

Landscape Design methodology in Form's origination

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Abstract: Organizing ideas and transferring them into practical models and sketches are one of the main duties of a landscape architect. Landscape designing ideas separated from the designer's mental imaginations, are made upon context features, programs and designer's Intellectual and philosophical attitudes. These ideas turn into physical and practical sketches and plans by using principles such as axes, movements, geometrical forms, hierarchies, structural elements, Private and public spaces, perspectives and views. Although there are limitations for designers to use patterns, in areas of function and technique, but they are free to express design in shapes. Thus, it could be said that the main responsibility of a designer in establishing a style is; creating the form. Form in a field of art, doesn't just mean its physical appearance, size and volume, but includes all of components which intervene in it's structure and composition. It is assumed that most of those above -such as a line in painting sound in landscape or a pause in music- do not have a clear description of themselves and find meaning when get organized in final production. So the main components are his form and space. It should be mentioned that there are differences between design methods and the references or methods which produce forms. Each designer may use a totally specific or spectacular method to design, but the created form can be analyzed with two mechanisms which is going to be investigated in this essay. The purpose of this essay is to find a mechanism which would be able to analyze different approaches of emerging forms in landscape architecture. By analyzing factors such as Fabric, Pattern, Shape and Geometry, finally we would compile or methodology in form's creation. With this knowledge, the landscape designer's thoughts would be organized and put into various models in which the created form and the local effects could be analyzed.

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1. Introduction

Landscape architecture and methods which are the origins of landscape architecture have a long history. From hundreds of years ago we could see landscapes which have been ordered(organized) and designed consciously such as landscape of religious places, temples, gardens (which are a symbol of heaven and paradise and also show our ancient relationship with nature) and parks which somehow show ideal forms of nature. If we would be able to identify the morphology of each landscape and afterwards consider it in our own cultural fabric and identify the processes which have shaped the landscapes, then we would be able to use this knowledge to make decisions about future application, conservation, management and development. Also, we can use patterns which have originated from certain changes and then analyze them from an aesthetical point of view. Therefore, effective processes in creating landscapes and the pressures and attitudes towards changes could be a response of our reactions and could be related to society's common values and

their own culture. But the final visual goal in each design is to make a balance between variety and united elements while the spirit of place is taken into consideration. Patterns and structures, compositions or landscapes are shaped with organization of a variety of various basically elements. Thus, it is essential to know more about that how forms are attained before we find possible methods to organize elements in the design process in advance.

2. Form

Form is the utility with which designers share most of their psychological and emotional desired impressions with the users of a space. As Hadi Mirmiran explains, "architecture is memorized by form and felt by space". Visual shapes, quality, scale, proportion and the form of a space is organized by its components such as floors, walls and ceilings and the person communicates with them in this surrounded space.

2-1.Terminology

In Americana encyclopedia, Form is defined and expanded as:

In Encyclopedia: form determines a number of different but related concepts, some for what is essential for our knowledge of reality... Philosophical usage of the term - metaphysics, epistemology, aesthetic – is more than other similar usages. With a simple look, form of a material object is its shape, as distinct from the material which object has. Also form is the order of a set of elements, separately from their hidden nature, distinct from the material that the object is comprised, for example, the spiral arrangement of atoms in a molecule or their geometric symmetry in a crystal in their organic organization, form is not just physical structures, but also a function of several physical performance. In social relations form is a scale or pattern ... also form is the structure which includes political and economical systems and other organizations, a simple definition of form cannot cover all these usages but a major means can be extracted of their pure internal relations.

Form is used in the meaning of shape, appearance and figure. In the Persian philosophical literature, the term “appearance” is used instead of ‘form’. Appearance is the aspect of an object which it is recognized by. Such as the form of a table which is shaped by the way that the lumbers have been connected and joint together and if we put them in another position they could look like a bed (couch) and different objects with different forms could be built of these lumbers.

In Webster World Dictionary "Form" implies within many categories, as noun within twenty categories, as transitive verb in seven categories and as intransitive verb in three separated categories. Most important of them are : 1) Specified shape of everything.. 2) Configuration or combination of a character of animal 3) Special state of being that something have, like water which obtains form in vapor state. 4) Arrangement, especially arrangement in an order, the method in which parts of a whole organize...and 19) Philosophy, Nature of something according to reality or inner character of it which makes the appearance special.

