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ARTISTIC PLANT REPRESENTATION TECHNIQUES IN LANDSCAPE ARCHITECTURE

ABSTRACT

In all the artistic branches, "abstraction" is a common concept. Abstraction is the formation of objects that exist in nature and the information about these objects in the intellectual dimension, undertaking new meanings. In other words, abstraction is the interpretation of reality in a creative way. The objective of the present study is to determine the way abstraction is perceived in landscape architecture studies. In the study, how the plant displays used in Landscape Architecture works could be abstracted artistically. In the first stage, the visuals of selected plant species were examined by the authors based on size, form and texture, and artistic abstract representations were designed using different geometric forms. In the second phase, a survey was conducted on the designed artwork with 50 experts in the fields of architecture, landscape architecture, interior architecture, fine arts and painting. In the survey, the participants were asked to evaluate the artwork from an artistic perspective. At this stage, adjective pairs were provided to the experts and the representations were rated based on these attributes. For this purpose, a survey with the 5-point scale Semantic Differential Scale was determined as the method of this study. Finally, artistic plant representations expressed in abstraction were predominantly described with attributes such as creative, original, modern, etc.

Keywords: Art, Landscape Architecture, Abstraction,
Plant Representation, Creativity

PEYZAJ MİMARLIĞINDA SANATSAL BİTKİ GÖSTERİM TEKNİKLERİ

Öz

Tüm sanat dallarında "soyutlama" ortak kullanılan bir kavramdır. Soyutlama doğada var olan nesnelere ve bu nesnelere ait bilgilerin düşünsel boyutta biçimlendirilip yeni anlamlar yüklenmesidir. Başka bir deyişle soyutlama, gerçekliğin yaratıcı bir biçimde yorumlanmasıdır. Bu çalışmada da Peyzaj Mimarlığı tasarım çalışmalarında kullanılan bitki gösterimlerinin sanatsal olarak nasıl soyutlanabileceği araştırılmıştır. Farklı ölçü, doku ve biçime sahip somut bitki türlerinin sanatsal soyut gösterimleri hazırlanmıştır. Oluşturulan çizimler; mimarlık, peyzaj mimarlığı, iç mimarlık, güzel sanatlar ve resim bölümlerinden 50 uzmana gösterilerek sanatsal açıdan değerlendirmeleri istenmiştir. Bu aşamada uzmanlara sıfat çiftleri verilmiş ve gösterimler bu sıfatlara bağlı olarak derecelendirilmiştir. Bu amaçla, bu çalışmanın yöntemi olarak Semantik Diferansiyel Ölçeği ile yapılan 5 dereceli anket kullanılmıştır. Sonuçta soyutlamayla ifade edilen sanatsal bitki gösterimleri; yaratıcı, özgün, modern vb. sıfatlarla tanımlanmıştır.

Anahtar kelimeler: Sanat, Peyzaj Mimarlığı, Soyutlama,
Bitki Gösterimi, Yaratıcılık

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1. INTRODUCTION

Abstraction is the process of acquiring knowledge to achieve abstract concepts. The abstract concepts are of great importance. Because it is difficult, even impossible, to arrive at the knowledge of the essence and truth of events without abstract concepts being obtained. Concepts and notions that are mainly used to establish the basis of ideas are created through abstraction. Thus, it could be argued that abstraction is a necessary method in the process of acquiring knowledge. Abstraction could also be defined as an act of separating what is inseparable through thinking (Thomson, 1979; Worringer, 1995; Bulat, 2014). In this context, connection abstraction and art are associated, because art is about constantly controlling the reality of what is yet to be determined. Only an individual could determine the limits of abstraction, so we can think of it as an entirely personal activity. Similar to imitation and emulation being personal interpretation of the reality, abstraction is also a creative and artistic interpretation of reality. The form created through abstraction is a tangible entity of abstraction. The artist can transform the world into a geometrical form by perceiving and abstracting it. Thus, abstraction, which is a powerful method of visualizing knowledge, is privileged (Atalay, 2007).

It is difficult to work by viewing the nature, the artist can give form to what she or he recalls after she or he views the nature. This requires a process, our mind has to leave the excitement behind before copying it (Lynton, 1991). In other words, the forms are produced after being reformed in the mind of the artist, and thus, abstracted. Along with the image, the information about the object is also abstracted. As a result, the object is reproduced with a new meaning and form. This new existing abstract object contains both creativity and the reality of the nature (Edgü, 1986). To externalize the images created in the mental process of design, certain graphical expression techniques are used; the image created using these techniques could be realistic or it could be an abstracted creative image. The importance of the utilized expression techniques in the design process is significant. In landscape architecture education, students learn to create wholes by combining plant specimens in different sizes, forms, textures and colors and to define spaces by bringing plants together, in other words, they learn planting design. Planting design is an art born out of the triple relationship between nature, individuals and the society (Walker, 1991, Deussen, 2003, Yıldırım, 2000, Kurdoğlu et al., 2008).

