PROCEEDINGS

SCHOLARS WORKSHOP:

ARCHITECTURE, ARCHAEOLOGY AND CONTEMPORARY CITY PLANNING

Firenze
16-18th June 2014

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PROCEEDINGS OF THE WORKSHOP

editors:
Giorgio Verdiani & Per Cornell

Firenze
December 2014

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Scholars workshop:
ARCHITECTURE, ARCHAEOLOGY AND CONTEMPORARY CITY PLANNING

The workshop took place in Firenze, via San Niccolò, 93 at the Dipartimento di Architettura in the Aula Magna placed at the first floor of the palace.

Workshop organizing committee:
Giorgio Verdiani, Per Cornell, Alessandro Merlo, Gianluca Belli.

The workshop has been realized in collaboration between Architecture Department of the University of Florence, Italy, the Department of Historical Studies, University of Gothenburg, Sweden and MOLA (Museum of London Archaeology, UK)

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WORKSHOP PRESENTATION

In discussions on urbanism, the need to involve new actors has been a major theme of recent debate. In this field, throughout Europe, various ways of allowing citizens to take a more direct part in planning is stressed. It is also important to look at the role or lack of role played by particular research fields. Architecture plays a major role in city planning. While archaeology has become increasingly involved in field projects in urban environments, the discipline seldom plays an important role in city planning. In several countries and particular cities this situation has been questioned during the last decades.

In Sweden, certain studies indicate an increased interest in an active involvement of archaeology from the part of individual municipalities and provincial governments, and even on the state level in certain cases.

In France, Lavendhomme at Inrap has discussed various possible new kinds of uses of archaeology in the planning process, and similar discussions start to appear in other countries. In the UK, archaeologists are increasingly involved in mitigating heritage impacts of building projects at the design stage rather than during construction (excavating).

To take just one example, in Sweden the archaeologist Stefan Larsson has developed a project with the municipality of Kalmar, in which city planners, architects and archaeologists collaborate in making suggestions for a city plan in a segment of the city.

In this workshop we will focus on possible new ways of collaboration between architects and archaeologists. We wish to open a new kind of communication between these research fields and related praxis.

The possible contributions from archaeology include questions of conservation, diffusion of archaeological knowledge by different means, but also other fields, including practical knowledge on the development of particular districts over time, general knowledge in comparative studies of urbanism, questions of design or questions of “gestalt” in urban settings, and the intersections between archaeology, architecture and public art.

We hope this workshop will help to open this field, and that it will be followed by other scholarly meetings on more limited particular cases and questions and, potentially, by a larger conference building on the workshop’s outcomes.

Giorgio Verdiani, Per Cornell

PROCEEDINGS

WHICH IS THE POSSIBLE RELATIONSHIP BETWEEN ARCHITECTURE AND ARCHAEOLOGY?

Alessandro Merlo, Riccardo Butini
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Abstract: The common times of architecture and archaeology design are not often the same. The architectural design takes place in a property dimension, self-referential and sometimes far from the peculiarities of the environment. Otherwise, ancient and modern history of Italian architecture, which we will take as an example, witnessed the inseparable relationship between design and history.
In a landscape layered like the Italian one, grown slowly through repeated processes until the last century, but evidently destroyed in its structure due to decades of wretched urbanizations, the moment of "comprehension" is a basic step for a proper architecture design.
If we read the urban and architectural history of the city as part of a non-stop construction site in which, through a critical attitude, is can still attend inside the sign of a renewed continuity, there will be the condition for a constructive and interdisciplinary reflection. This will inevitably require an open attitude both by the archaeologist and the architect (often mutually not willing to change their positions) to ensure that the timing of the two disciplines become the same, in order to integrate one each other in a fluid cognitive and design process.
We'll show a case of restoration and valorization of a 'fragment' of the village of Pietrabuona, placed in so-called "Svizzera Pesciatina," high hilly area behind Pescia, more properly known as Valleriana. The ruins of the church, then transformed into a defensive fortress, are in a prolonged state of abandonment that promotes the already started degradation process.
The proposed intervention, gained from research concerning the exploitation of minor historical settlements, aims to show the possibility to reach an architectural design about historical contexts through a multidisciplinary reflection, trying in this way to give a possible positive answer to initial question.

Keywords: Architecture, Archaeology, Pietrabuona, Survey, Design.

Introduction

For several years, contemporary architecture has been challenged with the complex issue of recovery and development of smaller centers (disused factories as of the areas related to them); in terms of design research, such a challenge extends to a more seasoned yet present issue: building in the historic city (Fig. 1).
A city is built on itself, overcoming misery, war and destruction. Just like the individual buildings forming it, the city has come to be over time, a long time and to our eyes stands out as a complex yet solid (or uniform) entity. Its parts come together and live together in exemplary harmony, while they still show oblivious differences in style.
Likewise the smaller centers take shape a little by little, through annexations or extensions.
Yet these settlements have suffered, often more than the historic city, interventions that have not always been carried out with competence and respect.
The arrival of modern technology as well as the gradual lack of interest towards the use of local materials has later led to a progressive loss of identifying features, and to an altered relationship, which had traditionally bound function and form.
The architectural composition requires a thorough knowledge and a constant confrontation with the historical time, the established traditions and the core essence of the site. We believe that the project still exists within them, and that the sites possess the ability to suggest functions and forms able to restore

the balance subverted, if interpreted with the criteria of today.
But once what to keep and what to replace has been established, it is only half the battle. Regardless what scale one works with landscape, city or building, the goal will be to find the right way to bring together the old parts with the new ones, following the track of renewed and necessary continuity.

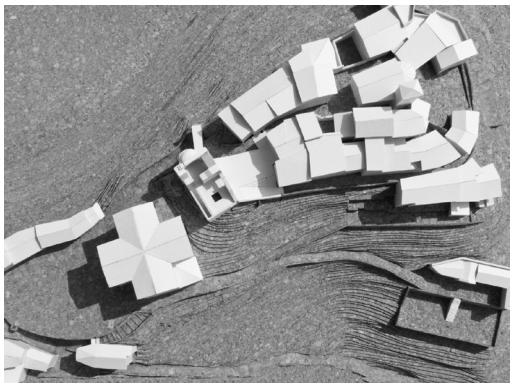


Fig. 1 – *Design model of the fortress of Pietrabuona (copyright: Andrea Aliperta)*

The architectural project needs to confront time and works with time itself.
Bringing together its pieces means bringing together the ages of architecture until they meet. If it is true that we live in a state of urgency, that we need to re-use the existing buildings, that we needn't lose our heritage and that we need to protect our landscape, we must act with a critical consciousness, not making mistakes to be added to those already committed.

Fig. 2 – *The early medieval settlement of Pietrabuona*

So, the pressing of time, which has ever marked the season of building speculation and the destruction of the identity of our sites, can't dictate our actions, but rather a conscious acceleration to research.

Pietrabuona's case study

In this paper we show a case of restoration and valorization of a fragment relating the castle of Pietrabuona (Pescia - Pistoia).
The proposed interventions gained from research concerning the exploitation of minor historical settlements (Fig. 2), aims to show the possibility to reach an architectural design about historical contexts through a (cross-disciplinary) multidisciplinary reflection, trying in this way to give a possible positive answer to (initial) the question: which is the possible relationship between architecture and archaeology?

Documentation

For the last few years, the smaller centers of the so-called "Svizzera Pesciatina" (the valley runs through by the torrent Pescia di Pescia) have been investigated by a cross-disciplinary working group (Fig. 3). Because of this character of the team, we could understand how such settlements changed over the centuries, in terms of urban plans and buildings. The survey of Pietrabuona, the third castle investigated after Aramo and Sorana, belongs to this line of investigation.
The settlements up the mountains consist of ten fortified hamlets, dating back to the 10th and 11th century, mainly erected for economic and military defense. In particular, because of the specific geographic location of Valleriana - bordering on the possessions of Lucca and Pisa on one side, and on the possessions of Pistoia and Florence on the other side - here the settlements, under the control of either ruler, always played a key strategic role.
Pietrabuona, built by Pietro II, Bishop of Lucca between the 896 and 933 AD, is one of the rare cases of "incastellamento" in Tuscany in the 10th century. After the fail of the first "incastellamento", a new castle was built in

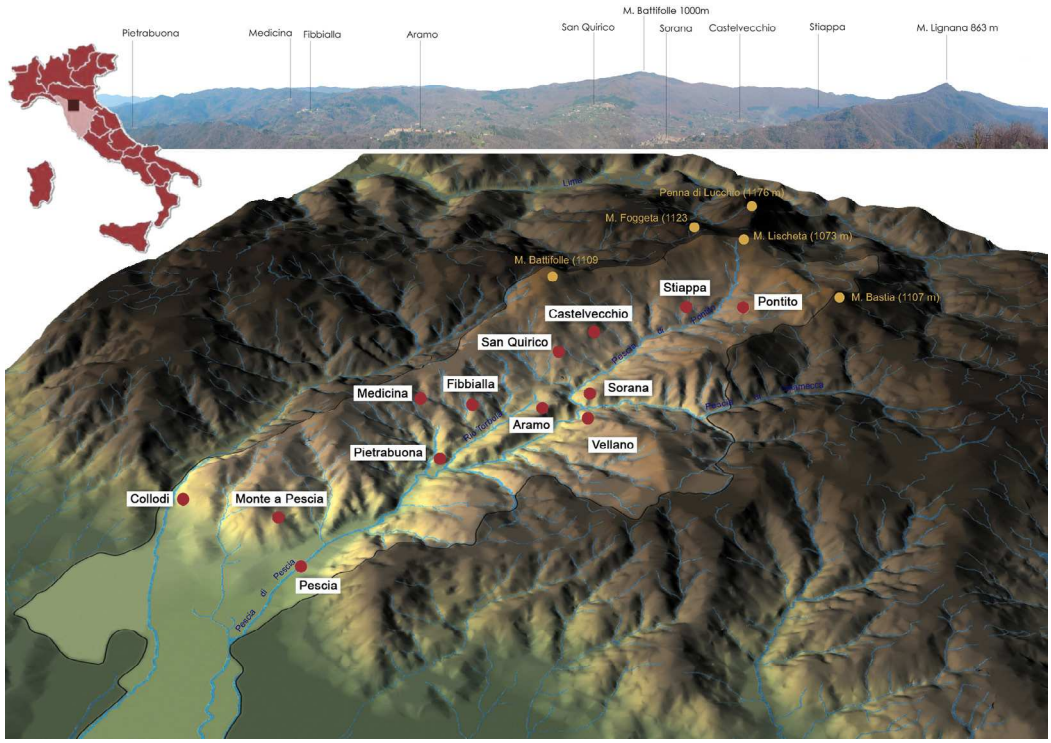


Fig. 3 – *The Valleriana and its ten fortresses*

the 12th century, when the new stable demographic consistency allowed the success of the settlement during the Middle and the Modern Ages. In the 14th century Pietrabuona was conquered by Pisa, but brought soon under the Florentine control (Fig. 4).

The Pietrabuona settlement survey was operated with multiple-integrated tools and digital technologies, using a combination of a laser scanner, total station and digital photogrammetry (Fig. 5). Here the word "integrated" describes the modus operandi, both the use of tools and procedures to acquire diversified data (relative to dimensional, morphological, technological aspects), as well as the multidisciplinary approach adopted throughout the study. Such conditions are of paramount importance in order to compile a thorough knowledge base. The laser scanning equipment allowed the survey of all the buildings in a few days and a wide range of output, that became an essential tool for stratigraphic analysis. In this way it has been possible to identify the buildings' relative chronology and to analyze the wall building techniques, the architectural elements and the building types. We were also able to define and develop measure-chronology curves, always based on good architectural survey. All these data permitted to know the transformations of the settlement (Fig. 6).

The most important architectonic evidence of Pietrabuona rebirth is the S. Matteo church.

The building is situated on the extremity of a rocky spur, controlling an old route connecting the castle with the nearby village of Medicina (Fig. 7). This construction is connected to the circulation of skilled workers from the Antelmi's Valley to Lucca's country, and it is an example of the introduction of squared stones in the 12th century. The hall of the church measures 9,30 meters by 14,25 meters. The apse, less than a perfect half-circumference, has a diameter of 5,57 meters (Fig. 8).

There are still preserved two Romanesque portals on the southern wall, a little door near the apse and a bigger door in the western part. They have monolithic architraves set on sculpted corbels. Both the portals are crowned by arches set on molding corbels,

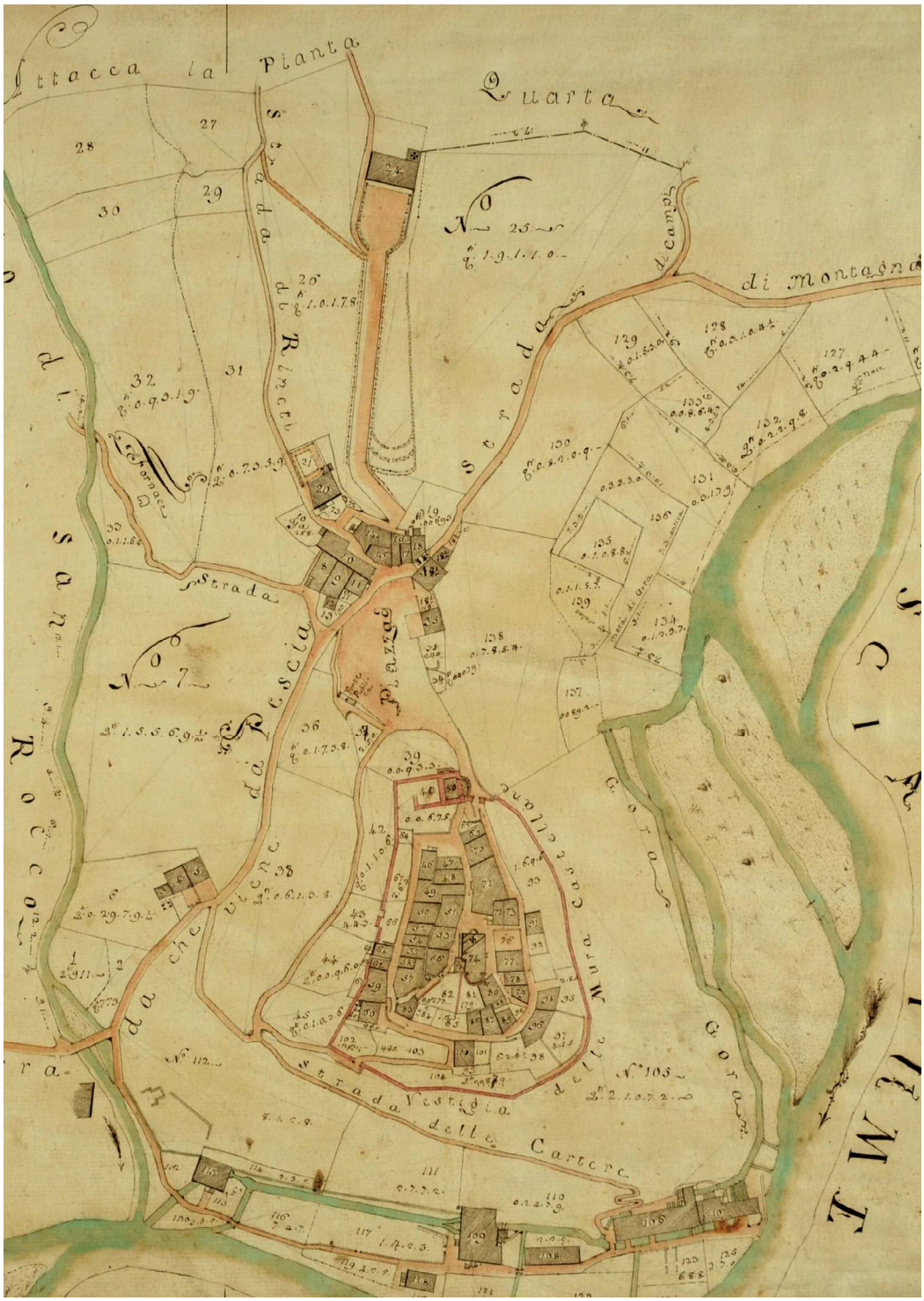
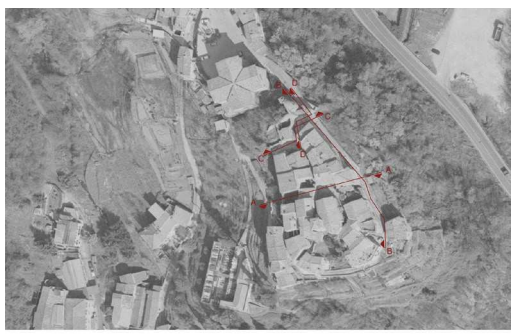


Fig. 4 – *The circle of walls represented in the cadastral map drawn up by Ing. Mazzoni in 1783 (copyright: ASFI, Capitani di Parte Guelfa Cartone XXVI, n. 36)*

which are not directly put on architraves but on a squared stone. The principal door has also a hood molding. In the southern wall there are also two small windows with monolithic jambs and arches and molded corbels and sills. Under the eaves, the building doesn't have hanging arches, known in "Lombard"



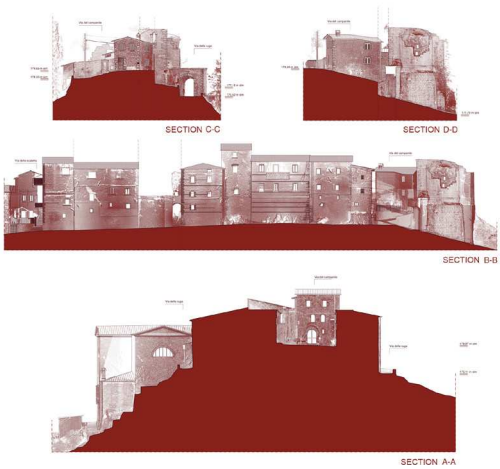


Fig. 5 – *Snapshot of the point cloud made with a 3D laser scanner Faro 8080*
Fig. 6 – *Environmental sections of the village of Pietrabuona (copyright: Andrea Aliperta)*

buildings, but it has molded diatones (Fig. 9). Probably in the same years, also a new tower and maybe a palace were built in the upper part of the settlement. Hypothetically, we have identified the «palatium», in a corner between the 14th century hospital and the apse of S. Michele church, and the tower at the bottom of the bell tower.

After the fail of the first "incastellamento", the buildings testify the rising of the village, now densely populated and characterized by an important social differentiation. In this period, nearby the aristocratic buildings, we must suppose wooden houses belonging to the lower class and not yet preserved.

It's not surprising that in the 13th century Pietrabuona tried to disengage itself from Lucca with the Imperial support, and, in the first part of the 14th century, started to construct a new

Fig. 7 – *The apse of the Church of S. Matteo*

by four windows with arches. The tower, whose eastern side was built on a preexisting building, has some small windows with architraves on the upper floors. Meanwhile, before the first middle of the 14th century, the settlement radically changed, probably under the government of Castruccio Castracani in Lucca and during the war between Lucca and Florence. A new tower was built on the ancient church, now becoming the "Rocca" and the settlement was encircled by new walls

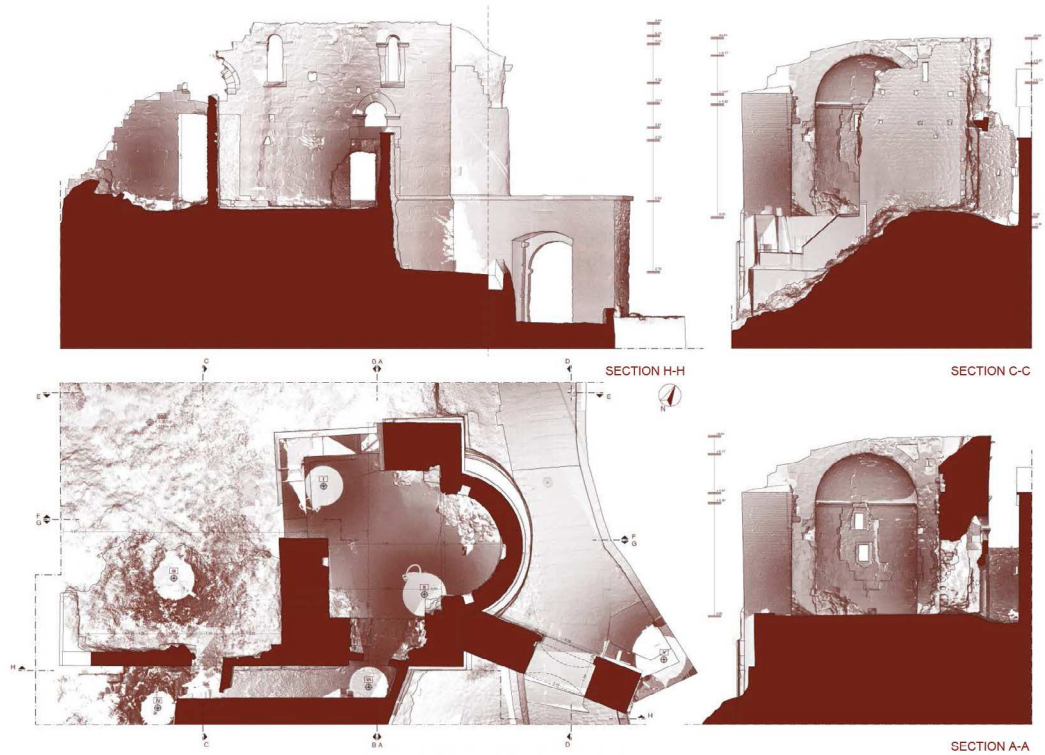


Fig. 8 – *Survey of the church of S. Matteo (copyright: Andrea Aliperta)*

building for the rural Commune's offices (Fig. 10). The new building is composed by the "house of Commune" and the tower, which represent two of usual architectonic elements of the communal power places in Tuscany. The first has a quadrangular plan with sides measuring 11 meters. A loggia, formed by two big arcades on the southern and western wall of the building, occupies half part of the lower floor. The upper floor is lighted

(Fig. 11). Probably in the same years a new oratory was built in front of the Commune's Palace and, because of the destruction of the old church, in the 14th century it gradually inherited all the ecclesiastical offices and rights (Fig. 12).

