The Azores Lake Gardens as touristic asset: using the visual preferences

Los jardines de los lagos de las Azores como bien turístico: estudio por el método de las preferencias visuales

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Abstract

This paper discusses the touristic asset of the Azores Lake Gardens, analysing landscape transformations and testing the currently visual preferences of local people (C. Steinitz 1990; C. Castel-Branco et al. 2011). On the volcanic Islands of the Azores lake gardens built in the 19th century in the old craters of Furnas and Sete Cidades at S. Miguel Island had a naturally picturesque setting. Since then, they became cultural landscapes; encompassing extensive woodland gardens and romantic buildings (I. Albergaria 2000), these Lake Gardens have turned into iconic symbols of local identity becoming the subject of representations as part of the tourist attractions of the island. Albeit the high standards of environmental and landscape quality of the Azores, promoted in international publicity as the most sustainable tourist destination in the world (Global Sustainable Tourism Review, 2014), these two lakes are polluted due to an intensive dairy practice impact and became eutrophic. A long term goal of the project envisions to protect these lakes and landscapes to promote them through cultural landscape management and spatial planning within a sustainable tourism framework.

Key words: Lake Gardens of S. Miguel Island, Identity Landscapes, Touristic Interpretation, Visual Preferences.

Resumen

En este artículo se estudia el activo turístico de los Jardines del Lago de las Azores, analizando las transformaciones del paisaje a partir de las preferencias visuales actuales de la población local (C. Steinitz, 1990; C. Castel-Branco et al., 2011). En las islas volcánicas de las Azores, los jardines lacustres construidos en el siglo XIX en los viejos cráteres de Furnas y Sete Cidades en la isla de S. Miguel tenían un entorno naturalmente pintoresco. Desde entonces, se han transformado en paisajes culturales que comprenden extensos jardines boscosos y edificios románticos (I. Albergaria 2000). Estos Jardines del Lago se han convertido en símbolos emblemáticos de la identidad local y, con ello, tema de las representaciones como parte de los atractivos turísticos de la isla. A pesar de los altos estándares de calidad ambiental y paisajístico de las Azores que se promueve en la publicidad internacional como el destino turístico más sostenible del mundo (Global Sustainable Tourism Review, 2014); estos dos lagos están contaminados debido a un intenso impacto en la práctica láctea y se han vuelto eutróficos. Un objetivo a largo plazo del proyecto prevé la protección de estos lagos y paisajes con el fin de promoverlos a través de la gestión del paisaje cultural y la planificación espacial, dentro de un marco de turismo sostenible.

Palabras clave: Jardines del Lago de la Isla de S. Miguel, paisajes con identidad, interpretación turística.

Summary

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1. Introduction

The Azores lake landscapes within the volcanic cones of the islands are the most attractive and valuable touristic resource of St. Michael Island. As an identity phenomenon these volcanic lakes play for most of the islanders the role of a kind of collective “superego” (as to use a psychology term). This daring hypothesis seems to be confirmed by the study carried in the project with inquiries that consulted the visual preferences of different groups of users within the island of St. Michael.

The cultural landscapes of the two main lakes Furnas and Sete Cidades catalyse what Cosgrove refers as the symbolic landscape meaning/significance and its portrayal in art or other visual discourse (Cosgrove 1998).

The historic and cultural transformation that occurred after 1840 on these previously forgotten landscapes has created touristic slogans for the “intact Nature” of the Azores islands. Destination for the islands claim to offer “Nature in its pure state” or “Nature alive” and these are misleading concepts because this “Nature” or rather, this landscape has been highly manipulated by Man. Its superb topography, its sublime waterscape, its raw materials were the elements that a handful of local men shaped to produce the present landscape with its sublime beauty and its internal liabilities.

