

PUBLIC SPACES WITH CULTURAL VALUE: THE CASE OF HERAKLION¹

ABSTRACT

Urbanized areas with long and important roots in history often have their fabric embroidered with valuable traces of their past, creating “layers of time” and telling stories of bygone eras. However, there may be a conflict between contemporary needs and the protection of these historical remnants. The way urban development performs with regard to architectural and cultural heritage preservation determines the modern character of the cities.

I. INTRODUCTION

As cities march on into the 21st century, they are faced with great challenges in all aspects of urban governance. Particularly during times of crisis, defining priorities becomes increasingly difficult as well as risky, and authorities are required to exceed their usual agendas in order to successfully address complex issues. In such a context, promoting the issue of the preservation of architectural and urban heritage might seem a triviality. But is it possible to legitimately argue in favour of disregarding the value of cultural components within a modern city? Martin Meade [1] points out the “instances where buildings, villages or whole towns have been destroyed deliberately, in order to deprive populations or ethnic groups of their sense of cultural identity” as evidence of the impact the built environment can have on the qualitative attributes of communities and thus, on whole nations. The case study, which is analysed in this paper, is an example of how undermining the relationship between the built environment and the historic and cultural consciousness of its inhabitants can lead large parts of the population to discard traditional values. The result is a switch towards adopting superficial practices and lifestyles, effectively creating problems that can even magnify the consequences of a financial crisis.

Two categories of urban heritage remnants can be identified for the purpose of this study:

- “soft” or conceptual for land use and
- “hard” or tangible for the physical elements in space. This category can be further broken down into three types according to the size and consequently the impact on the form and functions of the city:
 - Type 1:* Monumental or artistic elements that serve decorative or celebrating purposes, including statues, fountains, arcs etc.
 - Type 2:* Buildings and vertical infrastructures or larger scale constructions intended for e.g. military use
 - Type 3:* Designated public spaces that include parks and squares, stadiums, roads etc.

This paper focuses on larger scale historical monuments and the case study of the Venetian fortification system in the city of Heraklion, Crete, Greece. The intention is to showcase the importance of heritage and investigate the possibilities for development it can generate by engaging socially, culturally and environmentally friendly measures.

II. THE ROLE OF URBAN HERITAGE

The “biology” of land uses in a city is dynamic. Urban recycling is an increasingly applied tool in old cities and it has produced remarkable examples of urban regeneration. The relocation of specific uses to more suitable areas must be used prudently. The evacuation of highly desirable parcels of land in order for them to be used for more profitable and perhaps more socially beneficial purposes is a captivating idea and can effortlessly be approved in a city council. However, even seemingly conflicting and obsolete land uses bear strong connections with the character of a district which should not be severed light-heartedly.

Buildings or other constructions that have survived over long periods of time relay cultural ingredients and have often featured as

the physical background for numerous critical events in history. Depending on their initial purpose, size and exact location in the city, they might have been treated with varying degrees of respect by authorities and local people, including sometimes their proprietors. Either due to unique morphological attributes or occupancy (often combined), notable buildings might have been lucky enough to survive until today and be restored to a condition that allows them to maintain their function. The situation is more complicated with regard to larger structures. Such elements might have acted as barriers or obstacles to development at particular times in the history of a city.

Open public space is generally less susceptible to radical changes, due to the continuity of use by the inhabitants. Important public spaces have been subject to poor political decisions that have led them either to obliteration or to profound changes in physical or functional characteristics in ways that deprive places of their dynamism. Public character means that inhabitants are generally more aware of the changes that happen and sometimes they exercise their influence to prevent changes that they are not content with.

The aforementioned types of heritage elements leave different impressions on the cities and affect the form and functions to various degrees. Presumably the biggest determining factor is the size and the longevity of the structure followed by the frequency of use as well as the necessity of its role. In addition to the physical characteristics of a city, heritage remnants affect everyday life. The “casting” function of monuments also determines routes, routines and patterns.

This discussion is not about archaeological artefacts or exhibits that are either too large to move or their value is directly related to their location. The Parthenon or the Colosseum, for

example, are historical and cultural treasures whose compromise would be an outrageous impossibility. In cases of less undeniable value, however, several conditions need to be met in order for a heritage element to survive long enough to be present in the 21st century.

