The Role of Symbolic Architecture on Aesthetic Judgment: A Cross-cultural Investigation on the Perception of African "Calabash" Figure

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ABSTRACT

The main purpose of this study was to examine the viewer's opinion about aesthetic judgment related to the individual feeling that is transferred through the designed object to the viewer and that shows the effects of cultural differences on aesthetic judgment by comparing the liking rates of African and Turkish participants on various symbolic structures. Two groups of participants were selected for this study: African professionals (architects, planners and urban designers) and laypersons who had information about African culture and its effect on design elements. The other group was Turkish architects and laypersons who did not have any information about African culture and its effect on design elements. This study was carried out on a sample of 150 subjects (25 African professionals, 50 African laypersons, 25 Turkish professionals and 50 Turkish laypersons). As a very important cultural value in Africa, the "Calabash" was used as the reference. Three architectural structures that have been designed with reference to the "Calabash" were used. According to the results, there were differences between the liking rates of African and Turkish participants: African laypersons as well as architects were impressed by symbolic structures and their cultural effects and they evaluated these three structures to be more impressive than the Turkish participants. After giving information about the deep meaning of these structures and the place occupied by the Calabash in the African culture, the Turkish participants were also impressed and they disagreed with their previous evaluation, their aesthetic liking rates increased and they approached the judgment levels of the Africans. According to these results, it has been shown that the understanding of desired meaning given with reference to cultural differences and cultural symbols in structures affects aesthetic judgment.

Keywords: Symbolic Architecture, Aesthetic Judgment, Calabash, African, Turkish

1. INTRODUCTION

The unique characteristic of human beings is the cultural structure that they convey. This cultural structure, which distinguishes them from other human beings, comprises many components, such as aesthetics. In fact, people's lifestyles, judgments and belief systems, etc. have implications not only for their cultural structures, but also their aesthetic judgments. Societies create a set of aesthetic judgments according to their cultural structures. On the other hand, these sets of

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aesthetic judgments become decisive in shaping their "aesthetic judgments" [1].

It is impossible to speak of pure perception as sensation untouched by our past experiences, education and training and uninfluenced by our ideas and other kinds of knowledge. Social psychologists, cultural geographers and anthropologists have established the profound degree to which culture influences perception. Yet at the same time, aesthetic perception plays a foundational role. This is because the authenticity of aesthetic experience, through its directness and immediacy, provides a powerful means of reappraising cultural experience by digging beneath the layers of accrued meanings and cognitive habits. The aesthetic character of experience, rather than pure perception, lies indirectly in the perception apprehended immediately and unreflectively. It is in this sense that we engage aesthetically, both with art and with the environment. Perceptual engagement, conditioned by cultural and personal influences, is the catalyzing and unifying force of the aesthetic field [2]. The judgment of aesthetic value, in contrast to beauty or aesthetic pleasure, often involves substantial reasoning about the piece of art under consideration. Processing fluency feeds into judgments of aesthetic appreciation, because people draw on their subjective experience in making evaluative judgments unless the informational value of the experience is called into question [3].

Buildings communicate their messages by their unusual forms, gigantic scale or symbolic designs. Buildings are often seen as embodiments of culture [4]. In many respects, the role of the built environment within a society is a reflection of culture and identity. This is because meaning is often contained within the architecture and design of the built environment. The symbolic language of architecture can vary from region to region [5]. The meaning ascribed to an architectural or design style can be likened to communication in which design serves as a form of language [6]. Symbols and cognitive schemata form the essence of man's knowledge. Knowledge is formed through the use of cognitive schemata and is transmitted among people and generations through the use of symbols. Obviously, these are components of culture [7].

On the other hand, aesthetics, like ideology, provides a culturally specific way of knowing the world, and as such "offers to the participants in a society a model upon which they may (and by implication should) base their beliefs, their behavior and their characters" [8]. In a more general sense, aesthetics as a philosophy refers to the study of sensory values. This means the judgment or evaluation by the senses and through time has come to refer to critical or philosophical thought about art, culture and/or nature. Cultural aesthetics can be defined as the study of a system of meanings manifested in tangible form (the object) as explained by the artist and society members themselves [9].

The mechanisms of perception, cognition and emotion play an important role in aesthetic evaluation. Physical properties are expected to be judged differently, due to the effect of cultural differences that are supposed to have an impact on peoples' experience with certain building properties [10]. The cultural aesthetic is the characteristic sensory, conceptual and ideational matrix that constitutes the perceptual environment of a culture. It encompasses the typical qualities and configurations of color, sound, texture, light, movement, smell, taste, perceptual pattern, space, temporal sensibility and size in juxtaposition with the human body and the influence of traditional patterns of belief and practice on the creation and apprehension of these qualities. The human environment is always historico-cultural and formulating a cultural aesthetic requires us to identify the configuration of perceptual features that is characteristic of a particular human culture at a given time [11].