In Furnas, as well as in Sete Cidades, cultured and wide travelled men’s vision got entangled with craters and volcanoes, as elements of a natural arena used as medium. Many times, during the last 170 years, sensitive mutations in the way these landscapes are perceived and represented were revealed, which deserve to be known and analysed. The duly explained process reveals its intimate connections with the tourism phenomenon. There is no need to go further than making a relationship between the progressive identification of the most touristic places with the acknowledgement of the heritage values (Palmer 1999), associated in the promotion of the brand Azores, especially in St. Michael island. Thanks to an international favourable framework, related to intensification of maritime traffic, the 20th century first decades witnessed tourism intensification, and it was then that the must-see sights for all tourists arriving to St. Michael Island were defined. The image of the Lakes and their landscaped margins, transformed into leisure resorts, start to build the representation of a territory that becomes the image of a Destination.

Figure 1. the collapse crater of Sete Cidades

However, in comparison with other insular contexts, the Azores remained rather isolated and remote from the most important touristic circuits, associated with sun and beach tourism. Branded by isolation, territorial fragmentation and the effects of insularity, the Archipelago stands up to high standards of environment and landscape quality, distinguished in the international scenery as the most sustainable
touristic destination all over the world (2014); this distinction was awarded by Green Destinations, supported by indicators certified by Global Sustainable Tourism Review, that evaluate environmental and cultural performance, social well-being, “green” economy and politics of ecological tourism. Thus, the Azores achieved the highest maximum score, among all evaluated destinations, ahead of sites in The Netherlands (Noordwijk, Goedereede-Ouddorp, Westvoorne, Schouwen-Duiveland), Greece (Ierapetra, Creta), Italy (Migliarino San Rossore Massaciuccoli) and Malta (Gozo and Comino).

However, the remarkable aesthetic quality of the cultural landscape in St. Michael’s lakes hides an elusive environmental quality. In reality, the economic dynamics and the consequent substantive changes in land use – mainly due to the exponential growth of the intensive agricultural activity that occurred in the second half of the 20th century – made a deep indent on the ecological balance of those landscapes, bringing about various environmental problems, the most visible aspect being the quality of the water in the lakes, presently in an eutrophic state of difficult reversion.

Ascertaining validation of the population’s synonymy between the lakes landscape and the visual landscape preferences, we aim at alerting to the need to reach the level that is being merchandising as “brand”. Despite some environmental and spatial planning measures taken into effect by the government entities (Special Planning Decrees for the Furnas and Sete Cidades Lakes, SRA, 1999), the ultimate objective of the present essay aims at insisting on the need of making the corrective measures for the spatial and water planning and for the management of these landscape units as a top priority, in order to reverse the current environmental situation, without forgetting, in that equation, the prominent role that sustainable tourism concept must be called upon to play in that process.

2. The landscape changes introduced and signed by José do Canto and by António Borges and the new cultural identity of the Island

To examine the process through which these landscapes were transformed during the 19th century we must understand the philosophical context of the time and the two men who changed the areas surrounding the lakes of Furnas and Sete Cidades, having in mind what Monica Luengo states about garden making: “Gardens are a product and a mirror of their creator’s personality in relation with the genius loci” (Luengo 2011).

The idea of a need for solitary contact with nature was best expressed by J. J. Rousseau in his 1775 Reverie du Promeneur Solitaire. He celebrated a kinder nature, mild and beautiful; “Nature offers Man in the harmony of the three Kingdoms, an exhibition full of life, of interest and of enchantments, the only show in the world where the eyes and the heart never get tired” (Rousseau 1972:375).

The praise of Nature as a source of enchantment touched a large public and had consequences in many domains, such as the garden design or landscape paintings. The aesthetic appreciation of Nature had however an important advancement when in 1757 Sir Edmund Burke published his work about beauty entitled A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful. Burke opened a new world into the realm of nature appreciation and tried to explain the emotions inspired by what he considered beautiful and distinguished them from those that he called sublime. “On closing this general view of beauty, it naturally occurs that we should compare it with the sublime; and in this comparison, there appears a remarkable contrast. For sublime objects are vast in their dimensions, beautiful comparatively small; beauty should be smooth and polished; the great, rugged and negligent: (...) beauty should be light and delicate; the great ought to be solid and even massive” (Burke 1757:206).