As can be seen from the definitions in Webster Dictionary, the philosophical definition of form seems to be more complete. Form in Webster Dictionary is defined as a general term. Although it has mentioned some synonyms, meaning of form includes all of them. These synonyms are: Figure, Outline, Shape and Configuration.

In philosophy it is expressed that “Figure (form) is separated from substance (component parts). This means that for instance the form of a cube could be made of different materials. So, form could be imagined as an abstract concept separated from substance and it could be shaped in the mind which is known as picture of mind or” image”.

2-2. Meaning of form in art

Form in art is definitely related to an artistic work. As it was discussed above, form is putting an object in practice and it is the objective matter of an object. Whatever in art is put into practice and becomes manifested is an impression of art or an artistic work. It should be mentioned that this impression presences in the mind of the artists before its manifestation (at the beginning of an artistic activity/creation). Form is a complete position (expression) of an artistic work (Ocvirk et al; 1990). In popular(cultural) library of art form has been described as: form is a term which is used for describing some aspects of an artistic work such as its inner structure (regulation/order) and shape. And mostly it is to some extent differed from substance, subject, content, function and artistic styles. The most valuable aspect that we value in an artistic work results from its connections (relationships) and proportions. Form is our subjective view about art. Anyhow, form is not just connections and proportions (between objects parts) and an artistic work is not just those either (Dic of Art, Vol. 11).

Wassily Kandinsky in his book, concerning the spiritual of art (1973) defines form” Every form is the delimitation of a surface by another one”. Victor Wassily in “Notes for a manifesto” states that form and color are a single entity (1970) and could not be separated. In popular(cultural) library of art these three “forms” are distinguished from each other and the entire uses in which the term “form” are used in art are defined and developed as below;

- I. Form as an organized rule (which is named as order, classification, arrangement and structure).
- II. Form as a shape, condition, ornament or a special arrangement of spaces of all kind and all dimensions (perceived by sight or by other senses).
- III. Form as a kind or type and variety and diversity.
- IV. the fourth description that should be added: Form as a basis for actions, patterns or repeatable incidents which are mostly created by the classifications of the third part.

In the two first meanings we usually talk about the form of an art work (the unique form of an art work), but the two later meanings are seen as the art work as an example of a form (pattern) (the kind of an art work). But there is also a common use which is separated from those above; form as a practical and identifiable existence in the area of art works (Dic of Art: vol.11).

A complete art work is created upon four united entities; form, content, subject and substance. Sometimes substance is being ignored because of

similarity (such as color and canvass in paintings). It should be considered that in applied arts these entities are different: form, substance and function. In applied arts, in addition to aesthetic dimensions, an art work is used as a useful object which is practical and has functions as well. The difference between subject and content is that the subject of an art work is a general narrative (story) which the artist chooses between various events and phenomena; and the content is the preferred message or it is something that will be revealed in the subject and is confirmed in the art work. In other words, subject is a figure which the artist chooses to express its meaning (content). The artist chooses an appropriate appearance between perceivable appearances to express the content. So the subject itself has a form and could be an aspect of the form of an art work.

2-3. Form and Architects point of view

Although the aim of this article is to get to different approaches in form origination in landscape architecture, but it is necessary to analyze architects and landscape architects points of view in order to get to a right perception about form. The term "FORM" has a good academic background in architecture which we will discuss in continue.

In "Architecture, Form, Space and Order" Francis Ching states shape as below;

'Shape is a surrounding line of a surface or a visible volume and it is the main element to recognize an object' but Behrooz Mansouri (Mansouri, 2004) has five descriptions about 'form' in his article named¹:

1. Form is a composition, an arrangement and formation of components which have set together, such as the arrangement of elements which combine together in order to create a complete composition. For instance; the combination of musical notes or the shapes which combine with each other in a painting. A proper form should have dimensional proportions, scale and harmony.
2. Another description of form emphasizes on non-conceptual aspects and it is applied to objects that directly catch our senses.
3. In the third description, form is a concept which expresses the existence of an object and makes it different from other objects. This description of form emphasizes on the objective aspect of an object which could be observed its appearance or outer shapes. This is what we call it Morph (in Persian literature).
4. In the fourth description, A Form is the purest essence of an object which causes its perfection. In this description, form is a content. This is the same with the Plato's description of form; 'Form is an entity; it is a true reality superior to superficial and perceivable realities of man.

