

Below and above the surface: **urban geotourism** on the **Lisbon underground public transport**

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Abstract | When values of life, social interaction, borders and History are constantly changing is it possible for an activity as human-depending as Tourism, not to? Heritage is not a finished check-list that a city presents to its visitors, and that is the reason why Tourism must adapt to the new memories that one creates after visiting a cosmopolitan and evolving city such as Lisbon.

Tourism has evolved so dramatically over the past decades that there is a constant need to try to keep up with the evolution of the tourists themselves. If our destination presents heritage and tourism products that no longer have motivational importance or simply complements that have no interest to those who visit, one can say that it is a destination which holds no competitiveness and that most likely is doomed to fall behind.

Through Urban Geotourism it is possible to create different routes that are able to give Lisbon a new appeal to look at and understand the city. Underneath the surface of the Portuguese capital city, there is a live museum that is always adapting itself to the new values of the population. Everyday this museum is visited by thousands of people, and one can consider it one of the largest museums of Portugal. But hardly anyone thinks of the place, as such.

This museum is the Metropolitano de Lisboa, the underground public transport system.

Keywords | Lisbon, Urban Geotourism, Underground Transport, Art, Natural Stones.

Resumo | Quando os valores, o modo de interagir socialmente, as fronteiras e a própria História estão em constante mudança, será possível que uma atividade tão humano-dependente como o Turismo poderá sobreviver sem evoluir? O Património não é uma listagem pré-concebida que uma cidade dispõe e apresenta aos seus visitantes, e como tal, o Turismo terá que se adaptar às novas memórias que são criadas após visitar uma cidade viva e cosmopolita como Lisboa. O turismo evoluiu dramaticamente ao longo das décadas e existe uma inalterável necessidade em acompanhar as alterações das motivações dos turistas. Se o nosso destino apresentar património e produtos turísticos que já não atraem nem complementam a estada daqueles que nos visitam, poderemos afirmar que é um destino que não é competitivo e que estará condenado ao esquecimento.

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Através do Geoturismo Urbano é possível criar diferentes rotas que serão capazes de dar a Lisboa um novo valor e um novo modo de olhar e ficar a conhecer e perceber a cidade.

Abaixo da superfície da capital portuguesa, existe um museu vivo que está em constante evolução de forma a adaptar-se melhor aos valores da população. Todos os dias este museu é visitado por centenas de pessoas, e poderíamos considera-lo um dos maiores museus do país. No entanto, poucas são as pessoas que o vêem como tal.

Este museu de que falamos é o Metropolitano de Lisboa.

Palavras-chave | Lisboa, Geoturismo Urbano, Transporte Subterrâneo, Arte, Pedra Natural.

1. Introduction

Some scholars say that the 20th century was the fastest evolving century of all. So much has happened in only 100 years, regarding society values and technology evolution that it is impossible to think that tourism and the mentality of tourists have not picked-up the pace. In fact, tourism is the fastest growing industry in the World and may have the power to change people's visions about their own heritage (Urry, 1999).

Since the beginning of the 20th century, there has been a growing concern regarding the environment. It is necessary to engage new habits and a new conscience of the environmental problems, giving a new found value to the most important resource on our planet: nature. In a century where most of the Portuguese population lives in the metropolitan cities, such as Lisbon and Porto, it can be an ordeal to open minds to the value and the necessity to protect natural resources (Rodrigues *et al.*, 2011). If we can help the population appreciate the resources that are closer to them, the chances are that they will begin to value and protect the natural heritage as a whole.

Lisbon Metropolitan Area concentrates 27% of Portugal's population (INE, 2011). Although this is a highly urbanized area of the country, it still maintains a connection to the unique natural heritage, and the countryside is only a few kilometres away from the historical city centre.

If we look at the Portuguese capital city, we may find that it already has a specific heritage value, and a well defined market, but we need to see that if Lisbon city wishes to continue to be one of the most desirable destinations, it needs to diversify the tourism products, creating new segments, in order to be an active New Tourism destination (Poon, 1993). One way to do so is to be on the front-line of an innovative segment such as Geotourism. But although many would try to take the reader on a geotouristic journey above the surface, this paper aims to give to the Lisbon heritage value, a new complement and a new product. In a city with some of the most beautiful subway stations in western Europe, where we may not only travel beneath the surface but also learn more about the city's History and Art – if we know where to look and how to look at it – a geotouristic route through the Lisbon Underground System seems to be a new page of the Lisbon Geotourism Product.

2. Geotourism

First of all we need to define what exactly Geotourism is and how it can work to give a new appeal to a supposedly well-defined destination.