When applied to the landscapes of Furnas and Sete Cidades the “sublime” fits in like a glove. The volcanic crater of Furnas has a diameter of 7km, the lake is about 2km long and the peaks around it reach an altitude of 800m. The crater of Sete Cidades has a diameter of 19,3 Km and its lakes cover a surface of 4,3 Km; the highest peak (Pico da Cruz) being 856 m of altitude. With their exceptional features, no doubt they belong to Burke’s “sublime” category (Figure 2)
Having the concept in mind, these two men, José do Canto and Antonio Borges, creators of new landscapes in the island of S. Miguel, used the picturesque style and the new 19th trends for ornamental horticulture differently, resulting in new landscapes and detailed novelties that we can still appreciate today as two different entities.

José do Canto (1820-1898) had been raised in the Azores, then was sent to Paris to the College de Fontenay-aux-Roses and studied Mathematics at the University of Coimbra. He was the heir of large tracks of land in S. Miguel Island and his love for botany and gardens became a major trend in his life. He had to manage the landscape and make it productive but his love for plants is an exceptional one as we can read in his own words: “the hard part is not to very much love plants; it is rather to grant them attention for a day; once that step is overcome the conversion happens. The contrarieties that follow, the grieves, the lack of knowledge for their culture, only help to double the ardent passion” (Albergaria 2000:122). It also helps explain his effort to gather 600 ha of continuous woodland that he had acquired by exchanging and buying hundred properties around the lake.

Pedro Borges extensively confirms J.C. Loudon’s influence in the reforestation of the Furnas lake crater area and the garden design for his park and claims that Loudon’s Encyclopedia was Canto’s bedside table (Borges 2007:352), though surely other influences from other sources hinged his decisions for he selected a French landscape architect to design the Park of Furnas1. The fact is that since 1845 Canto had already attempted to reforest various woodless slopes within his domain following Loudon’s principle “But let the mountain be covered with wood, and the water shaded by trees and the scene is instantly changed; what was before cold and barren, is now rich, noble, and full variety” (Macdougall et al 1980:13). Canto’s huge passion for plants is responsible for the massive impact of the plantations in the Furnas crater. He planted, among others, millions of spruces, oaks, camellias, hydrangeas, roses, junipers, cedar, and many others. Further on, the property was added on to, and new plantations of criptomerias, becoming a big forested wood. He imported 86 varieties of pines, of oaks 28 and of acacias 36. He put together a catalogue with 268 manuscript pages, mentioning 1028 classes and about 3000 species. A huge change in this landscape unit made by a single private man will result from the combination of these factors and will be determinant to the whole island’s land (Fig 3).

1 José do Canto commissioned the plan design of his property to Barillet-Deschamps (1824-75), an expert in horticulture and chief gardener to the city of Paris under the J. C. A. Alphand supervision.
On the western tip of the island Lagoa das Sete Cidades was the place Antonio Borges (1812-1879) chose as his elected paradise. Borges was also a land owner but his interest in botany was less than his love for art. For a while he was the only art collector in the Azorean that could owned a Gaspard, a Nicolas Poussin, a Salvatore Rosa, reminding us that the model inspiring the garden designers was not nature itself but paintings idealized by artists and inspired by classic literature (Correia et al 1994:88-89).
The first impression of the large landscape unit of Sete Cidades is unforgettable, mostly because one accesses the first viewpoint from the top of the crater, and the view encompasses the whole landscape where the natural forces can yet be seen: the volcano, the ocean, and the resting waters that filled the fire hole of the crater. The emotional artistic impression is so stunning that local guides who ridded donkeys kept visitors blindfolded until they arrived at the panoramic spot. Only then would they remove the handkerchief and offer the visitor a complete view of the site. From the point of view of landscape architecture, the most interesting element were the location of the house – a summer home based on catalogues illustrating cottages and English landscapes – which was to be a mark of man’s presence in this unique natural landscape also used in the landscape composition as an eye-catcher. Antonio Borges followed the natural features like the lake’s margins to design walkways and to discover special angles to enjoy views around the lake. He wanted to fulfil his dream of “carrying on an original project he calls the building of a landscape, adjusted to the site qualities” (Albergaria 2000:203). A remark that could lead us to Capability Brown, and his well-known talent to reveal the potential beauty of a place by reinforcing its natural qualities, keeping any trace of man in the landscape very subtle (Figure 4).