Otherwise, having aesthetic knowledge can result in fresh insight and awareness, irrespective of whether or not we can express what we experience [12]. Aesthetic judgment is judged by the ability to like or dislike an object without any profit and is primarily emotional or feeling responses and, as such, they are very personal [14]. Emerging from the situation in which the interaction of the individual is with the aesthetic judgment object; is based on object properties and feelings or emotions of the people [15-18]. Berlyne [16] denoted that aesthetic judgment of an object's perceptual characteristics is a reaction, which depends on the object's physical properties (quality of the elements together). Psychologists have stated that emotions play an important role in aesthetic judgment. Aesthetic judgment involves a degree of emotion. Emotions can vary from person to person; experience and values are shaped by emotions [19,20]. The culture of the society, beliefs and values play an important role in the development and shaping of emotions. Emotions are socially structured; so, aesthetic judgments are due to the social structure. The social characteristics, traditions, rituals and customs of that society need to be taken into consideration for evaluating these emotions. The ability for a person to make a judgment correctly depends on increasing emotional responses, information and capacity and is developed and varied. How a person feels differs significantly according to what he/she has learned and what he/she expects to feel. While the aesthetic emotion is positive, the decision for the object will be positive. Aesthetic judgment in a given culture is defined as the perception and reflection value [19].

In their study, Gökay and Demir [21] reported that aesthetical perception differed as it changed from person to person, that aesthetical perception differed with education and training, the cultural environment where the person subsequently lived and stated that it would succeed by being able to raise individuals whose aesthetical perceptions were strong and different, thanks to the aesthetic training provided from childhood [21]. Also, in the study by Wenchun and Kazuhiro [22], they declared that much more was gained with education and training. Besides, culture and environment have an effect on the aesthetic liking level of humans [22]. In another study, Göğebakan [1] emphasized that the variables of the factors that were determinative in the aesthetic values were distinguished, not only in different cultures, but even in the same cultural environment and the greatest reason for this difference was "education", because one

of the most important elements for determining the liking judgment is education, especially aesthetic education that it is a prerequisite for understanding an art and its assessment [1].

Despite subjective characteristics of aesthetic judgments, empirical research into an understanding of potential factors affecting people's aesthetic evaluations clearly has major importance to designers, architects, planners and public. Among the broad range of issues that can be studied about environmental aesthetics, many studies have been devoted to the similarities and differences in aesthetic preferences of design professionals and laypersons [23]. Devlin [24] observed that whereas laypersons tended to give descriptive assessments based on affection, professionals provided conceptual, more abstract assessments. Gifford et al. [25] analysed the relationship between the physical characteristics of buildings, the perceptions "attractive" and "pleasurable". In this study, architects and non architects had to assess 42 office buildings. The results showed that both groups based their emotional assessments on totally different features of the buildings. Although limited number of these studies found that design professionals and lay people share some meanings about the physical environment [26,27].

Aesthetic judgment has many determinants that have been developed by hundreds of previous studies. These determinants take into consideration the influences of culture, history and individual differences. Aesthetic processing can be usefully considered from multiple perspectives including evolutionary, historical, cultural, educational, cognitive, (neuro) biological, individual, personality, emotional and situational aesthetic judgments are based on the feelings of the individual, individual characteristics such as age, gender and education affect the development of feelings. Feelings change and develop in the process. Feelings is developing and changing with increase the knowledge and capacity [28]. The reason for the formation of aesthetic judgment values depends on the structuring of social emotions, individuals with common culture, beliefs and values may be common in their aesthetic judgment [29]. Some authors argue that a wide range of entities of aesthetic processing are subjected to cultural and social processes. Hence, the effects of culture and cultural differences have been taken into consideration [19,20,30].

The aim of this study was to explain the importance of design sources on architectural structures and their effect on aesthetic judgment. The major focus point of this study was cultural architecture and aesthetic judgment. We suggest that beauty is grounded in the processing of experiences by the perceiver that emerge from the interaction of the properties of stimulus and the cognitive and affective processes of perceivers. The purpose of the study was to show the effect of cultural differences on aesthetic judgments by comparing the responses of African and Turkish participants for various building types.

1.1. Research Hypotheses

According to the literature, individual characteristics such as culture and knowledge level affect the aesthetic judgment values, to test it we choose four groups from different cultures and different knowledge levels;

- The one group was familiar to local culture and lay persons

- The second group was familiar to local culture and professionals

- The third group was unfamiliar to that culture and lay persons

- The fourth group was unfamiliar to that culture and professionals

For research, three different structures designed based on African local culture were chosen, in this context African participants has been familiar group and local residents of the areas studied, Turkish participants has been unfamiliar group to African culture.

H1: "The African participants shall interpret and perceive more positively the buildings having signs of their own cultural values in comparison to the Turkish participants."

H2: "There shall be differences between the evaluations made by the participants before and after the introductive information was given on the buildings used in study".

