

Presentation

**AESTHETIC EVALUATION OF THE GREEK NATURAL LANDSCAPE :
THE PUBLIC OPINION**

Abstract

Considering the poor context and the difficulties in the application of landscape aesthetic evaluation in Greece, an effort was made to examine the public opinion on landscape aesthetics. The survey used a questionnaire to raise issues pertaining to landscape perception further discussed in a series of interviews. The survey was structured in several stages ; before moving on to major aesthetic issues, it was necessary to comprehend the basic *landscape concepts*. The next step was to set down the public's *criteria* that underlie the landscape's aesthetic perception, and, finally, conclude on a systematic (*aesthetic*) *evaluation* process. Both the results and the analysis aimed at remaining on a qualitative level.

The survey brings together the public opinion on landscape aesthetic evaluation and the equivalent theoretical background. There seems to be an analogy between the two, although it is strongly argued whether evaluation is able to be systematically applied on a practical basis.

Keywords

Landscape aesthetics, landscape evaluation, scenic quality, aesthetic experience, visual assessment

INTRODUCTION

It is common knowledge that contemporary landscapes are rapidly changing. One may easily notice the appearance of a new typology of landscapes, such as “productive”, “transcending”, “hybrid”, “in-between landscapes” and many other, presented in journals and relevant bibliography.

Urban development is undoubtedly gaining ground altering the former rural or even natural environment. It could be argued that, rapid change was well expected, since it is connected to recent technological outburst and global economical instability of the last decade.

In Greece, where the idea of landscape is nearly absent in professional ground, sudden landscape changes are occurring in a very poor context.

Few tools are being implemented in order to control the rapid development and most of the times they are left in a theoretical level unable to meet the needs of everyday professional practice.

On the other hand, despite the problems of the implementation of a well developed landscape design and evaluation in real, there seems to be a very vivid landscape conscience in the people's mentality.

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In order to develop tools for landscape monitoring and design, the present study [focused on landscape aesthetics and explored public opinion.](#)

METHODOLOGY

The present study uses non-experts as a point of departure.

The survey (both statistical sample and landscapes used) was kept at a [national level.](#)

Landscape issues were presented in form of a [questionnaire](#), while the public opinion appeared in (1) a series of [personal interviews](#), and (2) through [e-mail](#). Between the two, a [ratio of 1: 3](#) was maintained ; that is to say, at a total sample of 300 people asked, interviews raised a total of 100.

Interviews offered the opportunity for further explanation, supplementary questions and justification for most of the answers given. This is surely considered to be the most difficult way of extracting information¹, and the most resulting as well. Through interviews, there was given the chance to check the sample's attention to the questions posed, realise the difficulties in providing the answers and checking the preference in certain questions against others.

The time limit attributed to each interview depended on the place of the interview (so for the interviewed person to feel free enough to express himself). The mean rate for that ranged to 20-25 minutes. In some cases interviews lasted close to one hour.

The questionnaire was developed in **three stages** : (1) [basic landscape concepts](#) , (2) [public criteria](#) to landscape aesthetic perception, and, (3) [systematic \(aesthetic\) landscape evaluation](#).

Both the results and the analysis aimed at remaining on a [qualitative level](#).

¹ **Τσουχλαράκη, Α.**, Μεθοδολογία αξιολόγησης οπτικής αξίας φυσικού αναγλύφου, Ε.Μ.Π. – Τμήμα Τοπογραφίας, Αθήνα, 1997, σελ.138

The **terminology** applied was deliberately simple for better comprehension. Particularly important was the “landscape aesthetic value”, which was introduced as the “beauty of the place”, also popular in landscape bibliography.

The survey was not limited to open-type questions, but combined open-type to other types, such as multiple-choice and yes-no questions. Nominal and ordinal scale were preferred.

Results have been processed using the comprehensive method ; quantitative and statistical analysis have been deliberately avoided.

At this point, it should be stressed that **the aim of the survey rests in pointing out relative and not absolute values or positions**.

THE SAMPLE

What is hereby referred to as “public”, aimed to be a representative population sample. The sample addressed ages between 15 and 65 corresponding to the professionally active part of the population.

The age range allowed the data distribution and further correlation with respective working groups; as such, it is evident that the sample involves students at the school and university level, professionals and retired ones.

The sample covered 300 people and was chosen at random through the internet and door-to-door survey. Nevertheless, an effort was made to represent faithfully the population’s various characteristics. Thus the sample aimed at a balance of 40-60% between males and females (managed to achieve a rate of 59.12% females against of 40.33% males). Relative to the age range, the distribution proved to be gradual. A percentage of 9.94% represents people between 15 and 20 years old, another 26.52% ages between 20 and 25, a percentage of 29.83% the ages between 25 and 35 years old, another 16.57% the ages between 35 to 50 and finally a percentage of 14.92% refers to ages between 50 and 65.

An equal distribution of about 20% per age level is thus observed.

The majority of the sample (54.14%) presents a high educational level (university level) while a moderate educational level is kept at a percentage of 42.54%. A very low educational level is maintained at an extremely low level of 1.10%.

In general, the sample involved 65.75% occupied professionals, 25.95% students and 8.29% professionally inactive people (retired, householders, unemployed).

CONSTRUCTING THE QUESTIONS

It must be noted that the questionnaire was constructed in 2 phases : at first, the full set of questions was given at a sample of 30 people in order to check the clarity of the meanings involved and move on to possible alterations in posing the questions. The sample involved people from different social, cultural, professional and economic backgrounds.

In particular, the first 3 questions (#1-3) referred to the landscape in general, while the next 5 (#4-8) aimed to understand the idea people have on landscape aesthetics.

Again, questions begin from basic general aesthetics and gradually refer to landscape aesthetics. The terminology applied was deliberately simple for better comprehension so to better stand close to every people asked given the risk of missing some qualities.