The portal of the new church is like the minor one of the old church, but the wall technique uses less expensive hewn stones. We don't know the exact date of its construction: probably it was built in the 14th century, in the same building plan that included the new walls with the Rocca, at the entrance of the

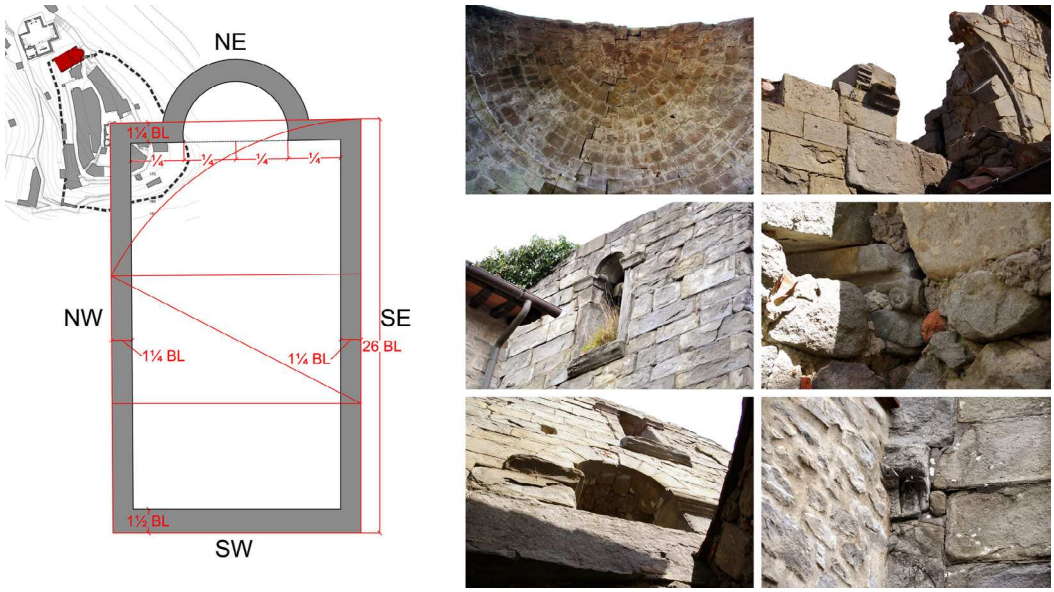


Fig. 9 – *Dimensional analysis of the church of S. Matteo*

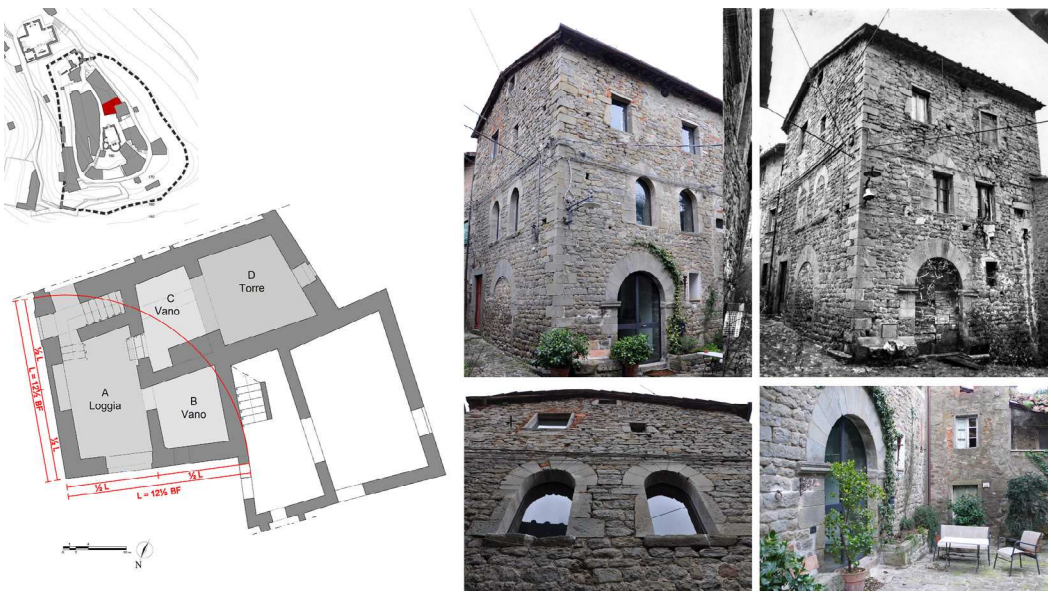
settlement, and maybe the Commune's Palace. In the second part of the 14th century Pietrabuona was definitively conquered by Florence. The fortress-gate system became a key feature of the final city wall. The architectural elements testify the Florentine presence and the circulation of new trends in cutting stone, construction and living.

In the 16th century Pietrabuona, like all the Valleriana valley, was finally a pacific area in the Florentine State and lost its military role. Between the late 16th and early 17th century we have the construction of new houses and the modernization of old houses.

In the following centuries, buildings reflected the shift of the population and his economic interests in the valley and the rivers. There are few new buildings and they are rarely aristocratic homes. Significantly, the most rich houses of the 17th and the 18th century are in the lower part of the settlement.

In the 19th century a new big church and a

Fig. 10 – *Dimensional analysis of the Commune's Palace*



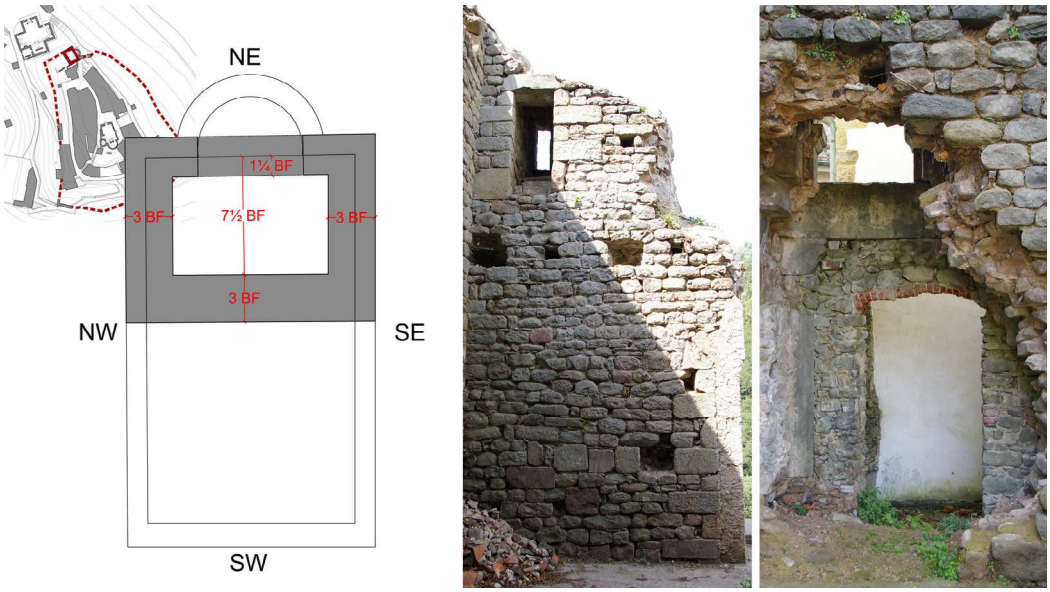


Fig. 11 – *Dimensional analysis of the Florentine's tower*

new fountain were built in this area (Fig. 13).
As many restorations testify, the village had a demographic consistence until the 20th century, when some earthquakes brought down many houses.
After a new economic crisis in the first part of the 20th century, that involved paper industry (the most important activity of the valley), and a new big demographic collapse, now the castle is almost completely uninhabited.
Documentation, as well as archeological and architectonic studies, are important instrument to control the necessary reoccupation of the village and to save the rural and lower historic buildings.

Project

The site on which stands the fortress, which in the past enclosed the castle to the north, it's today dominated by the volume of the church of SS. Matteo and Colombano, built at the beginning of the nineteenth century between

Fig. 12 – *The church of S. Michele*

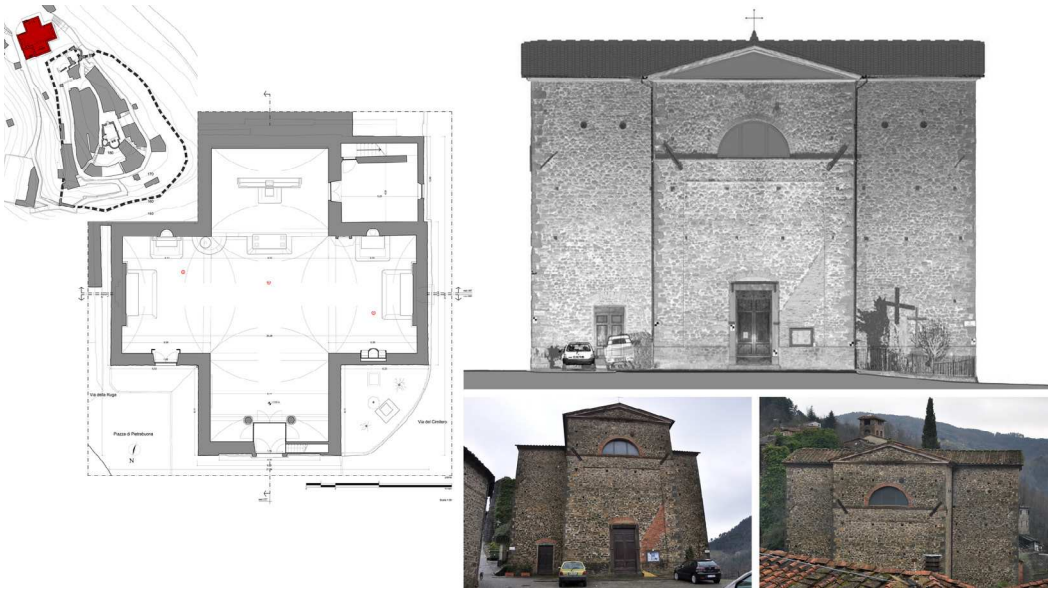


Fig. 13 – *The church of SS. Matteo and Colombano*

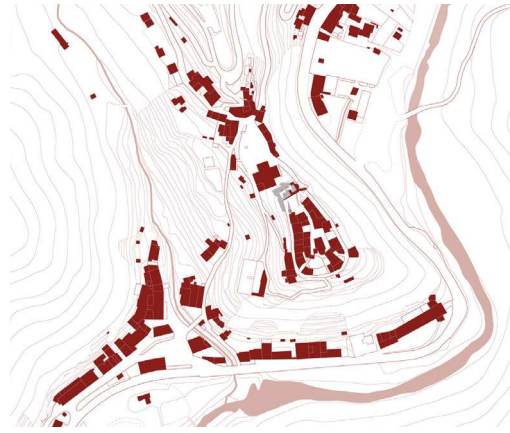


Fig. 14 – *Plan of the town of Pietrabuona with the project intervention (copyright: Andrea Aliperta)*

Fig. 15 – *Project plan: the Rocca and the opposite square. Below, the space provided below the floor of the church (copyright: Andrea Aliperta)*

the castle and the village developed along the connection path with Medicina. The imposing building was built near the rocky outcrop on which the fortress stands, without particular attention to the pre-existence (Fig. 14).

If the view to the north of the fortress was

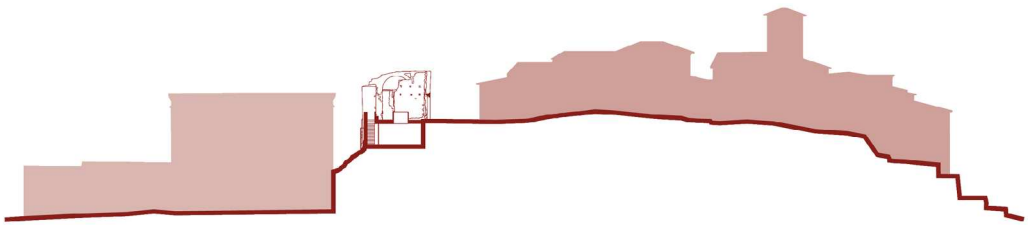


Fig. 16 – *Section of the Rocca: the ruins of the building and the new room project (copyright: Andrea Aliperta)*
Fig. 17 – *Render view of the square (copyright: Andrea Aliperta)*
Fig. 18 – *Render view of the interior of the church (copyright: Andrea Aliperta)*
Fig. 19 – *Render view from inside the church towards the landscape (copyright: Andrea Aliperta)*

almost completely negated by the size of the church, to the south a residential building has been recently renovated and expanded almost in adherence to the façade South-East and its own ground was also closed by a wall. This fact has prevented access to the area, already foreclosed from the north side of the ground unstable and by the altitude difference between the church (SS. Matteo and Colombano) floor and the fortress (Fig. 15)
The old building is today in a state of decay and isolation; the partial containment works, made in the 70s to prevent further collapse of the walls, have only been able to curb the static problems affecting the walls themselves.
The project idea is to transform the ruins in a public space, thought for the community.
The reuse idea seeks to restore the ancient bond between the fortress, the castle and its inhabitants. Therefore in formulating a hypothesis of re-functioning, it had to first understand how to find a physical connection between the castle and the fortress, making it accessible.
This first phase of the project was very difficult, because it was decided to intervene (carefully within the old tissue) by removing the building leaning against the fortress, which appears today in shapes and materials foreign to the context. The decision to use the demolition as a project tool, has not been easy (Fig. 16).
The old church of S. Matteo, at the time of its construction was an undoubted emergency in the urban context of the castle and its façade had probably a churchyard, whose dimensions were proportional to those of the facade. So is therefore not possible that there could be a building so close, hiding it for a good portion (it presents also moldings and

Fig. 20 – *Photographs of the model study (copyright: Andrea Aliperta)*

careful finishing suggest that they were clearly visible). In addition, if we refer to changes in the building in the fourteenth century, it can be assumed that the east façade, entrance to the defensive tower, could be used easily, and with the current configuration it's impossible. These assumptions are finally validated by the Leopoldine's Lands Registry that don't show the building concerned.

The fortress and the castle are again directly related through a new public space, which has no limit as the front of the old factory, but also goes beyond it by incorporating (occupying) what was in ancient times the surface of the old church.

To do this, it is thought to reconstruct what could be the outline of the religious building and to realize some connected spaces (Fig. 17). The project is composed to three main parts: the churchyard (or square), the space inside the old perimeter (fig. 18), the underground room.

The churchyard reconnected the urban space. It's resolves, whit inclined planes and steps, the existing paths.

The new floor is set to the same share of the old church. The ancient entrance leads to an open space from which to view the landscape (fig. 19), to visit the ruins of the fortress and to enter in the underground room. This is a quiet place where the physical landscape leaves space to the landscape of the mind.

The measurements of the new parts are suggested by the ruins of the fortress.

The new plant has the same size of the old plant. A linear stair is placed on the track of the ancient perimetral wall.

The project proposes traditional building materials and traditional technologies too. So it guarantees a correct insertion (in the context) and a long life to the new architecture which, maybe, will be again a ruin (Fig. 20).

Conclusions

The common times of architecture and archaeology design are not often the same. The architectural design takes place in a property dimension, self-referential and sometimes far from the peculiarities of the environment. Otherwise, ancient and modern history of Italian architecture, which we will take as an example, witnessed the inseparable relationship between design and history, or archaeology.

Acknowledgements

We would like to thank arch. Andrea Aliperta, who allowed to publish the project of his thesis "La Rocca di Pietrabuona. Patrimonio del passato, patrimonio del futuro" (supervisor A. Merlo, R. Butini) discussed at the School of Architecture of Florence in July 2012.

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Archaeology as a generator for urban development – the Case of Valnötsträdet, Kalmar, Sweden. A preliminary report from a work in progress

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Abstract: In 1647 the medieval town of Kalmar, situated on the Baltic coast, was dismantled and moved to a new location. Being outside the new fortifications, the former urban area was used extensively until the late 19th century, when a county hospital was built along with sparse residential buildings. The hospital was turned into a school in the mid 20th century and is now in the process of being re-developed into apartments. Besides the old castle, annually attracting vast numbers of visitors, there are no visible remains of the old town, not only making a large proportion of the town's history invisible, but also posing a pedagogic problem of sorts. The municipality of Kalmar has formed an interdisciplinary group consisting of planners, architects, landscape architects, archaeologists and an artist in order to develop and design an area of the old town called Valnötsträdet. This has been a part of a wider project assigned by the government, aimed at developing methods for an increased interdisciplinary cooperation in relation to city planning. In contrast to established practice, archaeological investigations were conducted very early in the process in order to produce a knowledge base for the planning, design and future use of the area. The project has involved new methods and a holistic approach in the design of public spaces. The interdisciplinary approach has been very rewarding and forms a possible model for future projects. In our article we are focusing on some of our experiences, highlighting shortcomings and obstacles within the present organization of urban development and cultural heritage management, and also point in directions on how these could be overcome.

Keywords: Holistic approach, interdisciplinary working methods, city planning, public spaces, Cultural Heritage

Kalmar Town

Kalmar is situated in the Southeast of present day Sweden, by the Kalmar Sound and the coast of the Baltic Sea (Fig. 1)

The Kalmar Sound area has a long and interesting history relating to trade and communication. Kalmar has generated rather a large amount of research, mainly by historians. Until recently, archaeological excavations have been limited.

The actual town was founded c. 1200, possibly being one of the first towns in medieval Sweden.

Through the medieval period up until the 17th century it was a centre for trade, politics and military interest. One of the highlights was the staging of a union between the medieval Nordic kingdoms in 1397, known as the Kalmar union. Until the mid 17th century it was also a border town to the neighbouring Denmark generating frequent military interest. Having the informal Scandinavian record of number of sieges, this in the end sealed the fate of the old town. After an attempt to re-plan and re-build the town in the 1620's it was, according to a royal command, moved to the island 'Kvarnholmen' c. 300 m to the north-east from 1647.

The very big town church was even blown up in 1678 as an action to finally declare the end of the old town (Fig. 2).

Being outside the new fortifications, the former urban area was used extensively until the late 19th century, when a county hospital was built. The hospital was turned into a school in the mid 20th century and is now in the pro-

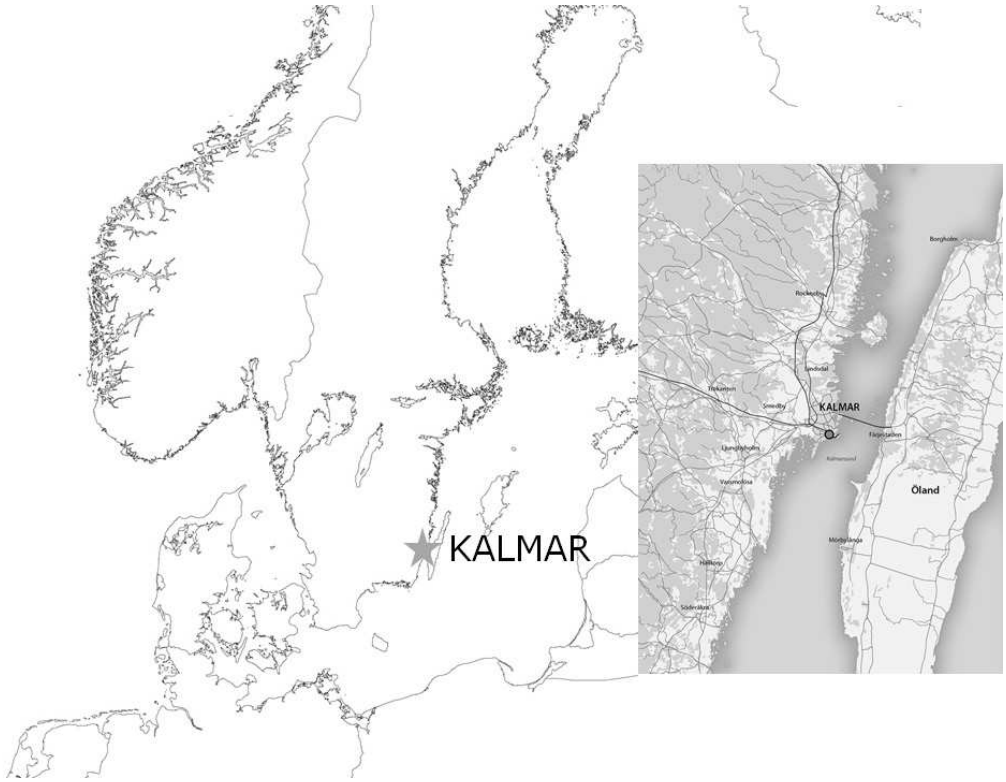

Fig. 1 - *Kalmar is situated on the Baltic coast in the southeast of Sweden.*

cess of being converted into apartments with a public ground floor.

Valnötsträdet

The whole project started in 2008 when the municipality of Kalmar sold the estate 'Valnötsträdet' in order to convert the old hospital into private housing (Fig. 3). (In Sweden town blocks are assigned names, and 'Valnötsträdet' means the Walnut tree.) Until now, the whole area has had a public character, but the historical values are not easy visible, hidden behind other destinations such as the castle and the city park. Immediately adjacent to this is the old cemetery, which has the most unbroken land and is still readable. The old cemetery was the location of the medieval town church.

The boundaries have been somewhat adjusted and the graves are preserved. At the same time, the cemetery's park is sensitive to visual intrusion. The place is full of character today – a sleeping beauty, whom commands the value of the Kalmar residents (Fig. 4).

In order to proceed with the planning process, the city council ordered a planning program from Nyréns Arkitekter, focusing on the values of the outdoor environment. An evaluation had already been done, concerning the buildings. From 2010, the project became one of 11 pilot projects within a larger programme undertaken as a collaboration between the National Public Art Council, The Swedish National Heritage Board, The National museum of Architecture and The National Board of Housing, Building and Planning.

The purpose was to improve the quality of buildings, facilities and public spaces, taking into consideration various perspectives and needs, and together with local municipalities and property owners distribute funding and implement projects the artistic embellishment of public spaces not owned by the government. During this process, archaeological investigations were carried out, and 2013 a 'Guidelines for Art and Design of the outdoor environment' was presented for the city coun-

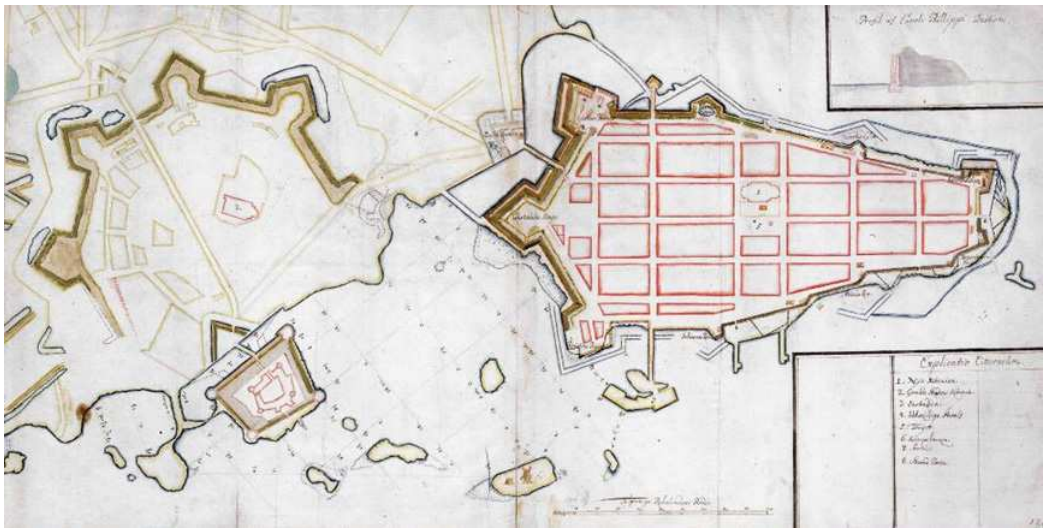

Fig. 2 - *The locations of the old and new town of Kalmar according to a 17th century military map.*

Fig. 3 - *Location of the 'Valnötsträdet' area, adjacent to the medieval castle. It was the centre of the medieval town of Kalmar.*

Fig. 4 - *The old cemetery, which was the location of the medieval town church, is a solemn place with a great number of values attached.*

cil (Fig. 5). This work was a collaboration between the landscape architects, the artist and the archaeologists, and the aim was to ensure the cultural heritage in the planning and design process, when parts of the area now was to be turned into residential areas. The ground floors were to be kept public, but a new balance must be created between the private – and the public.