Which all these human ideas would exist in ideation world (EDIOS) and mankind can only follow these ideas in order to reach perfection.

5. In the fifth description, Form is a definition which our mind builds for us and with this definition; mind can establish a structure over our sensible world. Kant's criticism on theoretical wisdom, describes form as human's ability to perceive as it was initiated from the past. From this definition, it can be said that forms are human's mental issues.

In a general conclusion, Mansouri asserts that the meaning of the terms 'shape' and 'form' are close together. Both of these sometimes refer to organized and shaped elements and other times refer to how elements are organized and how they are shaped or they express the sort of connection between elements. In a systematical approach to architecture both of these terms are really important. In both of the terms we deal with substantiality and tangible aspects of architecture.

Grueter describes form as a sensible and clear manifestation of a phenomenon which faces judgment. He emphasizes that in opposition to form, shape is two dimensioned and independent of time and place. He declares: "form is a structure, development of content, shape and interpreting it, form or figure could indicate color, shape and dimension, structure, body, location, direction, visual balance, material, location and etc. Thus, shape is not equal to form and feature, but it is just one of form's aspects besides other aspects".

3. Form in Landscape Architecture

Form in landscape architecture is a final and visual expression of numerous powers which affects outdoor spaces design. The site (the location where the building is being constructed) itself expresses its opportunities and limitations. The landlord and the engineers have their own obligations and at the same time the potential users are looking for comfort and beauty. Form in landscape is a skilful composition of all mentioned powers.

Grant W.Read presents the imagination of this skilful composition as the key to achieve a desired form. He suggests that form and function are the two critical elements of this process. Some believe that form follows function, it means that form is a consequence of a primary analyze of functional attributions. Some other also believes that form has its own genuineness which could affect the ways which a site is used. He believes that form is a compounded part of a function and this reflect in both opinions.

In order to design desirable and meaningful environments and landscapes, first of all we should recognize factors which have an effect on form. Meanwhile we should know the meanings which each of these factors explain. Rapoport believes that in most

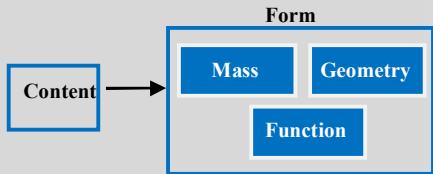

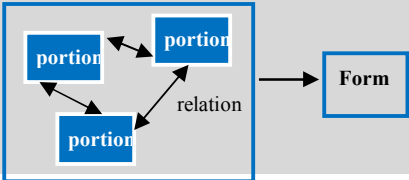

cultures, there are three main factors which affect the design progress:

- i. Physical features and conditions such as the site, climate and etc.
- ii. Perception, cultural attributes, inclinations and ideologies which have built the philosophical bases of culture and shape the main inclinations about concept of man, his relationships, nature and cultural paradox, economics, time and etc.

- iii. Available resources and technologies in order to reform existing conditions and also recognize cultural attitudes and perspectives.

In communities such as ours, the fourth factor should also be taken under consideration: aesthetical aspects, proportions and visual qualities such as aesthetic and artistic features in landscape are included in this category. Inspiration, conceptualism and locality in landscape are the goals of the fourth factor.

Table 1: Architects different approaches in describing form

| Architects and Researchers | Approaches(Tendencies) |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Louis Kahn | Form impressed by content  |
| Ching | Form impressed by volume  |
| Behrouz Mansouri | Form impressed by components and their relationship  |
| Greuter | Form impressed by tangible appearance  |

3-1. The necessity of applying form theory landscape design

Regarding to Turner's opinions (2001), we can categorize the difficulties of landscape design after the nineteenth century and aspect dimension of landscape design which are related to form will be brought forth for discussion (social, cultural, ecological and aesthetical):

In the classical period(1800) designing simply became to disappear at the time following nature meant designing the gardens based on experimental interpretations of natural forms (which exist in the nature). Thus, art seemed to be artificial. nature was irregular and unorganized and gardens became concretized.