Geotourism does not have a globally accepted definition, which can complicate a bit the promotional advertisements with the general public (Dowl-

ing and Newsome, 2006), but may be defined as a micro niche of the macro-niche Natural Tourism¹, drawn to the geodiversity², and specially focused on places with geological interest, such as geosites, or cultural geo-resources³ (Brilha, 2005; Dowling and Newsome, 2006). So we may say that Geotourism is a Nature or Cultural Tourism, a niche that attracts tourists interested in less invasive practice and more beneficial to the local residents. It can interest tourists in the off-summer season giving, in the same turn, a new way to look to Heritage that usual people don't look to as such; this product can be a great innovation to Portuguese tourism.

2.1. Nature and Urban Geotourism

Geotourism values natural and material (or constructed) heritage as well as intangible heritage, as it gives a new way to look to a place that you may think you already know. The fact that we look at the geodiversity of a place may lead to the belief that it is only possible outside the urban environment and linked to the Nature Tourism segment. But, if we just think for a moment, we can recognize that a city is not more than a stone-like book that allows us to read the History of those who have lived in those streets, and buildings. It is possible to study the buildings and how they were put together, to have a better understanding of the society that once lived in this urban environment, and how they connected to natural resources. It is possible, through scientific tourism, to learn more about Nature, and how the

Planet has evolved through the millenniums until this moment in time, even though we are in a cosmopolitan city such as Lisbon. Many good examples can be given of initiatives of this kind: Silva and Cachão, 1998; Cachão *et al.*, 1999; Caetano *et al.*, 2003, 2006; Silva, 2009.

If we think of the famous 7 hills alongside the riverbank of Lisbon and the enormous Tejo river estuary, we know for sure that every area of the planet has potential for Geotourism, as every area of the planet is unique and no place is geologically the same (Dowling and Newsome, 2006). The urban area has great potential to appeal the populations to Geotourism as most of the population resides in urban areas and people tend to give more value to something that is relatively close to them than heritage that exists many miles away. And we cannot put aside the fact that urban environments create in people the desire to travel and those who live in large cities tend to travel more as a way to liberate from the day-to-day stress, which usually is connected to urban cities (Henriques, 2003).

It may be thought that Geotourism, if only centred on scientific knowledge, does not appeal to the masses, those who are not usually linked to the scientific experience, but the truth is that we only need to look at those who walk down a street for the first time, looking at all the natural stones included in the buildings, those who look at the work of the Portuguese traditional pavement work that is in fact a true work of art made out of natural stones. We may look at those who travel for the first time in the Lisbon underground and look with amazement at all the art work in the stations. The desire to look, understand and admire is always present. Urban Geotourism has the potential to be an important activity as it is a complement to the usual activities connected to the urban tourism. Geotourism and cultural geo-resources (Caetano *et al.*, 2003) may not be the activity that motivates the visit to a city, but have the potential to be a reason to stay a bit longer, giving originality to the activities that a tourist usually does, when he or she are trying to learn

¹ Market segments are divided in Macro Niches – such as Natural Tourism, Cultural Tourism and Urban Tourism. These Macro Niches may be divided in Micro niches – Geotourism is considered a micro niche of Natural Tourism. But even these micro niches can be once more divided, creating the Nano Niches like Urban Geotourism and Ecclesiastic Geotourism (Inácio and Patuleia, 2008).

² Geodiversity: the variety of rocks, minerals, fossils, soils, landforms and natural processes that constitute the abiotic part of Nature (Gray, 2004).

³ According to Galopim de Carvalho (1998), cultural geo-resources are sites of geological interest (geosites) not only for experts but above all, for the general public.

more about the destination. The more segments and diversity of activities a city holds, the harder it will be for the destination to enter in decline (Ferreira, 2005).

In the concept of urban cultural geo resource (Caetano *et al.*, 2003), we can include Museums (as they promote the interpretation and scientific studies connected to Geology), parks and gardens (as these preserve the natural presence in an urban environment), temporary or permanent outcrops (usually associated to engineering works) and the use of natural stones in urban construction (Bennett *et al.*, 1996).

3. Case Study: Geotouristic tours in the Lisbon Underground System

3.1. Bringing the Museum to the Station

One of the hardest challenges of this project is the possibility of how a museum can be brought into a public area, such as the Lisbon underground stations. The first thing one must understand is that in the Lisbon Underground System all objects are already on display, so what needs to be done is to give a new dimension to these objects. What is needed is a new communication dimension for those who use the underground stations for its main purpose as well as to those who will visit them for the single purpose of leisure. Regarding the communication of an object on display, the object is actually the mediator between the space and the public. On the Lisbon Underground System, the natural stones are already on display so, in reality, the need is to give them a "voice". A voice that those who visit the stations will not only understand, but will also learn from. As those who visit can be anyone who uses the public transportation, the communication must be at a level that everyone can understand, but at the same time it needs to educate those who read it (Rocha-Trindade, 1993). Galopim de Carvalho

(1993) has shown that the information given to the public must be studied and worked according to 3 levels of complexity:

- The first level is characterized as simple information, with short text;
- The second level is a bit more descriptive;
- The third level has detailed information and can be directed to a scientific public.