The following methodology was applied in this study to test these hypotheses.

2. METHODOLOGY

2.1. Research Environment

In this study, "Calabash" was selected as the African cultural value. The Calabash is a vine grown for its fruit, which can either be harvested young and used as a vegetable, or harvested mature, dried, and used as a bottle, utensil or pipe. The fresh fruit has a light green, smooth skin and a white flesh. They grow in a variety of shapes: they can be huge and rounded, small and bottle-shaped, or slim and serpentine and more than a meter long (Figure 1). A massive calabash, one of the symbols of rural African life, rises from the ground at Nasrec, Johannesburg, South Africa, on the outskirts of Soweto, outflanking the long, surrounding mine dumps. The calabash was selected from a number of designs as being "the most recognizable object to represent what would automatically be associated with the African continent and not any other" [31]. The "Calabash", which is an important cultural value in African culture, represents the meaning of sensibility, sharing, peace and friendship. The form of "Calabash" is also used in the shape of the architectural structures with reference to its meaning. Especially, the "Calabash" plays an important role in shaping the structures that are used as a cultural reference.
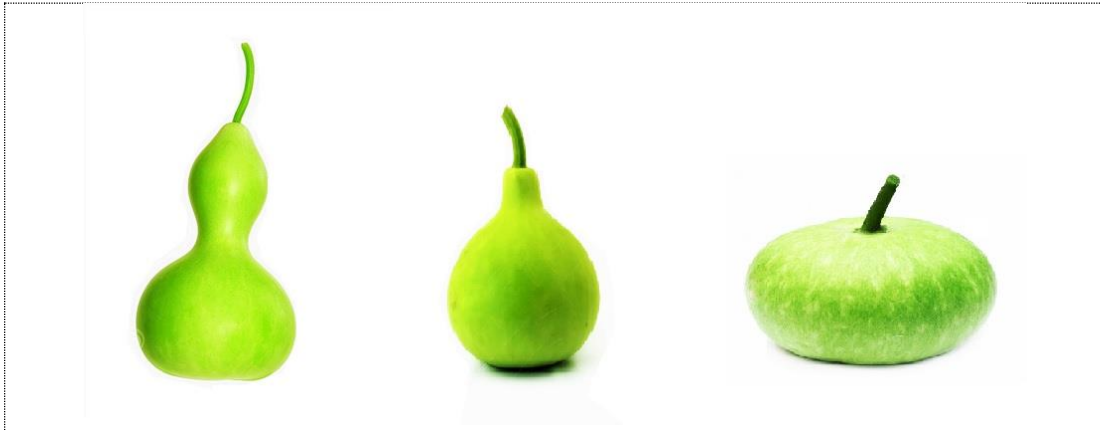
Figure 1. The "Calabash" was selected as the African cultural value [32]

Thus, the Calabash form is a source of inspiration for illuminative African architecture; especially in the design of monuments, stadiums and conference centers [33].

In this study, three structures, whose designs were inspired by the Calabash or African pot, taken from the African continent, were chosen from different regions and have been given in Figure 2-3-4 below.

Figure 2. The National Heroic Monument [34]