3. The cultural landscapes identities through Tourism marketing

By the end of the nineteenth century artificial harbour in Ponta Delgada, strategically situated for the Atlantic traffic², was reached by hundreds of ships bringing along with them some travellers and tourists longing to visit the famous gardens and volcanic landscapes of the Island.

Figure 5. the main tourist assets by Felix Sotto-Mayor

Once in land they could visit a very busy stationery owned by the republican Evaristo Ferreira Travassos (1869-1962) located in the main square of the town and get a map of the island, some photos and postcards with the most celebrated landscapes and the very usefully guide tour (written in Portuguese

² The harbour at Ponta Delgada welcomed regularly ships of the Scrutton’s Line from Antilles to London, the Cuban Line ships from New Orleans to London, the Prince Line ships, also from New Orleans to the Mediterranean Ports and the national vessels coming from Lisbon, Madera and the other islands of the archipelago.
and English) by Felix Sotto Mayor (Sotto-Mayor 1899). The guide advised: if you have two or three days in the Island «one should be spent in seeing the gardens (...) and the other, should be taken advantage of to make an excursion either to Sete Cidades or to Furnas although the journey to and from the last mentioned place in one day would be tiresome» (Sotto-Mayor 1899:33). (Figure 5)

The Furnas Valley and the lake of Sete Cidades, along with some monuments and typical costumes were the main brochure shot for tourism consumption, and so they are gathered in a large system of representation, reproduction and divulgation. The core of this cultural program was due to Sociedade Propagadora das Notícias Micaelenses, founded in 1898 with the high patronage of Prince Albert I of Monaco who was very fond of the archipelago where he led several of his own oceanographic campaigns. The society itself aimed to promote in a «patriotic manner» several political, economic and cultural initiatives within the First Autonomist Movement of the Azores (1878-1899). As far as the touristic industry is concern the main goal was «To attract the world attention to the exceptional conditions of the climate, de mineral waters, and the delightful panoramas of the volcanic landscape» (Costa 1964:22).

It is easily recognizable the visual and discursive preferences of the local elite based on the iconic volcanic landscapes along with the mild climate and the richness of the thermal waters that made part of the Furnas Valley touristic history. As for Sete Cidades we have to look at the romantic rhetoric of the sublime just to understand how important it was to have a fixed viewpoint looking at the vast crater and the two majestic lakes. The climax moment of this rhetoric came out in 1901 when the King of Portugal Carlos I and his wife the keen Amelia visited Sete Cidades from a certain viewpoint up in the mountains that is known since then as Vista do Rei (King’s view). The Album Açoriano (Published in 1903) celebrates this moment with a photo of the royal couple and reinforces the idea of Sete Cidade as a scenographic view: «an striking view, astonishing, like a darkened boxlike, stands in front of me», wrote de journalist Augusto Loureiro (Loureiro 1903:154) (Figure 6)

Figure 6. The royal couple at Vista do Rei in 1901

Source: photograph by Coronel Afonso Chaves © Museu Carlos Machado

Once the touristic industry was more seriously considered the propaganda after the typical Azorean landscapes was the most important feature within the new regionalist aesthetic. The two magazines Os Açores (1922-1928) and Insula (1932-1934) published covers and drawings by Domingos Rebelo (1891-1975), a regionalist painter, showing the picturesque and bucolic spots of the Green Island (the label assigned to the S. Miguel Island). The Terra Nostra Company founded in 1933 was responsible for a few outputs in terms of touristic interest to Furnas Valley: a modern hotel was built next the extensive garden of Hickling; a golf course designed by the famous Scottish golf course architect Mackenzie Ross (1890-
1974), and a small casino for entertainment of the tourists and the holidaymakers. At the same time the hot springs near the lake were used under a ritualistic staging manner for a reinvented traditional dish: the *caldeiras* boiled meats and vegetables cooked in the holes dig in the soil (Figure 7).