If the information is given in a correct and appealing way, the natural stone will gain an increased value and may now be seen, not only as decoration, but also as a source of knowledge. Geotourism purpose is to show how on a daily bases we are surrounded by natural heritage, even though we are not aware of this. It is only when someone teaches us how to see what is around us, that we are fully aware of our part in the "natural whole" (Galopim de Carvalho, 1993: 233).

We must be careful on how the information is given and the details given, as information must be appealing and easy to understand to all visitors. It can not contain any geological formulas, neither any complex scientific text. To appeal to as many readers as possible, the text must be simple, colourful and must have only one theme per panel. In particular, to be able to appeal to the readers, although it seems incorrect, in fact we must explain the geological phenomenon as we were explaining it to a child (Rocha-Trindade, 1993). The interpretation has to appeal to the experience of the visitor and the only purpose is to create new memories in the tourists. We cannot forget that tourism is the memory making business (Woodley-Stewart and Pickett, 2009).

In this project, the informative panels ("mupis") that already exist inside the trains in the Lisbon Underground System could be the main source of a teaser marketing campaign that would raise people's attention, even before the project is implemented. After the museum dimension was set in the stations, the "mupis" could be used as a way to inform that all the station would have available audio and book guides as well as information on how to book a tour guide.

In the stations, stencils would be used to mark and show the natural stones. The television screens that exist in some stations (e.g. Alameda), would be used to simulate how sediments can, through geological evolution, be transformed into the limestones that are seen in the station. The guide books can be separated by routes, or with the full tour. In each station we could get to know the art and natural stones that are exhibited, and as a side note, perhaps also a curiosity connected to the station (e.g. in Saldanha II station we could introduce Almada Negreiros – whose artwork and famous quotes are on display throughout the whole station; or in Praça de Espanha, we could explain more about the so called Meninos de Palhavã).

However, the museum function could never be fully accomplished as true museums have as their main purpose to conserve, exhibit, investigate and preserve and, in the Underground System, at first there will be a need to investigate but after that, the project would work mainly as a connection between the natural stones and the underground users, as well as the visitors of the geotourism tours. Meaning that the Geotourism Routes can be easily applied but the museological function will be at a lower level – mainly interpretation.

3.2. Geotourism in the Lisbon Underground System

Since the very beginning, the Lisbon underground system has had a connection to the Portuguese Art and to Portuguese artists. Even though the first artist that worked on the project did so as an imposition of the architect who had created the *standard-station*, the truth is that the underground system and the Portuguese art world do complement each other in several partnerships that may impress many of the underground users. On an artistic level, it is the stations that have the most important works and they have been extremely important to the Portuguese awareness of the richness and diversity

of the national contemporary art. Until then, Culture was not a part of the daily life of the Portuguese population.

In the early projects and in the first *standard-stations* the stations were covered in glass mosaics and art was relegated to the stairs and station entrance. Nowadays, the artistic freedom is greater, and art is all around those who use the underground to travel within the city. Most of the stations showcase Portuguese artist's works, but in some cases, as in the Oriente station, it is possible to see works from artists of all continents – in homage to Expo'98 theme the *Oceans* – and each one uses different platforms.

Lisbon Underground System is divided in to 4 different lines – The Green Line, the Red Line, the Yellow Line and the Blue Line. The line with less artistic exhibition is the Green Line, but this is changing with the restoration works that some stations have had – e.g. although the Areeiro station is still quite simple and bared of art works, Alvalade station is already renewed and now tells the story of the Monkey with the Cut Tail, a Portuguese story tale.

If we could rename the underground lines, the Green Line would be the called "Children's Imagination Line", mainly due to its simplistic and minimalist appearance and due to the stories that are told in the stations of this line (e.g. Monkey with the cut tail in Alvalade; Lisbon's history in Roma station; the warriors and the conquest of Lisbon, in Martim Moniz; up to the White Rabbit from Alice in Wonderland, in Cais do Sodré).