Particularly important was the way landscape aesthetics was introduced : given the fact that in testing the questionnaire (phase 1) people proved unfamiliar with the term, it was finally decided to alternate to the “beauty of the place”, which is also met in a wide range of the bibliography and references (i.e. Daniel & Boster²). The final step involved a systematic (aesthetic) landscape evaluation. (#9-12). At this level, the aim was to point out the people’s position in major theoretical dilemmas - for instance to reason for or against the experts’ and non-experts’ role on the evaluation process.

For easier data collection several questions were structured in the form of multiple choice. Since the survey is qualitatively –and not quantitatively- oriented, the majority of the questions posed referred to nominal and ordinal scale offering the chance for relative judgments and avoiding the interval scale.

The questionnaire is hereby presented as given to the sample.

² Daniel, T., & Boster, R., Measuring landscape Aesthetics : The scenic beauty estimation method, USDA Forest Service, Research paper RM-167, Rocky Mountain Forest and range experiment station, 1976

QUESTIONNAIRE

Personal information

Age :	15 - 20	<input type="checkbox"/>
	20 – 25	<input type="checkbox"/>
	25 – 35	<input type="checkbox"/>
	35 – 50	<input type="checkbox"/>
	50 - 65	<input type="checkbox"/>
<hr/>		
Sex :	Male	<input type="checkbox"/>
	Female	<input type="checkbox"/>
<hr/>		
Educational level :	Primary school	<input type="checkbox"/>
	High school	<input type="checkbox"/>
	University	<input type="checkbox"/>
<hr/>		
Occupation :	Unemployed	<input type="checkbox"/>
	Student	<input type="checkbox"/>
	Householder	<input type="checkbox"/>
	Retired	<input type="checkbox"/>
	Employee (private/public sector)	<input type="checkbox"/>
	Profession :.....	

Have you ever traveled abroad : **very much - a lot - moderate – a little – not at all**

Questions

1. **If a child asked you what is the “natural landscape”, you would tell him that it is :**

.....

2. **How much interested are you in the natural landscape?**

.....

3. **In your opinion, what is the natural landscape made of and in what degree ?**

	Very much	A lot	Moderate	A little	Not at all
A. Trees-shrubs-flowers (vegetation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Mountains-plains-pastures (physical relief)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Γ. Sea-rivers-lakes (water element)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Δ. Animals-insects-reptiles (fauna)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Climatic conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Z. Sky	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. One cannot distinguish the elements constructing the natural landscape – everything is acting collectively and totally					

4. **When you speak of the beauty of the natural landscape, you have in mind :**

	Very much	A lot	Moderate	A little	Not at all
A. Its smells and odours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Tastes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Γ. Its picture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Δ. Its sounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Its touch (contact with the sea, the air, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Z. Else (please note)					

.....

5. **What elements would you find necessary for a landscape to be beautiful ?**

	Very much	A lot	Moderate	A little	Not at all
A. Greenery (vegetation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Water (sea-rivers-lakes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Γ. Animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Δ.Strong physical relief	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E.People	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Z.Houses, buildings (architecture)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H.It is not necessary to hold some of the above in order to be beautiful					

6. **The beauty of a natural landscape depends on the :**

- A. Its size
- B. The variety of its elements
- Γ. Its homogeneity
- Δ. Its uniqueness (rareness)
- E. Else (please note)

7. **Do you find the following landscapes beautiful :**

	YES	NO
A. The Sakara Desert (an arid, desolate, immense landscape)	<input type="checkbox"/>	<input type="checkbox"/>
B. The open sea (without any islands in sight)	<input type="checkbox"/>	<input type="checkbox"/>
Γ. The Arctic – The North Pole (a frozen snowy landscape deprived of any other elements like trees)	<input type="checkbox"/>	<input type="checkbox"/>
Δ. An arid island (Like the Greek islands of Tzia, Mykonos or Amorgos)	<input type="checkbox"/>	<input type="checkbox"/>
E. Else (please note)		

8. **Can you imagine the beauty of :**

	YES	NO
A. Mount Olympos without its Greek Gods	<input type="checkbox"/>	<input type="checkbox"/>
B. Santorini island without its volcano	<input type="checkbox"/>	<input type="checkbox"/>
Γ. Ipeiros without its stone-made traditional houses	<input type="checkbox"/>	<input type="checkbox"/>
Δ. Tzia island without the blowing wind	<input type="checkbox"/>	<input type="checkbox"/>
E. Tempi region without the trees	<input type="checkbox"/>	<input type="checkbox"/>
Z. Meteora rock formations without the monasteries	<input type="checkbox"/>	<input type="checkbox"/>
H. Vergina region without its history (Alexander the Great)	<input type="checkbox"/>	<input type="checkbox"/>

9. **The beauty of a natural landscape can be judged and characterized satisfactorily by using :**

- A. A single number
(i.e. Santorini is judged by 9/10 while Mount Olympos gets 8/10)
- B. A single word
- Γ. A short description
- Δ. Only in relation with other landscapes
- E. In another way (please note)

10. **The beauty of a natural landscape :**

	YES	NO
A. Stays always the same	<input type="checkbox"/>	<input type="checkbox"/>
B. Is constantly changing in relation to our own personal development as we grow old	<input type="checkbox"/>	<input type="checkbox"/>
Γ. Is constantly changing in relation to the ideals of each and every historical period	<input type="checkbox"/>	<input type="checkbox"/>
Δ. Depends on the moment we perceive it	<input type="checkbox"/>	<input type="checkbox"/>
E. In another way (please note)		

11. *The beauty of a natural landscape can be judged properly by :*

- A. Only by experts
- B. Only by non-experts
- Γ. A combination between the two
- Δ. Cannot be judged properly because it is very complicated
- E. Else (please note)

.....
.....