While the theory of landscape restoration began at the late of nineteenth century, reformers(such as Goder) paid more attention to social functions and ecological processes this led to a separation between designing, planning and landscape from fine arts and

this caused an inattention in form as a specialized subject in landscape.

After 1954, landscape designers integrated in order to work on functional aspects of modernism but this union was mortal. Efforts to reflect that form functional requirements caused a figurative revision in developing new design skills.

Plan based designs, such as the SAD (Survey-Analysis- Design) method, encouraged planners to consider landscape design as a two dimensional design with few perspectives.

During the twentieth century, social, ecological, political, literal and artistic issues in landscape designing remained separated from each other. Landscape was known as planting and the role of designers in composing 5 elements of outdoor spaces, land forms, forms of landscape elements, buildings, aqua, vegetation and pavements was ignored.

Generally owner did not have professional designers available in order to design places in a manner to seem spectacular and at the same time

supply their social needs and also to notice the desired ecological aspects. (Turner, 2001). But Post-Modernism abandoned this attitude from dependency on functionalism which was generally advantageous, and instead, post modernism considered subjects which had been ignored since the renaissance era such as humanism, emphasizing on history and historical aspects, historical memories and etc, these factors

makes trends to eclecticism. This idea that form can be manipulated without considering functional requirements caused a figurative revision in developing and evolution of new design skills (Antoniades, 1992). In table 2-1 professionals theoretical perspectives in landscape design has been represented.

Table 2 – The necessity of theoretical views in landscape design, source: Khakzand, 2009.

| Abstract of opinions | Theoretician | The necessity of theoretical views in landscape design |
|-------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------|
| Shape is not the goal in landscape design. Sources of creation are more important. | Terib, M., 1933 | |
| There are many conceptual and theoretical levels which are neglected in landscape design. | Morphi, 2005 | |
| Design thoughts , attention to opinions, relation between research and landscape. | Zovieh, 1986 | |
| The necessity of relation between correlation research and design process. | Newman S., 1973 | |
| Fear of abandonment of landscape design due to lack of legitimate scientific basis. | Zovieh, 1973 , Rapaport, 1977 | |
| To offer newer methods for SAD analyzing method. | Sasaki, 1950 | |
| To offer new strategies for Paklida design process. | Tetnur, 2000 | |

3-2.The role of Form in Landscape Architecture

If we define landscape as a system, in other words, a composition of elements which interact with each other, then it can be said that form can refer to both substantial parts (elements) and the connection between parts which keeps them together. But the systematical and detailed approach to landscape architecture has not yet been announced (except in a few cases). And most of the processes refer to the circumstances of carrying out the project or parts of the design.

Design's main questions cannot be eliminated by every vague effort scientifically but they can be explained by experimenting design results via scientific studies. Some researchers believe that designer's pre-imaginings make designing possible in fact and it is truly what makes its recognition of a design possible at the first place (Steadman, 1970).

Most of the landscape architects such as Patrick Godez have discussed about processes executive in landscape design (Hough, 1984; Lynch, 1972; Jellico, 1983; Mc Harg, 1969). In Espiren's opinion the landscape design process could be such as:

1. Collecting the listed data's.

2. Analyzing in order to assess landscape details , understand the patterns, perceptions and intrinsic processes in landscape.
3. Design creativity, form configuration (Espiren, 1998)

In Ingram's opinion principles such as color, line, shape, fabric and scale can be brought to landscape design and these are utilities which are used in a composition for the purpose of form emersion and these principles lead to the following stages in landscape design:

1. Preparing the plan
2. Presenting the site analyze
3. Assessing Families requirement and preferences
4. Assigning the activity zones
5. Designing the activity zones
6. Selecting plants and planting (Ingram, 2003).