![Figure 7. The area of Caldeiras at the banks of Furnas lake](image)

Patrimonial awareness of these two cultural landscapes lead to different role in each case: Furnas became a dynamic vacation area where the presence of Gardens epitomized the scientific and leisure relationship with nature and into to a certain point with the social evolution; Sete Cidades envisaged the aesthetic potential of the volcanic landscape but the village itself never took part on it. Perhaps people were just striking by the sublime view from *Vista do Rei* and don’t felt the need to descend to the bottom of the crater floor.

4. Visual preferences today. The measure of local people’s opinion and the identity of the Island as a cultural landscape

To measure the actual landscape preferences, we applied an inquiry process applied to local people and visitors during the 2014 Summer, adapted from Carl Steinitz visual preference method resulting in cartographic outputs of a Geographic Information System (GIS) which presents the areas of greater and lesser public preference for the S. Miguel Island. The Steinitz’s process was followed and adapted to the Centre for Applied Ecology Baeta Neves method (CEABN method. Castel-Branco et al. 2011) starting by a land use analysis using COS’ 2007 GIS map selecting and photographing the thirteen most significant land uses:

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3 At the end of Summer 1933 Furnas celebrates the new Terra Nostra Company with a fair of Industry and Agriculture and a festival known as the 9 days week.

4 The field survey would not have been possible without the support of the Azores Regional Directorate of the Environment, the Azorina Company, and the Monitoring and Research Centre of Furnas. We specially wish to thank to Miguel Ferreira and Malgorzata Pietrzak. The data analysis was developed by Ines Fontes.
1) agriculture 2) traditional architecture 3) contemporary architecture 4) Coastal cliffs falling over the ocean (with belvederes) 5) Tea plantations 6) Forest 7) volcanic lakes 8) natural vegetation areas 9) Pasture land 10) industrial areas and quarries 11) harbours 12) beaches 13) road system.

Among the 250 photos taken, 50 were selected to best represent these classes of use and were printed and codified with their use code (Figure 8). Three sets were developed and given to the team members to apply the photo inquiry process during 5 days in various location including Furnas and Sete Cidades. 240 people were interviewed and asked to arrange the fifty images in groups according to their preferences. The photos were to be ordered as follows: five strong preferences, then ten likes, then the five strong dislikes, followed by ten dislikes, and finally the twenty average images. Information about each respondent’s profile was also collected (residence, gender, age, profession and education) (Figure 9).

Figure 8. The 50 photos selected

| Source: © Isabel Albergaria & Ines Fontes |

Figure 9. Percentage of respondents per survey site and per gender

| Source: Own elaboration |

Meanwhile the explanatory variables (preference hypotheses) selection was defined and the team proposed a set of eight variables hypothesized to explain public preferences. These were: i) water view; ii) steep forested slopes; iii) traditional character of architecture. iv) naturalness degree v) human management and stewardship vi) rare scenarios pertinent to S. Miguel island vii) land use and viii) urban areas with heritage. All fifty selected photographs were classified by the team, from 1 to 5, for each of these preference hypotheses.

Results from the 240 inquiries made in Island of S. Miguel expressed the population’s preferences through ordering the photographs and from the visual preference GIS map obtained; it becomes possible
to infer which the four most valued images in the island were. The broad views of the three volcanic Lakes were a clear preference of the population. These images include the water surface the craters vegetated slopes, the historical villages near the water. Of the less valued landscapes, the following features: industrial areas, low management agriculture land, and urban graffiti areas.

The statistical analysis of the data collected was inserted into a data sheet, for regression analysis. Stepwise multiple linear regression (MLR) was performed (using IBM® SPSS® Statistics17) to create a model for explaining public preferences as a function of the preference hypotheses established by the “experts”. The regression value R2= 86,1 %.

Only five variables were identified as significant: land use, rareness, view to the water, management and naturalness degree.