12. *The beauty we find in a natural landscape depends on :*

- | | <i>YES</i> | <i>NO</i> |
|---|--------------------------|--------------------------|
| A. Its economical welfare (the richer it is, the more beautiful it seems) | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Our social status | <input type="checkbox"/> | <input type="checkbox"/> |
| Γ. Our profession (i.e. farmers, employees, business associates, etc.) | <input type="checkbox"/> | <input type="checkbox"/> |

Δ. Else (please note)

.....

13. *What sort of landscape elements would you consider to be “ugly:*

.....
.....
.....
.....

RESULTS AND INTERPRETATION

A considerable difficulty has been presented in **providing a natural landscape definition for question 1.**

In many cases, the question was left unfinished, and people came back to it at closing the interview.

According to them, the characterization “natural” fails to clarify whether it refers to human intervention or not; there is always the possibility of an entirely pure, virgin landscape –in that case there is no human intervention at all-. Alternatively, humans may have imposed “protective” measures in order to conserve the landscape (at this point there is a strong debate arguing about the “imposed”-“forced” naturalness of “protection” of the landscape). Another way of understanding the landscape involves the “naturalized” versus the “natural” and may bring forth the Japanese stroll gardens as a vivid example. Only 2 people (out of 300) have noted the “technical” manner of man-made constructions in the landscape and further noticed that “natural is the kind of landscape that leaves its pre-existing character untouched”. Human intervention is thus qualified and differentiated in terms of (a) the nature and the amount of man-made structures, and (b) according to the character of the intervention relative to the pre-existing character of the landscape.

A different approach (2 cases out of 300 people) promotes the idea that man, himself is a part of nature and therefore cannot be excluded from the “naturalness” of a landscape, neither him, nor the structures he produces. Taking the idea further ahead, the structures themselves are made out of “natural” elements and thus cannot be differentiated from the physical milieu.

The difficulty presented in answering question number 1 was expected and is indicative of the trouble landscape experts face in accepting a single definition, or, a single landscape terminology.

Question #1 raised a total of 98% participation and even though of an open-type, a strong categorization of the results may be pointed out. The most characteristic types of answer are :

Table 1

1. Nature	10,36%
2. The landscape without human intervention / “physical milieu”	43,57%
3. A sum of elements (trees, mountains, water elements)	26,43%
4. A visual relation	12,86%
5. Other (i.e. serenity, the presence of God)	3,21%

It may be noted that the question required a simple answer and so, “scientific” definitions were put aside.

According to the public, “natural landscape” is what nature produces, and human constructions are considered as “interventions”, mainly incompatible with naturalness; **humans are somehow seen separately from nature.**

There was a broad reference to trees, hills, rivers and lakes, while people, sky and climate were excluded as insignificant landscape elements. No comment was made to visual or experiential landscape perception. There was a considerable reference to the trees, rivers, hills and lakes, **avoiding to mention** the people, the sky and the climatic conditions. It is essential to link this kind of answer to question #3 (which refers to the “ingredients” of the landscape). The next characteristic answer refers to the “nature” (12.15%). Using the term “nature” one easily escapes the particular problems referring to the relation between man and its environment. One might argue that this sort of answer is so general that can be rendered practically

unfalsifiable. Visual dimension generally raised a very low score despite the fact that vision usually dominates over other senses (see question 3).

It came as a surprise to notice that very few answers (3,21%) involved personal feelings.

In the case of **question 2**, concern was focused on **whether landscape can be analysed in its original components or not**. A 45,30 % of the sample found the landscape as an inseparable whole. Yet, a 15,00 % of the public proceeded in further analysis considering the need for better comprehension.

Table 2

	Participation rate	Vegetation cover	Water element	Physical relief	Fauna	Sky	Climate
1.	«very much» / «a lot»	57,50%	53,21%	51,79%	40,36%	41,43%	36,64%
2.	«moderate»	4,64%	6,79%	7,14%	13,57%	7,50%	11,79%
3.	«a little» / «not at all»	1,07%	1,79%	1,43%	8,57%	8,93%	12,14%
		Group 1 :	Rates between 50-65% -“Primary elements”-		Group 2:	Rates between 30-45% -“Secondary elements”-	

First in ranking came the **“vegetation cover”**. Through the interviews it must be noted that the “very much” response was immediate (most of the times the people ticked the box first of all) showing that it is unquestionably the major component of the natural landscape. It is also evident that there is a wide difference between categories 1 and 3, and especially in the case of the “vegetation cover” may come up to almost 60%.

The second position is held for the **“water element”** that can also be pointed out as a basic component and comes right next to the “vegetation cover” with a minor difference of almost 6%. Even then, the “moderate” degree (now referring to the “water element” -7.73%- is observed to be slightly higher than the one equivalent to the “vegetation cover” -3.87%-).

The **“physical relief”** is quite analogous to the “water element”. Percentages maintain an ~1% of a difference in category 1 and 3. Through a set of interviews a wide range of answers occurred presenting various positions. In certain cases, striking positions came as a surprise ; one may note that “flat landscapes are ugly. In order for

a landscape to be beautiful, it must have a challenging and strong relief”. After a set of supplementary questioning, there seems that “strong relief is interesting because it contains mystery.”

Taking the percentages into consideration, it comes up that the “vegetation cover”(61.33%), the “water element”(55.25%) and the “physical relief” (54.14%) are the basic components of the natural landscape according to the public’s opinion. The above result is in perfect agreement with the definitions presented in question #1. It is reminded that 25.41% of the answers referred to “trees, rivers, water and mountains”.

“**Living creatures**” were not seen as part of natural landscape because the public did not **wish** them to be. Participation rate was hereby identified with the rate of the corresponding desire. City people have lost their familiarity with other living creatures; the relation between them was presented as difficult to build up, and therefore undesirable.

The natural landscape is therefore judged as undesirable for the urban life standards. One can link the “hard landscape” (which is preferred over the “soft landscape” in landscape architecture schools) to the above.

In certain cases, “living creatures” were separated from “insects” and “pets”.