Beardsley believes that when it comes to the design creativity, landscape designers must pay attention to some key principles such as the form which is they important. In his reflections landscape architecture has some principles such as;

- Style and content
- Quantity and balance

- Simplicity
- Uniqueness
- Color
- Fabric and profundity
- Profitableness(Beardsley, 2001)

4. Landscape Architecture assessment through an approach to form emersion

Mark Tribe suggests that landscape assessment could not be possible without considering three (main) factors; bio-environmental and formal (which is based on shape and space rather than style). Social harmony without considering place could lead to improper natural landscapes. capitulating climatic restrictions could also lead to undesirable (inelegant) natural landscapes with the absence of human beings. In the opinion of Mark Tribe, as we cannot accept any changes in classifying form in landscape in to two formal and informal categories, landscape designing methods should be considered in three directions(aspects);

- Formal(including space-shape and material)
- Cultural(including historical-social aspects and behaviors)
- Environmental(including ecology, hydrology- gardening and natural processes)

In the recent years, in the midst of 1980, landscape by patterns was established and it was defined by artificial and natural materials and limitations in the shapes of trees and plants which have attracted a lot of attentions. In most parts, the designs have produced clear approaches of these outstanding images and the techniques are used in order to build and experiment form and order in the environment. These landscape designs, might be elegant or inelegant, pure or compounded, exclusive or for public and they might be designed for various countries with different ecologies and industrial components.

In this article, the first method would be taken into consideration. But before discussing the subject it is necessary to take a look at factors which put an effect on form in both architecture and landscape architecture.

1. Functional factors-function, circulation, light, sound, connections and etc.
2. Natural and climatic factors- slope, topography, water, wind and rain and etc
3. Constructional factors- techn o tic, technology, material and etc.
4. Spiritual and cultural factors- culture, myths, faith, religious beliefs and etc.

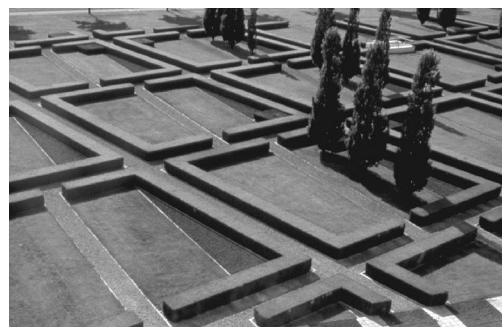


Image 1: kampinsky Hotel, Munchen, Germany, Peter Walker and partners, 1994. Source: Treib, M., 2001.

By knowing these four factors, now we can categorize the form origination approaches into two classifications.

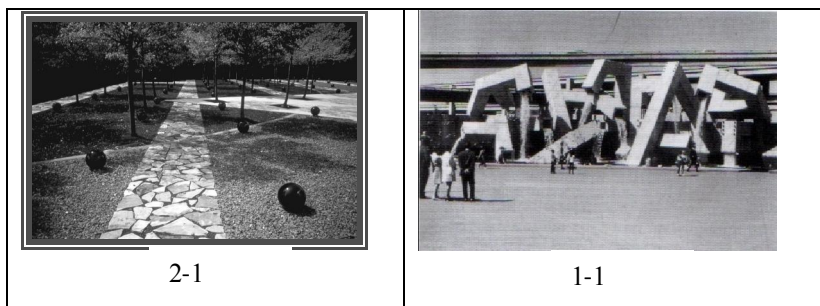
- In the first category are those who try to complete the project by considering general and logical concepts towards a design with specified forms. This is method which is logical and organized in most parts. Geometry and function which are the bases of this structure join together and change to a method which takes form into consideration.
- The seconds are those who look for metaphors and special concepts in their method and try to come to particular and different forms (second method) which are abstractive and naturalistic. (shape 1)

The first method is based on logical and geometrical forms which are. The elements, relations and connections follow the absolute regulations of intrinsic order which in mathematics they exist as different geometrical shapes. (Image 1) But in the second method and in the opinion of the romanticisms, geometry is boring, awkward and unpleasant and they want to bring meaning to their designs. They come about their desire by an illogical and an intuitional approach, by using naturalistic forms. (shape 2)