In the process of planting design training, the students should learn and implement certain design principles and techniques while creating the wholes. During this process, they use a variety of expression techniques (Schumann et al., 1996). The plant displays are designed based on the differences in line, form, texture, color and size resulting from the morphological characteristics of the plants. Several artists have visualized trees (Oppenheimer, 1986; De Reffey et al., 1988; Holton, 1994, Evans, 1996, Weber and Penn, 1995). Most of these are realistic visualizations, however only few studies abstracted plant displays. In this context, the objective of the present study is the abstraction of plant displays that are expressed with different expression techniques in environmental design project and planting design education processes, which are significant in landscape architecture departments, as two dimensional drawings.



2. RESEARCH SIGNIFICANCE

Art is a form of existence, creativity, passion, expression of thought, and an inward look. Sometimes, it is a transfer of reality into the dream world. It is to live and let live through the work designed. Inter-disciplinary communication between the arts and the artistic branches that possess the abovementioned concepts has increased a great extent during the recent years. All branches of art such as painting, music, sculpture, and cinema have established close associations with the occupations of architecture, interior architecture and landscape architecture. In all these artistic branches, "abstraction" is a common concept. The original aspect of this work is that plant material, which is important for landscape architecture, is abstracted as a display technique. The plant display studies that have already been done are real; the difference of this study is the use of abstract plant representations. Another important aspect is that these abstractions were inspired by the true appearance of the plants. Another important aspect of the study is that the abstractions made are artificially appraised to the experts, and the identification of visual expression techniques with the arts.

3. MATERIAL AND METHOD

3.1. First Stage

In the present study, only the visual potential of plant species was considered and the evaluation of ecological properties was excluded from the scope of the study. Plant species were selected from Angiosperm and Gymnosperm plants; trees, small trees, blush groups. A total of 6 species were selected from each group including 1 coniferous and 1 broad-leaved species (Figure 1). At this stage, the images of the selected plant species were examined by the authors based on size, form and texture, and thus, they were abstracted using different geometric forms.

3.2. Second Stage-The Questionnaire

Plant abstractions that were conducted by researchers at this stage were presented to 50 experts from departments of architecture, landscape architecture, interior architecture, fine arts and painting departments, 10 experts each. The method of the study is questionnaire with the semantic differential scale. The use of such differential scales was developed by Osgood (1975). This scale is expressed with the scale consisting of opposite adjective couples. In the questionnaire, they were initially asked to determine which abstraction they liked the most, and then, they were presented with adjective pairs (creative-uncreative, modern-traditional, interesting-uninteresting, abstract-concrete, aesthetic-unaesthetic) to score the drawings on a 5-point scale (1-negative, 5-positive). Thus, the drawings were evaluated based on an artistic perspective. SPSS(v.23.0) was used to evaluate the survey results in terms of statistics. First, for each abstraction, percentiles and frequency values of adjectives are determined, and then a Correlation analysis is performed to determine the relationship between adjectives and preferences.







Abstractions of Gymnosperm Plants	Abstractions of Angiosperm Plants
Blushes	
<i>Thuja plicata</i>	<i>Rosmarinus officinalis</i>
	
1	2
Small Trees	
<i>Chamaecyparis communis</i>	<i>Ilex aquifolium</i>
	
3	4
Trees	
<i>Sequoia sempervirens</i>	<i>Acacia dealbata</i>
	
5	6

Figure 1. Selected plant species and their properties

4. FINDINGS AND DISCUSSION

4.1. First Stage Findings

Abstract plant displays designed by researchers are examined in Figure 2.

4.2. Findings of Questionnaire (2nd Stage)

4.2.1. Preferences and Differences in Semantic Values in Abstraction Planting Designs

Which one was preferred among the 6 different plant abstractions and which adjectives were preferred the most and the least for each drawing were determined. Abstraction no. 5 was the most preferred alternative, preferred by 6.3% of all users, while Abstraction no. 2 was the least preferred alternative, only preferred by 1.7% of the participants (Table 1). At this stage, X^2 tests were performed to test whether the answers were significant using SPSS (v. 23.0). The results of X^2 -tests indicated that all categories were statistically significant ($X^2=11.400^a$, 5df, $p<0.01$). Based on the abovementioned findings, the difference between the preferences of the experts about the displays was significant.