Great confusion was generated because of the “climate” as a landscape element. Further questions were asked on behalf of the public in relation to “what is meant by the word climate”. A set of explanations were asked on the participation of humidity, temperature, etc. It can be derived from plate #2 that the “climate” is the least important among the landscape components raising a percentage of 38.67% in category 1.

At this point a basic observation must be made. Understanding the importance of the climatic conditions means that one may tell the difference between fundamentally different climatic conditions; this has strong relation to the experiences of places belonging to different geographical background and is relevant to traveling experiences. It is note-worthy to link traveling to understanding totally different weather conditions. Further analysis may link climatic awareness to professional groups, like gardeners, farmers in contradiction to business associates for example. The issue needs further examination and is out of the boundaries of the present survey’s immediate interest.

In many cases, climate was referred to, not as a landscape **element** itself, but as a **factor** determining other elements.



Morning fog covering the castle at Molyvos (Lesvos island, Greece)

A very characteristic response finds that “there is no way climate can participate in landscape aesthetics, and that is why it already there, anyway. It is a given thing. Nevertheless it plays a decisive role determining vegetation cover, physical relief, fauna and the sky itself, and so one may say it actually belongs to the landscape.” Another approach (also found in relevant landscape aesthetics bibliography) finds climate a basic factor determining the visual experience that landscape can be. It so affects the colours through humidity, determines the shape of the clouds, the light and therefore the shapes of the elements belonging to the landscape. In this way landscape is considered to be a visual experience primarily.

Less of a problem was the participation of the sky in the landscape. Regarding the percentages, the sky seems to be given less attention as a landscape component. It is also not-worthy to make the necessary linkage to traveling experiences and working groups, to place of permanent residence (urban-non urban). In this case, there were no surprises; certain people observed that “the sky is the most erotic part of the landscape”, or “the creator of the colours involved in every image”.

Sky and climate were referred to as “things that cannot be touched”, and which were therefore considered different from all the others.

Therefore, the potential (positive or negative) for a tangible experience determines the aesthetic participation of the landscape elements.

Considering the above, it seems like there are **two different groups** of landscape components: The first comprises of the vegetation cover, the physical relief and the water element (participation percentage of about 54-61%), and the second that comprises of the living creatures, the sky and the climate (participation percentage of about 38-45%). Based on the ranking system, the first group may be called “primary group of landscape components” and the other “second group”.

Question 3 explored the **participation rate for each of the primary senses, constituting landscape aesthetic experience**. As expected, vision proved to be the most dominant of all.

Table 3

	Participation rate	Smell	Taste	Vision	Sound	Touch
1.	«very much» / «a lot»	63,57%	12,50%	93,21%	74,29%	62,86%
2.	«moderate»	15,36%	17,50%	0,00%	12,14%	13,57%
3.	«a little» / «not at all»	12,86%	54,29%	0,00%	4,29%	11,07%

Through the interviews it was pointed out that “taste” was difficult to be linked to an aesthetic experience derived from a natural landscape. A similar problem occurred in relation to the sense of “touch”. In this case, not only did its participation to a landscape experience fail to be justified, but also its fundamental qualities raised doubts. During testing phase 1, there was no explanation showing the importance of touch in the landscape; after a set of observations on behalf of the public, further supplementary information proved to be necessary.

In general, “touch” gained serious ground over “taste”. It was pointed out that missing touch is a cultural problem. It is relevant to our way of living in big cities and is also connected to the overpowering of vision against all other senses. Apart from the social influences, missing touch has also got to do with age. It was repeatedly noticed that in younger people, touch plays a more important role in perceiving space.

Alternative answers about landscape perception referred to the “feel” of the landscape, the “emotions” and “tranquility”. A low 5% came to distinguish colours from the rest of the visual experience while another 3.31% referred to the “movement of the landscape” and the “temperature ease” connected to touch.

This question as well raised observations showing strongly the need to interrelate the above senses to a general impression. An indicative response finds “all senses together in harmony and balance”, while one may notice the proportional participation of all senses in close relation to the character of each individual landscape.

Question 4 referred to the **stereotypical aesthetic value of the natural landscape**. The landscape elements’ participation rate was hereby re-evaluated not in examination of landscape character, but as a prerequisite for the landscape aesthetic value.

The part of the public that did not consider any of the elements as **necessary** components for landscape beauty was rather essential : 30,39%. Landscape beauty was thus seen as a whole.

Aesthetic value proved relevant to landscape character. It is important to distinguish between **character**, as a **qualitative** attribute and **quantitative** approach of **summing up** different components.

By careful attention one would find serious common ground between questions # 5 and 7. An example : In many cases, question #5 suggested that the presence of water element is crucial for the aesthetic value of a landscape. Parallel to that, question #7 found Sakhara Desert a very common preference. Through interviews, it was shown that the Desert type maintains its own unique character, and so water is not a necessity – a presupposition of beauty. The striking contrast is hereby indicative for (1) the use of stereotypes in landscape aesthetics, and (2) the role of landscape character as a total expression. Landscapes presented in questions #7 act similarly and have immediate relation to question #5.

Responses to questions 3 and 5 are presented in direct comparison in the following table :

Table 4

	Participation	Question 3			Question 5		
		Vegetation Cover	Water element	Living creatures	Vegetation cover	Water element	Living creatures
1.	«very much» / «a lot»	61.33%	55.25%	44.75%	62.98%	61.88%	35.36%
2.	«moderate»	3.87%	7.73%	13.81%	4.42%	5.52%	21.55%
3.	«a little»	1.66%	2.76%	10.50%	2.76%	1.10%	11.05%

	/«not at all»		

In addition to vegetation cover, water element and living creatures, the public’s opinion is presented in relation to people and architecture :

Table 4

	Participation rate	People	Buildings
1.	«very much» / «a lot»	9,64%	11,79%
2.	«moderate»	1,21%	14,64%
3.	«a little» /«not at all»	42,14%	39,29%

As a result, according to the public’s opinion, both **vegetation** (62.98%) and **water element** (61.88%) are serious presuppositions for beauty, while the presence of **living creatures** are somehow indifferent (necessity rate 35.36%). **People** and their **buildings** (architecture) are characterized as fairly undesirable (necessity rates of 11.05% and 8.29% respectively). Taking into consideration that “natural” landscape is hereby examined, it is interesting to note the public’s preference (8.29%) in buildings. It was suggested that “since we are living –more or less- in an urban environment, the presence of architecture is somehow important.”

