship between the shape and the structure that surrounds it gives the basic unit material properties (physical, structural, perceptual, and affective). Moussavi (2011, p. 28) discusses the shape in detail while describing the function of the form. Accordingly, different shape patterns in different areas do not only have strong sensations such as lightness, verticality, and spirituality; It can also produce unique configurations that stimulate many senses, such as ribs, gradation, asymmetry, crystallinity and cellularity.

3.1.4. Volume

A plane that is translated in a direction different from its own direction becomes a volume. The position of the plane identifies a direction (Leborg, 2006, p. 13). While all other design elements create a trace in space, volume emerges in the third dimension by the delimitation of space by planes. Therefore, the space that the object will occupy in the built environment is defined by the volume is perceivable. According to Borie et al. (2019, p. 37), all plane elements are reduced to the dialectic of space closure and covering up a space in perception. The resulting overall volume can be divided into volume elements or perceived as a defined planar element.

3.1.5. Space/Gap

Space defines the boundaries of the object and makes the diversity of the topology visible. The contrast of existence-absence, fullness-emptiness has taken place in many currents of thought and manifestos. In the approach where everything exists only in the space, the space indicates the existence of a potential and that it does not end. In the full-empty balance, all elements have a benefit, but it is the void that functions (Kuban 2013, p. 80). Despite the contrast between emptiness and fullness, their intersection forms and proportions reflect certain balances that are effective in the whole. The balance of form and content determines the ultimate dominant character density. Space defines a mass effect. The repetition of the space at regular intervals gives rhythm to the mass and indirectly to understanding. The mass composition provided by the solid/solid state of the surfaces is at least as meaningful as the space setup in terms of expression. The organization of the space in space appears with the arrangements made in the mass. Gap is the expressive space left consciously in the body of the object. Onat (2020, p. 9) characterizes the removal of the part from the body of the prime forms by chipping from the lateral or upper surfaces as gapping. Accordingly, in lateral gapping, the presence of vertical edges on the surfaces is effective in preserving the character of the form. Top gapping, on the other hand, are effective in gaining an introverted character. It may not be perceived depending on its ratio with the human scale. In addition to the space confined to the boundaries of the audience, the space surrounding the audience defines the proportions with the environment and determines the effect of form on perception. In addition to the space confined to the boundaries, the space surrounding the audience defines the proportions with the environment and determines the effect of form on perception. The volumetric stability of the mass depends on the solid/empty ratio.

3.2. Explanation of Form Generation Methods

The combination of design elements with certain principles creates a composition. Composition is the harmonious whole of elements brought together for a purpose. Combination possibilities, which are redefined under all circumstances, are diversified by the way the elements come together and creating point, radial and surface effects. The result can be in a plain appearance based on the main geometric shapes, or it can be legible in a production based on the deformation of the form or in a complex whole formed by a group of multiple elements. Neumeyer (1964, p. 57) classifies this diversity as geometric forms and morphological forms, and states that each effect produces independent phenomena in the shaped content. Moussavi (2011, p. 24) draws attention to the fact that the hybrid structure provides both perceptual and affective diversity by creating a complex form compared to the primary geometric forms. Different effects lead to different perceptions and prevent the form from being reduced to a single meaning or signification.

Balance is necessary for unity to occur in a composition formed by the coming together of the elements. Güngör (2005, p. 145) emphasizes that if an imbalance does not stand out in the assumption that the qualities of the elements in an arrangement, such as color, texture, direction, spacing, and size, reveal the balance, the balance is achieved. In this context, unity is achieved through the path of conformity, the path of dominance, or opposition. The existence of balance and unity with the image's counterpart in the subject is accepted or rejected. Zevi (2015, p. 149) evaluates the concept of scale as an approach that human is the measure of everything. Therefore, the compositional elements that make up the form, as well as the human scale, can create various effects (Image 8).