The challenge was to highlight the town´s medieval history from a national and international perspective, but with a contemporary interpretation. Another challenge was to ensure the values of the outdoor environment. During the planning process it is unfortunately easier to protect values of the buildings than of the exterior. This area also demanded to be looked upon from a holistic perspective, as a historical urban process where Kalmar could be seen as a role model for the medieval urbanization of Sweden. We wanted to tell the story of the previous hidden cultural layers, the influence on a towns development concerning the changing of political, economical and religious power, and to use this later in the design of a public space, together with the site´s value of today (Fig. 6).

Contract Archaeology and Urban Planning

Since this kind of interdisciplinary cooperation still is rather unusual, it is necessary to do a short summary of the Swedish legal system on sites and monuments and contract archaeology, as a general background and as a contrasting context for the current project.

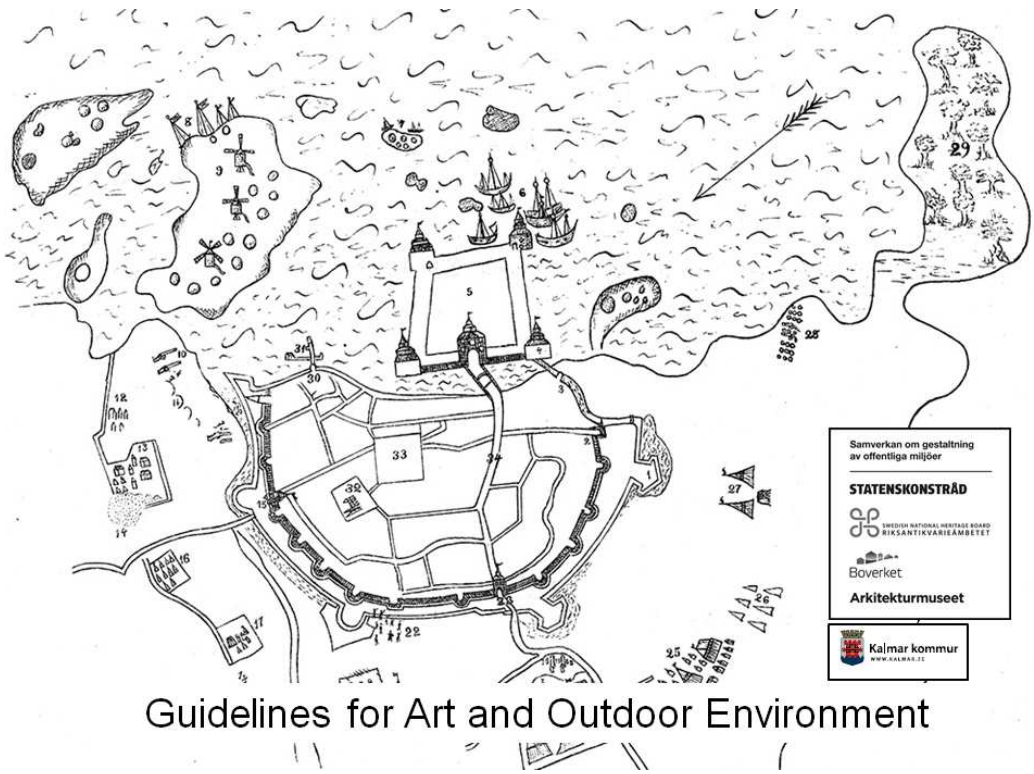

Fig. 5 - *In 2013 the project presented 'Guidelines for Art and Design of the outdoor environment in Valnötsträdet' to the municipality of Kalmar. The cover is a spy map from 1611, drawn in relation to a siege by Danish troops.*

The original legislation on sites and monuments dates back to the 17th century, (1666) and is probably one of the oldest in the world. The original intention of the law was an absolute protection of sites and monuments. However this has slowly changed over the centuries and is today a practice of 'pricing' in a sort of 'polluter pays principle'. It is possible to obtain a permit to develop a site under the condition that an archaeological excavation is performed beforehand. As in many countries this has led to the establishment of a system for developer funded contract archaeology. All quantitative knowledge is produced within the framework of 'developer funded' archaeology. The hectic re-building of society in Sweden between the 1950's and the 1980's meant an expansion of both contract archaeology and the planning bodies. In an attempt to solve the collision between different political aims – rapid development and protection of cultural heritage – archaeology was incorporated, and thus legitimized, into the larger body of 'social engineering' and its dreams of planning, calculation and predictability (LARSSON 2000, 279–283.).

Despite the fact that Swedish urban archaeology in the 1960's and 1970's was explicitly constituted as a support to, and integrated in urban planning, archaeology plays no active part in the planning process in the current discourse on urban planning. Archaeology, being only one easement, or 'problem' a site or a plot can be encumbered with, is being added on the lists of possible problems to be solved and ticked off. Normally, archaeology enters the serial chain of action in the procedures of planning, well after all plans are drawn and decided upon, the processes of building being started, the money invested and so on. No matter what could be found, it would have no repercussion in the design/re-design, use or re-use of the new urban space.

This serial 'drain pipe organization' of urban planning means that every profession work-

Fig. 6 - *A working plan of the Valnötsträdet area with a preliminary sketch of the proposed design.*

ing with towns and cities, (i.e. planners, architects, archaeologists, historians and the social sciences) have re-presented them in different ways, i.e. produced and re-produced separated 'understandings'/images/stories. In short there are wide ontological gaps between a variety of 'objects of knowledge', 'objects of management', 'objects of planning' and 'objects of re-presentation' and so forth.

This in turn reinforces the instrumentalist reason of the 'serial' flow of action – the one 'ontological object', after the other, are dealt with, and in such a way that the different types of knowledge normally never overlap or intertwine. It is off course counter productive, hampering communication and work against coherent overviews if a given town is re-presented as a more or less different object/place in different points of time. The interconnection between past, present and future is somewhat poor.

There are a large number of historical causes for this situation, too many to dwell upon, but in short the three major factors can be pointed out. Firstly: the object of knowledge within urban archaeology was constituted as rather narrow, specific, and focused on 'the physical facts' rather than social content. Urban archaeology was originally constituted in great dependence of the field of History, i.e., paradoxically based on a different source material and different sets of questions. (No sense of Space.) Although the archaeology of Swedish towns from the second part of the 20th century must be described as successful and established as a field or sub-discipline in its own right, it limited itself to a focus on the built environment, legal status and exclusively medieval remains. In so doing it was supplying the bureaucratic planning system with quantitative data as well as being a part of the 'grand narrative' of the Scandinavian 'State Formation' and its need for structural and functional criteria.

Theoretical frameworks established within this discourse did provide formal descriptions of 'the medieval town' as a phenomenon and

Fig. 7 - *An early topographical model of the area formed one of the bases for the further, interdisciplinary, discussions on how to design the Valnötsträdet area, taking the archaeological results into consideration.*

as a monument (ANDERSSON 1997, 15) and theories from other fields of 'urban studies' such as architectural or spatial theories and urban sociology, was rarely employed in Scandinavian urban archaeology.

Secondly, the whole body of cultural heritage management was structured as a quantitative and object centred practice. Urban cultural heritage has explicitly focused on delimitations spatially, chronologically and physically. This practice probably developed in order to achieve operationality within the bureaucracies need for predictability and calculation.

Thirdly, the 'object of planning' was constituted as a part of the Swedish modernist, welfare project. This was, to put it mildly, rather a-historic. The aim was to build 'new', while 'old' thus was made void of any contemporary value (other then as a picturesque contrast for the 'development').

From this follows that there was no requests from architects or planners for any formulation of the possible values in the experiences inherent in historical social space, – for instance what can be understood and ascribed as socially sustainable in the repeated patterns for organizing housing and living space we find in the archaeological record. Accordingly, such questions became non-existant in the re-production of the archaeological object of knowledge (which, thus, can be said to have been socially empty beyond a certain degree of stereotypes).

Design process

During the autumn of 2014 we started the design process of Valnötsträdet, with the former

work as a base of knowledge (Fig. 7).
The municipality of Kalmar have requested a further archeological investigation. As more questions arise during the work. It's a tight working process, luckily with the same team as previously, (which is not always the case). The city council understands the cultural values of the area, and realises that making the medieval history more visible, can bring more visitors and create a stronger historical complexity on a larger scale, together with the castle and the city park. During the previous archaeological investigations, the politicians found it preferable to include some of the remains in the design of the new square. The archaeological remains are at a very shallow depth, just 500 mm under the present ground level. This gives us a huge advantage, but it also can create problems. The area has to function and be accessible for visitors and residents, and to permit technical solutions such as water drainage (Fig. 8).
The questions for the design team during the process were as follows: How do we increase the historical understanding of the area in the best way? How do we tell the story of the development of medieval Kalmar to the town of today? How can we preserve and protect the remains? What can be shown? How do we keep the 'magical atmosphere' of the place, when the buildings will be turned into private housings? What kind of materials are to be used to mark the medieval square? How do we interact between the authentic remains and the new designed parts?
We also have to include the old medieval church yard, and show the grand size of the medieval town church, which was obliterated in the late 17th century (Fig. 9). (As another complexity, the Church of Sweden is the owner of the church yard, not the municipality).
The artist´s role now involves guiding the project to possible design directions and to choose, evaluate and streamline the elements to a readable wholeness. Furthermore, the artist´s contribution has been to give another perspective to the dualism between the

Fig. 8 - *Suggested points of entrance to the designed area and the planned location of a small exhibition hall, dedicated to the medieval history of the town.*

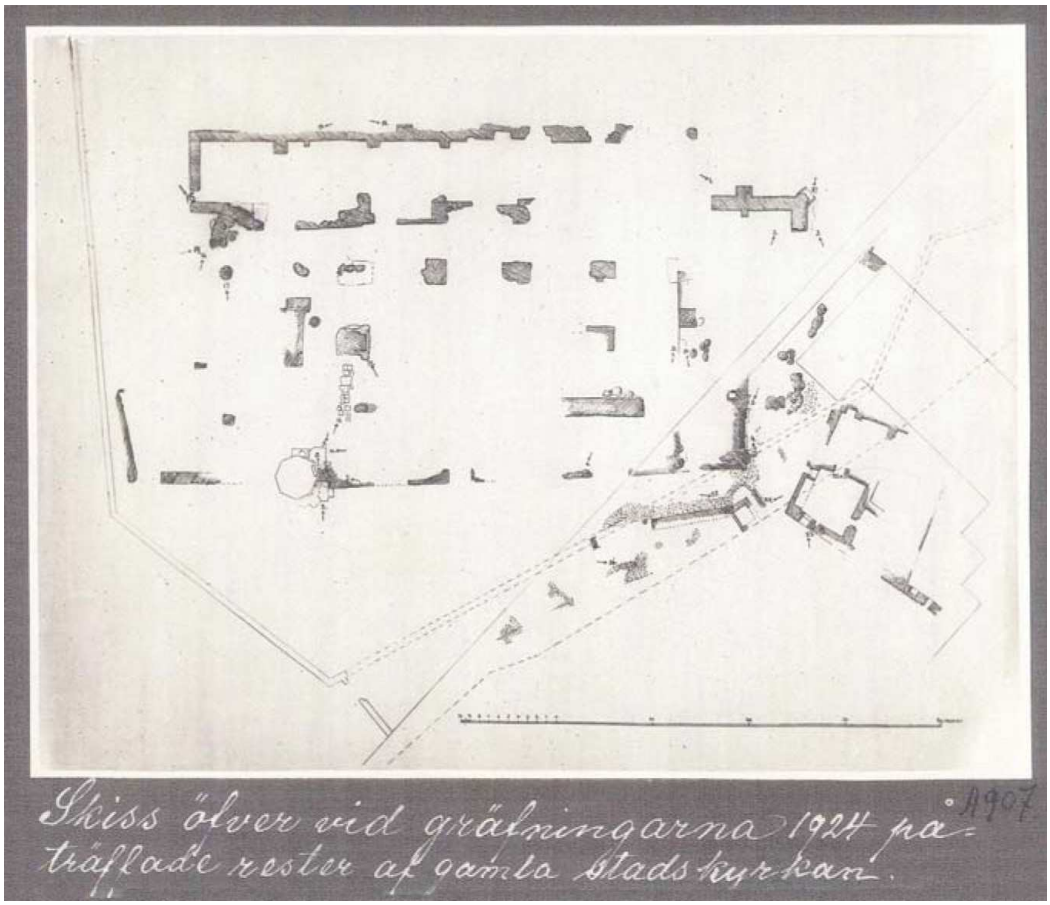

Fig. 9 - *Reconstruction of the medieval town church, based on excavations undertaken 1924.*
Fig. 10 - *The limited archaeological excavations that have so far been conducted have exposed parts of the medieval square, surrounding buildings, the old, cobbled, church yard and the remains of its elaborate entrance.*

Middle ages and the contemporary elements ,materials and language and has enriched our discussions bringing in Scandinavian and international references, as well as a deep knowledge and skills concerning materials and textures. The focus has switched to create a place of ongoing change – not to freeze a moment in time.

Experiences

There is a lot to be said about the rather spectacular archaeology in the Valnötsträdet area, but this is not the place (Fig. 10).
The main thing is that archaeological knowledge was produced before, and as a part of, the planning process, which is something

completely different from the ordinary run of the mill, where archaeology, as mentioned earlier, always are last in line. The greatest value is, however, the establishment of a common 'space of communication' between planners, landscape architects, archaeologists and artists concerning theoretical and epistemological viewpoints, terms and language, creating a platform for a research based narrative base line useable on different levels aimed at different target groups. Another important aspect is the matter of time. This project has been ongoing since 2008, and projects with a complex cultural heritage need longer time than normal to proceed. This can be difficult in the future when urbanization accelerates, which often means a fastened planning and building process.

In order to create a coherent narrative we needed to settle 'what is the story' and which parts can be designed in the contemporary space? In the process of doing so, we started to fill some of the ontological gaps. The challenges for the archaeologists were to transform the archaeological record into values and structures that can be utilised within urban planning. Likewise, the challenges for the architects and planners were to materialize and strengthen those values presented and design such values in a sustainable way. This places greater demands on archaeologists, needing to rise to the challenge of shifting the disciplinary perspective from the older paradigm to a practice theory based and somewhat performative 'archaeology of urbanism'.

The Valnötsträdet area housed the medieval square, church and town hall, along with a dense corpus of large masonry buildings.

The dating, appearances and quality of this can be ascribed a huge significance for the introduction, formulation and re-presentation of 'the urban' in a Scandinavian context. Put in another way. 'The concept of town' is being our narrative base line. 'Valnötsträdet' is a clear coherent story.

There is a story with good opportunities to highlight the role the city has played through the centuries in both domestic and international contexts.

We need to be able to present 'the story' to different groups of 'listeners'. At the most immediate level of 'story telling' it's about the design and general understanding of 'place'. The second relates to how the municipality/ politicians of Kalmar like to present the town in order to attract visitors and settlers, making the cultural heritage an economic

Fig. 11 - *Our discussions have been presented in many different forums, utilizing different means. In some cases the more traditional models are the most effective means to communicate.*

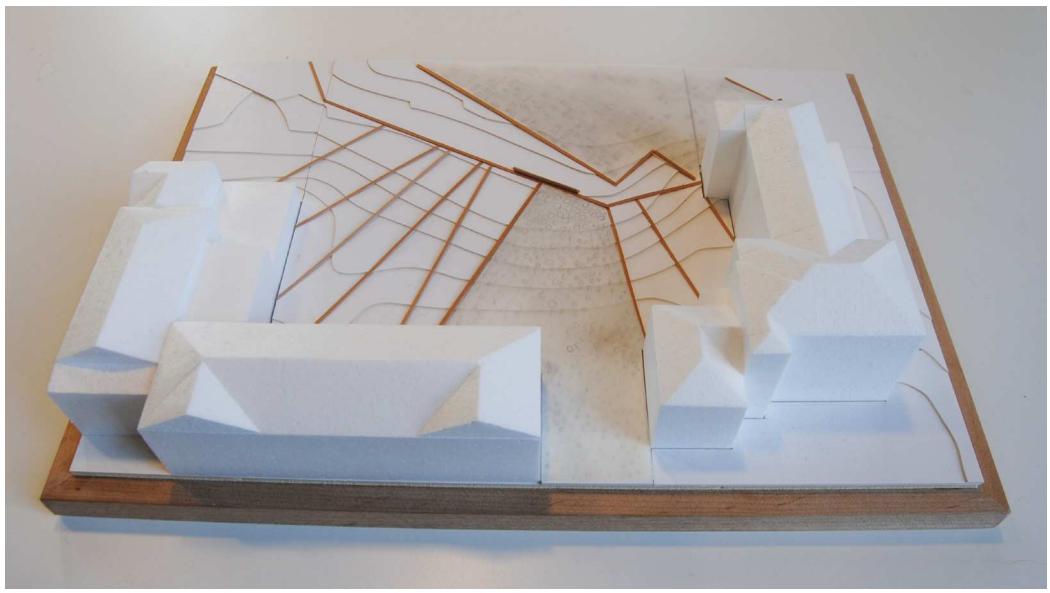

Fig. 12 - *The planned design of the Valnötsträdet area in Kalmar is a contemporary, narrative, interpretations based on the local archaeological record.*

asset. A third level of story telling is how we re-formulate the knowledge within our respective fields, giving us feedback of our experiences (Fig. 11).

Simply by addressing and trying to bridge some of the ontological gaps, our project has highlighted a number of shortcomings within the present system – both within the discourse of urban planning in general, and specifically within heritage management and rescue archaeology – by illustrating what kinds of production of knowledge, that have been missing. In short, the system just doesn't seem to deliver what is requested, whether that might be in relation to sustainable urban planning or the needs of climate-environmental research.

There is obviously a large demand for a 'processed', qualitative archaeological knowledge. However, archaeologists can not just sit and wait and expect ready-made demands to pop up. Requests, demands and values need to be formulated in interdisciplinary collaboration, as we have learned within the project in Kalmar. Terms like 'sustainable urban planning' and 'sustainable cultural heritage' are in need of being 'translated' and given specific discursive meaning by reflection, critical analysis and above all, put into, in this case, archaeological practice (Fig. 12).

All professions whom are working with urban planning, (architects, landscape architects, urban planners etc.), also have to learn to evaluate the cultural heritage and learn to ask questions in order to show what is not always visible. In order to create interesting cities with unique environments we always have to put the project into a historical context and always try to understand the urban landscape.

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Visualising the City of Gothenburg in 1698 3D imagery based on collaborative research

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Abstract: This project aims to achieve a fuller picture of how the city of Gothenburg may have looked in 1698 through collaborative research and digital visualization techniques. We aim to bring life to the research by asking questions like: why did the streets lean? Were all the urban plots in use? In what sort of dwellings did the people of Gothenburg live? Where was the pharmacist and which pub did people attend? And why wasn't the street at the top of Kvarnberget assigned a name? Answers to these questions and more are found through research into the City Archives, the War Archives, publications from historians as well as contemporary descriptions and imagery. This is combined with archaeological reports, surviving buildings from the 17th century and city plans. Little by little the puzzle can be put together in a 3D visualisation.
One of the main aspects of the project is to display the sources of the research and how to best convey the research that has led to each aspect of the town being reconstructed as it is. This will be carried out in a variety of methods including web deployment and the use of Unreal / Unity.

Keywords: Gothenburg, *Göteborg*, 3D visualisation, archaeology, history, city plans

Introduction

The project aim is to research the visual aspects of Gothenburg in 1698. What did the city look like and how did the urbanites live?
Why 1698, you might ask? The idea was to work with the city under construction, but if it started right at the beginning in 1621 there would be very little to visualize. Therefore a date was chosen at the very end of the 17th century, before the construction of some of the visual focal points of the 18th century were built and before the fortifications were completed. This part of the history of Gothenburg is the least known by the general public and therefore most interesting to visualize. The aim is to make a model which will function as a working tool for professionals as well as being interesting and educational for the general public.

Background

After several attempts to found a city at the estuary of the River *Göta*, the foundation of Gothenburg was a success at its present location in 1621. It was a fortified town, surrounded by moats and high walls, built mainly by the Dutch. At the same time it was very much an ordinary Swedish town dominated by low wooden houses.
Gothenburg today still has many visible features that have their roots in the Early Modern town. There are similarities but also slight or major differences that would make a model recognizable to the viewer but at the same time alien. That is why the model is important. The wooden houses that used to be such a visual focal point are now all gone. The canals had more routes than today and were used for transporting goods and people in and out of town, and featured several docks and harbours within the canal system. The squares were used for markets and for exercising the troops. The biggest difference of all was the presence of and the need for the fortifying walls, gateways and the moat.
By comparing the city of today with some remnant buildings, the existing canal system with the 17th century military plans, imagery and records, as well as documents from the Magistrate, contemporary descriptions of the town and archaeological reports, a puzzle is

laid to piece together an elusive picture of Gothenburg in 1698.

Methodology of the research

There are three different levels to the model.

Level 1. The models stem from research. It will be possible to find the source that the model is interpreted from by clicking on the object. The source can be visual, written or archaeological.

Level 2. By using models of types of houses that we know existed and multiplying them we aim to fill the gaps were the sources are scarce.

Level 3. Activity is added to the model, inspired by contemporary source material e.g. complaints of foul smells and loud noises due to the soldiers making use of the empty plot next to the City Hall for their bodily functions, as well as the constant drumming and whistling during their exercises according to the Magistrates records from 20th of May 1696.

Sources

There are several written sources with descriptions and documented records from 17th-18th century Gothenburg which help give a flavour of the town.

Sirenius published a description of Gothenburg in 1737. This is a paraphrased translation: *"The generic building consists mainly of proper and neat wooden buildings two stories high with panels on the outside, ornamented and painted with oil based colour in the best way. No one was allowed to erect new buildings along the main public streets unless permission had been given by the Magistrate for the design of the external facades facing the streets, as they must do in Stockholm. If they are not decent, they are forbidden to erect which will sustain regularity and disorder is avoided. This means that each and every one do not take it upon himself to spoil the external facades and that all houses may have a nice appearance and a regulated structure"* (Von Scheele & Simonsen 1999: 24). He then goes on to mention all stone houses in the city by naming their owners, all 11 of them. This information is from 1737 which means that some of these houses may not yet have been built in 1698. Archaeologists have a hard time determining whether a house had more than one story in the archaeological material since there are no wooden buildings left from this period in Gothenburg (except possibly Gatenhielmska huset, a house that is situated outside the walled city and built for and used by a high end of society). We have not yet found the documentation of the designs of the facades mentioned in the statement above but this is something we will look for as the project progresses.