First and foremost, its importance needs to have been identified and recognised by the authorities. Sad examples of magnificent structures that have been partly or wholly demolished in the 20th century exist in almost every part of the world and scar cities' histories.

The second condition that ensures a longer life for such monumental structures is resilience. It is important that a new, concurrent role can be found in order to relate the artefact with modern citizens' perception of place and function. This adaptability however, should not compromise the character of the monument and it should respect its historical and cultural value.

III. SITE DESCRIPTION

A. The city

Heraklion or Iraklion (often also Iraclion) is the biggest city on the island of Crete and the administrative capital of the homonymous region, the southernmost administrative division of Greece. The city today has 140.730 inhabitants (2011 census) and the main economic sectors are tourism, industry, commerce and agriculture. "Nikos Kazantzakis" international airport is the second busiest in Greece and the city also has one of the biggest harbours. According to Strabo (Geographica, ca. 7 BC), the first documented intended and programmed human activity in the area of Heraklion dates back to the 7th century B.C., when it served as a port for the nearby settlement of Knossos. The modern city was founded in 824 A.D. by the Saracens.

B. The precinct

The part of the original fortification that survives today separates the old core of the city from the newer expansion. At the beginning of the 20th century, the fortress of Chandax was essentially intact. Even the Ottoman era changes had more or less followed the Venetian design and construction plans. However, the first decade of the 20th century, saw the beginning of a destruction frenzy. Astonishingly, the most important of those detrimental interventions were decided and carried out by the city authorities. The fortress continued to sustain deterioration until the Second World War. During the war, the Germans made use of some structures, writing in the process some of the darkest pages of the city's history. An infamous example is the Makasi gate and tunnel in which prisoners were held until they were transferred to concentration camps. The Nazis also created an open-air theatre at the southern side of Jesus bastion[2]. This theatre exists today and it is the most important open-air theatre in the city, named after one of the most important Cretan writers and philosophers, Nikos Kazantzakis.² The authorities finally appreciated the value of the fortress and began restoring its form after the war. Certain works are still in progress today.

C. Main components

Implementing the Venetian fortification architecture on this much extended site resulted in a very complex system of walls, bastions, cavaliers, ditches, low squares, gates and other structures. The elevations along the site vary significantly creating a very interesting experience for the visitor and a very challenging situation for the designer. The main features of the site are:

Ditch

The ditch surrounds the city and its depth varies. Unlike the water-filled moats of the northern European castles, this ditch was

always dry, mainly due to its enormous size and the much drier climate of the island. The use of the ditch has changed several times in the past. Apart from its defensive role- it has been used as a camping site for British troops - it has always been scarcely populated and has also been used as farming land. Today it is used primarily as open space; partly green which also facilitates sports activities, parking and some culture.

Curtain wall

The straight part of the wall is called “curtain wall”, from the original Italian word “cortina”. The curtain walls connect the seven bastions.

Bastions

The bastions (or ramparts) are heart-shaped structures that facilitated the main defensive actions of the fortress. They have a flat surface on the top. Defensive equipment and personnel were deployed on them.

Cavaliers

In order to improve the line of sight and the effective range of weapons, higher structures were created on top of some bastions. These structures are called cavaliers.

Low squares

At the point where the curtain wall meets the bastion, smaller complex structures were created at an elevation between the height of the bastion and the ditch (hence their name - “piazze basse”, in conjunction with the alternative name of the bastions, high squares or “piazza alta”). They comprise a flat plateau behind thick wall or gunpowder and ammunition storage rooms with a pair of openings towards the ditch, from which canons were fired. The low squares were the most important points where the main fire

power of the fortress was concentrated. Their crossfire covered the area between the two bastions very effectively.

Gates

There are two types of gates: those that served civic needs and the ones that covered military purposes, i.e. access to the gunpowder storage rooms and the low squares etc. Most of the military gates are closed today while the civil gates (in their restored condition) connect the inner and outer parts of the city.

D. Land use

The dominant land use is open public space, accounting for a total of over 61% of the area, which is not functionally programmed or even maintained.