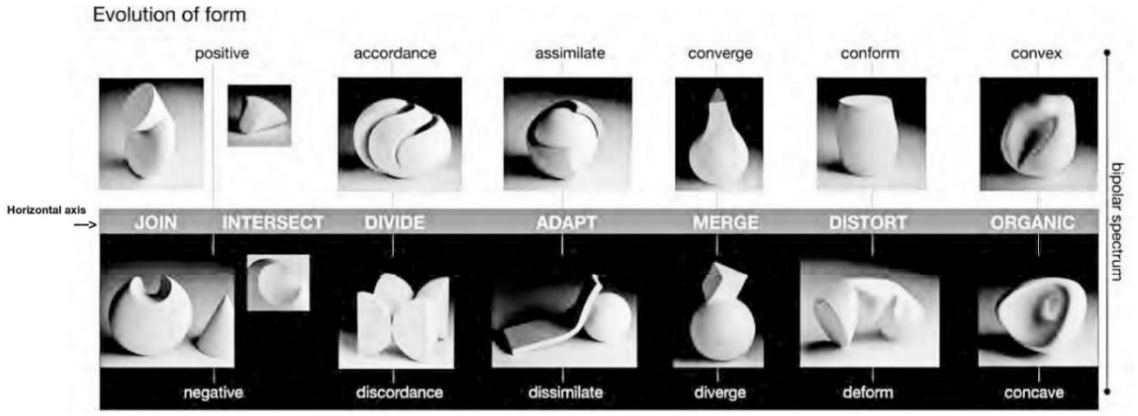

Image 8. *Form evolution model classifying the production methods of geometric based forms* (Kohler, 2007, p. 188).

3.2.1. Join

According to Wong (1972, p. 11), combining elements to form the final form reveals different surface relations. Tangent crossing, overlapping, penetrating, intersecting, covering are among the ways of combining elements. In this way, the elements can be melted into each other to reflect the effect of different types of volumes and surfaces. Onat (2020, p. 54) mentions that as the dominance of juxtaposed prime forms to each other decreases, the additive effect will disappear. In this context, Borie et al. (2019, p. 46) discusses the deformation of the form in detail, arguing that two separate orders can coexist without affecting the existence of each other, or that the dominant element can deform the other. In any case, the object designed by combining simple volumes can leave an effect that integrates with the volume that emerges when read a second time in its new form. The relationship between an element and the object of which this element is a part creates an integrative relation between two or more elements in terms of the ability to form a whole.

3.2.2. Divide

It is the case of separating the object into harmonious units in terms of balance and proportions. The object's dimensions defined by width, length and height can be segmented in these directions. In a rational geometric order, it is possible to be fragmented, or a polygonal order to be divided into units with the search for dimensioning. Arnheim (2007, p. 209) mentions in the theory of conic sections that if a cone's section is sliced while maintaining its parallelism or changing the shear angle, its most dominant features will not be legible at pieces. Likewise, in slicing perpendicular to the axis, the result is relative to the whole. The same is true for circles, ellipses and similar geometric base forms. In *Notes on Sculpture,* it is stated as follows;

> Composition of irregular polyhedrons allows divisibility of parts to the extent of organizational unity. Elements that easily convey relationships, in that their pronunciations are distinct, return to their initial conditions. In regular polyhedra this operation is more uncertain. Simpler and more legible prime geometries retain their full strength against encounter as objects with separate parts. It presents fracture lines through which they can be divided so that part-whole relationships can be established. These simple polyhedrons can be called unitary forms. The character of the whole is hidden in the part. (Morris, 1968, p. 228)

In the interpretation of the elements together, the establishment of the effect of integrity is important as well as the features that the parts acquire as independent in themselves can be effective in the expression. Depth effect may occur depending on the distance between the parts. A rhythm effect may occur when the space formed as a result of fragmentation is in the form of repeated intervals.

3.2.3. Rhythm

Rhythm is formed by the harmonious repetition of modules or element groups defined by identical parts in a certain order. A defined repetition has a frequency where the distance between the repeated elements or spaces is the same. If this distance changes between an item or a group of items, there is a rhythm of repetition at certain frequencies (Leborg, 2006, p. 40). This order, which is felt in every area from time periods to music in the essence of life, makes the whole legible in an order based on the repetition effect

with the number and continuity of the repeated elements. Arnheim (2007, p. 207) states that the precise phases of the sequence serve as similar reference bases in a composition where intermediate values deviate or tend towards. Wong (1972, p. 15), with the view that repetition creates unit forms, does not see rhythm only in relation to size. Accordingly, the repetition of the shape, size, color, texture, direction and position can animate the form in a dynamic order and avoid being a monotonous object.