The National Heroic Monument: The National Heroic Monument located in Ouagadougou, Burkina Faso, was built in memory of their National Heroes to demonstrate the fighting spirit of the Burkinabe people. On the monument, the circular Calabash form is divided into two parts and used in two positions: one in the reversed position (ground floor) and the other in the normal position (third floor). The first half-Calabash in the reversed position on the ground floor, expresses the burial of heroes (all those who died for the honor of Burkina Faso) and the gratitude and recognition of the Burkinabe people. The second half-Calabash on the third floor symbolizes brotherhood and the symbiotic relationship of the Burkinabe people, which carries in the Calabash the waters of restored peace. The two half-Calabashes are protected and supported by four columns, which represent the heroic four stages of the peoples' struggle for: Independence, Republic, Revolution and Democracy. The Museum of Political History located halfway (second floor) connects the four columns between them [35].
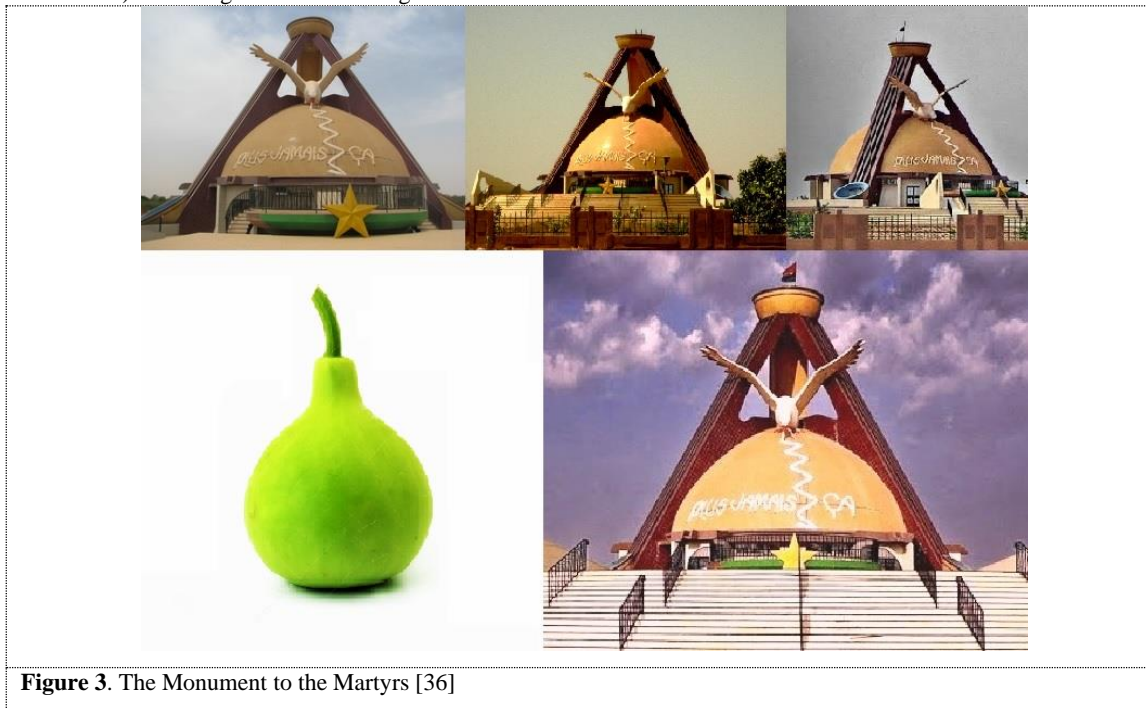

Figure 3. The Monument to the Martyrs [36]

The Monument to the Martyrs: The construction of the Monument to the Martyrs of Ouagadougou, Burkina Faso, follows the national day of forgiveness, in memory of painful events (social crisis) and should encourage each Burkinabe to regret, forgive and to be aware of making peace. In the monument design, the Calabash has cracks and this represents the state of the Burkinabe Nation bruised in the aftermath of the multiple painful events it has experienced. A dove (messenger of peace) is busy "sewing up" this "cracked Calabash", reflecting the spirit of regret and forgiveness and animating every Burkinabe. The dove calls to us with this sentence, "Never again!" written in the particular style of mending cracks (somewhat rude and shows that every repair always leaves an indelible mark) on the Calabash [37].

Figure 4. The Johannesburg Soccer Stadium [38]

The Johannesburg Soccer Stadium: Recognized as the largest stadium on the African continent, the Soccer City Stadium of Johannesburg, South Africa, was chosen to be upgraded as the main stadium for the 2010 FIFA World Cup in South Africa (hosting, among others, both the opening and final matches). Built to echo the Calabash shape and color, the underlying architectural concept of the stadium is inspired by the Calabash, as a symbol of the melting pot of cultures and flavors that Africa has represented since time immemorial. The design of the calabash has special meaning. "It symbolizes people coming together, a melting pot of cultures, sharing and passing around the calabash." The world shared from that calabash as of June 2010. The calabash, or "melting pot of African cultures", sits on a raised podium, on top of which is located a "pit of fire". Thus, according to the information package, "the pot sits in a depression, which is the 'pit of fire', as if it were being naturally fired" [39].

2.2. Participants

Researches suggest that there are differences between the views of people who are "lay-persons" and "professionals" in designed object review and professionals differ from their clients in their perceptions, interpretations, and evaluations of everyday physical environments. Designers can use their expertise (professional skills) to define and clarify design forms [40]. For the purpose of this research, the term of "lay-person" is used to refer exclusively to persons who did not receive any special training in design and architecture branch, the term of "professionals" is used to refer persons who have extensively knowledge in design and architecture and have received training about those. Professionals are informed by their education, training,

and background and therefore differ from lay-persons who lack this in-depth understanding. The two groups are likely to have conflicting aesthetic attitudes arising from differing values, and that design professionals have direct responsibility for the urban environment [41].

The study was based on an investigation of 150 questionnaires filled out by professionals (architects, planners and urban designers) and laypersons, divided between those familiar to the African culture and those unfamiliar to African culture (Turkish participants). The investigation was carried out as follows:

• Fifty (50) laypersons who knew the culture (Those are familiar and local residents of the areas studied and who were called here "African lay-persons".)

• Fifty (50) laypersons who did not know the culture (Those are unfamiliar group and non-experts who were called here "Turkish lay-persons".)

• Twenty-five (25) professionals (architects, planners, urban designers, etc.) who knew the culture, familiar to African culture and experts who were called here "African professionals".