Another paraphrased translation comes from Olga Dahls research on the Magistrate records: *"Mrs Elsa Andersdotter Svart appeared repeatedly at the Magistrates court for complaints of various kinds. She was repeatedly fined for using abusive language and hitting her lodgers with a rolling pin. On the 7th of July in 1696 she had fallen out with her lodgers once again. She had 2 soldiers living at her place. She had offered a bed in the kitchen for one of the soldiers in the other soldier's house, but he in his turn wanted HER house for him and his wife. She complained it was difficult to offer all her houses to the lodgers since she only owned three houses, that is to say the main room/stugan, the kitchen and the night house (bedroom)/ nattstugan.*

An accountant for the king lodged in the night house and he did not want to share residence" (Dahl 2004).

Interesting in this description is the fact that she had three one-room buildings instead of one three-room building. In her case a house and a room was the same thing. In this way we have been able to find accounts of building structures as well as a glimpse of life in the city and the people living in, and using the buildings.

Archaeological excavations have revealed several dwellings of this kind (Jeffrey 1994). Fig. 1 displays a drawing of a two room log house with a porch found in the Archaeological excavations in *Kv. Gamla Teatern*.

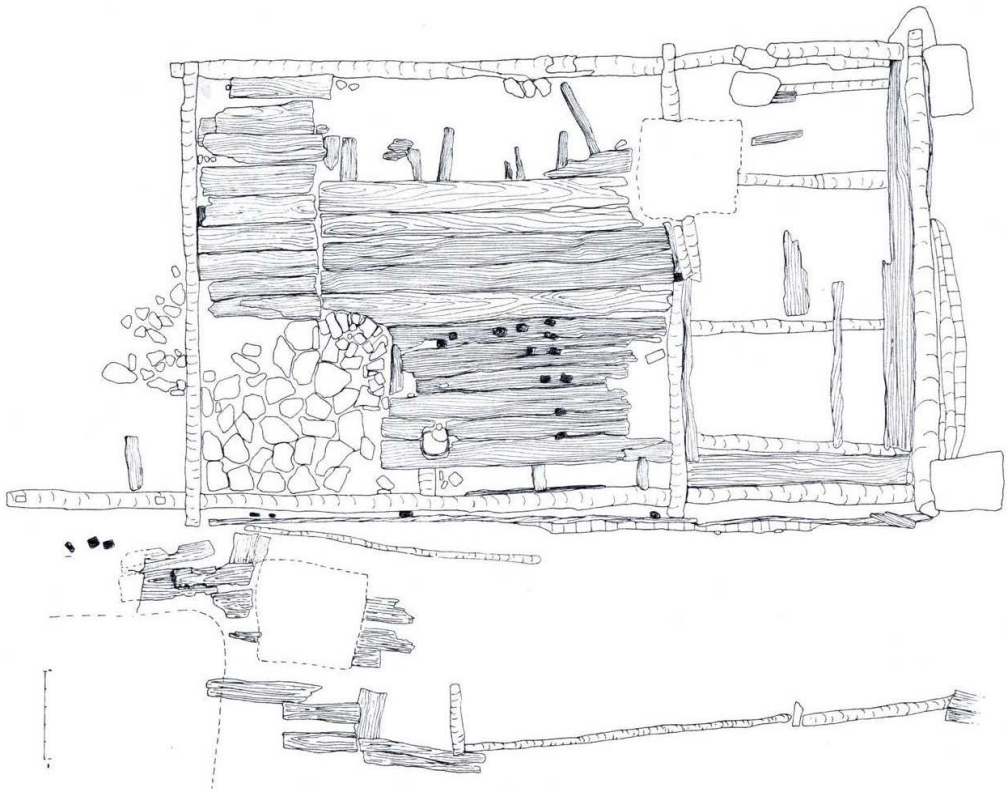


Fig.1 - *Kv. Gamla Teatern, Gothenburg, phase 2, house 1 (Jeffrey 1994).*

The main room had a corner fireplace and a wooden floor with a joining room or chamber built next to it.

The houses mentioned above could be similar buildings but lacking the extra room.

Some sources are very forthcoming with information about measurements as well as decorum and other details.

One example is Cederbourg (1739) describing one of the bridges in generous detail: *"The other, called Kämpebron (the Warrior bridge) a name which was given in 1628. It was then four big warriors in solid wood, five cubits tall, were carved in the four corners of the bridge; they were holding a bardisan in one hand and an oval shield in the other, of which Arngrim and Haldan were showing the Swedish weapon and the other two, Starkodder and Wittolff the weapon of the City, with their names around the shields and the year carved on their pedestals.*

The first two were once kings and the other two were brave Swedish men…" (paraphrased translation).

Source Criticism

Difficulties while using this kind of source material could be, for example, trouble determining an exact date of the information. Quite often the information that is sought is found as side information in texts or visual content that is aimed for other purposes. It is sometimes hard to combine different kinds of sources, you get an idea of something but quite often there are vital parts missing which would be required to get the whole picture. Another difficulty is that some of the descriptions derive from about 30-40 years after 1698; a lot can change and happen in that time span.

There are not always proper measurements available which makes interpretations hard. The plot sizes have changed a lot due to fires, and the merging of plots.

It is also difficult to identify the common urbanite and even harder to see the poor and their living situation. It is a lot easier to find information about the elite. Another compli-

cation is the fact that the early modern style of handwriting is hard to read. Last but not least the plans were not always realized; therefore it is hard to distinguish between plans and reality.

Methodology of the visualizations

After the completion of research for the areas within the town, the next stage is to reproduce 3D models of the buildings and the environment. The 3D models are a 'best fit' digital reproduction of the buildings at the site; it is obvious that they will not be 100% accurate, but it is possible to reconstruct the town using a variety of sources to obtain the most likely feel of the area. Each model is reproduced using a variety of software that produces a digital representation which is situated in digital space.

This means that the model has dimensions, i.e. a width, a depth and a height, which are as accurate as possible having been taken from plans and estimations produced at the time that the buildings still existed or were about to be produced.

The initial step of producing an accurate building from the town is outlined below:

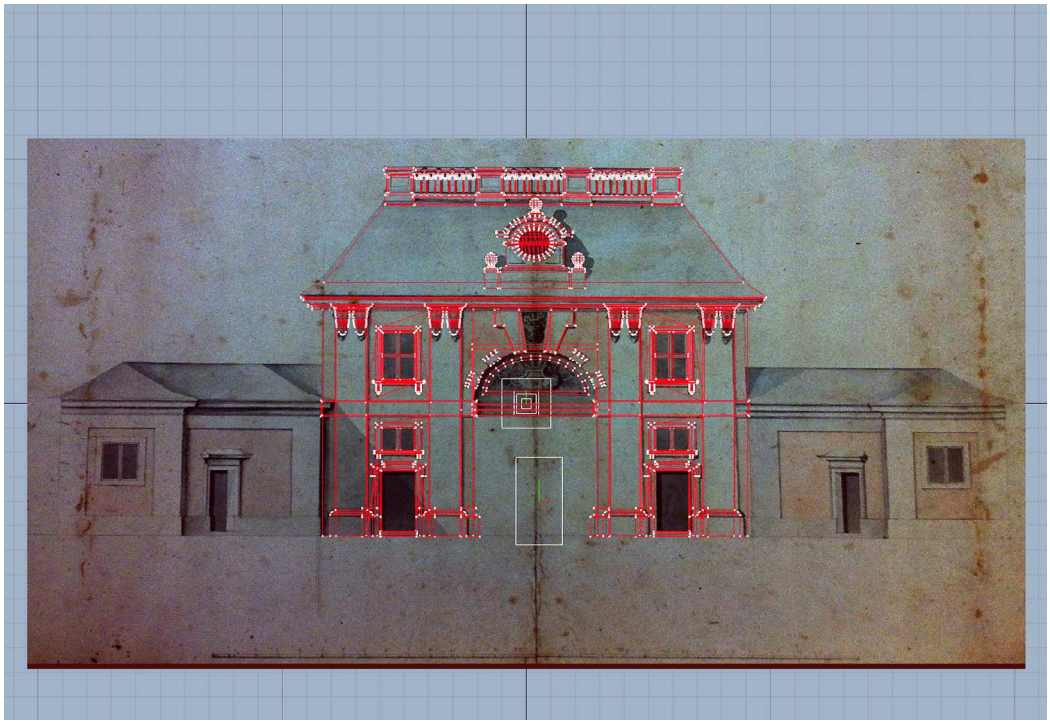
1. The plan for the building is evaluated, cleaned up if need be and then imported into Modo. As most of the plans and drawings have scales, this measurement is taken into the software and a relatively accurate scale model can be constructed.

2. More and more detail is added to the model. Most of the elements can be repeated on the building as it can be assumed that they were supposed to be symmetrical. While this does take something away from the randomness that is of course present in real life, it does make the process much faster and keeps the polygon count down.

3. As the model is produced, a UV map (a texturing system based on co-ordinates) is produced on the fly. This allows for the repetition of texturing which means that higher quality textures can be used. In these early stages a rudimentary texture is added so that different aspects of the model can be highlighted.

4. Once the model is complete the UV

Fig. 2 - *A model being produced based on a plan (Copyright: Rich Potter).*



map is exported and texturing is created in Photoshop. Minor details, such as flaking plaster, cracks, brick irregularities, dirt/grunge etc. are produced during this stage in order to add more detail and realism to the scene.

5. The UV map is then imported into Modo and applied to the model. The model is then exported and is ready for use in the visualisation.

6. Following this, lower level of detail (LoD) models are produced for use in the game engine in order not to bloat the visualisation by making it too CPU/GPU intensive due to the rendering of unnecessarily detailed buildings in the far distance.

As we are using a game engine to produce our visualisation, there are obviously some limitations as to what sort of models we can produce. The highest polygon count per model should be somewhere below 64,000 with the lowest LOD models being well under 1,000. Unless we can demonstrate where the information that was used in the construction of the visualisation came from, there will be very little point to the whole project. In order to combat this we will be using a number of methods of presenting the resources that we have been using taking precedent from other projects that have discussed similar issues [1]. Within Unreal Engine it will be possible to map a keyboard or mouse command that allows the user to hover over the building they are interest-

Fig. 3 – *An example of an UV map (Copyright: Rich Potter)*

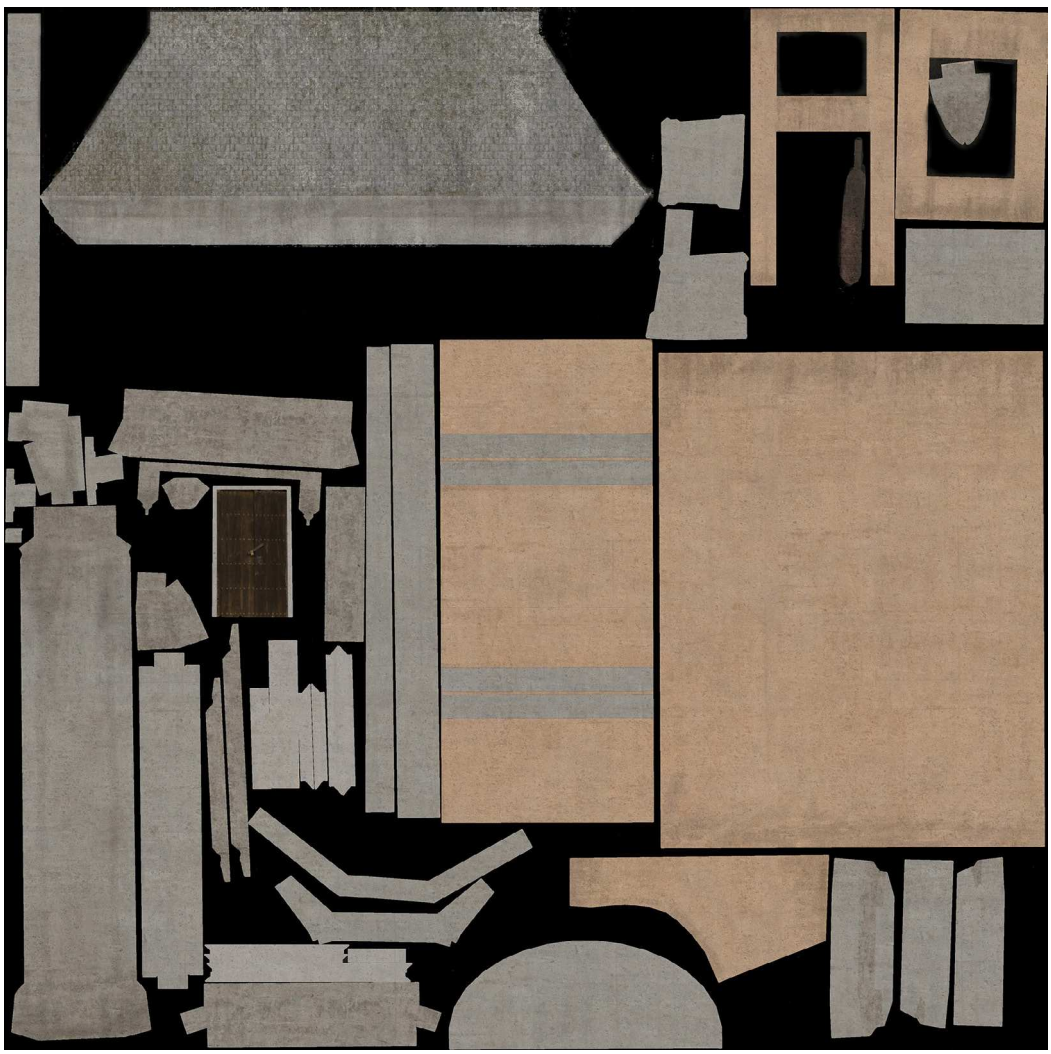


Fig. 4 - *A near complete model of Karslporten (Copyright: Rich Potter).*

ed in and click it in order to be presented with all of the source material that went into producing the model. Houses that are filler houses, or for which there is very little information, will show that there were problems with sources along with a description of why the house was made in the way that it was. Demonstrable evidence from other locations where similar houses/ buildings were found or are still found will also be presented. The sources that will be presented will either be written, visual, or archaeological. Ideally any linked information coming from other houses, or situations that occurred elsewhere in the town but mention the district/ area, will also be shown in this menu. Functions such as printing of information or pictures will also be considered in the final visualisation. Much of the information taken from our sources points to aspects of people's daily lives within the town; in order to make the visualisation more interesting, full, and realistic we will of course be striving to include all of these activities. These may include aspects such as street furniture, everyday items, trash, characters that are mentioned in the texts, market stalls, activities such as loading and unloading at the docks, soldiers and so on. As we have discovered where a large number of shops were and where activities took place, we will be placing the appropriate items in these areas to give the visualisation more of the character of Gothenburg in 1698.

Many of the houses that were in the town in 1698 were of poor quality and were made from wood.

These have obviously not survived to any great extent in the archaeological record, or have not been excavated. As we have determined which areas included lower quality houses or were inhabited by the poorer citizens of the town, we are able to look to other areas/towns and to what there is of the archaeological records from Gothenburg to produce basic houses that can be used in multiple locations around the town as a 'filler' houses to make the visualisation more complete. Of course these houses will be marked as being repetitions and not particularly accurate when the user clicks on them.

The software that we will be using within the project is as follows:

- Modo 801[2] – 3D modelling software that is used to produce the models and create UV maps in order that the models can be textured.
- Vue 2014.6 [3] – A rendering package that will be used to create animations of

the town and high detail images from the final reconstruction

- Photoshop CC2014 [4] – This well-known graphical software package is being used to produce textures for the models created in Modo.
- Crazy Bump [5] – software for producing bump/normal maps.
- Unreal Engine 4[6] – This video game engine is being used to create a virtual walk-through of the town.
- Unity Engine [7] – Used to place small visualised areas into a web app that is displayable through a user's browser.

Methods of presentation

When the visualisation is completed we will begin the process of presenting it. There are a number of ways in which we will be presenting our work, these include:

1. Still images of specific areas: these will not offer any further information about where our sources came from, but they can be used as representative images for things like presentations, publications, lectures etc.

2. Concept drawings of specific scenarios: these will be hand drawn elements either on top of still images from the visualisation (matte painting) or as a whole. They will mostly be used to incorporate the stories that we have found from around the town and will be used to augment the visualisation.

3. Animated segments to give a good impression of town life: these will feature pre-recorded animations that demonstrate activities that would have been visible in the town on a daily basis. These can either be included in the visualisation or as a separate entity.

4. Within Unreal Engine: this will be the main focus of our presentation methodology. As outlined above we will be using this game engine in order to place the user inside the streets of Gothenburg in 1698. They will be able to access and view all of the relevant sources that were used to produce the reconstruction within this element.

5. The Internet: we will be using the Internet to give as much information as possible. If at all possible we will be following the example set by the Colonial Williamsburg project[8] and place small reconstructed areas in a web app using the Unity Game engine.

The most important element of the presentation is that the information and sources that we have used to produce the visualisation are obvious to the users. This is outlined in the section above, but it is worth reiterating that we intend to offer complete transparen-

Fig. 5 – *Examples of the street furniture which will be included in the visualisation (Copyright: Rich Potter).*

cy in terms of our sources. This will allow us to present why we have done things the way we have, what decisions we made as well as to highlight the areas that are not very accurate while enhancing those areas that are more accurate.

Future

The future of this project is not yet decided. Outlined above are our methods of presentation that we will be using, but it is entirely possible that new technology will become available in the time it takes to complete the project that will allow us to present it in an entirely new way.

We aim to leave our project open to interpretation as well as constructive criticism so that we can reproduce and re-evaluate how the town looked in order to get the most accurate reconstruction possible.

We will offer support and our results to museums, the archives and any other institution which is interested in the final product.

We are intending to display our project in the new Early Modern exhibition at the City museum of Gothenburg which opens in the autumn of 2017.

Gothenburg's 400 year jubilee will be taking place in 2021, we are obviously also hoping to get our project involved in these celebrations.

We intend to apply for further funding in order to extend the visualisation so that it can include boroughs outside of the city walls such as Haga, Masthugget and Majorna as well as *Nya Lödöse* or *Gamlestaden*.

Conclusion

We believe that basing a model on several different sources gives a more diversified view of the town. Our aim is to clearly show the research behind the model and make it evident where the interpretation is solid or loose. Some parts of the model will be harder to find information about and will therefore contain more houses of a basic common model rather than from hard research results.

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The territory of Roccastrada from mining district in agritourism. Reuse of nodes and networks between past and future vocations

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Abstract: The territory of Roccastrada was an integral and essential part of the mining district (the so-called "metalliferous hills"), one of the most important in Europe during the 20th century. Over the centuries, the territory started to be more and more organized around the mining activities, whereas the socio-economic system of the area has always been based on agriculture. These two activities created a prosperous "binomial" system which lasted for at least a hundred years until eventually, in the early 90s, the mines were completely closed. When one of these two connected activities, mining and agriculture, disappeared, the local population found a way to replace it, through tourism. This substitution, forced by events, has given way to a large accommodation capacity (approximately 650 beds in the entire municipality), a wide range of choice (cottages, hotels, bed and breakfast stay, RTA) and a good mutual relationship with the agricultural system (tourism represents a complement to many farms that otherwise would have economic difficulties). However, while previously the mines were generating a single integrated system, to date tourism is occasional and very heterogeneous. Visitors appreciate and enjoy their time in the area, but it is unlikely they might have a real opportunity to interact with the territory, due to the small size of the structures (6 places on average), the presence of on-site facilities (swimming pools, relaxation areas, catering) and the relative distance between the places. The hosting structures are scattered everywhere on the territory. In particular, this problem emerged during the discussions for the creation of a new Municipal Structural Plan. Operators and citizens have insisted on the need to create a unitary territorial nucleus, easily recognizable and more attractive. Since its closing, the mining site was supposed to be the main attraction of further touristic development. However, the proximity to other territories in which disused structures were better converted (eg Gavorrano), together with the fact that the municipality (Ribolla) is outside the main area, contributed to lower the expectations. The current idea is to retrieve limited areas related to the mining site, and to reuse the territorial armor that was linked to it, focusing the attention on the potential of natural and historical attractions on the one hand, and on agricultural production on the other hand. Enhancing the past of the mines means going from the end of socio-economic development to a re-discovery of the territory and a re-use of facilities which already exist. The roads, the nuclei and the services that were once a functional mining system must now be used to reverse the abandonment of the hills, which have suffered from the transition from mining to tourism.

Keywords: Mines, Regeneration, tourism, temporariness

The difficult relationship between agro-mining past and agro-touristic future

The municipality of Roccastrada is the 5th largest in Tuscany (284.47 km^2), with an overall population of 9,262 inhabitants. For population density (33 inhabitants / km^2) it ranks only 219th on 280. The urbanized territory is just over one per cent of the total area of the municipality (28,160 h and 290 h compared to non-urban areas).

In short, there are large areas, mostly rural and sparsely populated. Because of the economic crisis in Italy, many rural areas, which were affected the most, are now trying to regenerate themselves focusing both on a new social and economic structure and on the tourism sector. As the latter was less affected by the crisis if compared to other industrial sectors, it could be converted into the useful complement to agriculture.

In the entire territory of the municipality, there are 1080 companies with a production area

of 165 square kilometers, ie about 58% of the total area. Nowadays, if we want to build a local plan in an area such as Maremma, we cannot ignore the attempts of transformation affecting the agro-tourism sector.
At a territorial level, tourism alone cannot automatically ensure sustenance and regeneration, at least in the start-up sector. Precisely for this reason, for at least ten years farm companies have associated agriculture to tourism.
The increasing spreading of agritourisms, Bed and Breakfasts and, last but not least, websites allowing a direct rental of rooms, are a potential additional resource for agriculture which could be vital for a re-structuring and a regeneration the area. There are 641 places, of which 460 are in agritourisms or at least in rural areas.
Roccastrada doesn't have a long tradition in the tourism sector, but it definitely has solid roots in the agricultural sector. Until twenty years ago, mining was the complementary sector to agriculture, therefore, we are now experiencing a transition from production to tourism.
It would be reasonable to expect the mining past to have an important role in the creation of strategic lines for the Structure Plan. But, analyzing the process leading to a strategic planning, and studying the territory, it seems that this is not the case.
The population has taken part to the preparation of the Structure Plan, which is a strategic planning tool.
The administration has decided to ask directly to the citizens what were the identity values of the area, and, above all, what could be the future scenarios.
If on the one hand it is now clear that the future of Roccastrada lies in the agro-tourism and in the protection of both environment and landscape, on the other hand it must be noted that the mining past has been ignored almost completely as useful asset for the future.
Nobody was thinking about a reactivation of mining, as this option would be anachronistic and technically impossible, but many were expecting at least some indications concerning the recovery and the requalification of these ex-productive areas.
Has the mining past been completely stored? Does the community of Roccastrada consider it useless for its future development? The answer is neither straightforward nor banal.