Comparing the components in table 4, it is evident that the participation rate of every component may suggest beauty indicators. A careful study of the questionnaires showed that the very same people who answered that vegetation is an element of the natural landscape (question #3), find that vegetation is necessary for a natural landscape to be beautiful (question #5). The same approach also holds for the elements of “physical relief” and the “water element”. **Aesthetic value is therefore inherent in the notion of the landscape.**

According to public opinion, landscape is **by definition connected** to some aesthetic value; beauty is expected from the landscape in the first place.

Question 5 explored the basic factors affecting landscape aesthetic value. It was suggested that variety, rareness and uniqueness are very significant. In addition to previous findings, beauty was hereby presented as relevant to human perception. For example, if a certain landscape seems **rare** to an observer’s eyes, it can be more likely to be rendered **valuable** and **desirable**. The amount of landscape aesthetic

value consequently strongly depends on human perception (it is “in the eye of the beholder”).

Table 5

Size	12,14%
Variety	63,21%
Homogeneity	24,29%
Uniqueness	63,93%
Other (i.e. serenity, harmony, character) A balanced composition of different elements, time of day, familiarity, naturalness	10,71% 8,21%

Additional observations (raised a considerable **11.60%**) presented in interviews suggested a wide series of alternative factors affecting aesthetic value. Such are the factors of “harmony” (frequently presented in relation to “homogeneity”) and “order”. A common observation focused on putting together landscape elements, underlining the idea of “entity”. Landscape syntax approached in a synthetic manner repeatedly referred to the “character of the place”, attributing the quality of “topos” in a common part of the natural environment. “Rareness” was distinguished from “uniqueness” at a series of interviews (not all of them did). According to that opinion, uniqueness is constituted on the special synthetic attributes of the landscape, and should by no chance be related to the rareness of a landscape type (or the landscape under examination). Interviews also showed that the question required a lot of time and effort, and in many cases, supplementary explanatory questions proved necessary. For better understanding, examples were given; a striking one would be the comparison between Grand Canyon (located in California, USA) and the Samaria Canyon (located in Crete, Greece), in terms of general size. The public frequently went back on its own personal experiences in order to better meet the question’s demand. In most cases, evaluation functioned through a series of step-by-step different comparisons. Both notions of “variety” and “homogeneity” proved to be difficult to comprehend, especially in comparison to “size” and “uniqueness”. Linkages between the notions felt necessary for the public, and in many cases they presented a strong sense of arbitrariness.

In **question 6**, through specific examples, it was shown that **extreme weather conditions seriously affect aesthetic judgments**. Comfort is associated with aesthetic experience. In some cases, feeling comfortable proved necessary for having an aesthetic experience, and thus aesthetic value was identified with it. Other cases found uncomfortable conditions equally valuable and able to produce aesthetically significant experiences. Aesthetic value, as seen through experiences and impressions, was determined by the perceptual ability (“capacity”) of each individual, and was therefore relevant to both the observer’s sensual ability, as well as his emotional maturity.

Table 6

Extremely hot landscape	YES	55,00%
	NO	35,36%
Open Sea	YES	81,79%
	NO	13,21%
Extremely cold landscape	YES	60,36%
	NO	29,29%
Arid island	YES	65,00%
	NO	26,43%

Sakhara Desert presents an arid landscape of mostly smooth surface from which a lot of elements (trees, water, animals, people, buildings) are mostly absent. The public hereby raises a preference of 58.01%. The rareness of such an



Desert-type landscape (volcanic rocks) near Agiasos village, Lesvos island, Greece

arid landscape type (in relation to Greek landscape standards), the difficulty of getting there and its uniqueness are the factors providing the overall preference rate. Social associations constructed through mass media and entertainment movies underline the “mystery” and “sense of adventure” connected to it. In certain cases, people who have had the opportunity of visiting the desert remained more skeptical. The dramatic differentiation of the landscape (i.e. sand dunes, bare rocky mountain range, flat arid soil) in many parts of the desert, as well as the different feeling during daytime and nighttime (sudden climatic changes) produced negative attitude. Extreme weather conditions had an impact on the **comfort associated with aesthetic experiences**. At this point, a set of contradictory positions sprung. **Some people find it very important to feel comfortable when having an aesthetic experience, when others distinguish clearly comfort from aesthetics**. In certain cases, uncomfortable conditions may as well produce aesthetically valuable experiences. Aesthetic experience, and therefore the equivalent aesthetic impression is determined by the perceptual ability (or even “capacity”) of each individual relevant to both its own sensual ability, as well as its emotional maturity.