• Twenty-five (25) professionals (architects, planners, urban designers, etc.) who did not know the culture, unfamiliar to African culture and experts who were called here "Turkish professionals".

The distribution of the participants in the questionnaires according to their origins has been given in Table 1. Age and gender were also taken into consideration in the sample. The average age was 24 years and genders were 53% male (n=79) and 47% female (n=71).

Table 1. Number of Participants

Place of Origin	Africa		Turkey		Total	
	F	%	F	%	F	%
African laypersons	50	66.7	-	-	50	33.3
Turkish laypersons	-	-	50	66.7	50	33.3
African professionals	25	33.3	-	-	25	16.7
Turkish professionals	-	-	25	33.3	25	16.7
Total	**75**	**100**	**75**	**100**	**150**	**100**

F: Subject number, %: Percentage value

2.3. Design of the Questionnaire

The questionnaire consisted of two parts: the first part was composed of questions aimed at determining general information on the nationality, age and gender of the participants and the second part consisted of a five-point aesthetic differential scale about the evaluations of liking the three buildings studied. The participants then had to evaluate the importance of the bipolar adjective pairs on a 1–5 aesthetic differential scale where 1 = ugly (negative) and 5 = amazing (positive). Each building was presented with views from similar angle and it was requested that participants evaluate (from ugly to amazing) on the aesthetic differential scale from 1 to 5. The study used three photographs of each architectural structure. The technique of altering the sets of items from positive to negative, as carried out by previous studies, was adopted to reduce the probability of participants simply marking the scale on either of the extremes [14,42-45].

2.4. Evaluation of the Data

After collecting data from the questionnaires, it was necessary to summarize and present the data obtained in the study for understanding and comparing it with other results. For this, the evaluations of liking the three structures studied by the participants were accepted to be "dependent variables", whereas, nationality, age and gender of the participants were accepted to be "independent variables." In the first step of the study, African and Turkish architects and non-architects (laypersons) were asked to give their aesthetic judgments on the three buildings before explanations were made on the symbolic meanings of Calabash in the African culture. In the second step, Turkish architects and non-architects were asked once again to give their aesthetic judgments on the three structures after attending a brief lecture on the symbolic meaning of Calabash in the African culture and its use in the design of these structures, followed by their expressed values. After conducting the Cronbach Alpha reliability tests of the data obtained, the categorical means, standard deviations and *t*-values were determined. The data were given in a graph for comparing the significant means of the *t*-test in the analysis. Subsequently, a discussion permitted checking out the conclusions of the study.

3. RESULTS AND DISCUSSION

The reliability of the dependent variables covering the African and Turkish respondents' evaluations of liking the three different architectural structures (*Place of Heroes, Johannesburg Stadium and Place of Martyrs*) were tested with the "Cronbach Alpha" method (Table 2).

Table 2. Results of the reliability analysis of the dependent variables

Dependent Variables	Items of Reliability	Scale of Reliability
Place of Heroes	0.646	
Johannesburg Stadium	0.784	**0.806**
Place of Martyrs	0.765	

According to Table 2, the Cronbach's Alpha reliability coefficient of items was 0.806 for the evaluation of the aesthetic differential scale for the three architectural structures. The appropriate degree of reliability depends upon the use of the instrument, but some researchers [46-49] consider an alpha reliability coefficient of 0.60 or higher for all items to be "reliable". In this study, the Cronbach's alpha reliability coefficient obtained seems to be above the specified value. These scales may therefore be considered to be reliable.

The data for the evaluations of liking for the three different architectural structures (*Place of Heroes, Johannesburg Stadium and Place of Martyrs*) for the differences among the African and Turkish professional and layperson groups, the categorical means, the

standard deviation and *t*-values have all been given in Table 3.

Table 3. Mean, standard deviation and *t*-values of the dependent variables for the evaluations of liking

Dependent Variables	African			Turkish					
				Before Giving Information			After Giving Information		
	Professionals	Laypersons		Professionals	Laypersons		Professionals	Laypersons	
	Mean[a] (SD)	Mean (SD)	*t*-value[b]	Mean (SD)	Mean (SD)	*t*-value	Mean (SD)	Mean (SD)	*t*-value
Place of Heroes	3.84 (0.62)	3.80 (0.83)	0.212	1.52 (0.5)	1.90 (0.65)	**-2.563***	2.96 (1.31)	3.64 (0.83)	**-2.748***
Johannesburg Stadium	3.92 (0.76)	4.04 (0.83)	-0.606	2.28 (0.94)	2.34 (0.96)	-0.257	3.84 (0.90)	3.46 (0.89)	1.744
Place of Martyrs	3.16 (0.75)	3.94 (0.74)	**-4.292***	1.56 (0.58)	1.86 (0.81)	-1.651	2.64 (1.19)	3.86 (0.97)	**-4.764***

Notes: SD= Standard Deviations;   *: p<0.05

a: Variable means ranged from 1 to 5, with higher numbers representing more positive responses.

b: *t*-values: It is the result of comparison of the evaluations of African and Turkish participants.