3.2.4. Symmetry and Asymmetry

Symmetry results from the equivalent construction of sides in an axis/axis direction defined by a point, a line, or a plane. The development of the surfaces in the upside-down, right-left direction according to a vertical or horizontal axis can be legible in this respect. This attribute reveals the correlation between the object's center of gravity and its equilibrium state. Symmetry is the natural balance position of the object in a primitive condition that meets the forces (Alexender, 1964, p. 127). The symmetrical order, which was consciously sought in the event that its structural necessities were lifted, this time catches up with certain searches within the balance in the composition. Zevi (2015, p. 148) interprets the equivalence effect provided by symmetry in line with the philosophy of empathy. With the same approach, she defines the asymmetrical order as the state of equilibrium in the axisless organization. He states that the balance here can be met with another element, and otherwise, the situation may cause us to be uncomfortable with the condition by directing the perception to one side. If the stability of the elements in a composition cannot be ensured, the effect is incomplete, mobile, dynamic, and in the case of its balanced distribution, it is static and stationary.

4. Semantic Analysis with Shape Grammar

As design object, the monument is a product defined by the composition and at the same time a sign that carries expression. The meaning present in a sign is the function made possible by the signified (Eco, 2019, p. 269). Assuming that the monument is an indicator, the form features can be used for data collection and access to the essence by questioning the meaning of the data in the context. Reading the built-in meaning in the object is possible through the encoding of the data. However, at this point, in addition to the individual meanings of structural elements, their interaction with other elements gains importance. A subject underlined by Köksal (2009, p. 97) is that a part in a certain whole can have different meanings as a part in a separate whole or existing alone. In other words, the work is a reality different from the sum of the elements it contains and cannot be reduced to a heap of elements in any way. Therefore, reaching representational values from the part to the whole requires a very comprehensive approach. Although inferences about the perception of forms were obtained in the previous title, the shape possibilities may have different representation values within the context. Form is a means of conveying social, cultural, and technological values beyond creating a visual communication language. An approach that reduces the form to the concrete features of pure geometry will ignore the position of the structure in the structural environment. For this purpose, the hermeneutic analysis, which includes all the design values that guide the form, was carried out through the unfolding of the design language of the monument examined.

At this stage of the study, a methodology construct based on morphology was tried with reference to the functioning presented to the literature by Stiny and Gips (1972), Kunkhet (2015) and Wagner et al. (2020). Within the framework of morphology, analyzes can be made at morphological, lexical, syntactic, semantic, and pragmatic levels (Kunkhet, 2015, p. 45). Algorithms can be established with morphological, dimensional and spatial analyzes. Thus, it is possible to classify the formal features of the examined object under various categories. At the level of the items or the level of relations, characteristics become evident. Many combinations of forms are encountered in design, but not all of them are meaningful. At this point, form grammar provides a way to identify the compositional principles of components. The central element that creates the relations between the form components can be determined. It is seen that the interface and details as well as the form features of the components, the dimensional features form the unity and determine the design language. A hierarchical algorithm can be defined that classifies the composition from the simplest level to a complex arrangement, representing the object in a geometric form consisting of points, lines and surfaces.

When the Mihri Rasim Monument is decomposed into two-dimensional elements at the morphological level by word formation, it is seen that the point escape is constituted by the central element of the monument. While the *brush track* provides linear continuity, the *pedestal* and *elevation* are volumetric elements that support the upward trend. When the structure is examined in terms of space, it is seen that the corten plates are disintegrating into components of different sizes, representing the gaps between the elements and the

transitions in the life cycle. When the syntactic construction is examined at the syntactic level, it is concluded that the act of combining provides a boundary in the connection of the wooden bar elements with the shell representation, emphasizing the fragmentation and rhythm and the transitions in the life cycle. In the context of geo-references, it is seen that the monument forms a center in the proposed area in Gülhane Park, and the effect spreads to the borders of the competition area with the brush trace. The items are legible due to cartesian orientation and material differences within the system. The base differs with the reinforced concrete base, and the crust and elevation differ depending on the wood-corten sheet material difference. According to Heidegger (2011, p. 113), it is the material and formal in the object that gives essence or durability to the object as a work and determines the style of its sensory concentration. The object is the formed material. Formal fiction emerges at the intersection of material options, production possibilities and value system. From a functional point of view at the pragmatic level, it is seen that the attributes consisting of color, texture and material define this distinction. Likewise, the transport principles of the structure are also effective in the sense. All components press on the sloping reinforced concrete base that expresses the conditions of the rugged world in which Mihri Rasim lives. Both the roughness that defines the *borders* and the *elevation* that represents Mihri Rasim's breakthroughs cling to this base. When the resulting structure is evaluated in terms of its effect overall, it is seen that it exhibits a rational form language that does not include figurative expression (Image 9). It is confirmed that consistent inferences can be obtained in the deductive and inductive approach in the context of the meaning-tectonic relationship through the form grammar.