The “open sea” acts as the contrary of the desert. It only contains water and vividly represents the idea of “sea” in Greek culture. The landscape is hereby stereotypical and can be easily translated to imagery through cartes postales or tourist guides. A crucial difference is based on the fact that most Greek people have had the opportunity of visiting such a landscape and therefore it refers to an experience and not a still image. Preference here holds a rate of 81.77% (higher than the desert). The apparent disagreement (13.26%) must consider is even lower when abstention is noted. In comparison to question #5, a big part of the public (61.88%) finds water

element absolutely necessary for landscape beauty. Preference was frequently justified with the totality of the landscape. Local islanders (many fishermen involved) noted the difference between calm and windy seascapes. It is important to point out the cultural differences among groups living by the sea and visiting the sea for touristic purposes (during summer vacations for instance). A university student paper presented in the University of the Aegean pointed out several differences in seascape perception between children living in Kozani (mountainous region at the northern part of Greece) and Mitilini (island of Lesbos).³

The Arctic, or else, a snowy desolate landscape with no trees was less preferred (61.33%) than the open sea (81.77%), or even the desert (58.01%). Again, people who have had the opportunity to visit the Arctic circle, or a close analogous one, remained sceptical. Considering the weather conditions, the difference between the picture and the actual place produced a series of doubts. Interviews proved difficulty preferring the real experience. It was repeated that **the aesthetic value is relevant to the observer's comfort.**



An arid part of Limnos island, Greece

The “arid island” (examples of Tzia, Mykonos and Amorgos provided in the questionnaire) is also about an arid landscape, only that it now refers to a familiar place with a high potential of personal experience. The vast majority seems to prefer

³ **Σιάργκα, Μ.**, Το τοπίο στην παιδική τέχνη, μη δημοσιευμένη εργασία στο μάθημα Ανάλυση και Αντίληψη του τοπίου, ακαδ. έτος 2002 - 2003

the landscape (65.19%). Locals agreed on aesthetic preference but nevertheless pointed out difficulties connected to everyday life.

By comparing and ranking the results, preferences found the “open sea” first (81.77% yes – 13.26% no) and the arid island second (65.19% yes – 25.97% no). Then comes the Arctic (61.33% yes – 28.18% no) and finally the desert (58.01% yes – 32.04% no). Limited explanations were asked from the public regarding the question posed here.

Alternative, or, supplementary preferences involved a combination of water element and pastureland.

Question 7 aimed at **the role of meaning in aesthetic judgments**. In the case of Mount Olympos (the mountain where Greek Gods lived according to Greek mythology), the mountain itself is not like any other, but is entrusted with a strong mythological and historical meaning. The majority here distinguished landscape aesthetic value from mythological and historical meaning : the public could picture the mountain as separate from its historical background.

The role of historical meaning in landscape aesthetic value was also examined in the case of Vergina region (where Alexander the Great grew up). In that case, the majority (60.00%) could **not** picture the landscape as separate from its historical meaning. Consequently, it is evident that the Vergina example hereby acts in direct contradiction to Mount Olympos’ example. As a result, one would suggest that there can be no rule for the relation between meaning and aesthetics. Both are case-dependent.

Ipeiros example explored the role of architecture in a natural landscape. People generally found architecture an inseparable part of the landscape presupposing the compatibility between the two. The majority (61,79%) could **not** picture Ipeiros region without the characteristic traditional stone-made houses. Landscape aesthetics, even though stereotypically dependent on the natural element, tended to hereby introduce an extrinsic element; that of man-made constructions. It would then be a serious mistake to exclude architecture from landscape, in view of its man-made origin. Naturalness was not considered a prerequisite for beauty.

Table 7

Mount Olympos /Ancient Greek Gods	<i>YES</i>	66,07%
	<i>NO</i>	30,00%
Santorini island /volcano	<i>YES</i>	40,36%
	<i>NO</i>	55,36%
Ipeiros region/ traditional stone-made houses	<i>YES</i>	33,93%
	<i>NO</i>	61,79%
Tzia island/ blowing wind	<i>YES</i>	64,64%
	<i>NO</i>	31,07%
Tempi region/ trees	<i>YES</i>	14,64%
	<i>NO</i>	80,71%
Meteora region/ Christian monasteries	<i>YES</i>	37,86%
	<i>NO</i>	58,93%
Vergina region/ historical meaning	<i>YES</i>	31,43%
	<i>NO</i>	60,00%

Contrary to architecture, the blowing wind (example#4) is found an undesirable landscape element. A 60% of people asked can very well picture the landscape without the blowing wind. It was noted that “wind may determine temperature, but is very irritating”. The wind’s natural character, or even, its sense of touch, are overthrown by the comfort people feel.

In Tempio region (example#5), vegetation cover is judged as extremely important. The vast majority (86.67%-highest of all examples presented) found it an inseparable part of the landscape. The combination of vegetation, water and interesting physical relief in a landscape of a fairly small scale and a high density of landscape elements hereby determines the landscape’s aesthetic value. It should be noted that the vegetation cover is by no means self determined; it is dependent on the presence of water and therefore cannot be separated from it. In a way, water “creates” the vegetation cover. Apart from the total character of the landscape, a **cause-and-effect relationship** connects landscape elements with each other. Landscape is seen as a system of relations constructing a total organic entity. **The relative nature of the landscape is here indicative of an ecological approach on behalf of the public.**

The last example (#6) aims to examine the relation between Meteora region (well known for their rock formations) and their characteristic Byzantine monasteries. Monasteries are here found as an inseparable part of landscape beauty (66.67%).

From a different point of view, “if it wasn’t for the grandeur of this unique landscape, no one would primarily choose the place to build the monasteries”. The rareness of such a geological phenomenon in Greek landscape is what attracts the attention. Religious character follows; monasteries manage to assign divinity to this unique landscape. The public is now face to face with the final outcome and values its aesthetic character. Judging the landscape, people cannot separate the two attributes due to the fact that they are interactive. Again, the compatibility between meaning, landscape and man-made structures is the issue. In the case of Meteora, compatibility is at full and so, landscape is perceived as an total entity.

Concluding the interpretation of the response to the present question, one must note that three typical answer “profiles” can be observed. These are :

1. All examples answered by “no”, which means the person asked cannot picture any of the presented landscapes without their cultural meaning. Landscape beauty is perceived as a total entity.
2. All examples answered by “yes”, which means the person asked can well picture all presented landscapes without their cultural meaning. Meaning and beauty are two different things. Landscape beauty is not perceived as a total entity.
3. Some examples answered by “yes” and some by “no”, which means the person asked is judging by the case, that is, according to the final outcome, and not according to the natural, or, the man-made character.

Question #8 has raised a lot of interest on behalf of the public, and required a lot of time and effort to answer. Further explanations found absolutely necessary.