Therefore, the following hypotheses were validated by the model: images reflecting the island’s unique land uses such as the Lakes, the tee plantation, the coastal cliffs, the rare scenarios, high naturalness were preferred; a high degree of management is valued.

A set of maps encompassing the whole study area was then created, concerning all significant hypotheses of preference. The Geographic Information System software used was ESRI® ArcGISTM 9.3, and the landscape visual preference map was produced using the weightings obtained by the regression model.

Given how GIS serves to observe and identify the areas with greater and lesser visual quality and, subsequently, enhance and/or conserve those of greater quality and attenuate and improve the lesser, the GIS output of the Steinitz method is an efficient tool for landscape planning."(Steinitz 1990). The contribution made by this study to the landscape planning process results not only from its highlighting of the areas with greater and lesser visual quality but also subsequently proposing measures able to enhance and/or conserve those with the greatest quality and offset or improve those of lesser quality (Figure 10).

Figure 10. Visual preferences GIS map of S. Miguel Island

Source: © Ines Fontes

5. Conclusion

Both craters of Furnas and Sete Cidades were modified with the layout of extensive woodland gardens and the construction of picturesque landscape architecture by two local wealthy and exceptional men, José do Canto (1820-1898) and António Borges (1812-1879), touched by the influence of the European taste on landscape appreciation. The location of these two garden landscapes within the protection of the walls crater where the plants could thrive without periodic wind destruction was also an important factor for the site selection. There the soil, the permanent moist, and the mild temperatures created a haven for plants where they could thrive near the lake adding to the extraordinary landscape.

The new cultural landscape lasted more than a century during which the forests grew and the elements left by the two men matured and created a very strong image of the lake craters. The landscape identity was validated by tourism discourse along the last decade of the 19th century and the first half of the 20th century. Since 1980, it became clear that Furnas and Sete Cidades lakes had a serious pollution problem that jeopardized these sublime paradises: water eutrophication due to the intensive pasture...
management of dairy farms on the crater slopes, led to an excess of nitrogen on the water and its subsequent degradation.

The project examines the landscape symbolic values and how they are intimately connected to the formation of an iconographic apparatus, thus entering the touristic discourse. Following an inquiry concerning the visual preferences of the resident population and of visitors to St. Michael Island, the identification with the lakes landscape showed it very clearly in both cases. When inquired about the 5 images they would choose to represent St. Michael Island, four represented lakes, and among these the one preferred by the participants was the Sete Cidades with 64.5%, the Lagoa das Furnas ranking 32.5%.

In the conceptualization of landscape identity, interactions between physical space and social and cultural aspects have been stressed by scientific literature and by the letters and international conventions (i.e. UNESCO World Heritage Convention, the European Landscape Convention, the Faro Convention). From them we learn that the subject of landscape identity is not limited to a physical dimension in a direct relationship with space – specific actions concerning usage, occupations and land use – but extends itself to human perception and the symbolic meaning generated around those spaces. Thus it is interesting to verify that the Sete Cidades landscape remained in the top position in the visual preferences rank, when all the Sete Cidades area, including the banks of the lakes and the village surroundings, show a lesser attractive power in recreational and touristic terms, when compared to Furnas.

History helps to explain the different stages of interaction among people and landscape, and helps to explain the preferences today. The interaction has not always achieved the perfect balance in ecological, social and cultural terms and just like historical documents, landscapes reflect identities and the successive receptions and interpretations humans have made of them.

The present situation of a discourse that doesn’t match the reality of the landscape is due to the water eutrophication which has been tackled by the local authorities in 2000 with a legally binding Furnas and Sete Cidades Watershed Plan aiming to restore the water quality through a mandatory land use change (Monteiro et al, 2008). No doubt it was a turning point in the landscape management and economic activities of recent times. Nevertheless, it is crucial to be aware of the historical and cultural values presented in the genius loci, and totally understand the feelings and preferences of the local people, as well as the tourist visitors, in order to promote the right balance between the protection of the natural and the protection of the cultural landscape as it represents an outstanding asset for the local people and their towns economic development.

References


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