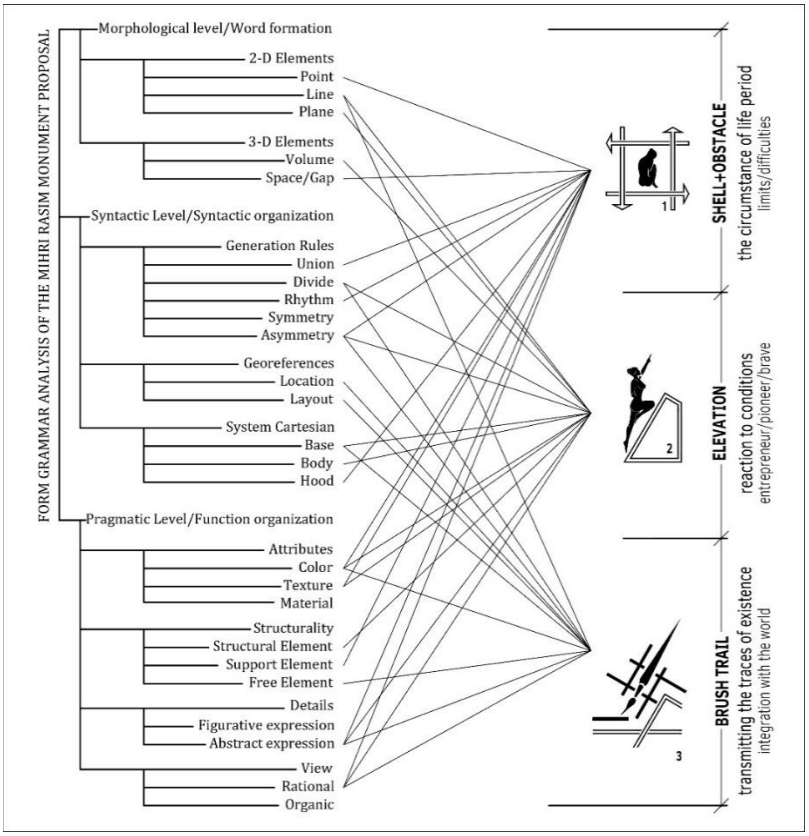

Image 9. *Examination of Mihri Rasim Monument proposal with shape grammer* (Image Source: Konkur Istanbul, 2023).

Therefore, the way of achieving unity includes the main idea that dominates the arrangement. Traces of the image are hidden in the spatial orientation of shape and form. At this point, the abstraction of order and complexity in the mind provides a coding. According to Arnheim (2007, p. 117), the stability of the form in abstraction is a variable depending on the set of values that enable the form to be distinguished in a composition. In perception, objects can be abstracted from their context, because the mind grasps data as organized structure rather than registering shape as a mosaic of elements. The notion of abstraction is provided through the order, diversity, and proportional balance of formal elements in three-dimensional space. When the equivalent of effective values in the perception of the object is sought with an inductive approach that progresses from the part to the whole, inferences can be reached through content and

elements. At this stage, findings that support the theory were sought, with an inductive approach, reaching from the part to the whole, and establishing the relationship between the values made visible in abstraction and the principles of design. As can be seen in the analysis of the other proposals submitted to the competition, the theoretical equivalent of the design values that have meaning, carries the structure beyond being an object and opens up a space for interpretation in a holistic order (Image 10).