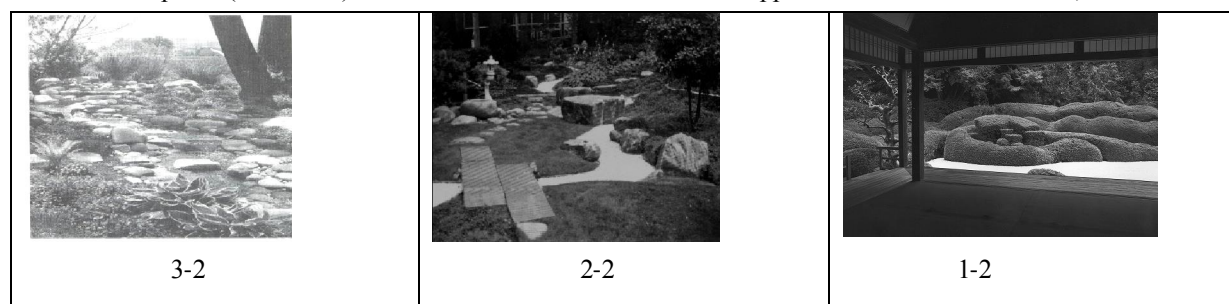
Here, we should mention that both of the methods have a intrinsic structure and it is not necessary to separate them through structural aspects. For instance; the passion at using accidental forms is to experience some hidden aspects of an absolute order, as in a circle. But even a circle can have a shapeable diversity. Take a look at the circular forms of the bubbles which have put and stringed together accidentally.

The shapes might seem mixed, meaningless and accidental but in the opinion of users who are looking for joy and excitement they seem more attractive.

Shape 1: (1-1 to 1-2) Abstract and nature oriented forms with approach of using geometric forms. Source: Reid. G. W., 2007.



Shape 2 : (2-1 to 2-3) Nature oriented forms with intuitive approach. Source: Reid. G. W., 2007.

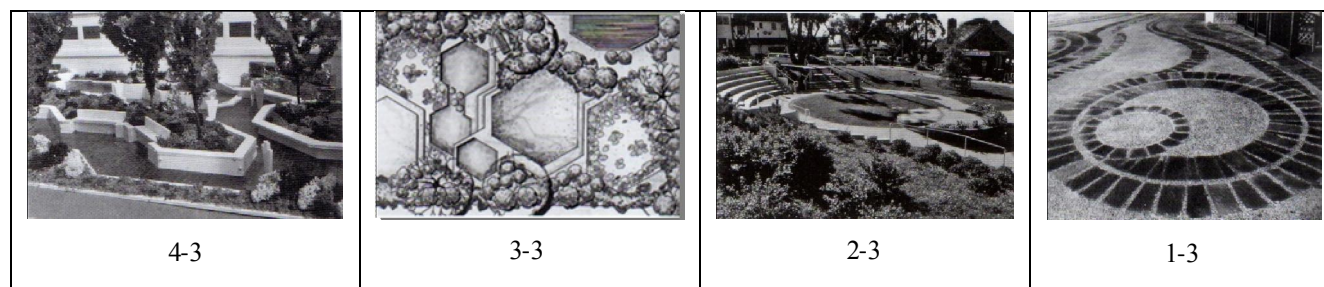


4-1.The geometrical-functional approach

By repeating the simple geometrical forms (deprived from geometry), a form with a high integration would be achieved. By changing scales and locations, even with very simple and primary forms we can lead to various interesting forms. The first point in creating geometrical forms is to use the primary shapes (square, triangle, circle) and each of these primary volumes (shapes) are derived from the secondary themes which are listed below. (Shape 3)

- The Rectangular (90 degree) theme which is an independent shape
- The 45-90 degree theme
- The 30-60 degree theme
- Various types of circular shapes(circles crossing each other, circles and radius, circles and tangent lines, parts of the circles, ellipses and spiral forms).

Shape 3: (3-1 to 3-4) Samples related to geometrical-functional approach. Source: Reid. G. W., 2007.



4-2.The abstract-naturalistic approach

There are different shapes and images in the palette of nature which can be used in the designs. The shapes may be an imitation or an abstract of the natural forms or they may resemble nature. Imitation copies the existing shapes of the nature without much change. Thus, a city built by human might resemble a mountainous stream.

On the other hand, an abstract is a natural shape which has been used for inspiration and it has been changed and adapted by the designers in order to proportionate a special condition. The final shape has a slight resemblance with the original subject (shape).