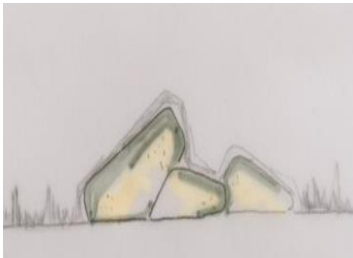




Abstractions of Gymnosperm Plants	Abstractions of Angiosperm Plants
Blushes	
	
1	2
Small Trees	
	
3	4
Trees	
	
5	6

Figure 2. Formal assessment of abstractions

Table 1. Preference for plant displays

	Frequency	Percent	Cumulative Percent
Abstraction 1	8	2.7	13.3
Abstraction 2	5	1.7	21.7
Abstraction 3	10	3.3	38.3
Abstraction 4	10	3.3	55.0
Abstraction 5	19	6.3	86.7
Abstraction 6	8	2.7	100.0
Total	60	20.0	

As a result of the conducted semantic differential evaluation, the "creative", "abstract" and "aesthetic" adjectives received the highest scores for all abstract designs (Figure 3). The adjective averages were also high for the most preferred abstract no 5. The least preferred abstract no. 2 received the lowest scores, but it still scored over 3 points. As a result, the experts liked all abstractions; all received similar adjective scores.

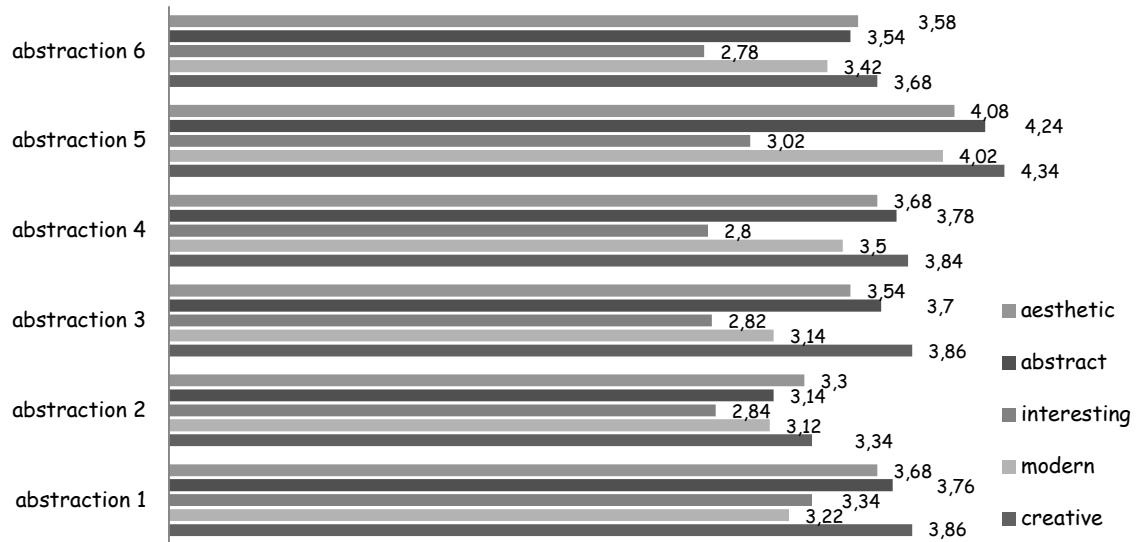


Figure 3. Evaluation of abstractions based on adjectives

4.2.2. Correlation Analysis

Correlation analysis was used to determine the correlations between the adjectives in the preference of different drawings. As seen in Table 2, the most positive correlations were between the adjectives of "creative and abstract", "abstract and aesthetic", "creative and aesthetic" at the positive 1% level.

Table 2. Correlations among the adjectives

	1	2	3	4	5
(1) Creative	-	.868**	.812**	.949**	.928**
(2) Modern		-	.827**	.869**	.885**
(3) Interesting			-	.809**	.851**
(4) Abstract				-	.943**
(5) Aesthetic					-

**The correlation is significant at the level of 0.01 (2-tailed)

5. DISCUSSION AND RESULT

Similar to all disciplines that include design and creativity, the utilization of methods that aim the students-designers to acquire artistic and design skills are quite important in Landscape



Architecture. The present study that scrutinized the relationship between the abstraction method and the processes of design, art and creativity aimed to determine how the abstracted plant representations are perceived from the artistic point of view. Abstractions were mostly perceived as "creative", "abstract" and "aesthetic". It was also found that the displays abstracted with angular geometric forms (abstractions 1, 3 and 5) were more appreciated when compared to those abstracted with organic forms (abstractions 2, 4 and 6).

Based on these results, it could be argued that abstraction could be used as a creative, aesthetic and modern method in landscape architecture education design courses. As a design and presentation tool, abstract plant displays can be designed and used by students and designers. In conclusion, developments in the field of visual arts, at the time when several disciplines complement each other, bring about different approaches in landscape architecture education. The basic design and project courses that form the basis of visual arts are expected to enable students and designers to draw the objects they see in two dimensional form and conduct creative work based on design principles. The student-designer, who grasps the language of art or design, can visualize any design of an object via abstraction. Through abstraction, students and designers will be able to use the elements and principles of artistic arrangement in an adequate manner. Furthermore, it could also be argued that abstraction provides a creative approach that could transform the concepts to the visual by emphasizing the cognitive processes of the designer.

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