Sport facilities occupy 16,3% of the total surface. Interestingly, only about half of them are publicly accessible while the other half requires some type of membership and fee.

One of the poorest choices that the city authorities have made was to allow for 10,7% of the area to be used as car parking. Nearly 60% of this area is tarmac and non-permeable although there might be tall trees planted in openings between the cars.

Cultural activities retain 3,7% of the available space on the monument and this includes open-air theatres, archaeological exhibitions and Nikos Kazantzakis' tomb.

Private recreational businesses, administration, squatting, a pocket of urban blight and the city nursery garden share the rest of the space.

E. Climate

Summers are usually dry in Crete. The city of Heraklion, lacking large green spaces in and around it, is particularly torrid. The situation is reversed during winter, with strong downpours that provide the city with most of its

480mm of rainfall a year. Due to the nearly complete lack of provision for rainwater harvesting, intensified by the dominance of hard, impermeable surfaces, most of this water is led to the sea through the city's sewage system (which is nowadays separated by the waste treatment network).

As a result, the city needs to spend drinkable water in order to cover the landscape maintenance needs during the summer. The scarcity of public green in the modern city is partly a side-effect of this situation but also derives from the lack of comprehensive planning and decisive policies along with the urgent housing needs especially right after the war, that left no room for an integrated public space strategy. Most of such spaces exist from the past, when concrete or other types of paving were not used so extensively.

Finally, non-harvested rainwater often creates floods which upset city life and cause damages. It should be noted, however, that severe flood problems have not been reported on either the walls or the bastions or even in the ditch, except for local accumulations of water and mud during and shortly after rain occurrences. That is mainly because of the high degree of permeability of the surfaces of the site.

Nevertheless, the poorly chosen materials together with inadequate maintenance are responsible for some of the existing bad conditions on the site. The main path is very often damaged or permanently disrupted. This situation renders it either inaccessible to specific groups of inhabitants (mobility impaired, elderly, mothers with baby carriages, bikers) and it is generally rough during the rainy season, which often discourages all visitors.

An integrated solution that would use the collected water to irrigate the park during summer aims to improve the micro-climate and add visible water features to the newly designed

public space, raising also public awareness about the issue of rainfall and drought. At the same time, water harvesting from the top of the walls would prevent it from penetrating the structure and corroding it.

The monument today is generally open for public access, besides the areas that are either restricted or pay-to-use. The redevelopment scheme which is going to be presented turns it into a linear park (in fact two parallel linear parks) that is asked to act as a dynamic component of the city and as an open public space that facilitates numerous types of activities, while performing additional functions that promote urban sustainability. Keeping in mind that the originally intended use of the area was not recreation, it is understood that in order for it to be transformed to a successful public space, specific qualities have to be added through design and construction.

IV. RESEARCH QUESTIONS

Can a historical monument be asked to play an active role in the social, cultural and economic life of the city while at the same time functioning as a green lung, minimizing its cost?

How can it maximize the added value and the positive impact it generates for the city?

How necessary is this project for a city that is faced with a serious recession?

V. PROJECT JUSTIFICATION

The lack of open space availability within the urban fabric is highlighted in the diagram below and it is especially evident in and around the historical centre. The city struggles with very limited open space, narrow roads and high density. An attempt to identify the individual public spaces, both green and paved that are available for recreation in the old part of the urban fabric, demonstrates the gravity of the situation.³

Despite the city's mild climate, open public

spaces are not valued or enjoyed as much as one would expect. For reasons that haven't been identified, the recreational habits of citizens of Heraklion do not involve the use of large open public spaces. Instead, the locals choose to spend time in cafeterias or restaurants and only on rare occasions in some of the scarcely existing green areas, including the project site.

However, there are several activities that could be facilitated and in fact enhanced in open green space, thereby improving the quality and the accessibility of such spaces. Along with additional programming, such activities would not only enhance the environmental conditions but might also change the recreational habits of the local population towards a healthier lifestyle.