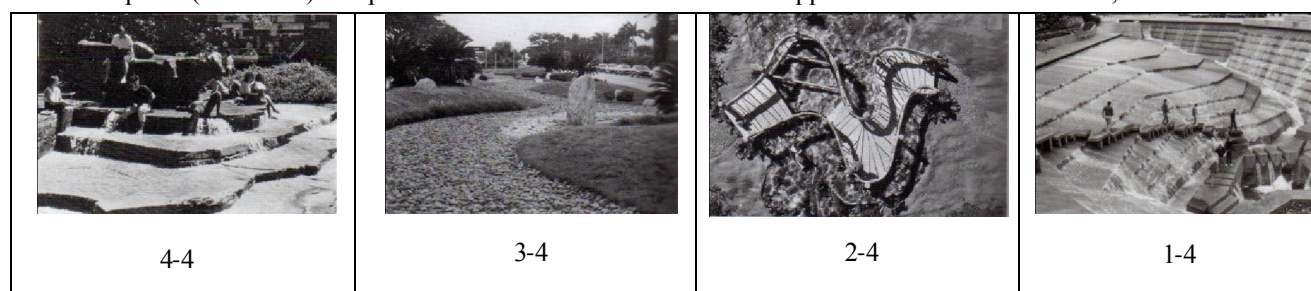
There might be a lot of reasons which make the designer to decide to choose shapes that are more natural and irregular rather than totally regular geometrical shapes. This also might be true for the site as well; landscapes which are disorganized by human interferences in the nature or landscapes which have attractive natural details might be more adapted to natural forms and materials.

The durability of the relations between the built environment and natural environments is related to the designer's method and the intrinsic conditions of the existing place. Depending on nature, this relation is discussed in three stages. The first stage is the essence of ecological design. Here, not only the basic processes of nature are identified, but human interventions must have the least effect on the ecology of the place and they must have vital and life giving or productive effects on the outcome.

The second stage arouses the feeling of natural environment without a complete system of natural processes. Artificial controls such as pumps and ladles and watering systems keep the plants and herbs fresh.

In the third stage, there is less relationship with the nature and there is not much similarity between the designed space and natural processes. The designed space is mostly built of man-made materials such as sand, glass, brick and wood. Shapes must follow an order through this artificial structure.

Shape 4 : (1-4 to 4-4) Samples related to abstract-nature oriented approach. Source: Reid. G. W., 2007.



5. Form variation

Another important note in the methodology of form creation which is profitable is form variation. Form variation is the process of changes of forms in which the form is finalized by responding to inner and outer motivations (Antoniades 1991). Form variation has been the fundamental method of giving finishing touches to forms since classical era till now. For instant; a form could change by cutting one or some of its dimensions but still has its (formal) identity. For instant; a triangle could transfer to other prismatic forms by changing its height, length and width. Also it can transfer to a planar form by getting pressed or it can develop to a linear form.

Now, we are in conditions that we should present and discuss all possible approaches to this strategy and examine each of them. It can be said that no one as Antoniades has examined form variation so profoundly. Antoniades believes that it has three main strategies which are discussed as below.

5-1. Main strategies in form variation

There are three different methods in the variation of form:

1. The Traditional method: form's gradual evolution of form takes place through adapting each stage with limitations such as outer factors (such as site, views, directions, dominant winds, environmental problems), inner factors (such as functional standards, structural and physical planning) and artistic factors (such as the designers ability, will and approach towards changing the form along with the costs and other functional standards). This method, itself brings some restrictions in an unlimited form selection. Although this method defines and describes the figure, yet it restricts the possibility of new visual outcomes. By supposing a formal container (such as a cube) as a proper volume constantly, even if variations could occur in response to restrictions, the final outcomes are predictable. If the designer acts like a computer with the ability to calculate and identify the results and consequences of form's variations-regarding restrictions- then the results would always be the same.
2. Adaptation: the possibility to acquire formal movements in painting, sculpture, objects and other artificial products and learn from their two-three dimensional aspects, while considering their

efficiencies and capabilities. Adaption is an expression of "illustrative transfer" which can also be expressed as an "illustrative metaphor". As a painting turns to a background in which the process of formal changeability in landscape origination can take place, it is obvious that the second category makes the formal changeability possible through unrelated forms (such as a non-landscape painting). This is unacceptable in the theoretical aspects of traditional changeability when it comes to science, biology, mathematics and the theory of recognition.