No significant differences could be found among the African professionals' and laypersons' evaluations for the *Place of Heroes'* and *Johannesburg Stadium* architectural buildings, although a statistically significant difference was found at the level of p<0.05 between the their evaluations of liking for the *Place of Martyrs'* architectural building according to the results of the *t*-test and the average values given in Table 3. It is understood through this result that laypersons evaluated the *Place of Martyrs'* building more positively than the professionals did. On the other hand, when the results of the questionnaire made before the introductive information on the buildings used in study were given to Turkish professionals and laypersons, it was observed that there was a statistically significant difference at the level of p<0.05 between the Turkish professionals' and laypersons' evaluations of liking for the *Place of Heroes'* architectural building. Also, when the results of the questionnaire made after the introductive information was given to the Turkish professionals and laypersons on the buildings used, it was observed that there were statistically significant differences at the level of p<0.05 between the evaluations of liking of the *Place of Heroes'* and the *Place of Martyrs'* buildings by the professionals and laypersons. It is understood through these results that laypersons evaluated the *Place of Heroes'* and *Place of Martyrs'* buildings more positively compared to the professionals. As described in the literature, a conflict exists between professionals' and laypersons' views of urban elements because design experts are used to interpret with their own preferences or perceptions according to their professions [50]. Also these results set forth that there were significant differences in the results of the questionnaires for all three architectural buildings before and after the introductive information. On the buildings used in study were given to Turkish professionals and laypersons. Accordingly, it showed that giving introductive information on the architectural buildings positively affected the evaluations of liking in both groups. The averages of the evaluations of liking obtained before giving the introductive information on buildings to African professionals and laypersons and Turkish professionals and laypersons and the results of the *t*-test have been given in Table 4.

Table 4. Results of evaluations by African and Turkish participants on the architectural structures

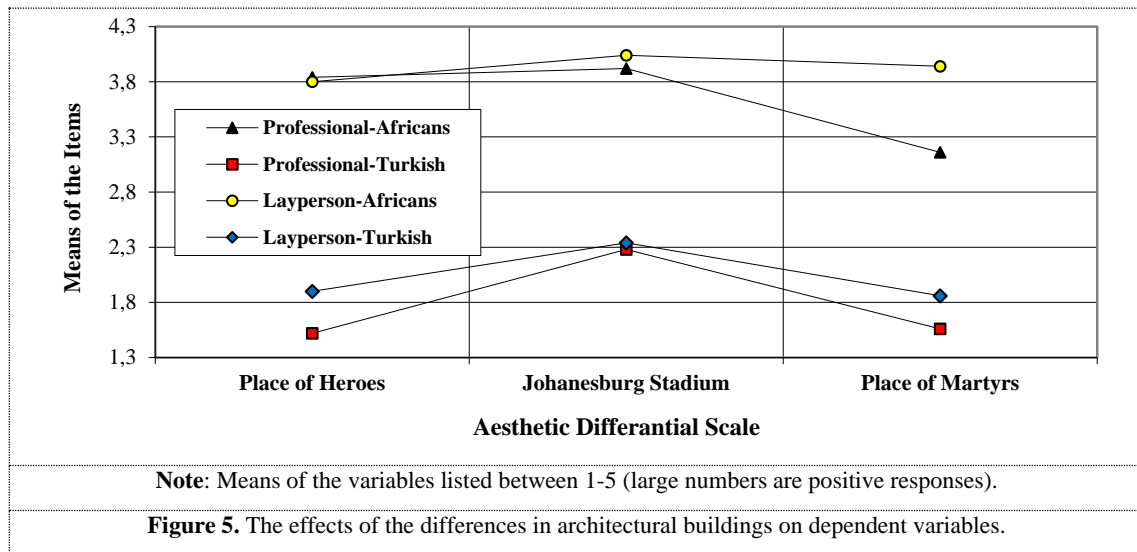| Dependent Variables	Professionals[A]	Professionals[T]		Laypersons[A]	Laypersons[T]	
	Mean (SD)	Mean (SD) [BE]	*t*-value	Mean (SD)	Mean (SD) [BE]	*t*-value
Place of Heroes	3.84 (0.62)	1.52 (0.5)	**-14.388***	3.80 (0.83)	1.90 (0.65)	**-12.739***
Johannesburg Stadium	3.92 (0.76)	2.28 (0.94)	**-6.802***	4.04 (0.83)	2.34 (0.96)	**-9.459***
Place of Martyrs	3.16 (0.75)	1.56 (0.58)	**-8.448***	3.94 (0.74)	1.86 (0.81)	**-13.422***

Notes: SD= Standard Deviation; *: p<0.05;   A: African; T: Turkish; BE: Before education

a: Variable means ranged from 1 to 5, with higher numbers representing more positive responses.

b: *t*-values: It is the result of a comparison of the evaluations by African and Turkish participants.