The attempt by the Mineral Park

Mining activities, intended as spatial typology of industrial production, are certainly sui generis: they are by nature more linked to ground than light. They are underground activities that do not take up land in the classical sense, in fact, the structures built on the surface of the mines are extremely small compared to the actual use of underground spaces.
Unfortunately, in the case of the Metalliferous Hills, the choice consisted in blocking the galleries and flooding them, thus preventing us from a possible re-utilization of the underground mining heritage, even though it could have been a potential tourist attraction and, even more, an interesting testimony of industrial archaeology.
In 2002, with the establishment of the National Technological Park of the Grosseto Metalliferous Hills, seven municipalities decided to protect and enhance the mining heritage, in order to preserve the memory and transform the place in a cultural attraction for tourists.
Surface structures, as wells, extraction plants, silos and structures for the processing of materials and furnaces, have been destined to re-use, even if in Gavorrano there are also some short sections of the tunnel.
The secular mining activities have not only left some surface structures at the mining sites, but also some of the nodes and networks of the production system.
The organization and structure of the entire area proves the presence of another production system that has evolved together with the mining activities for centuries: the agricultural system.
The territory of the Metalliferous Hills has lived for centuries on the combination of both agriculture and mining and, when the mines

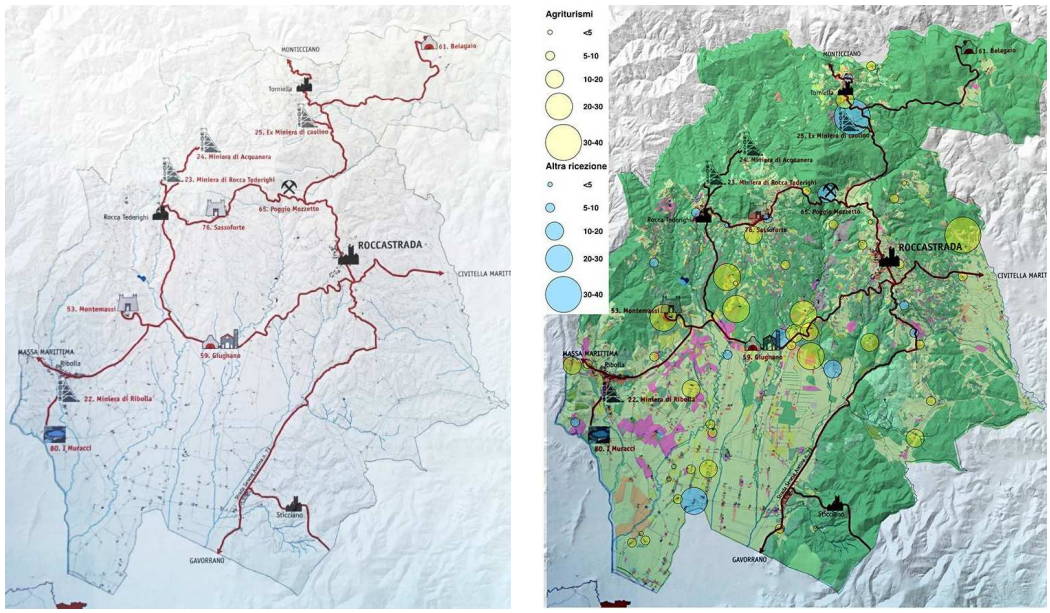

Fig.1 - *overlay map of the places of the former mine with the geolocation of agritourisms (yellow) and other accommodation (blue)*

finally closed, a socio-economic crisis was inevitable. The territory had to be reinvented and the main idea behind the Technology Park was to focus on tourism alongside agriculture, in the wake of the gradual and steady increase in attractiveness of Maremma.

Twenty years after the dismantling of the mining structures, this re-launch of the area does not seem to have produced the desired results, at least from the point of view of Roccastrada and its people.

The use of mining facilities alone as tourist attraction cannot be effective for the City of Roccastrada. Other nearby areas, as Gavorrano, Massa Marittima and Niccioleta, have a higher concentration of facilities and attractions.

The mining heritage of the municipality of Roccastrada, Ribolla excluded, is dusty and mostly medieval, therefore no structure of the industrial archaeology can be quickly converted for tourism. The mining past of Roccastrada is hard to discover, it must be found between "folds" of agricultural activities or behind a thick forest.

Precisely for this reason, the Mineral Park has been left in the background in recent discussions, actually, it has been hardly mentioned. The structures of Ribolla, "the door of the Park", are certainly considered important by the community, but at the same time, they are also seen as a tie to the past and as the unsuccessful attempt to focus on the attractiveness of the former mining district through the creation of the park.

How to reuse a past system

The recent discussions have also shown that the rural system is extremely heterogeneous and that the accommodation facilities are disconnected from each other, thus failing to create a network.

The citizens have expressed their desire to create a continuous and unitary system, allowing a connection between the facilities and the territory. For instance, the agritourisms could be connected to small towns and the historical hubs to natural areas.

Both nodes (villages, churches, castles, parks, old mills) and networks (driveways, forest trails, country walks) of the rural system were created with and for the mining activity. Now that the latter is being replaced, it is useful to investigate how these elements can contribute to the development of a quality

and sustainable tourism. The territorial system created for the extraction may represent a way to discovery the territory itself, form a touristic point of view.
In this perspective, the mining past can change from main destination for tourists to a means to visit and discover environment, products and landscapes.
Reusing and recovering a system is certainly more complex than re-using a building. Interventions must address the entire network and all its nodes and, in order to do this, more than on great strategic interventions, it is important to focus on small tactical interventions that accelerate the reuse of spaces and routes and catalyze the new way to discover the territory.
The new Structure Plan needs to be focused in particular on finding more rooms for the visitors, for example, trying to re-balance the system, since the northern mining areas are in process of de-population, more precisely the town as Piloni and Torniella or Sassofortino and Roccatederighi.
This could be done by taking advantage of the proximity to the protected area of Belagaio, and by trying to encourage a more widespread receptivity within the villages with a greater potential in terms of historical attractiveness. These settlements have based their history on mining, which is why at present there are many abandoned structures, including furnaces, wells, guesthouses etc…
The areas surrounding small ex-mining and historic structures could provide functional facilities for tourists, possibly light, removable and not-impacting, de facto land-use zero. Seasonal structures may be used to host guests as well as for service, as in the case of chalets, which are light, have an autonomous management, and are similar to the shacks where miners used to sleep.
Very often, the functional structures formerly destined to extraction are located outside the city limits and the urbanization of these areas would be detrimental, as well as inappropriate. The use of temporary structures, light and non-invasive, in the heart of green areas and close to the ruins and the remains of the mines, would definitely increase the atmosphere of discovery at the base of eco-friendly tourism and naturalistic tourism.
The ex-mining structure can be left in ruins, as a tangible record of the past, in an outlook of "fossil archaeology", therefore requiring very small investments at least in the early stages.
In order to reuse the mining system, it is important to consider the dynamism of a strategic process of regeneration, rather than the complete realization of a project for the re-development of derelict structures, as happened for example in Gavorrano.
The investments needed for such seasonal and removable facilities are definitely lower than those needed for great recovery and safety operations and, if the right is granted, the payment for the more strategic interventions can be done gradually.
The recovery and regeneration of the mining system is a slow process that uses tourism as a drive, but that aims at strengthening the agricultural sector as a strategic productive sector.

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Places in the memory. Abandoned villages in Italy

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Abstract: In recent years, we have witnessed the rediscovery of urban rural realities. Even if these realities may be of small dimensions, they are characterized by a deep-rooted local identity. In many regions, these realities have been exploited to promote actions and policies of local development. Within the same territory, urban, environmental and landscape resources have been identified that could preserve the uniqueness of these places and could counteract the pervasive effects of supra-local development. In this framework, the presence of abandoned villages can gain significant importance.
The proposal aims to investigate the phenomenon and the reality of ghost villages in order to understand the meaning and role to be given to each abandoned village, to define the areas of comparison between cases identified and to describe possible prospects of revitalization.

Keywords: Memory, Ghost Town, Rural Settlements, Sense of Place, Revitalization

Introduction: urban places without man

The land, in its current configuration, manifests itself as a definitive design, a fait accompli, composed of villages and open fields, cities and forests, roads and rivers, man-made and natural elements. Its true reality, however, is revealed only through an awareness that it is the end result of an extensive and diverse web of processes and occurrences, of natural events and historical dynamics, of an intricacy in continuous and progressive change. The complex history of a territory largely coincides with that of the whereabouts of man, or human settlements. Its population depends on a multifaceted interaction of causes of geographical and historical nature and, especially, a subtle and inseparable relationship between man and place. The formal and existential reason for the fabric of the settlement is inserted in an environmental and natural context; its shape is, therefore, a product in and of the earth. The synthesis of ongoing changes in the land can only be evinced as the city itself, a formal and concrete symbol of processes of urbanization perpetrated over time. The settlement, be it a city or village, represents the best opportunity to humanize the natural environment and in to insert the human heritage in a specific place; it delivers to the environment a cultural and externalized form of permanent, collective dynamics. The city in its form, then, is inseparable from its content: its aesthetic value rests in his appearance, but it is the presence of the man which fills the form. There is an inseparability between the social and the aesthetic issue; physical space constitutes an experienced and historical reality, for this gives validity, value and affective quality to the construct and to architecture[1]. Cities are born from the social necessity to integrate across occupations and human experiences, which being multiple and complex, are organized on the basis of various processes and dynamics. These intertwine and compensate for one other, generating systems which are not absolute, but are imperfect and are therefore subject to change. The true wealth and power of a system , however, lies precisely in this inherent weakness and imperfection, since it is starting from such deficiencies that it is able to evolve. The city system is not rigid but is organically malleable and adaptable to continuously changing human needs (Mumford 1961). If the settlement has a well-structured, it changes itself adapting to a new social and economic conditions, but if the urban organization is based on rigid systems, when it

presents a new and sudden difficulty, it will suffer a rupture in some cases, as in that of the abandoned villages, the urban system will follow down. The people go out moving away permanently in another habitat places.
The city without the human presence is rendered inevitably empty, stripped of its content, its existential reason; what remains is only a shell, a form without an idea, volume without substance; it is reduced to a pure and simple space, that is, ultimately, to only a sign / design in the territory. While the ghost villages have lost their "life function", they are abandoned but not disappear on territory and on memory of people: they become "places in the memory".

The phenomenon of abandonment in Italy

According to the most recent Italian census conducted in 2011 by ISTAT (National Institute of Statistics), more than 85 percent of the 8,100 Italian municipalities have less than 10,000 inhabitants[2]. There are a total of 3,644 municipalities with fewer than 2,000 inhabitants. These municipalities are articulated in small villages and hamlets and they carry out a fundamental activity in presiding over rural territory. Even if these municipalities are regarded as places of cultural value, they are found to have an uncertain future and can be included in that category defined as "difficult settlements"[3]. These small inland villages and hamlets, concentrated mostly in upland areas in what were once considered mostly strategic locations, are now completely overtaken by the new territorial assets along the coast and in the valleys. Today, they are characterized by a weak economy, low population density and devalued real estate, and are subject to the dynamics of economic impoverishment and a lack of services. In this historical and geographic context, we must analyze the modest reality of the abandoned villages from the beginning of the 1900's until modern times. The phenomenon of depopulation, or more generally of emigration, is a continuing reality. In proceeding forward, it can determinate a demographic increase or decrease of a specific area, until the completely abandonment of regional area. The historical content of the recent past in Italy was marked by large migratory fluxes (both the internal migratory fluxes). With surveys, bibliographical research[4], analysis of aerial photos, internet research, and the aid of information furnished by local experts in mail correspondence, the exploration on the theme of abandonment led to the identification of 179 abandoned villages (Fig. 1). This means that these are urbanized places where, at this moment in time, neither the presence of current residents nor the conditions that constitute the customary form of living in a settlement in a permanent or continuous manner may be found[5].
The study was limited to processes of abandonment in the 20th and 21th century. In the light of the number of identified cases and their distribution on Italian territory is possible to consider the reality of abandoned villages as a real phenomenon. The phenomenon is analyzed on the base of a comparison of data collected:

• geographic location:
  - membership region: Abruzzo 8%; Basilicata 1%; Calabria 11%; Campania 5%; Emilia Romagna 4%; Friuli 3%; Lazio 3%; Liguria 14%; Lombardia 3%; Marche 1%; Molise 0%; Piemonte 8%; Puglia 1%; Sardegna 8%; Sicilia 14%; Toscana 10%; Trentino Alto Adige 2%; Umbria 2%; Veneto 2%;
  - geographic location: mountain 54%, hill 34%; plain 13%;
• period of abandonment: 1900s 4%; 1910 2%; 1920s 1%; 1930s 3%; 1940s 4%; 1950s 26%; 1960s 30%; 1970s 15%; 1980s 11%; 1990s 3%; 2000s 1%;
• causes of abandonment (Fig. 2), categorized under natural causes: earthquake 10%; landslide 4%; flood 6% and unnatural causes: emigration 65%; construction of public works 4%; war 2%; declarations of unfitness7%;
• urban patterns: linear 45%; parallel 13%; central 12%; cellular 30%;
• accessibility: driveway 50%; footpath 46%; unreachable 4%;

Fig. 1 – *Map of ghost villages in Italy*

• current condition: ruin 38%; condition of degradation 62%.

From view of comparison data it emerges many are areas which are most affected by the phenomenon of abandonment:

• the Calabrian Aspromonte area;

• mountain areas have been subject to intense emigration, which led to the abandonment of entire towns, among them, even geographically distinct and distant ones, including areas of the Tuscan-Emilian Apennines as well as the upland areas of Liguria and Abruzzo;

• the villages in the Belice Valley;

• the agricultural villages of Sicily;

• the mining villages of Sardinia.

Considering the period and the cause of abandonment, the phenomenon is more pronounced between the 1950s and 1970s and it has been generated most often by migration dynamics. The data obtained are indicative and important to expose the phenomenon in its general dynamic, but they cannot describe the individual histories that led to the aban-

donment of each settlements. Each villages has a specific peculiarity and uniqueness. For this, the phenomenon is characterized by high degree of complexity. In fact, the deepening of the cases shows that in the process of abandonment the combination of economic, social and urban factors plays a significant role. This is also in the case in abandoned villages due to catastrophic events, where the destroyed village has been rebuilt in another place and where the inhabitants have left the old country and were transferred to the new town. The choice of abandonment is revealed in all cases -irrespective of principal cause- an extreme choice, which leads to a radical change in the settlement system of a geographic area and in the lives of entire local populations.

To understand the dynamics of this choice and the value attributed to the uninhabited village, we will examine two regions which were significantly affected by the phenomenon: the Aspromonte and the Belice Valley.

The abandoned villages in Aspromonte; the case of Roghudi

Aspromonte is a mountainous area, located in the southern Calabria region. It is bordered on the east by the Ionian Sea, on the west by the Tyrrhenian Sea and the north by the river Petrace. At various points in history, the land of Aspromonte was considered an impenetrable one. However, it was also considered a land rich in history and popular culture, being part of the Ionic area of Hellenic origin, a recognized area grecanica[6].

In Aspromonte, eight uninhabited towns were identified, whose abandonment is concentrated in the early and mid- 20th century. As reported in the table below (Tab. 1), the causes that led to the abandonment are directly related to natural disasters or catastrophic geological instability. In most cases, the evacuation of the town was followed by a phase of regional planning which, for governmental decisions and with the support of local authorities, led to the reconstruction of the village in a completely different location: the mountain village was rebuilt in the valley, or even along the coast, a great distance from the old village (in the case of Africo, the distance between the new and old village is 33 kilometers).

It is clear that these choices were conceived by the inhabitants as an opportunity to radically change the status of living with the prospect of changing from one system linked

Tab. 1 – *Uninhabited villages in Aspromonte*

Town	Year ab.	Cause ab.	New Town	old/new town
Old Africo	1951	flood	New Africo	33,5 Km
Old Amendolea	1953	flood	Amendolea	0,5 Km
Old Bianco	1908	earthquake	Bianco	3 Km
Brancaleone Superiore	1950	declared unsafe	Brancaleone	5 Km
Casalinuovo d'Africo	1951	flood	New Africo	22 Km
Precacore	1908	earthquake	Ø	Ø
Old Roghudi	1973	flood	Roghudi	38,5 Km
Zoparto	1908	earthquake	Ø	Ø

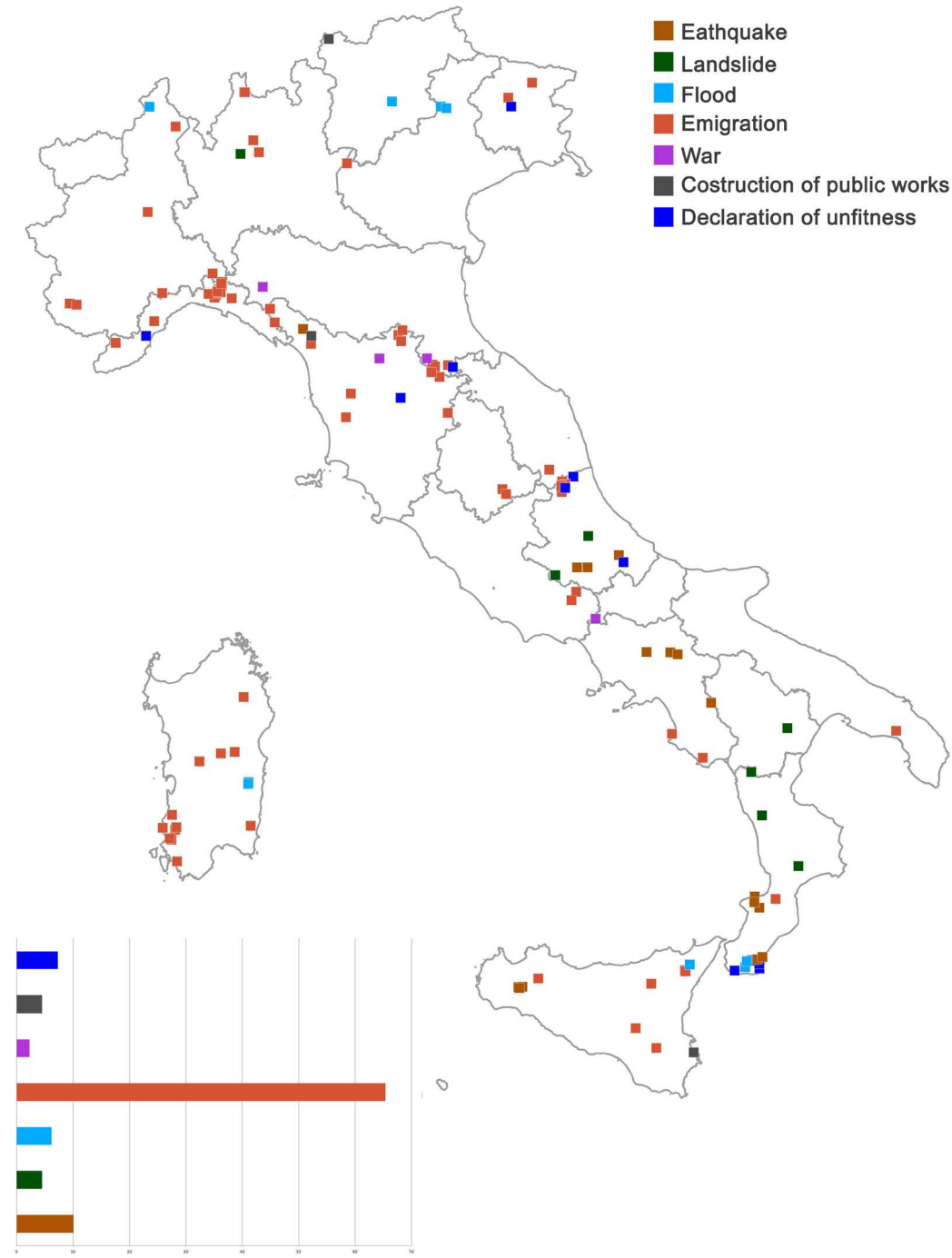

Fig. 2 – *Map of ghost villages and map of the causes of abandoment*

to agriculture and away from the areas developed a system based on practices of more modern urban life.

The link between population and the old town is still alive and is evinced during the feasts of the patron saint: during the religious procession, the statue of the patron saint is placed back in the church of the old village, which has become a pilgrimage destination.

As we report the case of Roghudi as an illustrating example, in which some of the social dynamics related to abandonment emerge

more clearly, it should, indeed, be remembered that this action was planned by its citizens as an extreme and unavoidable choice, and that it was taken with conflicting feelings and conflicting inclinations.

The name Roghudi is derived from either the word rochùdi, meaning cliff, or rechodes/ rexodes, meaning spiny and rough[7]. Both toponomastic sources emphasize the inhospitality of the place. The village, in fact, is located on a steep spur of rock overlooking the Fiumara Amendolea[8]. Roghudi is an uninhabited village, and currently has crumbling houses, rough roads and tracks from the period before depopulation. The depopulation of the country, which occurred in the early 1970s, was caused by a disastrous flood, the latest in a long series of natural catastrophes. The community, by then exhausted, did not react to this additional hardship and somehow accepted an inevitable fate.

The territorial implications have greatly influenced the vicissitudes of the population which found itself confined in a narrow space; this condition led to an inevitable isolation, limited adequate urban sprawl and, consequently, a limited potential population growth. The layout of the area determined an organization of the urban fabric that developed organically, adapting to the mountain ridge[9]. In the eyes of its neighbors, the village appeared to be dogged by bad luck, so it earned the nickname «the unhappiest village in Italy, perhaps the world» (Teti; 2004, pg. 65). The life of the small community of Roghudi (with 1488 inhabitants in according to the Census of 1911) depended on farming and livestock farm. It was in the 1940s that a process of migration began- to the coast of Calabria, or to distant lands- a process which was spurred by a feeling of aversion to a place where nature is revealed to be a step-mother.

The story of Roghudi ends in the early 1970s, when the waters of one of the innumerable floods dragged away with it the gardens, crops, the houses and more importantly, the community's sense of hope and attachment to the place. Roghudi was evacuated due to the flooding and landslides of October 1971 and December 1972- January 1973. Soon after, it was declared unfit for habitation by engineers, but by that time, the village was already empty. The issue of abandonment of Roghudi and villages like it which have met a similar fate is rooted in the history of these places: the flood was just the triggering cause, not the true or sole motivation. From various evidence shows that the decision to evacuate the village was not made without hesitation, and in an instant. Most of the inhabitants had no intention of leaving their homes, but a small minority, most unrelated to the territory, was inclined to leave. In this group, there was also the only dealer who provided the village with a weekly supply of goods and products of basic necessity. The removal of this figure, so essential to the survival of the community, caused a domino effect: the other residents were convinced that the abandonment could not be the only choice to make. Within days, the village was depopulated. The catastrophic event in itself must therefore be included in a wider, local, long-term historical context: the "escape" was probably an hypothesis that lived the public imagination for some time and the flood was the pretext that gave a moral justification for taking such an action.

After the depopulation, a new village that was given the name Roghudi Nuovo was constructed near Melito Porto Salvo, nearly forty kilometers from the old village. Its construction was completed in 1988, but only a few 'roghudesi' (inhabitants of Roghudi) moved there; most emigrated to other cities. Even though it was much more comfortable, the new village lacked a true identity of its own. Perhaps the re-established village is the real ghost town, as it fails to transmit the residents the strong sense of attachment to place that was inherent in the old village[10].