Question 8 aimed at raising the issue of **aesthetic evaluation of the natural landscape as a systematic procedure**. Answers came as a surprise, given the fact that a considerable part of the public (39,29%) did not agree on landscape evaluation in the first place. Comparing the answers, 110 people (out of 300 – 39,29%) stood against the evaluation, while 112 people (40,00%) agreed. Another 94 people (33,57%) found beauty as basically subjective and therefore unable to be evaluated.

As an argument, “no landscape proves to be ugly for everybody”. “Proper” evaluation was not accepted; people found no “right” or “wrong” way of evaluation, and therefore **no evaluative system could be proposed according to the public.**

Subjectivity is thus directly linked to the inability of further evaluation. People examined the issue based on their personal experiences and frequently recalled of a wide range of “wrong” landscapes.

Taking landscape evaluation for granted, the “short description” method was best preferred (53,93%). The quantitative approach (using “a single number”) was essentially turned down raising a very low score (8,21%). A lot of complementary answers were presented here; the question was open to further suggestions. Most popular of all were those of “using a poem” or “a more analytical description”. The “poem” was also introduced in question 10, where “poets” proved to be “more reliable than experts” to better evaluate a landscape.

It must be said that images or pictures (still or videos) were not an option in the given questionnaire. Nevertheless, a 6,79% of the public found it necessary, while another 3,57% suggested the “first hand experience” as even more reliable.

Finally, familiarity was noted as a decisive factor of landscape aesthetic evaluation.

Table 8

Single number	8,21%
Single word	24,64%
Short description	53,93%
Only in relation to other landscapes	23,21%
Other (analytical description, poem, feeling)	11,07%
Image (still / video)	6,79%
First hand experience	3,57%

Question 9 proved landscape aesthetic value as not standard or fixed, but constantly changing depending on the spur of the moment.

It also changes according to the way we perceive it while growing old. It is important to note that for the public, “beauty **does not** change according to the ideals of each historical period”. A common complementary answer suggests that “beauty is constant in itself but it is us that perceive it in a different way every other time.”

Finally, a 6.08% suggested that beauty depends on “human interventions” and the “seasons”.

Table 9

Always remains the same	<i>YES</i>	11,43%
	<i>NO</i>	74,29%
Changes as we grow up	<i>YES</i>	70,71%
	<i>NO</i>	14,29%
Changes in relation to the historical period	<i>YES</i>	35,00%
	<i>NO</i>	46,79%
Changes depending on the spur of the moment	<i>YES</i>	82,14%
	<i>NO</i>	9,64%
Other (seasons, etc)		5,00%

Question 10 examined the relation between experts and non-experts in landscape aesthetic evaluation. The “combination of experts and non-experts” was best preferred (40,00%). “Experts”, with non-expert support, only raised a 3,21%, while “non-experts” stood ahead with a rate of 12,86%. The difference in preference between “experts” and “non-experts” was striking.

Table 10

Experts only	3,21%
Non-experts only	12,86%
Combination of experts and non-experts	40,00%
Cannot be evaluated	39,29%

Other (it is subjective)

33,57%

In **question 11**, the public opinion did not accept any of the proposed factors as determinants to landscape aesthetic value (**economical welfare** : 17,50% yes – 63,93% no, **social status**: 16,79% yes – 62,86% no, **professional background** : 36,43% yes – 46,64% no).

Table 11

Economical welfare	YES	17,50%
	NO	63,93%
Social status	YES	16,79%
	NO	62,86%
Professional background	YES	36,43%
	NO	44,64%

Finally, **question 12 explored the negative landscape aesthetic values.**

Locating the reasons for an aesthetically undesirable environment, the public referred to [pollution, human interventions and incompatible architecture](#). It certainly is noteworthy that **architecture can both raise aesthetic preference and cause a considerable damage to natural landscape.**

Question #13 was of an open-type; suggestions were various, nevertheless easily classifiable. Most popular answer was that of “**pollution and garbage**” (39,23%). Right next, and with a minor difference was that of “**incompatible architecture**” (31,49%). This answer is presented in a variety of ways; many people mentioned “houses than do not go along with landscape character”, while others noted “too much concrete”, “ugly/grey buildings”, etc. Next suggestion was that of “**human interventions with no respect**” (28,18%). It is of a more general character than the previous suggestions clearly indicative of an effort to express a lot of different things, all at once. One must hereby observe the linkage between “ugly” elements and human constructs. Supplementary observations point out that “nature does not produce ugliness, only humans do”, or even “ugliness is a civilization by-product”. Differentiating “natural” to “man-made” refers directly to question#1 – it goes back to the original definition of “natural landscape”. Lower rates were assigned to “aerials, billboards, trash bins, electricity cables and pylons” (9,39%), “cars and mechanical structures of all kind” (4,97%), “abandonment in general – derelict places” (4,97%) and finally “man-made catastrophes” (10,50%).

Table 12

Human intervention with no respect	28,21%
Garbage / Pollution	42,86%
Automobiles	5,36%
Noise	3,21%
Aerials/billboards/pylons/electric cables	10,00%
Incompatible architecture / concrete constructions	36,07%
Catastrophes caused by humans	10,36%
abandonment	7,86%
Non-harmony	9,29%

CONCLUSIONS

The difficulty in finding a suitable (and generally acceptable) definition for the natural landscape (question #1) is equivalent to that of landscape experts. It is indicative of the lack of a concrete theoretical framework for landscape studies in general, and more specifically for landscape aesthetics. The problems are based initially in what landscape is; since landscape scientists have not yet agreed on some common ground, it is reasonable to face difficulties on behalf of the public. It is really important to notice that the public paid little attention to **visual qualities of the landscape providing a particularly low rate** (9,04%), taking into consideration Hamerton's definition on landscape («landscape is what man can see at the earth's surface at a single glance, and has some aesthetic unity»⁴). Tending to **identify nature to landscape** has also been kept at a low rate, confirming the difference between them in terms of theory⁵. The public also suggested that what separates “natural” from “artificial” is directly relevant to human interventions. Another basic observation regards the **combination of different landscape components** like vegetation, physical relief and water element. At this point, landscape tends to be identified with the sum of its elements; nevertheless, in view of additional answers to further questions showed that it is really not the case. Even though there is a strong need to