VI. SWOT ANALYSIS

A. Strengths

- Cultural-historical value has already been identified. The monument is known worldwide as one of the best examples of the 16th century Mediterranean fortification architecture.
- The biggest part of the wall is still in a very good condition and is already used as a public space.
- Vast surface on top of the wall, available for cultural, sports or recreational activities.
- Visibilities
- Historical routes

B. Weaknesses

- Very sensitive monument. It has already been standing for more than 400 years (parts of it for even longer - some historians say the construction began in the 11th century).
- Some of the land uses that will need to be relocated might create problems in other parts of the city.

C. Opportunities

- A design project that will approach the whole stretch and attempt to discover hidden values and/or add new ones, can give a new meaning to the monument. Especially in times of crisis, people need to maintain their connection with their past. The city also needs to invest in new attractions and elements that can re-brand it or (in this case) refresh the existing branding (the city of Heraklion is also known as Chandax, in Arab, al-handaq = the Moat). A sustainable design scheme will attempt to address bigger issues (e.g. drought during summer months, possible corrosion of the walls from rain water etc.)
- Micro-climate change opportunities
- UNESCO candidacy

D. Threats

- As long as the design strategy complies with the regulations set by the archaeological agency, no visible threats for the current and future condition of the monument have been identified. On the contrary, international experience has proved that sensitive parts of the city are better preserved if used and loved by the citizens rather when they are left to decay.

VII. PROPOSAL

A. Theoretical framework

The theoretical framework of the project defines the vision and aims for the future as well as the measures that will be used to achieve the said goals. It is in a way, the "toolbox".

Before the objectives are set, a summary of the problems that have been identified is necessary. The issues that need to be addressed are:

- A very important monument, yet disconnected from the city life
- Not enough meaningful public spaces in the city - very few green spots.

- Pockets of “Urban blight” along the stretch
- Lack of water during the summer period.
- The monument is not part of the city “branding”
- Not celebrated appropriately

B. Promoting sustainability

The target of sustainability is, as always, pursued through three intertwined types of actions.

Environment

- Enhance the city’s green spaces
- Reshape the landscape
- Rainwater management
- Introduce the idea of green roofs

Society

- Historical heritage
- Industrial heritage - listed buildings preservation
- Urban agriculture
- Environmental education centre
- Young artists’ incubator
- UNESCO candidacy

Economy

- Re-brand the city, reconnect with the past, accentuate the name
- Create a new destination for locals and tourists
- Food market
- Exhibitions, art installations
- Save on maintenance costs
- Employment opportunities

C. Strategic planning

The master plan will identify the most important components of the monument itself and the physical or conceptual connections with the urban fabric.

- A new land use pattern will be compiled.
- The linear park on top of the wall will be redesigned.

- Alongside the existing connections with the city, new ones will be created. The aim is for the walls of Heraklion to become one of the first things that will draw a visitor’s attention.
- Rainwater harvesting: The biggest part of the exposed surface of the top part of the walls is embankment. Digging and installing a rainwater filtration, harvesting and storing system can be possible. This water is not enough to have a bigger impact on the city, but it can cover the needs of the park itself during the drought period (extended summer). This will reduce the water consumption from the city network.
- In terms of the allocation of land uses, the project tries to eliminate all the uses that are incompatible with the character of the site. Parking space that occupies part of a historical monument is unacceptable and needs to be relocated. The same applies to the squatting neighbourhoods, which will be cleared during a later part of the project, to avoid social problems with the population that resides the area.
- The sport clubs will be relocated. Open public sport facilities will take their place. The city nursery garden which is closed to the public today will be expanded, opened up for visits and complemented with a conservatory for certain species as well as a small cafeteria. Last but not least, the green space will be programmed.⁴

D. Thematic design

In order to provide the visitors with a diverse experience and make the site interesting, focus on the detailed programming is given. The design of the bastions creates separate “neighbourhoods” with unique characteristics. Some of the programmes that are proposed for the transformation of the site are:⁵

- retention ponds and exposed water features on St. Andrew bastion,
- urban agriculture and environmental innovation centre on and next to the Pantocrator bastion,
- a dog park on Bethlehem bastion,
- a cultural promenade or a public sports park on Martinengo bastion, highlighting also Nikos Kazantzakis' tomb on the cavalier, arts and culture incubator and park around "Kastrinakis" former industrial complex and the city nursery in the ditch below Martinengo bastion.