The abandoned villages in the Belice Valley

The Belice Valley, located in the upland of western Sicily, is comprised of the district's portion of the river Belice, 76.5 km long. The area of the Belice Valley, inhabited since

prehistoric times, is rich in archaeological sites, a testimony to the settlements of the Phoenicians and Greeks. The main economic resource of the plain has always been the agri-food sector and in particular the cultivation of olives. During the night, between 14 and 15 January 1968, an earthquake caused a real emergency in the valley, deeply upsetting the lives of thousands of people. It generated a radical change in the development and organization of many local communities and, as an inevitable consequence, the earthquake was followed by abandonment.

In the 20th century, the economic development of the valley was not comparable to that of the industrialized areas of Italy in the same period. The lack of growth can be attributed to various factors, such as long periods of cyclic drought, frequent floods of the river Belice, the scarcity of fertile soil, an inefficient road network, and lack of dams and infrastructure. Belice, therefore, was an area that was quite backward by comparison. The situation of distress and crisis was not so much due to issues related to the cultivation of the soil, but one of delays resulting from disorganization and the lack of industrial activity. The lack of job opportunities in the '50s and '60s led to an intense migration which drove the residents to move to other Italian regions. Shortly before the earthquake, however, due to the agrarian reform of the '50s, the territory of Belice was undergoing a phase of renewal and promising development. Plans included an intensive cultivation of the fields in which rows of vineyards were planted, along with other productive activities linked to the establishment of new roads. As the State's presence was fading, the fields were increasingly vulnerable to illegal activities. The community, however, maintained close cultural and religious ties with the territory.

The earthquake of 1968 certainly laid bare in a dramatic way the state of underdevelopment in this part of Sicily: the dilapidated dwellings built on *tufa* (local stone), a population mostly made up by the so-called vulnerable groups (the elderly, women and children) etc.. The morning after the earthquake, there were two types of reactions among the residents: those who found their homes destroyed did not hesitate to leave the village, while those whose homes were only damaged wanted to stay on so that they could guard their property. Tent cities were set up to house some residents, while others were temporarily moved to private homes and in public buildings. To make matters worse, on January 20, Belice Valley was hit by torrential rains which resulted in a veritable exodus: twenty thousand people migrated to the continent, motivated by government incentives.

During the initial emergency, residents gathered in tents, but in the weeks that followed, they were housed in villages-slums, consisting of forty-six prefabricated structures[11]. After the first phase of emergency relief, a multifaceted process of reconstruction began which targeted not only the destroyed and damaged villages, but the entire territory and its economy. Now that more than forty years have passed, the flaws of this restoration attempt now seem obvious, from deficiencies in terms of the design, to problematic timelines for implementation, to the imbalance between the work that was actually completed and the funding allocated. 270 billion lire were allocated for the reconstruction and 57 billion for initial urgent necessities. In 1979, after eleven years had passed and about 900 billion lira had been spent on the project, 8,600 families were still living in shacks. In 2007, it was estimated that the total expenditure for the earthquake amounts to about 7 billion euro. The political management of this event has inevitably attracted many criticisms. However, there is no doubt that the reconstruction of Belice, with the building of homes, entire villages, urban infrastructure on a large and small scale, access to roads, has profoundly changed the characteristics and shape of the entire territory. The earthquake was interpreted by many as a positive opportunity for the development of a land that until then had remained anchored in the past. After the earthquake came proposals to industrialize the area in order to close the persistent gap of cultural, social and economic order which had persisted between

those places and others who had instead taken the road of modernization. As a result, the community that had historically inhabited the territory of Belice for generations was traumatically catapulted into a new urban context, deprived of its fundamentally rural identity and assigned a new, artificial, modern one. The population thus moved from the old center to the slums and shantytowns in the new city, which was built in a different location with urban connotations which differed significantly from those in the original center.

Over the course of the interventions which followed the earthquake in Belice Valley, urban centers were partially and sometimes entirely reconstructed: the villages of

Gibellina Salaparuta and Poggioreale (Tab. 2) were completely abandoned and rebuilt from scratch. The process of abandonment and complete reconstruction of whole settlements reveals dynamic similarities in terms of implementation, in terms of the final result and in terms of the comparisons between the new and old settlements. In the case of reconstruction of the Belice Valley, given the extent and the severity of the case, all of the evidence presents a hyperbolic demonstration of this process.

The new settlements were located in flat areas, according to a criterion based on vicinity to the main network of regional connections or industrial centers, facilitating the construction work. In addition to location, the radical differences between the new and old models of the settlement resulted in a veritable collapse of the local historical narrative.

The new urban contexts have redrawn suburban blueprints which were organized according to planners zoning criteria, i.e., the distinction of specific functional areas; clear separation between the constructed element and the countryside, the urban fabric characterized by a marked privilege of open spaces rather than closed ones, so the road becomes the primary element that draws the block, use of serially repeated housing units, formal and perceptual breakdown of the city into two opposing sides: the standard reproduction of the housing unit and the uniqueness of the structure and volume of public buildings.

The old villages, in contrast, were characterized as having an organic urban fabric made of clusters situated on the disconnected terrain, low houses built with traditional methods and open spaces conducive to a convivial rapport among neighbors. Two totally different models, particularly indicative is the difference of the index of population density: an of average 3,000 inhabitants per hectare decreased to 350 in the new establishment.

The sense of abandoned places[12]

At the heart of the phenomenon of the abandonment of a village, even if the decision originated from multiple motives and contingencies, one can note a situation of difficulty and profound discomfort in daily living. In the processes of depopulation, is it significant to analyze, along with the specific natural disaster, what happened immediately before, and if a latent process of abandonment was already in place or not. It is also interesting to consider the period immediately after the event, i.e., the reaction the population of the village following the severe damage that was suffered.

With this, we can say that the exodus is largely endemic and it is not exclusively

Tab. 2 – *Uninhabited villages in Belice Valley*

Town	Year ab.	Cause ab.	New Town	old/new town
Old Gibellina	1968	earthquake	Gibellina	18,5 Km
Old Poggioreale	1968	earthquake	Poggioreale	0,5 Km
Old Salaparuta	1968	earthquake	Salaparuta	5 Km

related to catastrophic events, but it is determined by the territory's weak economic, political, and cultural infrastructure. Sometimes the traumatic occurrence becomes a sort of moral justification for making the choice to leave their native land. Most often, a destructive occurrence does not determine the abandonment and relocation of a settlement, but dramatically accelerates a process which has already begun, even when this process has not yet been clearly manifested. Furthermore, with the construction of a new village come materialized plans for change, development and modernization whose elements would otherwise be difficult to construct. The expectations and hopes for the reconstruction have been disregarded, especially about the relationship between the people and the new place. Outlooks were based on the many positive expectations that were placed at the moment of the choice. To date, however, they have not materialized and various problems have been highlighted, especially the loss of identity. The natural conflict between old and new village is intrinsic to their evolutionary dynamics: if the first is the result of a slow and constant human presence in the territory, the second is due to the frenzy generated by the immediate emergency situation. The image of a place is related to the time factor and the spatial and social processes of evolution. In these contexts, the most crucial aspect is not so much the inevitable dislocation of identity which occurred as a result of the disaster and abandonment, as much as the creation of a new identity, which must be tied to the paths of the memory in order to give the new village a sense of belonging.

But this is not an easy journey as seen in the case of Gibellina: The new urban center, based on the model of the garden city, has been enriched by architecture and works of art created by people with great fame and international recognition in order to give the village a new identity[13]. However, even if many people consider this to be an attempt of significant interest, it not inspire within the citizens any real bond to the place[14].

The urban construct, no longer a place for residing and living, is deprived of its original meaning by the act of abandonment. However, it is through this occurrence that it earns in the same instant, through what Marc Augé (2000) defines as a form of oblivion, a new sense. The reality of an abandoned town is configured in a domain of knowledge pertaining to remembrance and the memory. The uninhabited village becomes both the material memory and the concrete impression of one's own past, a past that will deteriorate with the passage of time. In fact, if every place has its unique identity, and if the identity of a living space is represented by consciousness, common values, and behaviors resulting in a feeling of belonging to the given context, what identity can an abandoned village have, if it is not one inherent in the memory of those who lived there? This process corresponds to the creation of what in anthropology is defined as a re-invention of tradition and identity (Teti 2004).

However, according to testimony and documents gathered, we can say with certainty that at the time a settlement loses its former meaning, it acquires a new one: the uninhabited village changes –just before, during and after abandonment– the image and the value that had been attributed to it until then, by undertaking a process of renewal and a shift in meaning. The deserted villages can be reinterpreted through new lenses, in which they earn: a sense of identity tied to the memory of the place: each settlement is the outcome of processes of human activity and the result of urban transformation of historical events that have followed it over time. So the place, the urban form and local community are strongly linked. This relationship is present even in abandoned villages, but in alternative form and without a directly contact. This because: "The places respond with generosity to the bond that people decide to undertake with them". (Teti, 2004:IX). Indeed, membership of mind to the abandoned site becomes even more intense and stronger, as it takes on symbolic and nostalgic feelings that project

toward the figurative interpretation, subject to myth-creation and emphases, of a past that now cannot return.

The uninhabited village, firm and immutable over time, becomes the transposition of a material remembrance of its own history[15]; significance attached to a model of the life of the past: abandoned villages describes about a time not far away, still present in the collective memory. Since the ghost towns have been left have not undergone any change or transformation urban, their buildings and their urban form has remained intact. The modernization and industrialization process did not touch this place. These are places that reflect, in the collective mind, the recent past, the tradition and a life vision more linked with the nature.

the charm of the ruins: the buildings and the street of the abandoned village show themselves in ruin and decay condition. the state of decay and ruin imparts to these places a particle atmosphere of strong emotional subjection almost temporal abstraction (Simmel 1911).

Prospects of revitalization

The cultural change over the last few years has led to a greater sensitivity than the modernist approach of the twentieth century to the themes of nature and landscape protection, environment protection, the renewal of traditions and requalification of historic structures. For paradox it is particularly reflect on the fact that some negative conditions that have fostered the phenomenon of abandonment now can be interpreted in a positive light (such as isolation, lack of large-scale urbanization etc.). It is precisely on this evolutionary process one that must base a cultural, and later, material plan for the revitalization of ghost towns. The revaluation may be undertaken through two pathways:

cultural development: establishing an objective interest in the individual abandoned village and organizing cultural initiatives at the site of the village, so as to involve -through a network of contacts and relationships- the possible actors in the local context who may be interested in this process. These may include local authorities, associations and groups those members are directly or indirectly related to the abandoned village. Based on the available human resources in the area, a series of activities might be planned and carried out in uninhabited village. The village could be used as a backdrop and venue for theater, conferences, workshops, festivals, exhibitions, tours and tourist routes. All of this may be done to encourage more people to relate to and to rediscover the individual center that was abandoned, then triggering a series of social and cultural processes suitable for dissemination and awareness;

administrative value: defining, in administrative terms, the concept of “abandoned town” in the legislative municipal, provincial and regional level, particularly in those areas where the presence of uninhabited locations is greater, and then giving that entity a specific legal identity; by collecting the guidelines of interventions that enable protection and recovery plans of territorial and landscape planning; stimulating the attention of the Superintendent of Historic, Artistic and Landscape Heritage, so that the specific abandoned village can be subjected to its constraints, in order to grant it the status of a “resource of public interest.”

Recognizing the essential value of abandoned villages it is possible image a new life for this places. The possible revitalization scenarios can be divided into two types:

- Recovery for tourism
- New human activity

The recovery for tourism can foresees the recovery of the abandoned site to enhance it as a tourist attraction by one the following means:

- Route tourism: the village is inserted in a network of trails for hiking, biking, trekking, etc;
- Park-museum: the newly accessible village is enhanced and preserved as a outdoor museum.
- Vacation homes and apartments, farmhouses, country-hotels: the village, restructured mainly by private initiatives, is used solely for accommodation / tourism;
- *Albergo diffuso* (deffuse hotel): the village,

restructured through public / private sector initiatives has reclaimed following a hospitality project which foresees a widespread partnership among tourist/reception activities, craft activities, commercial activities and residential activities, where the tourist component is of paramount importance (Dall'Ara 2010).
The first two of these practices enhance the urban characteristics of the urban artifact and its decaying appearance, making no significant changes or renovations to buildings that comprise the village. The image of the ruin and the atmosphere of decay are interpreted and highlighted as part of the tourist attraction, to be included in broader convergence of regional tourism[16]. The process of converting the abandoned village in a system of cottages, farmhouses, country-hotels and popular hotels provides, instead, a program of restructuring and reconsolidation of the entire residential complex, with the renovation of buildings, access roads and the surrounding landscape. The appearance of the place is then totally changed; and it loses both its aesthetic of decay and its previous designated use as housing. From a place for living and then, a place in ruins, the village then becomes a holiday resort.
The recovery for tourism is a well- planned process, providing for the establishment of an architectural and commercial project, often involving both the public and private structures. Finally, the revival of the abandoned village through means of new human activity is to be considered more rare, also because it involves it complex dynamics and difficult planning. In this case, the revitalization of the abandoned town involves a process of new human settlement by individuals or small groups of people, carried out independently, through self-management or through sharing with one another. The village does not undergo a conversion function, but it is re-used for its original intention, namely, as a place for living.

Conclusions

The ghost villages, given their general state of deterioration and abandonment, can be considered both as a waste element (Lynch 1990) of consumer society (which erroneously fails to recognize in them any practical use) as well as a regional resource, in a qualifying vision which does not stop at observing the current state of decay but instead comes to recognize the value of the identity of such places.
The abandoned village is a place of interest for its architecture, built in accordance with ancient tradition, for the dialectical relationship with nature that the construction has established over time, and for the rarefied context of the urban landscape that becomes an evocation of the past. The uninhabited villages reflect the essence of the bond that was dissolved between man and territory.
However, by attributing new meaning, these villages can acquire a new function, a new use in and for the territory. Recognizing in the abandoned village a resource identity foreshadows the possibility of tangible and intangible trigger actions for its recovery- actions which can nourish a local economic development in tourism with benefits for the entire territory in which they are located.

Notes

[1] It is evident and clear that a space acquires the majority, if not all of its meanings through the life that is carried out within it, that also shapes it. (Romano 2001:15)
[2] With a 7% increase from the census of 1991.
[3] Italy and the difficult settlement: a survey conducted by association Legambiente in collaboration with Confcommercio in 2005 and 2008.
[4] There are very few bibliographical sources available which are related to the topic.
[5] According to this definition, excluded from the survey were places which are occupied by even a single person and those in which even the subject of recovery work related to temporary events (such as festivals, cultural and commercial activities, etc.) are not found to be situations of a purely residential nature. Also, note that the 179 abandoned villages which are the subject of comparison and evaluation are the result of a selection from a larger series: the exclusion of some cases was decided, not based on the observation of the presence of permanent residents, but because of the difficulty in obtaining of verifiable information and research limits due to the vastness of the area under analysis. In light of this, it may be stated for justification that we note the presence of a greater number of uninhabited villages compared to that which is reported; the work presented, in fact, is part of a research path which is being updated and is evolving over time. (Di Figlia 2012:5-6)
[6] A clear sign of this cultural tradition is the so-called "grecanico" or "griko" language, which is still being passed

down as an oral tradition from one generation to another.
[7] Rochùdi is a word from the Gracanica language while rechodes is a Latin word.
[8] The fiumara is a watercourse characteristic of southern regions like Calabria and Sicily. It is characterized as having a very large bed made of pebbles and by the fact that while over the winter, it is full and its waters run swiftly, in other periods of the year it is partially or totally dry. Fiumara Amendolea has a very wide river bed, with a width in some areas up to 5 kilometers.
[9]The difficulty of links and movement is documented by the nails fixed on the outer walls of many homes: some witnesses report in fact, that the children were tied at the waist with a rope, anchored to the nails so to avoid having them fall and roll down.
[10] […] it is basically a dormitory, a village with no identity, with nothing. On second thought, lately has actually improved a little: there is a little bit of greenery, some flower beds, but they made houses without balconies, all alike, without a reference point. There is no village square [...]. (Teti 2004:73).
[11] Over the years, these centrers, usually located between the damaged village and the new village under the construction, turned into real villages themselves, with lighting, underground cables, water and telephone.
[12] The title of the paragraph intentionally recalls the name of Teti Vito's book "Il senso dei luoghi" (The sense of places).
[13] In the 1970s Gibellina became a center of architectural experimentation. We can thus see a series of works: Ludovico Quaroni's Chiesa Madre; the Palazzo Di Lorenzo by Francesco Venezia; Pietro Consagra's Il Mettine, a materialization of the concept of the città frontale; the Municipio by Alberto Samonà, Giuseppe Samonà and Vittorio Gregotti; the Casa del Farmacista and the Casa Pirrello by Franco Purini; the Sistema delle Piazze by Franco Purini and Laura Thermes. Additionally, Gibellina is currently the city with the world's highest ratio between number of works of art and number of inhabitants. In the center of town are: the Città di Thebes, Tris, and the Stella (which acts as a portal of entry to the city) by Pietro Consagra; La freccia indica l'ombra di una freccia by Emilio Isgrò; Senza Titolo by Mirko; Omaggio a Tommaso Campanella by Mimmo Rotella; Contrappunto e Sequenze by Fausto Melotti; the Torre civica by Alessandro Mendini; and the Montagna di sale by Mimmo Paladino. In addition, there is Burri's renowned Cretto, a work that covers much of the old town.
[14] For a deeper analysis of the case of Gibellina, see Cristallini E., Fabbri M., Greco A., Gibellina. Per una società estetica, Gangemi, Roma 2004; Nicolin P., a cura di, Dopo il terremoto. Belice 1980: Laboratorio di progettazione, Electa, Milano 1983; Traina M., Valle del Belice: introduzione alla storia di dieci anni di terremoto, Fiamma serafica, Palermo 1978.
[15] This is evident in re-established villages, in which the community perceives the new urban center as anonymous and not representative, but it feels linked to the old village, rich in history, tradition and memory.
[16] It must be stressed, in reference to the scheme of the research, that even when the village is inserted in touristic routes or itineraries and thus valued for its new role and its presence in the territory, it does not lose its connotation as an abandoned town.

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Contemporary Architecture in the face of Historic Centres. In favour of minimal intervention

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Abstract: From the beginning of the twentieth century, modern architecture pleaded interested in the breaking with the history and tradition that proposed to replace by a blind faith in their new aesthetic result of the rejection of ornament and choose elementary geometry finding a novel and undefiled formal purity. His proposals shone isolated result of a surprising and innovative "architectural laboratory" works. But it was the middle of last century when generalized way to do this and came to the historic districts clashing with the pre-existing, seated in history, creating a surprise, even a rejection among citizens. In the early twenty-first century, this feeling has become widespread. And today we get too many reviews as to forget that architects must find compromise solutions that harmonize with existing new construction. This essay tries to make us think about it. To suggest a reflection we will raise investigate the way nature has to behave in front of challenged to accommodate inside a environment pre-existing consolidated formally and functionally. Animals develop three different systems as attempt to be noted or confused with the place where they are located. And they do just to survive against predators. I do not intend to assimilate citizens like predators of architects, but think like architect, if I can accommodate myself to the environment without disturbing sensibilities of others. Also knowing that this quality of the original project was not questioned, but it can ask some solutions that accommodate, to "intone" as they say the classics. Reviewing Zoology animals develop two strategies of accommodation (Mimetism and Cripsis) and one of distinction (aposematism) from the environment in which they are and without losing their genetic or essential condition. Simply are camouflaged or distinguished according to their strategic interests. This presentation intends to discuss if such solutions may be valid for buildings; if you can apply or even, if applied or have been applied in the past, proposing various historical references for them.

Keywords: Contemporary Architecture, Historic Centres, Modern Interventions, Mimesis, Biology, Coexisting ways

Throughout the twentieth century, at least according to my Spanish cultural geography, interventions by contemporary architects in historic centres have been seriously criticised. I am not referring to interventions by some mediocre architects, but to modern and purposeful architectural activities carried out by the most renowned international architects. Over and over again, citizens have turned against interesting modern buildings, which nevertheless broke away from the legacy built in the past. In their opinion, the contrast between the architecture of the modern movement, which opted for the purity of smooth, white materials, flat roofs and the absence of decoration, has disrupted the atmosphere of historic settings, made up of natural stucco, sloping tiled roofs and decoration, used wisely for sometimes emblematic and sometimes functional purposes. At first, these interventions came to be seen an urban and environmental insult, which deserved to cause the majority to reject this type of architecture. But with the widespread acceptance of modern architecture, first by the avant-garde, and then by the ruling class, this situation was moderated. And a mutual understanding was reached, by which, historic centres would keep their historic architecture, while modern architecture could openly experiment on the outskirts. A simple Solomonic agreement to keep the "child" alive but divided in two at the same time.

In Spain, the twentieth century took place in the same way as in the rest of Europe, but more hurriedly. After the death of Franco and with

the arrival of democracy, its citizens used their politicians and, from 1979, democratic city councils to demand the entrenched defence of their historic centres. For this to happen, the "Special Plan of Protection" statute was introduced in an urgent and widespread way. It was a type of protection that attempted to fight against speculation, against ruin, but which above all ended up protecting against modern architecture, an issue that was easier to solve with ordinances. In this way, the municipal regulations for the construction of historic centres were designed with plans to defend historic architecture through establishing ordinances that made it compulsory to repeat their historic form, preventing the appearance of modern architecture in this setting.

In this way, a reconstruction of historic centres was started by re-creating their environment, their own and immediate surroundings. New but nice and generally well accepted, false historic buildings. Everyone was happy. Everyone, except the reality of historic evolution, in which each moment has always sought to add its cultural stamp to the present, to assert itself and, in this way, be able to continue existing.

In my opinion this proposal was unsustainable. It is obvious that we cannot maintain historic centres by condemning them to the mere repetition or duplication of themselves, in a kind of cemetery of celebrities that recreate among themselves without evolving.

History has never done it like that. Architecture of the past has always been mixed with what already existed, considering itself to be one and diverse. The Renaissance built the best facades of Gothic buildings and Baroque after masterfully covered their interiors, wisely taking advantage of what was already there. Nature does not do it either. There nothing is wasted. Animals are wise builders or re-users of what already exists, from the hermit crab that lives in another creature's shelter to the swallows that protect their own in eaves, which, by the way, modern architecture has flattened. Well then, Nature and History are the sources that I am going to use for the reflection I am going to present to you today.

If the mixing and reusing of the legacy of the past has existed and will inevitably exist, the question should be how can we do it without awakening so many opposing passions among citizens, politicians, critics and architects. Can we go into historic centres, coexist in them from an architecture that true to our time, which is to say contemporary as the architecture we build today could not be any other way? And how can we do this without offending the sensibility of those who consider the historic centre an unforgettable legacy and worthy of the greatest protection?

Let's start with Biology, which teaches us that there are three ways that animals use to transform themselves in relation with their environment to avoid predators. Normally they are knows as **MIMESIS**, a term that comes from the Latin, mimesis, which in turn comes from the Greek, μίμησις. This is connected to "the imitable" and is defined as "The ability that certain living beings possess to resemble other organisms, with which they do not have a biological link, to be able to obtain any practical advantage". In this way, some animals have survived because their organisms reproduce the forms of the vegetation that surrounds them until they can be confused with it. Especially spectacular is the Leaf Beetle, which has the structure of an insect, covered with a layer that seems to be plant like, though full of life (fig. 1).