3. Deconstructionism: is a process in which a supposed volume could become detached in order to find new solutions to compose (its) various parts and through this, the possibility of the origination of new forms.
4. would increase and new arrangements of compound (strategies) and various structured strategies would be available. Thus, a new composition would be created. In order to find a general infrastructure to help him understand and assess different strategies in formal variations, Antoniades turned to the ideas of the famous Biologist, Dorothy Thompson (1860-1948) in her popular book, *about Form and Growth*. In Thompson's opinion, form's variations is the phenomenon and process in which form changes in conditions which make changes. In his point of view, there are two possibilities for form description in any specified time:
5. Descriptive: through alphabetical applications
6. Analytical: through numeral applications, mathematics and Cartesian coordinates.

The direct relationship between this theory and architectural form could be understood immediately, because form in architecture could also be described

by a word which is known as the "narrative method". Also, it could be described by mapping which are the extreme limits in form description in architecture. (Table 3).

Table 3 : relationship between architecture and biology.

| Biology | Architecture | Description |
|-------------|--------------|---------------------------------------------------------------------|
| Descriptive | narrative | Through alphabetical applications |
| Analytical | illustrative | Through numeral applications, mathematics and Cartesian coordinates |

Afterwards, Antoniades identified a relationship between form in architecture and form in biology. He understood that the comparison he made between Thompson's descriptive/analytical methods with the Architectural narrative/ illustrative method was not absurd. No matter what sketching might seem abortive (ineffectual) and undisciplined (irregular), it produces legibility and clearness which produce unlimited flexibility to achieve perfection. Finally he found that formal variations are a visual action which is independent to any other scientific fields. In a comparative study between biology and architecture in form's variations, Antoniades analyzes six standards of related forms, unrelated forms, narrative, illustrative, accepted experiments and new enforcement frameworks with four natural, obligatory, strong and weak indexes. In defining form in landscape and its methodology in form origination, the field of architecture assisted us, as Biology had assisted Antoniades, now we will make a comparative comparison between form variations in the fields of architecture and landscape (Table 4).

Table 4 : Adaptive analogy in variability of form in architecture and landscape. Source: Authors.

| | Related forms | | Unrelated forms | | narrative | | illustrative | | Accepted experiments | | New frameworks | |
|------------|------------------------------|--------------------------------------|-----------------------------|----------------------------|-----------------------------------|------------------------|--------------|------------------------|----------------------|------------------------|------------------------|------------------------|
| | Architecture | Landscape Architecture | Architecture | Landscape Architecture | Architecture | Landscape Architecture | Architecture | Landscape Architecture | Architecture | Landscape Architecture | Architecture | Landscape Architecture |
| | From one building to another | From nature to the built environment | From painting to a building | From painting to landscape | Describing a form in architecture | Describing a landscape | | | | | Structural limitations | |
| natural | ● | ● | | ● | | | | | ● | ● | | |
| compulsory | | | ● | | | | | | | | ● | ● |
| strong | | | | | | ● | ● | ● | ● | ● | | ● |
| weak | | | | | ● | | | | | | ● | |

6. Conclusion

In this article, different approaches to form origination in landscape architecture were discussed. By not considering (being free of) detailed factors which could be effective in every design process, we came to the two "geometrical - functional" and "abstract - naturalistic" approaches in landscape design. The geometrical-functional' approach apart

from its inspirational source could be analyzed based on Euclidean geometry and secondary themes such as the 90 degree theme, the 45-90 degree theme, the 30-60 degree theme. The 'abstract-naturalistic' approach leads to existing forms in nature and irregular shapes in order to restore (gain access to) order.

Although, sometimes it might be questioned that how can a production of a conceptual meaning appear

as a geometrical model or as a model with a natural form. To answer this, it should be mentioned that this research is based on a practice-Theory attitude and this question will be answered through a Theory-practice attitude.

The importance of form variation which would result as one of the mentioned approaches above was discussed. A variation in landscape (architecture) is a new topic in design theories of landscape studies. By recognizing the mentioned approaches, the designer's thoughts will be organized and put into different models in order to analyze the produced form and the special effects. As mentioned in this article, theorizing concepts such as form in landscape architecture is much more restricted than architecture. We hope that this article would help landscape designers to find new researchable methods in the design process.

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