The results given in Table 4 showed that there were statistically significant differences at the level of p<0.05 between the evaluations of liking by the African professionals and laypersons and the Turkish professionals and laypersons. The graph of the differences between the evaluation of buildings by the African and Turkish participants has been given in Figure 5.

Note: Means of the variables listed between 1-5 (large numbers are positive responses).

Figure 5. The effects of the differences in architectural buildings on dependent variables.

As can be observed in Figure 3, the African participants evaluated all three of the buildings selected more positively than the Turkish participants did. This result supports the hypothesis set forth in *H1:* "*The African participants shall interpret and perceive more positively the buildings having signs of their own cultural values in comparison to the Turkish participants.*" It might be that the dominant effect of the common cultural values took

parts as determined in the study by Purcell et al. [50] and that the African participants considered more aesthetically the buildings having signs of their own culture than the Turkish participants did. The average values of the evaluations made before and after the introductive information to the Turkish professionals and laypersons on the architectural buildings used in study and the results of *t*-test have been given in Table 5.

Table 5. Results of evaluations by Turkish participants of the architectural structures

Dependent Variables	Turkish Participants							
	Before Giving Information			After Giving Information				
	Professionals	Laypersons	Total	Professionals	Laypersons		Total	
	Mean (SD)	Mean (SD)	*t*-value	Mean (SD)	Mean (SD)	Mean (SD)	*t*-value	Mean (SD)
Place of Heroes	1.52 (0.5)	1.90 (0.65)	**-2.563***	1.71 (0.57)	2.96 (1.31)	3.64 (0.83)	**-2.748***	3.3 (1.07)
Johannesburg Stadium	2.28 (0.94)	2.34 (0.96)	-0.257	2.31 (0.95)	3.84 (0.90)	3.46 (0.89)	1.744	3.65 (1.79)
Place of Martyrs	1.56 (0.58)	1.86 (0.81)	-1.651	1.71 (0.69)	2.64 (1.19)	3.86 (0.97)	**-4.764***	3.25 (1.08)

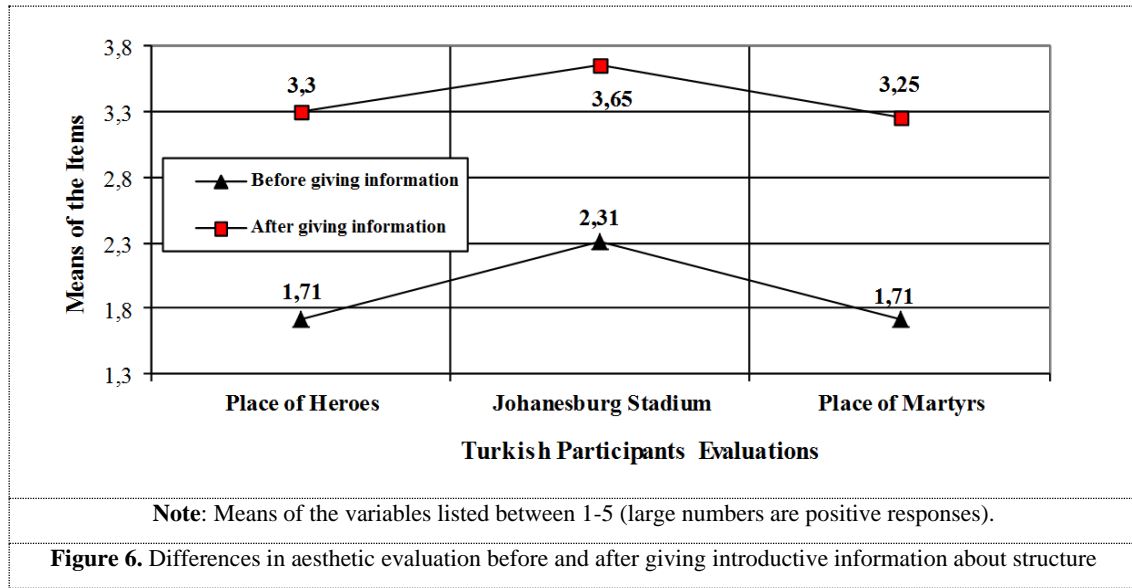**Notes**: SD= Standard Deviation; *: $p < 0.05$

a: Variable means ranged from 1 to 5, with higher numbers representing more positive responses.

b: *t*-values: It is the result of a comparison of the evaluations by Turkish participants.

According to the results in Table 5, it was clearly observed that there was a statistically significant difference at the level of $p < 0.05$ between the evaluations of liking made by both Turkish professionals and Turkish laypersons before and after giving the introductive information on the architectural buildings. The graphical representation of the two aesthetic evaluations by Turkish participants has been given in Figure 6.