The Yellow Line, on the other hand, could be renamed as "The Natural Stone Line", as in just this line stand three of the most important stations, on a Geotouristic point of view. Campo Pequeno, Saldanha and Entrecampos are the ultimate stations, regarding the unification of natural stones and art in one unique heritage that many may not take into consideration. Along this line, it's possible to see with our very own eyes, the uniqueness and richness of Portuguese natural stones. For example, in Campo Pequeno the artist pays homage to Portuguese women and to the art of bullfight using

Portuguese natural stones to represent patterns of the animals, to create garments and to represent the tools of work of many women on the 20th century. The large majority of the stones used in these figures are marbles from Estremoz (in Alentejo, south Portugal) and limestones from the surroundings of Lisbon (Pêro Pinheiro, near Sintra) and from Serra d'Aire (100 km north of the city). It is interesting to see the reaction on the people who realize that the vision of the artist was accomplished only by the use of natural stones.

Out of all four lines, the most eclectic is, without doubt, the Red Line. Built near the end of the 20th century, this is the line where Art takes form and lives in all the stations. For the first time, the artists had full freedom to choose how they wanted their art to take life, and that is why that, from the pavements, to the rails, ceilings, walls, in mosaic, stone or steel, Art is diverse, unique and speaks to the "subway crowd". Each station represents a strong theme worked carefully to better come across its message to the users of the subway station main purpose: transportation. Here we may witness the Portuguese accomplishments (in Olivais station), see how the Oceans unify all the continents (in Oriente station), the Discoveries (in Alameda station) and even the Almada Negreiros legacy in Saldanha II station.

The Blue Line although being one of the most modern lines and the line where, in Alto dos Moinhos, we may see the work of Portuguese painter Julio Pomar, representing the Portuguese poets, and in Jardim Zoológico (Lisbon Zoo) master painter Julio Resende represents the animals that we can visit in the zoo with the amazing water coloured tiles, the truth is that the Blue Line does not have enough elements in natural stone or art that may help to find a cohesive theme that can unify the line in a geotourism tour. That is why we have left the blue line out of the project.

The Geotourism appeal to the Lisbon Subway System resides on the fact that it is possible to see beautifully designed works of art, constructed with

natural stones, using its natural textures and patterns. We may visit stations, such as Entrecampos Station, where we can see how revolutionary ways to craft natural stones were implemented, creating one of the most breathtaking pieces of art that is possible to visit in Lisbon. It is amazing to understand that so many have passed by this incredible testimony of Portuguese contemporary heritage, and most have not looked at it twice. This is due, mainly, to the fact that most people do not understand what they are seeing, but once they learn to look, once they learn a new way to look at these artistic pieces, they will comprehend the value of this heritage, giving it a whole new meaning.

With a geotouristic tour created, it is possible to complement art, natural stones and local history to raise the heritage value at the beholders mind. As the public transportation can in fact be adapted to other uses than the original purpose (Almeida, 2009), when we use the underground system to create different tours, we will value history, culture, geological heritage as well as artistic heritage that, over the years, may have been overlooked or forgotten.

4. Conclusion

Through centuries, tourism has been an activity that has evolved from an elite phenomenon to the masses. However, in a World in constant change what was once the custom to enjoy vacations once a year, during the summer, has evolved to smaller vacations enjoyed throughout the year. When we divide vacations, the motivations also divide. What was once a yearly tradition now can be a visit to a city, a beach, snow, events, etc. It all depends on the time of the year and who is travelling (family, a group of friends, co-workers, newlyweds, etc.).

Geotourism, connected to both Nature and Cultural Tourism, has its foundation in cultural, historical and natural heritage. Urban Geotourism unites all

these different types of heritages giving a new way to perceive what is around us, all year round. It also values architectural heritage, giving it a new purpose and a new way to present itself to the public.

When we bring museum communication to a previous existing site, we need to mediate the dialogue between public and heritage. This is the new found value that we wish that this project may bring to the Lisbon Underground System, as it may start the communication, so often forgotten, between contemporary heritage and the general public that usually uses the public transportation to move within the city as those who will visit the stations for its value.

We analyzed all the stations that exist in the Lisbon Underground and all four lines are so distinctive between them, artistically speaking, as the colours which name them. On the Red Line Art is taken to the next level; on the Yellow Line, the richness of the natural stones and its own natural beauty; the Green Line, being the first line, is the one where art has been a bit forgotten, however this is changing and the restorations that are being held, are bringing art and culture to the stations. Although the Blue Line has also important works of art, from some of the Portuguese masters of painting, it was very difficult to work as it is a line which does not have a strong theme holding or bringing all the stations together.

In terms of viability, the creation of geotouristic tours in the Lisbon Underground is a possibility, as the stations bring so much to the contemporary Lisbon cultural heritage, displaying works of some of the greatest Portuguese artists of the 20th century and a diverse range of artistic platforms, with works in stone, mosaic, steel and glass.

A geotouristic tour cannot focus only on natural resources. It must connect natural resources to intangible heritage, and that is why this is a feasible project. It may change the way the Lisbon inhabitants and tourists look at something supposedly as common as a subway station as, after all, a heritage testimony.

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