E. Rainwater management

The project aims to provide the site with the capacity to harvest approximately 10,000 cubic meters of rainwater annually which will be stored in nearly 20 underground storage tanks and in the surface retention ponds that will be created.

F. Reciprocity

Heraklion, just like the rest of the country, has been hit by the financial and economic crisis. A landscape regeneration project could be considered a reckless choice but the work presented in this paper aims to achieve a bigger (economic) impact.

First of all, the city today is suffocating because of the lack of public space. This impacts the daily habits of the inhabitants, who tend to congest in and around the city centre, in the cafeterias and bars that emerge as the dominant use of the ground floor in most buildings in the area. The goal of this project is to provide the locals as well as the tourists with a viable alternative, which offers something unique.

Secondly, the city has lost its connection with the past that defined it; a big part of its identity is therefore in peril. A project that will accentuate the trench and walls as a jewel that will decorate the city for the future, adds value to

the brand name "Chandax" and appeals to new target groups, increasing the number of visitors.

Urban agriculture, education and innovation can also be a response to the crisis. By creating new alternatives for recreation that combine growing food or low scale trading can be a way out of daily predicaments. Food stalls, markets or other spontaneous social activities have been proven able to boost local economy.

The operation and maintenance needs of the park will increase the required personnel and more job opportunities will be available. Furthermore, the dialogue on sustainability and environmental friendly solutions in a broader context, that will hopefully be initiated, might evolve into new projects, diffusing urban and environmental innovation.

Last but not least, addressing the water issue in dry climates should be the first concern of any relevant project. Taking actions to reduce the drinkable water consumption is a responsibility that we all need to take on and the city authorities must include in their future planning.

VIII. CONNECTIONS WITH THE REST OF THE CITY - OPEN ENDS

Urban sustainability is a complex concept and a single project can seldom produce enough result in this respect. Dispersed regeneration projects within the same city are scattered and usually disconnected from one another, thus failing to generate the necessary cumulative momentum in order to drive urban development forward. The physical form and functions of the city are deteriorated by more, smaller or bigger problems. The dominance of motorized traffic in the dense city centre for example is one of them, adding to the absence of an integrated network of pedestrian streets and routes in the historical downtown.

The project intends to pioneer a series of other projects that will reshape the city centre.

Some of the intended results are:

- The reduction of car use by limiting its necessity as well as the car-accessible axes,
- An increase in the walk-able and bike-able routes,
- The replacement of hard and impermeable asphalt and concrete paving with more permeable and planted surfaces which will help water absorption and reduce the flooding incidents.
- By removing cars and hence noise and pollution, modifying the texture and colour of the surfaces and therefore the temperature, the city faces a long-term improvement in the micro-climate which will affect everyday life.
- In the long run and through the cooperation of all the authorities in charge, all the listed buildings within the historical city centre can be identified, restored or preserved and connected with the proposed pedestrian network, where possible.
- The resulting web of nodes and branches of culture and heritage will increase the attractiveness of the city core.

IX. CONCLUSION

In the shadow of the hardest economic crisis that has ever hit the country, a landscaping project might seem like an unnecessary luxury. But sustainable urban regeneration in a city with an abundant urban heritage is more than that. Restoring the connections with the past is extremely significant for an entity in order to justify and illuminate its present. The conservation and accentuation of urban heritage emerges as one of the tools that can help cities reclaim their identity and battle economic impediments by seemingly unconventional methods. It can also become an essential component of multidisciplinary development strategies that will aid cities in successfully addressing the challenges of the 21st century.

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1. The main concept and contents of this work were first presented in December 2013 at the School of Architecture of Lund University, as a thesis project for the Sustainable Urban Design master programme. Email: nasos.alexis@gmail.com; website: www.nasosalexis.com
 2. The damages caused to the fortress by the official authorities of the city and other factors are far more extended but the detailed description exceeds the purposes of this study. More information about the extent of the deterioration that the walls sustained over time can be found on the references.
 3. For the relocation of the incompatible uses, thorough studies will have to be conducted in order to avoid diffusing the problems in the rest of the city.
 4. For the descriptions of bastions and gates, refer to Figure 7

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