These results showed that both groups of subjects exhibited a more positive approach in their evaluations

of liking after they had received general information on the buildings used in study. This result supports the hypothesis set forth in *H2:* "*There shall be differences between the evaluations made by the participants before and after the introductive information was given on the buildings used in study*". These results obtained support the previous results of Göğebakan [1], Eaton [19], Jacobsen [20], Gökay and Demir [21] and Wenchun and Kazuhiro [22].

Note: Means of the variables listed between 1-5 (large numbers are positive responses).

Figure 6. Differences in aesthetic evaluation before and after giving introductive information about structure

4. CONCLUSIONS AND SUGGESTIONS

In this study, three important architectural buildings formed with reference to the "Calabash", a quite important cultural value in the African culture, were evaluated with the Aesthetic Differential Scale. The differences between the aesthetical liking levels of Turkish professionals and laypersons and the African professionals and laypersons were established with a two-stage questionnaire on these three architectural buildings (*1: Before the introductive information was given and 2: after the introductive information was given*). The results obtained have been given below, respectively.

No significant difference could be found between the African professionals' and laypersons' evaluations for the *Place of Heroes'* and *Johannesburg Stadium* architectural buildings, although a statistically significant difference was found at the level of p<0.05 between the their evaluations of liking for the *Place of Martyrs'* architectural building. It was understood from this result that laypersons evaluated the *Place of Martyrs'* building more positively compared to professionals. According to the literature, occurring a difference between the opinions of "professionals" and "lay-persons" is a fact we expect, but the examining this issue with details is beyond the scope of this article. On the other hand, when the results of the questionnaire made before the introductive information was given to the Turkish professionals and laypersons on the buildings used in study, it was observed that there was a statistically significant difference at the level of p<0.05 between the Turkish professionals' and laypersons' evaluations of liking for the *Place of Heroes'* architectural building. Also, when the results of the questionnaire made after the introductive information was given to the Turkish professionals and laypersons on the buildings used in the study, it was observed that there were statistically significant differences at the level of

p<0.05 between the professionals' and laypersons' evaluations of liking for the *Place of Heroes'* and *Place of Martyrs'* architectural buildings. It was understood through these results that laypersons evaluated the *Place of Heroes'* and *Place of Martyrs'* architectural buildings more positively compared to professionals. Also, these results presented that there were significant differences between the results of questionnaires made before and after the introductive information was given to Turkish professionals and laypersons on all three of the architectural buildings used in the study. Accordingly, it showed that giving introductive information on the architectural buildings positively influenced the evaluations of liking by participants in both groups.

On the other hand, the statistically significant differences were fixed at the level of p<0.05 between the evaluations of liking obtained before the introductive information on the architectural buildings were given to the African professionals and laypersons and the Turkish professionals and laypersons. Accordingly, it was observed that the African participants evaluated the three architectural buildings selected more positively compared to the Turks. It might be that the dominant effect of the common cultural values took an important part as determined in the study by Purcell et al. [50] and that the African participants considered more aesthetically the buildings having signs of their own culture than the Turkish participants did.

Also, the statistically significant differences were fixed at the level of p<0.05 between both the Turkish professionals' and Turkish laypersons' evaluations of liking before and after the introductive information on the architectural buildings were given. Accordingly, it was observed that both groups of subjects exhibited a more positive approach in their evaluations of liking after they had received general information on the buildings used in the study. These results obtained, support the opinion that there should be changes in the aesthetical

judgments once the level of knowledge increases as determined by Eaton [19] and the opinion that the semantic content should take an important part in the interpretation of buildings aesthetically as determined by Jacobsen [20]. As Gökay and Demir [21] determined in their studies, there was a change in the aesthetical perception from person to person and showed that the aesthetics differed with the education-training obtained and with the cultural environments where a person lived afterwards. Also as it was determined by Wenchun and Kazuhiro [22] much more was gained with education and training. Besides, culture and environment have effects on a human's level of aesthetical liking. As it was pointed out by Gökay and Demir [21], many different individuals can be raised with strong aesthetical perception, thanks to the aesthetical education/training that would be provided from childhood.

As a result, culture is a major factor affecting aesthetic judgments. Consequently, cultural and semantic components of specific culture should be considered during the subject design. The feelings of the person about aesthetic judgment are based on the result of object-subject interaction and the individual's feelings about architectural structures are developing according to culture and values of the society's beliefs. In aesthetic appreciation -based on emotions- culture plays a decisive role in the formation of common aesthetic judgment.

In this study, the visual property of an object by itself is not enough for true aesthetic judgment and the content of an object is important too in real aesthetic evaluation. Without having information about the content of design, aesthetic judgment does not occur with real values. Learning the knowledge about an object that for which purpose it was designed or which demand it services and knowing the philosophy behind the object, could be able to complete the process of real aesthetic judgment.

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CONFLICT OF INTEREST

No conflict of interest was declared by the authors.

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