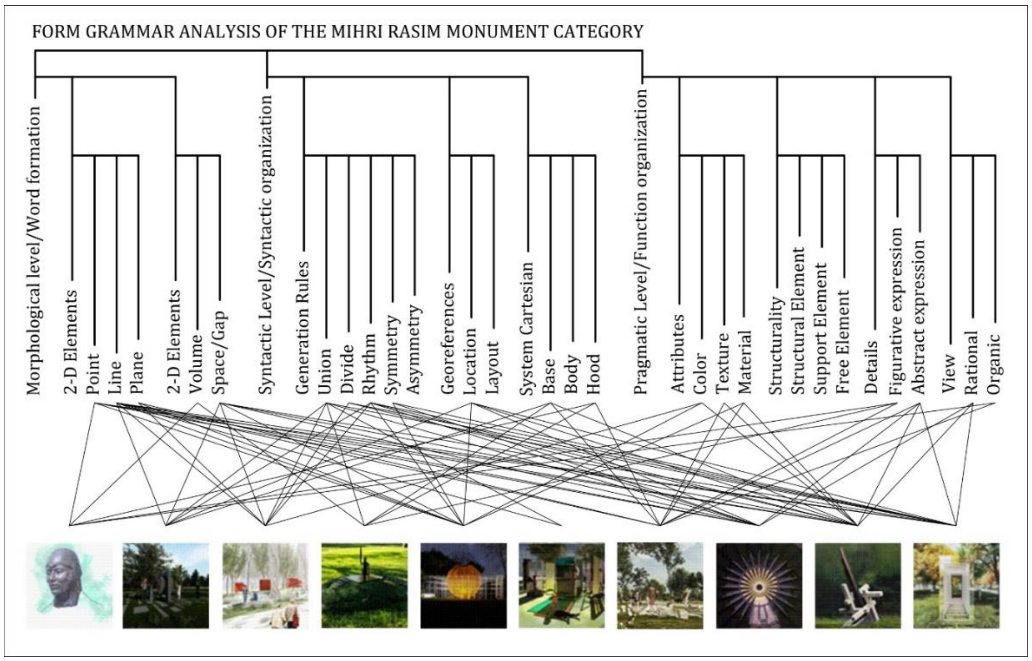

Image 10. *Examination of the artworks submitted to the competition with shape grammer* (Image Source: Konkur Istanbul, 2023).

5. Conclusion

In the intersection of art and architecture disciplines, in monument design, the connection between the order of elementary geometry that defines the form and the symbolic values conveyed in this way is the basis for the epistemic 'construction' of meaning. Structurality, in the context of making matter experienceable, is the vehicle for the representation of expression in the fields of action of both art and architectural ontology. In the search for the inference of the actual appearances of the object, the equivalence of the form is grasped in different semiotic ways in every age. Everything in a potential string of symbols of the universe may contain messages that attain abstract shapes through the form. The doctrine of this distinction discussed in the exemplary artwork is that the formal and intellectual values defined by form acquire implicit meanings. The resulting organization principles can be reconciled with the classification order brought about by the qualities which are active in perception. The meaning transmitted by form, with this quality, forms a viable pattern with discourses. For this purpose, an evaluation method based on collecting data, processing the data and obtaining the findings was followed by using the shape grammar method in a qualitative research approach. The principles of induction and deduction, which are the oldest but still actively used in hermeneutic analysis, are adapted to the study to evaluate the form and its contribution to the representation of meaning. Within the scope of the study, the semantic representation of the form and formal organization orders in the design of the Mihri Rasim Monument was examined based on the use of these reasoning processes in a cyclical order. In a deductive understanding that reaches from the whole to the part, the main idea of the design is questioned, and the functions of the elements are sought in the inductive approach, which seeks the equivalent of the whole in parts. The topological diversity obtained in the first stage was evaluated in the next stage, and it was tried to determine the different meaning values that the elements defining the form captured in the context. The form has been handled in terms of design elements and the organization of the elements, and the inferences have led to the conclusion that each element can have different forms of perception when used singularly and in a certain compositional order. Thus, the representation of meaning that the form can carry in the design models was examined in two ways with the readings in question, the consistency of the data was questioned, and the inferences were transformed into findings.

Yücel (1982, p. 5) argues that in all design processes in history, very few main forms existed, and the meaning of the form changed in design processes. At this point, the context makes the conditions for the formation of meaning visible. Although the establishment of the style refers to concrete qualities, the context is related to the meaning produced in the universal. Context is related to the part-whole relationship in the implicit ontological framework, sometimes in physical reality and sometimes in social reality (Koçyiğit, 2022, p. 764). Although the form gains the value of representation specific to its place in the context, the fact that the form has the same meaning every time has undesirable results. A plausible explanation of how the origin of a form can led to different significations and prevent it from being fixed to a meaning can be found in the Deleuze discussion of influence. The paradox of reappearing in isolation or of being repeated dryly, immobilizes the meaning that is expected to appear again and again (Deleuze, 2015, p. 49). Deleuze distinguishes here between effect and being affected. Influence is an intensity emitted by form; qualities vary according to the distinctive features of the form. The effect is unmediated, it can cause different effects on different people (Moussavi, 2011, p. 19). The interpretation of all these data is that the formal and intellectual values defined by the form gain implicit meanings. The meaning conveyed by the form diversifies with this quality and creates a pattern that can be verified by discourses.

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