⁴ **Ανανιάδου-Τζημπούλου, Μ.**, Η ανάλυση του τοπίου στο σχεδιασμό. Συμβολή στην έρευνα αρχιτεκτονικής τοπίου, (διδακτορική διατριβή), Επιστημονική Επετηρίδα της Πολυτεχνικής σχολής ΑΠΘ, Θεσσαλονίκη, 1982, σελ. 53

⁵ **ό.π.**, σελ. 224

distinguish the components in order to better comprehend the landscape, people still prefer to perceive it as a entity, maintaining a total character. Constructing a synthetic approach towards landscape is already the issue from question#1 (by suggesting a definition) and still rises in questions #3 (setting the landscape components), #5 (using the components as presuppositions for landscape's beauty), #7 (pointing out stereotypically desirable landscapes) and finally #8 (exploring the role of meaning in aesthetic preference).

Accepting to break the landscape in its components, two basic groups are formed (see question3): (1) primary (vegetation cover, physical relief, water element) and (2) secondary (climate, sky, animals, people, architecture). As already mentioned, **the participation rate for each one of them is identified with the desire to participate**. The problem occurs when people feel uneasy with a certain element (i.e. with animals, insects, or extreme weather conditions). For instance, feeling uneasy with blowing wind makes people discrediting it from the landscape as an entity. This acts in contradiction with landscape theory : up to now, each components' role was related to its geographical and spatial characteristics. Antrop suggests that "every element is assigned with its meaning and value only **in relation to the surrounding elements** of the landscape"⁶. The public suggests that **the components are desire-dependent. The components therefore are by no means self determined, but are assigned their role according to the observers' preference and personal expectations**.

Question#4 confirms in a way the theory on landscape aesthetics. According to it, the senses are working together in order to construct the final aesthetic experience (and therefore the equivalent aesthetic impression) for the observer – but **each one on a different level**. The public ranks the senses accepting vision as the most important one. Of secondary role are sound, odour and touch. Higher interest is appointed to touch while taste is almost absent. In this way, **the aesthetic experience of the landscape is constructed differently for each and every sense, separately**.

It is very important to notice that none of the landscape's components acts as a presupposition for its beauty (question5). Aesthetic value is assigned to the entire landscape character. It must be also underlined that, **according to the public's opinion, landscape is by definition connected to some aesthetic value**: the

landscape should be identified with beauty (question#5). Aesthetic value depends on landscape variety, rareness and uniqueness (question#6). It is therefore confirmed that **beauty is not an intrinsic value of the landscape, but is undoubtedly dependent on human perception**. At this point, Lothian's debate ("Is beauty inherent, or is it in the eye of the beholder?") is brought upon the public. Taking the issue in real terms, an observer would rate a rare landscape (it may be rare and unique to him - not some other person) as valuable and so desirable. Comparing the outcome of question #6 to landscape evaluation theory, it is noted that Coeterier suggest variety and uniqueness as important criteria to landscape aesthetic preference⁷.

It proves interesting to notice that landscape meaning, no matter if that rests on historical, mythological, religious or cultural ground strongly affects aesthetic judgments up to a certain point.

Aesthetic landscape value is strongly related to human perception and culture. The present position is confirmed by findings on question #10 responses: aesthetic value is not fixed, but is in constant change according to the observer. It can change through age, surrounding perceptive conditions and personal temperament. The public's opinion hereby accords with part of landscape theories suggesting aesthetics as a cultural construction gradually altering in time depth.

Because of the uniqueness of every landscape and the subjectivity of aesthetic judgments, **aesthetic evaluation** is considered to be difficult or even impossible. Through several interviews a high degree of doubt was shown for its success. That would be the reason to avoid building a model for it. Since that proves necessary for practical reasons, the public doubts the experts (acting on their own), prefers them cooperating with non-experts (see question 11) and methodologically would suggest landscape description (brief or analytical- see question 9) together with a non-technical support (a poem for instance).

Regarding the dangers for an aesthetically undesirable environment, the most severe threats the public underlines refer to pollution, human interventions in general and incompatible architecture (see question #13). Especially architecture is considered to be the greatest threat for the natural landscape, aesthetically and functionally. The

⁶ Antrop, M., Background concepts for integrated landscape analysis, Agriculture, Ecosystems and Environment 77 (2000) p. 19

⁷ Coeterier, Individual Differences in the aesthetic evaluation of natural landscapes, Groningen, 1999

reason for that would be the uncontrollable desire to economical exploitation of any given available space.

- Professional ground regarding landscape is very poor in Greece; nevertheless the natural landscape plays a very significant role in Greek culture. Changes are thus seen as potentially harmful and the need for action is obvious.
- Even though monitoring and control are considered to be necessary, expert involvement is seen with doubt.
- The public found that the concept of landscape tends to be rather general and therefore cannot be easily restrained in the boundaries of a single definition.
- Since landscape components were seen as desire-dependent, they could by no means be considered as self-determined; they were assigned to their role according to the observers' personal experiences and expectations.
- Non-tangible elements were seen as obstructions to the aesthetic experience.
- According to public opinion, landscape is by definition connected to some aesthetic value; beauty is expected from the landscape in the first place.
- Landscape meaning, regardless whether it lies on historical, mythological, religious or cultural ground, strongly affected landscape aesthetic value.

Consequently, landscape concepts should be dynamically included not only in a wide range of university studies but also in public daily life.

Harry Papaioannou
Landscape architect
Lecturer at the Aegean University – Department of Geography