There is also the well-known Stick Insect

Fig. 1 - *Leaf Beetle on a green plant*

whose limbs are identical to the stalks of dry grass (fig. 2), or even the Leaf Frog which, when flattened out on some green branches can blend in with with the leaves (fig. 3).
By resembling inanimate beings, theses

Fig. 2 - *Stick Insect among stiks*

Fig. 3 - *Two Leaf Frogs resting on a branch*

animals manage to go unnoticed by their predators. Imitating other, clearly different, living organisms is the most popularly known meaning of this curious phenomenon. But there is also a second biological type of mimesis, known as **CRIPSIS**, a term which is derived from the Greek, Kryptos and refers to "the hidden or concealed". It is defined as "a certain characteristic of animals to camouflage themselves with their immediate environment". To blend in with it. Now they do not imitate animals or plants, but places and environments. In this way we have the lizard, which can be confused with the rock (fig. 4) on which it lies in the sun or the Turbot, which settles on the seabed and blends in with the sand that surrounds and hides it (fig. 5).
Now let's test that same difference between the two types of mimesis by applying it to Architecture in Historic Centres.

Fig. 4 - *Lizard sunbathing on a parapet*

Fig. 5 - *Turbot in the sand*

Camouflaging (Crypsis) and going unnoticed by copying shapes, colours, texture and other superficial matters, or on the other hand, **Disorientating** (Mimesis), by appearing to be another element of the environment, through copying more abstract values such as structure, order or scale, in short, matters of composition.
There is an important difference between one option or the other, between choosing the possibility of continuing to exist as a diverse living element, though assimilated into the environment, such as the stick insect, or, on the other hand hiding, so that the danger passes, like the fish.
To be or to seem, that is the question. The result of one option or the other may be equally valid for us as architects to be able to defend ourselves against predatory criticism, but the artistic intention is completely different. However much a pillar of the Parthenon's façade reminds us of its woody origin, as it comes from a log worked on by man, after being built it will never stop being a Doric column (fig. 6). Greek architecture reaf-

firmed its wooden construction, even though making it in stone meant a much higher and illogical cost (fig.7). It was about remembering the effort made by man to transform

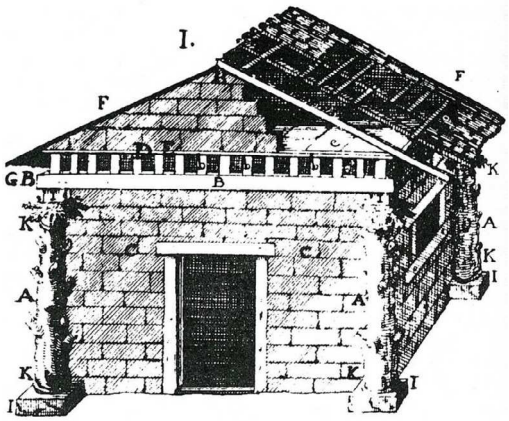

Fig. 6 - *Ligneo origin of the Doric temple. Claude Perrault. 1673*

Fig. 7 - *Virtual recreation of the Propylaea. Anónimo*

nature, by building a temple to offer up to the gods. For this reason, Greek architecture speaks about mimesis and not about crypsis, recreating the gestures before imitating the results, although the form may be much simpler to copy.

Perhaps it is because the buildings of the Acropolis repeat the same idea, the same wish to act as an intermediary between nature and eternity, that we forget that they were built in different ages, with different forms and without any known planning.

But let's continue with Biology, which offers us a third possibility that curiously has been the one most frequently tested in modern architecture: **APOSEMIS**. This new term is derived from the Greek APO = far and apart and SEMA = a sign and refers to a certain "characteristic of some animals to stand out and thus warn others of their importance".

It is no longer about going unnoticed, but the complete opposite. It is necessary to be seen to make an impression, startle and scare off predators. Warning them of the presence of something unknown and surprising, which it is better not to confront. Within this group we have the Poison dart frog (fig. 8), which when faced with danger acquires vivid colours as a warning that it secretes a poison that kills if eaten. There are also some butterflies that in extreme conditions join together with others and colour their wings, achieving forms that deter the attack of reptile enemies (fig. 9).

This is the strategy that has been used too often by modern architecture. Especially by the European artistic movements at the beginning of the twentieth century, when they voluntarily declared themselves ahistoric. Avant-garde

Fig. 8 - *Differents Types of Poison dart frog*

architecture was a product of laboratory work (fig. 10), of formal and functional tests that came from theoretical principles willingly distanced from tradition, which they openly dis-

Fig. 9 - *Owl Butterfly Symbiosis*

Fig. 10 - *Café de Unie. Rotterdam. 1925. J.J.Oud. First building and its original design*

Fig. 11 - *Schröder House. Utrecht / Gerrit Rietveld . 1924. Urban situation*

ion, while architects argued that their works were not well understood by citizens. That it was about experimenting with new artistic ways, based on the contrast with what existed before, on discordance between parts, which Neoplasticism called the "Counteracting Balance" as the compensation of opposing forces that are counteracted in the search for a new feeling of balance in movement (fig.11). Even understood like this, the visual impact was undeniable. At other times, it was about promoting pure provocation (fig. 12) as an experience of artistic importance, this being understood in the best sense of the word which Marcel Duchamp gave it.

Having lost the possibility of making themselves understood, decades later some ar-

Fig. 12 - *Penthouse office Falkestraße. Vienna / Hilmmelblau Atelier. 1992. Skyline*

regarded. While they were shown on paper or built on the outskirts of cities, their social impact was limited to architectural discussion. But when those tests managed to be built in the centres of our historic cities, the controversy spread beyond the professional sphere, reaching public opinion which quickly sided against it. The citizens saw it more as provocation than artistic experimentation.

With time, historians, sociologists and archaeologists mainly sided with public opinchitectural movements unsuccessfully tried to reduce the impact of contemporary architecture in order to get along with historic centres. The attempt of the Italian **Tendenza** in the seventies stands out for valuing typology like the Theatre of the World (fig. 13) as the uniting link between History and Modernity, which achieved some considerable success and other resounding failures as the Roman Theatre of Sagunto (fig. 14). Or Phillip Johnson **Postmodernism**, who would end these

Fig. 13 - *World Big Theater. Venice / Aldo Rossi . 1979*

Fig. 14 - *Roman Theater Sagunto / Giorgio Grassi & Manuel Portaceli / 1985*

attempts by incorporating classical elements (fig. 15) caricatured as collages on the facades of European and American architecture from the eighties and nineties until the end of the twentieth century (fig. 16).

Having exhausted the biological approach, let's now look at the artistic. Let's remember the first meaning that the Spanish dictionary gives for the word mimesis. There, is it defined as: In classic aesthetics, an imitation of nature which has art as its essential purpose. A type of imitation that we have already shown to originally be conceptual and compositional, not formal. This is to say, we have to imitate the nature of the historic centres themselves, this being understood as their main artistic value and with their attributes rooted in the sense of citizenship.

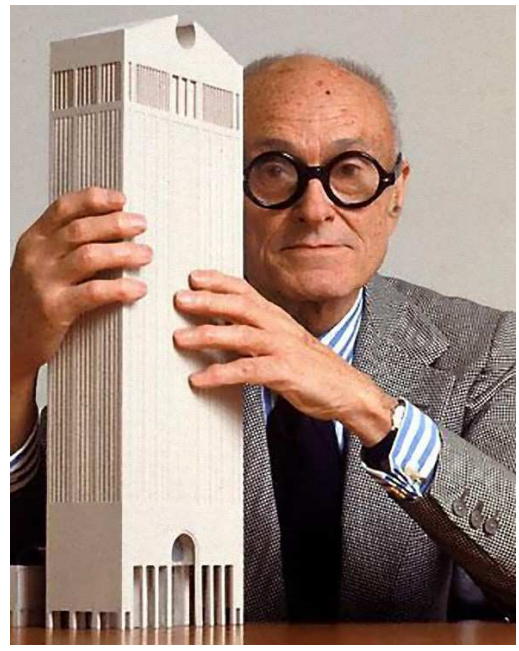

Fig. 15 - *A.T.T. Building. N.Y.C. /Phillip Jhonson. 1985. The architect showing the model*

It is not easy to sum up which values of historic centres are felt and defended by their citizens. The Heritage Charters usually talk about abstract concepts: ensemble, atmosphere, environment and even aura. Values that appear sentimental, cultural, symbolic and subjective, and therefore difficult to quantify and when faced with them it is complicated to take a stance. In light of this, widespread caution should be advised. And caution in architecture is called "minimal intervention". But while thought-provoking, this recommendation does not help much either because, among other things, it does not explain much. Or at least, it is not very practical.

Diverse architectural tests have tried to specify architectural caution through advising compositional, strategic, legal and sustainability measures, such as:

1. Keeping the scale, based on organising the dimension of the interventions of similar size to the distribution of the historic area. This is small scale for construction (houses, commercial buildings, workshops) and a bigger one for public buildings (health services,

Fig. 16 - *Sketch. Adam Hill . 2012. Architect and model, together caricatured*

religious and recreational buildings). In this way we avoid the big urban interventions that unbalance the services and the capacities of roads, car parks etc.

2. Using traditional techniques and trades for construction. Architectural restoration has already been supporting these activities in recent years by using natural materials such as lime, wood, handmade bricks and historic techniques (partitions, vaults, roofs) which require traditional artisans to maintain them and so secure their work.

3. Recycling historic buildings and above all their architectural elements, recovered from works in ruin or danger, through restoring and returning them to the productive market. Promoting a bank of reused architectural elements. Let's not forget historic workshops

Fig. 17 - *Metropol Parasol / Jünger Mayer. 2012. Exaggerated cover the historic center of Sevilla*

were dedicated to making and selling components in a way that was as mass-produced as possible: balconies, stairs, railings etc.

4. Investing the importance that legislation currently grants the project to value the dedication and execution of the work of architects and technicians as being more commendable and in a financial way, as they are the greatest guarantee of the new buildings' quality and success.

5. Rationally applying the legal inflation that weighs on the construction of buildings to accommodate the current regulations, which are mainly designed for new constructions, so historic architecture can be regarded as an exceptional case in relation to them.

We could go on, but none of these issues or others that we could put forward will guarantee that the result will be accepted by the community. It is more a matter of the designer's sensitivity to be able to successfully manage the feelings that citizens have placed on their heritage and are not wiling to give up without a fight. The conceptual moment of the project should be handled as correctly as possible, taking it to the place where it is to be located and suggesting the limits that shouldn't be overstepped. On this matter, it is more interesting to suggest a possible combination between mimesis and minimal intervention. If the city is the scene that historic architecture has provided us with, the result of centuries of

construction and our ancestors' efforts, our invention should enter with minimum drama. With humility and without thinking about ending this show. Not even aiming to represent the most important piece of all (fig. 17). Time and only time will decide that.

Let's go back to mimesis now and we will see that the second generic meaning that the dictionary gives us for mimesis is: Imitation of the way of talking, gestures and expressions of a person". The most well known example of this diverse possibility of mimesis is brought to us by theatre. There, the "Mime" is a character, dressed in dark clothes and a black and white shirt with horizontal stripes that emphasise his movement Face and hands covered in white, very clearly accentuating those parts that suggest expression (fig. 18). The mime aims to suggest emotions, situations, stories and even objects without them being there. It is to say, he must feign the existence of something without counting on its presence. A terrible misfortune of fate.

Fig. 18 - *Mime action*

In the practical module of the "Course in Dramatic Corporeal Mime" of L'Ecole Internationale de Mime Corporel Dramatique – Atelier de Belleville, Ivan Bacciocchi explains how to do it: *Now we try to create objects, place them in space, give the impression of their existence. With a gesture, sometimes a small movement, it is enough to create the illusion. Of course, things become visible and can also disappear, but while they are present, they have a volume that takes up space, they have a weight, a function that needs to be respected at all times as a general rule. Therefore, our interest is now focused on the object that we make present in space through out gestures, through our actions, and through having some kind of relationship with it.*

In fact we could be talking about architecture. Mime portrays the impact that an object has on space; its volume, which is suggested by stroking a supposed external form; its weight, which is indicated by exaggerating the effort needed to hold it, its movement, thanks to the portrayal of the spatial journey that is made to accompany it. This is to say it presents/dramatises the presence of an object at the same time as it shows its absence. The object is not present but its impact is.

And the result of this game between being and not being is precisely the artistic setting of its performance. The clearer its absence is shown, the better the work will be considered to be. The audience should discover which object it is about as quickly as possible and from that moment forget that it is not there and give themselves in to the trick of mime to enjoy the sublime game of the absent unreal. Couldn't we try similar acts with our contemporary architecture in historic centres? Act without offending, trying to go unnoticed. A mimetic action in the theatrical sense: without speaking. A modern performance that is so minimum, so elemental it its discourse, so essential I would say, that only its impact is perceived. Achieving the functional advantages of the twentieth century and updating our cities, without having to display its obstinate intention of boasting about false progress, which now at the beginning of the twenty first century we are questioning as being exaggerated. These are times to scale down excesses. And with that my last question, are we going to be architects who are capable of applying such a measure? I suggest rereading Leon Battista Alberti and his idea of "Modern renewal" in the architecture of the past. But that is for another congress, perhaps the next edition of this one.

Refernces

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Archaeology, Architecture and Urban Planning: reflections and comments from the experience of the Old City (Nya Lödöse) excavations in Gothenburg, Sweden

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Abstract: Can archaeology play a more prominent part in contemporary urban planning? Is this desirable? To what planning, which gives a more explicit and critical role to history and archaeology. extent are those parts of older urban experiences which have become hidden of relevance for contemporary urban planning? To address these questions we develop a general discussion in which a set of concepts, including iteration, connection and selection are discussed. We briefly illustrates certain problems in a short discussion on the recent Old City (*Gamlestaden*) excavations in Gothenburg. The intention is to try to initiate a discussion which could help to develop an alternative approach to urban planning.

Keywords: Contemporary Architecture, Le Corbusier, Gothenburg, Excavations, Modernism

Certain strands of modernism a priori excluded the possibility of relevance of earlier edifications in a given town or city. Le Corbusier's plan for Stockholm from the 1930's is an example, in which he suggested extensive demolitions in the Old City area, the *Gamla Stan*. This proposal, as several other projects of demolition, was not accepted, and today *Gamla Stan* is an attractive neighbourhood in Stockholm (cf. Selling 1973). Le Corbusier further suggested that a city should be entirely re-built each 50 years. It is interesting that this notion of 50 years was used similarly in the 1940's by Sartre, in terms of the validity of ideas (cf. Derrida 1996). Thus, if Le Corbusier's plan for Stockholm would have been realized, and his intentions followed, his Stockholm would now have been demolished.

What we would like to suggest is, however, that what makes a truly human environment is the existence of various time layers simultaneously. This counts both for long-term perspectives over centuries and in shorter perspectives covering some decades.

In urban development certain elements are preserved, others copied. Particular areas are for long or short periods highly culturally charged, and considered interesting for creating connections to the past. In the historical process, certain buildings and environments are selected for preservation, while others are more or less entirely destroyed, in a kind of negative selection. This article is merely a brief discussion in order to help re-vitalise the debate, and to start looking for possible new points of articulation between architects and archaeologists.

It is partly theoretical and largely explorative, with a brief illustration from the "Old City" excavations in Gothenburg in 2013 and 2014.

Le Corbusier, Modernism and the Past

If we started discussing Le Corbusier, it was not a mere co-incidence. He is often described as *the* modernist architect of the 20th century, or at least it's most ardent defender. The examples of an explicit rejection of value of the past and older buildings abound in his work. The Stockholm case is only one (Le Corbusier & Jeanneret 1935:155), but he also suggested extensive demolitions in Antwerp in 1933 (1935:156-159) and similarly denied any value to older Parisian domestic buildings in the *Plan Voisin de Paris* from 1922-1930 (1935:91-93, 1937:109-117 cf. 1946:66). In the Parisian

case he argues on the situation in the 1920's, with unhealthy densely built old blocks and he does have some points here, but the question is if this relates to the basic layout of these blocks, or to a particular use of them, which in turn depended on certain socio-economic conditions. In his discussion on the domestic blocks Le Corbusier interestingly mentions that the old buildings are, in the view of some people "incarnations" of the past, they "think" the past, and that the destruction of such areas would be un-patriotic, positions which Le Corbusier considers bereft of value (1935:111). The kind of preservationist position mentioned (and rejected) by Le Corbusier in this case takes a particular cultural value-package as its point of departure, and select whatever is considered linked to that value-package. This gives us a glimpse of the kind of debate in the period, which would be highly interesting to analyse in greater detail.

But even if Le Corbusier at times explicitly rejected the relevance of the past, he nevertheless occasionally used the past as an important inspiration. There are several examples of this. We will, in this case, only quote a small number of examples. In general terms, he at times refers to *tradition* as a positive term, and something he can use. He seems to find this to be, essentially, long term continuities, where time is of little importance. Often, his examples relate to building traditions not directly related to the elite (cf. a discussion on cases from North Africa, 1946a:123). He discusses traditional "Arab" planning (probably mostly what he had seen in North Africa) as top notch and European as harmful (Le Corbusier 1946b:98-99)[1]. In this case, the role of streets and roads in urban layout is in the centre of attention.

As to more particular uses of the past, one example is linked to prehistoric archaeology. The use of pillars is frequent in Le Corbusier's architecture, and often pillars sustaining a whole building. According to Vogt (1998) this may be explained by the young Le Corbusier looking at reconstructed models of Stone Age lake dwellings from Switzerland, in which all houses were built on poles. While this is probably not sufficient to explain Le Corbusier's use of the pillar, it is nevertheless intriguing. More immediate ways to relate to the past are also frequent. In 1934-37 he suggested a large "unit of habitation" for 4000 persons, at the Bastion Kellerman, in which the old remains of fortifications were to remain below the building, which rested on pillars (Le Corbusier & Jeanneret 1939:148-151). In this case, Le Corbusier chooses a particular architectural scheme in order to avoid demolishing old remains.

In his youth Le Corbusier was much interested in the medieval of Ruskin, but quite quickly he came to question this perspective. Travelling in Italy, the Renaissance in general did not impress him (Passanti 2010). In Florence he rejected most of the Renaissance, but eventually came to admire Brunelleschi's dome at the Cathedral. In Rome he came to admire the presence of cylinders, spheres, cubes, pyramids and other geometrical forms, which he discussed in his books (e.g. 1923, Le Corbusier & Jeanneret 1937:33). Interestingly, he applauds Michelangelo Buonarotti. In particular the 16th century architects *re-arrangements and additions* to the Capitol in Rome inspired Le Corbusier (Cohen 2010), and he argues that the 16th century architect had been inspired by ancient monuments (Colosseum, The Baths of Caracalla and what he called Constantin's Basilica/the Lateran). Michelangelo was anti-Renaissance according to Le Corbusier (a position similar to Riegl 1908 or Wölfflin 1915, cf. below), and the same counts to some extent for the latter[2]. In more general terms, he became, during the same period, inspired by the distribution of the monuments in Pisa, just outside the old city wall. These were distributed ideally, according to him. The distribution of the Cathedral, the Baptistery, the (leaning) tower and the Campo Santo (the enclosed area for burials), as it appeared in the beginning of the 20th century, was an example to follow. These separated buildings, their non-symmetrical distribution, and the empty space in between them was a key inspiration to much of his later projects. Passanti (2010) particularly mentions the *Palace of the Soviets*, *Chandigarh*, and the

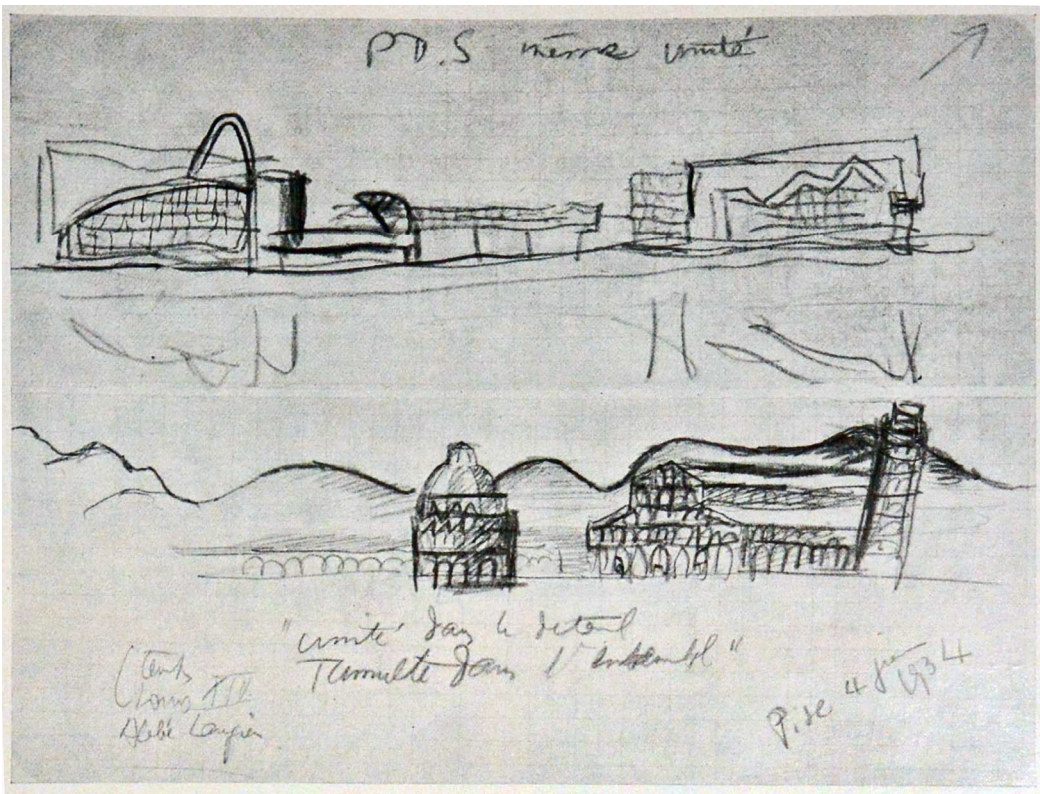


Fig. 1 - *The book Le Corbusier & Pierre Jeanneret, Works 1929-1934. We see Le Corbusier's drawing of the profile of the Palace of The Soviet's Project as compared to the profile of the monumental arrangements at Pisa, drawing from 1934.*

Unity of Habitation, but there is evidently a very general inspiration. When it comes to the Palace of the Soviets project for Moscow from 1931, this plan was in a very advanced stage when it was finally rejected by the Soviet authorities. In a sketch from 1934, Le Corbusier shows how his plan for the Soviets Palace was directly inspired by the spatial arrangements in Pisa[3]. To the great irritation of Le Corbusier, the Soviet authorities preferred a plan based on what was called the Italian Renaissance Style (Le Corbusier 1935:123-137).

To take a last, somewhat different example, when sketching a ceremonial C*apital of Europe, the City of the World* with the monument and museum called *Mundaneum* in 1929 (Le Corbusier & Jeanneret 1937: 190-197), he is inspired by the pyramids of Egypt and México, and the ceremonial road at *Teotihuácan* in México. In this case, he found the European past unsatisfactory and selected ideals from other parts of the globe. Thus even Le Corbusier, despite what seems to be a hatred towards the past and its buildings, made the choice to operate with the past, and let it play a major role in his work. Time and temporality is an essential element to urban planning, even in his work. Temporality is probably an essential part of all planning and all architecture, in particular in the more successful. The French architect Claire Duplay, criticising parts of Le Corbusier's ideas indirectly, expressed a similar but not identical position, discussing how a city could be altered without being demolished (1990:10). But there are still tricky and difficult aspects in her argument as well, in particular in the all too enthusiastic notion of pulling "down the anti-town". While much in Le Corbusier is difficult and hard to understand or even accept, there are also interesting and positive aspects. The Swedish architect Bo Bergman (2010) has insisted on certain values in the typical sixties and seventies suburb, and in the thinking be-

hind them, which, he argues, could be positively developed, rather that transformed to a common dense grid.

Temporisation, spacing and the idea of style

What has become evident from our discussion on Le Corbusier is that it will be necessary to discuss certain theoretical problems in relation to time. Even in major change, in a rather dramatic permutation of a given larger urban setting, older monuments and practices are often important elements. When it comes to the monumental, these tendencies are often fairly strong. There is often a certain degree of re-connection to selected older monuments, and a certain tendency to iteration of ancient themes or forms. Thus, temporisation and spacing are of major importance.

The present must always be what matters most to humans and the social situations in which we live. The frame of the generation is always an important point of reference in our lives. Not least existential and phenomenological discussion has helped us to see this. To Edmund Husserl (1901) there is in this "inner dialogue" both a *now* here, as well as a *protention* (a "forward-thinking") and a *retention* (a "memory"), all occurring "simultaneously", outside time. This is the pre-condition for a true (and pure) intention. In Husserl's phenomenology, intention is a key. It is only through intention a perception and meaning can come about. For such a perception to take place, with no external influence, the dialogue occurring within the individual subject must be a-temporal. This is a problem to Husserl, and Jacques Derrida shows how this creates a certain lack of consistency or coherence in Husserl's study. As Derrida has pointed to out, the present is not a simple and straightforward phenomenon. From these points of incoherence, Derrida builds another perspective (1967, 1972, and 1988). One of the main problems in Husserl's discussion is, then, that the signified concept is never present in itself and of itself, in a sufficient presence that would refer to itself. To Derrida, *the temporal* must be in focus. There is always a *trace*, the trace in its most universal form, and this trace gives the possibility of a process of life and meaning. Thus, a world is implicated by the movement of time, by temporality (Cornell, forthcoming).

The present is never self-explicative; it cannot operate without traces and elements from other earlier occurrences. Further, the present is never simple and straightforward in its composition, rather highly intricate and complex. It is interesting to compare the perspective on cultural heritage in Riegl (1903), in which the past and the presence are strictly separated, with Sartre's discussion from 1960, which is quite different, insisting on the continued relevance of the past in the urban setting of Paris, similarly to the general perspective in Derrida mentioned above (1967, 1972, 1988, 2000; cf. also Mangin & Panerai 1999, and for a more immediate archaeological illustration Arena, Paroli & Venditelli 2001-2004).

Keeping these intricacies of "present" in mind, it is interesting to look at the question of style. The 19th century was much into style. *The Grammar of Ornament* by Owen Jones (1868) is a case in point. This was not only a theoretical interest. There was a certain general openness to the possibility of decorating and partly shape individual buildings in various kinds of style. One example is, of course, the use of the "antique" classic style in the *romantic classicism* in architecture, as termed by Giedion (1922), like Karl Fredrik Schinkel in the *Altes Museum* in Berlin. The project run from 1822 to 1829, and combined an inspiration from Greek temples with certain Baroque elements, but is also innovative, and introduces new elements to the plan. It is interesting that Schinkel had openness in relation to style, and also worked with the Gothic in certain projects (Werner 2004). The *Royal Pavilion* in Brighton is another example, where the architect John Nash in a project running from 1815 to 1822 used a kind of Mughal style from India (at times labelled "Indo-Saracenic") for the exterior of the building. Certain scholars have described such architecture as eclectic, or as a free stylistic selection. That is not entirely wrong, but it is a question of highly *regulated eclecticism*, in

which several styles never would figure. It must also be kept in mind that we are talking of formal style, not of borrowing techniques or materials. Much scholarship of the 19th century, however, and also several planners and architects, selected one particular time period, which was supposed to correspond to a particular style or a limited selection of styles, which was taken to be the true value to acclaim and follow. Many examples could be mentioned. Apart of the proponents of *the pure Classic*, suffice to refer to *the Medieval* stressed by various scholars, in quite different ways, like John Ruskin (1889) and William Morris (1890) in Britain, or Camillo Sitte in Austria (1889), and in terms of the "pure" Gothic as a French ideal as discussed by Viollet-Le-Duc (1863:295), *the Renaissance* as ideal favoured by Burckhardt in Basel, according to whom the Renaissance produced the best modern buildings of all times (1855:336), and *the Baroque* as ideal in the works of Riegl (1908), Wölfflin (1915) and Strzygowski (1937, 1940) in Vienna. There is here a kind of war on styles. John Ruskin, just to pick an example, mainly worked on details in his stylistic analysis and condemned the "impure schools" in architectural style (e.g. 1849:VIII). He actually went as far as to recommend only four particular styles, at the expense of all others. The favourites for *new* architecture were, in his wordings, the Pisan Romanesque, the early Gothic of the Western Italian Republics, the Venetian Gothic, and finally the English earliest decorated. What concerns the French Gothic he is more reserved, but argues that certain details could be of value (1849:172-173). Another, somewhat different example of 19th century interest in style is the transformation of the Swedish castle Skokloster in the 19th century, carried out by initiative from the owners. The castle was originally built in the 17th century, but had been considerably changed over the centuries, when in the 19th century it was transformed to become, again, more 17th century like (in a 19th century way, of course), to demonstrate the splendour of that imagined "Age of Greatness" for Sweden and its nobility (cf. Hidemark & Stavenow Hidemark 1995). For more recent examples of stylistic fixation, we can quote the Baroque in Deleuze (1988) or Calloway (1994), or the so-called *New Classical Architecture* movement (cf. Porphyrios 1998).

Le Corbusier, irritated by an architecture mainly oriented at the stylistic decorations on the front, typical for the second half of the 19th century (cf. e.g. Ruskin 1849, Jones 1868), polemically stated that "architecture has nothing to do with style" (Le Corbusier 1923:55), which in a certain way is a kind of liberation, but as we have seen he still had fixations on style, notably in his dislike for the Renaissance. And, of course, in the use of recurrent easily recognized forms like the rectangular box, the large bow and the ellipse, the pyramid and others, he helped in establishing the bases for what could be construed as a style. Rather than pursuing a line of argument oriented at identifying style, and searching the "good" style from the "good" period, we would suggest, then, the relevance of the simultaneous presence of various periods.

It is important to recognize that the concept of style generally works poorly to define time periods. All the famous European styles of the "Early Christian", *Romanik*, Gothic and Renaissance co-exist at some moment in history as valid styles. There are, of course, tendencies over time, and certain styles are more common than others during certain periods. But still, these concepts works poorly to define periods. The styles are also represented unequally in space. Certain styles are more common in certain regions than others. Some styles survive longer in relation to certain functions than others, and some styles have a very long lifetime in certain regions. The "Early Christian" basilica, in its general form, has a remarkable survival as style in Rome, for example, almost 1000 years. This is not to say that there were no changes, but the main outline was used in church building for several centuries, with varied periods of no or little church building in between. It was not the only existing form, but it was evidently the common form (cf. Krautheimer 1937-1977). It is fairly remarkable that Early Christian churches were built in Rome

when the *Romanik* dominated further north, and even more curious that new basilica type churches were built in Rome in the 12th century (Lucherini 2013) when Abbott Suger worked on his church in Saint Denis, which is one of the first Gothic cathedrals (Panofsky 1946).

Looking closer at the arguments, we can address, once again Riegl. He waged a battle in the frame of an attack against the romantic notion of the ruin, but his argument actually addressed remains form the past more in general. The romantic ruin is not a productive model for us, and there are, most certainly, good reasons to criticize the more extreme ideas of ruins as a kind of ideal model. Riegl, however, waged his battle from another extreme position, in which the old is only, strictly, of relevance as a source for knowledge of the past. In a sense Riegl makes an important point, and Andreina Ricci, the Italian archaeologist, has a fairly enthusiastic discussion on his work (Ricci 2006:40, 82-99; cf. Latour 2010). There is a need to use the remains from the past for productive historical studies. However, Riegl takes this argument a step further and recommends the full destruction of the ruin as such. Instead of ruins Riegl wishes to see full scale reconstructions illustrating the past, and we all know that such a perspective, in different degrees, was popular during parts of late 19th century and the 20th century. Purifying old buildings, making them more "Gothic" (like Viollet Le Duc in France) or similar works in Rome on "Old Christian Basilica" constructions, is one of varied kinds of application of Riegl's suggestions. In a broader sense, this could be related to a perspective in which stylistic purity is a kind of ideal standard. Such a position is rather common. To pick one explicit example, German architect and City planner Fritz Schumacher defended the idea of pure types, stating that "All strong architecture search the Type" (Schumacher 1940:120-130)[4]. An example of application of such an idea would be the 19th century urbanism in Bologna. While destroying much of the actual medieval buildings, Bologna was transformed in the late 19th century to a city supposedly inspired by the medieval (Gottarelli 1978, cf. Frandsen 2000). The municipality of Bologna in 2014 at a website for tourists gave Alfonso Rubbiani much of the credit for giving the city centre of Bologna the "Medieval and Renaissance look it has today" (www.bolognawelcome.com/eventi/, consulted the 15th of April 2014). It is, in this case, quite a fascinating and stimulating city core. But the fixation of the imagined/fantasy medieval may have been to strong; and curiously, accompanied by an intensive destruction of actual medieval remains. Against such perspectives based on one period fixation we, again, wish to stress the value of built environments from varied periods, which may constitute a positive value as such, not necessarily constituting a problem. The ruin itself is a particular form of remain, which may hold values. However, the all too enthusiastic destruction of later cultural layers in order to expose the "true" old ruin (e.g.., the Roman temple, for example) is often a destructive process, which is not always the best solution (cf. e.g. Leone & Margiotta 2007). The continental European excavations of remains from Classical antiquity below later constructions, in which the visitor visits the past in the basement (e.g. the buildings below the church and complex of San Lorenzo in Naples[5]), is, when possible, an interesting solution. The vertical visit, so to say, gives the visitor a strong feeling of an historical process. It is one, very special form of keeping the variation alive in the urban fabric.

It is perhaps necessary to comment briefly on the so-called *Postmodern Architecture* from the late 20th century onwards. There was in the end of the 20 century an explosion in what could be called a play of the pastiche. Claire Duplay played on this in relation to Paris in the end of the seventies and the eighties; Intermediarism, Neoclassic Postmodernism, Eclectic Postmodernism, Covering Neorodisme, Fractioned Neorodism etc (Duplay 1988:42-43). The Postmodern as such was, or is, perhaps, neither an interest in newness nor in past experiences but more of the spectacle, the fantastic and the extravagant, and, at times, the ephemeral. In some cases the buildings evidently attempted at copying certain

standard styles. This latter tendency is particularly strong in the so called *New Classical Architecture* movement mentioned above (perhaps a version of the *regulated eclectic* discussed before). An example would be the Tianning Temple in Changzhou, built 2002-2007, which is a Buddhist monastery built in the style of the Pagoda, but much larger than the previous ones. In several cases, the buildings of this kind simply replicate form, not the building materials of the older buildings they intend to copy, or are inspired from. This is an important observation in many ways. An important quality in a building resides in the particular choice of materials and techniques of construction. The Swedish architect Ove Hidemark particularly pointed at the importance of looking at the construction when addressing old buildings (cf. Hidemark 1991).

In many cases, however, the Postmodern Architecture was nothing but superficial decorations of a standard edification from the period. This, at least to some extent, also counts for the projects of Eisenman, who actually entertained a dialogue, at a time, with Derrida (Derrida & Eisenman 1997). This architect has at times been called a *deconstructivist* (a term borrowed from Derrida), but what this actually would be in terms of architecture is not evident; at times he is classified as a Postmodern. From the website of the Eisenman Architect's firm, we quote interestingly "Eisenman Architect's unique approach to design projects is to consider the layers of physical and cultural archaeologies at each site /…/" (www.eisenmanarchitects.com, consulted 2014-11-12). The extremely costly and heavily criticised City of Culture project at Santiago de Compostela, Galicia, Spain, designed by the Eisenman Architect's, has interesting dimensions, of relevance for the ideas put forward in this article, and we recommend the reader to look closer at that project, in which the topography and early plans of the town are projected into the surface of the built environment. Still, the project has several problems, not only those related to the enormous budget in a period of deep economic crisis. One of the problems we see, in tune with the argument of this article, is that only two "layers's" have been selected, the medieval and the contemporaneous. In the case of Santiago de Compostela this actually reinforce a kind of official cultural heritage policy, which tends to favour the Medieval. Thus, albeit articulated in another way, there is the same kind of exclusive choice of periods as we can see in Bologna.

Certain Postmodern projects also lack perspectives on sustainability and durability. Eisenman is one of the Postmodernists who has been criticised for a lack of interest in durability and sustainability, and is famous for publicly stating a lack of interest in sustainability. These are most tricky issues, but what is fairly evident is that Derrida showed an enormous interest in surviving traces, in the durable so to say. An interesting aspect, much more general than the Postmodern, is that there is a tendency, not least in Sweden, that new buildings from the last couple of decades, with important exceptions of course, are not made to be durable or sustainable, a topic which merits more consideration and discussion. The question of sustainability and durability are popular themes in the debate and politics today, also in relation to the urban (cf. for an archaeological discussion Isendahl 2014), but there is, curiously, a relative lack of interest at going deeper on this topic in relation to new buildings and constructions as such, at least in the Construction Sector in Sweden, despite many declarations as to the opposite.

There is still, of course, also a strong trend in Architecture in general focusing on sustainability (cf. for example Jarzombek 2003). The ways of thinking the relation between sustainability and durability varies considerably, and we think this ought to be addressed more directly in the future. Some parts of the sustainability movement are highly technical, while others are more into theory, and/or works on practical experiments in varied ways, and often oriented at projects elaborated in collaboration with particular local populations. Lars Jadelius (1987), for example, has criticized functionalist architecture for a lack in deeper democracy, and

urges for other ways of organising projects.
In the movement on sustainability, at times, but not always, there is a high degree of interest in the term tradition, rather than style. This is a similarity to Le Corbusier, who as noted used the word tradition, while despising style. Christopher Alexander has constructed a whole body of thought around the idea of tradition, and one of his early books was called *A Timeless Way of Building* (Alexander 1979). In his work, there is much insistence on timeless, eternal forms and ideals. The relation between "style" and "tradition" is tricky. Evidently, these concepts partially deal with the same questions. The idea of tradition is often related more to what occurs at a grass-root level, while the concept of style often relate to the elite. Thus, the ways of making, say, an igloo is tradition, while the ways of making a larger palace is style. There are intricate relations here, which cannot be reduced to a simple formula. There is a need for more subtle arguments. However, choosing the term tradition hardly solves, in itself, the tricky problems we are addressing here.

Iteration, Connection and Selection

In order to avoid misunderstanding, it is necessary to stress that insisting on the relevance of complexity does not exclude the search for large-scale connections, even kinds of "totalities" which will emerge inside a field of complexity. What interests us here is mainly to look at how varied temporal and stylistic elements may constitute parts of particular spatial settings. We can summarize our argument briefly as follows. In a process of urban change, or more in general, a change in the human landscape, several different factors have effects on the outcome (cf. Kärrholm 2014). The natural environment and its changes are fundamental, of course. The general socio-economic factors are of greatest importance and incorporate human practice as a major component. To some extent there is also, produced in this vast field, certain general ideas, what the German philosophers discussed as *Zeitgeist*. But, and this is the point stressed by Derrida, there are also certain influences from written texts of different kinds, influences from different kinds of images, and influences of what has been seen at different locations, which produce a general dissemination, beyond any particular socio-economic setting or Zeitgeist. And, finally, the point stressed and discussed in this article, there is also a certain influence from the particular socially created physical environment at which an urban change (or general landscape change) takes place. In these environments there are certain forms and limits which do produce effects on social life.
We do not wish to push the argument on the role of materiality too far. It is difficult to accept notions of any kind of matter in general as agents, or general symmetrical models on culture-nature. But, and in this case we may refer to Sartre in 1960 (as, to some extent, a contrast to Sartre in the 1940's; cf. Cornell & Fahlander 2002a and b), the built physical environment, e.g. an urban setting, does have effects on the social life. Further, Derrida in various cases hinted at a similar position, notably in his work with the architect Eisenman (Derrida & Eisenman 1996). This is not an easy or straightforward question. An existing urban fabric has, and we insist on that, certain effects by limiting means of movements, by opening or closing certain spaces, and in other ways. But the same "skeleton" of buildings may also be used in a variety of ways, by adding or taking away certain elements. In Sweden *Gamla Stan* in Stockholm (the Old City area Le Corbusier suggested to demolish) was largely conceived a low-status area prior to the re-valuation during the 19th century, and is, by gentrification, today more of a high-status and touristic area. While the old buildings and streets remain, there has been certain modification, which had large effects, and created a different setting to a certain degree. Comparing the Old City centre in Rome and that in Naples is similarly interesting. They show striking differences, not least in terms of social and economic composition, and in the conditions of preservation.
There are several different processes creating such a social spatio-temporal frame, as for example a given urban setting. It is important

to emphasize the difference between smaller, continuous changes in the physical organisation of the city - which always occurs in a city - and larger, more dramatic changes - which modify the basic urban structure - what we call *permutations*. In the latter case we deal with clear and manifested breaks against ongoing practices, traditions and environmental layout. Still, in most cases of urban change, even if they are fairly dramatic, there are certain processes which tend to create links to the past (but not in all cases, of course). In a certain sense, however, *repetition*, *iteration* and *connection* are important variables in establishing place, what gives it a kind of effect beyond any particular socio-cultural present. Strict *repetition* is difficult, and seldom achieved. To take a case, the rebuilding of the 16th century Santa Trinita Bridge in Florence, which had been entirely demolished by the German troops on leaving the city in 1944, and, it seems, on direct order from Berlin, has been discussed in detail (Belluzi & Belli 2003), and the difficulties and the intricacies of this reconstructive work on the bridge are illuminating. It is, thus, more common to deal with cases of *iteration* than direct replication. There is no direct replica, not a re-production in a strict sense, but something more or less resembling the original in question is created. There is a new context and there are certain alterations, and no exact copy is produced. *Connection* is a somewhat different process, to establish a relation to the past through a spatial proximity, to build a new building close to an old one, for example. In both iteration and connection the process of *selection* is a key. Selection determines which past is considered worthy of attention, and is, of course, a question of exercise of power.

When trying to analyse changes and continuities in urban space over time, and to catch ideas of planning and grades of connection to the past, these rather simple concepts might turn out quite useful (cf. Cornell & Hjertman 2013, 2014, Hjertman & Cornell 2014, cf. Cornell 2007, 2014). The concepts are of relevance in the analysis of individual buildings. In the analysis of individual buildings, there exist several interesting approaches, which have developed strategies which at least moves in such a direction. To pick one example, the Swedish architect Hidemark (Hidemark & Månsson 1974, Hidemark 1991) stressed the importance of the "scars" of the old building. But these concepts are also relevant in the analysis of general settlement layout, in discussing the relations between various parts of a built environment. We use the concept of iteration in the sense given to it by Jacques Derrida (1988; cf. Derrida & Eisenman 1997). He referred to iteration as a term describing the intended or unintended copying or borrowing of something that already exists. In case of an urban context, such things could be certain buildings or architectural forms (at different levels of scale). The reasons to failure in the attempt at copying are several. The same raw materials might be hard to get, people have no longer access to specialized craftsmen and architects, techniques might have changed, knowledge may be lost, and the socio-economic frame is no longer the same etc.; hence, the intended copy is created and situated in a different context and it produces new meanings and functions. There may also be certain social, economic and political factors which give impulses to certain new elements, and these may be more or less conscious and ideological. An example of iteration with a high degree of political ideology could be some Italian fascist architecture between 1922-1944, which intended to imitate antique Roman building style but also to exceed it in grandeur.

Connection is similarly important a variety of ways. Through connection there is an attempt at linking social entities from the past to the present, through spatial proximity for instance, to existing physical environments or certain buildings. Explicit examples of connection could be Christian churches in Rome, which were occasionally built inside temples, for instance San Lorenzo in Miranda, built in the antique Temple of Antonius and Faustina, at the *Forum Romanum*. When analysing actions in the city using the concepts of iteration and connection,

it is easy to see that these are not always separated, but integrated processes. The urban context is largely related to the past, through iteration and connection to older buildings and traditions. Also in larger change and in planning the radically new, older elements are iterated (Cornell & Hjertman 2013).

The question of stylistic co-existence is thus highly relevant. When it comes to Rome of 16th century, the mere limit between Renaissance and the Baroque is difficult, illustrated by Riegl's discussion on the emergence of the Baroque. In terms of large-scale urban interventions in Rome, there were early interventions in the 15th century (Westfall 1974), and Bramante at the beginning of the century 1500 created a new straight-lined street (today Via Giulia) for the pope Julius II, in relation to a never completed palace. This implied the demolition of several older buildings. But Bramante also showed an interest in older monuments, and even suggested to build a new church which was to resemble and old antique building in which a new church had been built (Bruschi 1973). In the second half of the 16th century, pope Sixtus V made "cultural heritage" part of his plan for urban infrastructural transformation. The interrelations between certain Early Modern churches was made a key to Rome (Schiffman 1985; cf. Giedion 1956:75-106), through cleaning up streets and making some new streets, which served to connect Early Christian churches and facilitate pilgrimage, which was also the subject of an illustrated published campaign. This is particularly interesting, since the new architectural trends in church building in Rome had basically abandoned the structural composition of the Early Christian basilica church by this time. Sixtus was also interested in other kinds of heritage. For example, he supported a project, never realised, to preserve but transform Colosseum into a large workshop for wool spinning.

In the Rome of Pope Alexander VII (1655-1667), there were even larger projects of urban re-structuring. Among important projects, the Piazza del Popolo was created, with three streets running out from the square. The Via del Corso, which goes back to an antique Roman road, was cleaned up, in order to create a visibility from one end to another. Several buildings were demolished in relation to this large-scale project. At the same time, Alexander VII failed to re-structure Piazza Venezia, which was another of his favourite projects. Private ownership in that area put a stop to this project (Haber 2002; Krautheimer 1985). Later on, in the 19th and 20th century, the Piazza Venezia was eventually transformed.

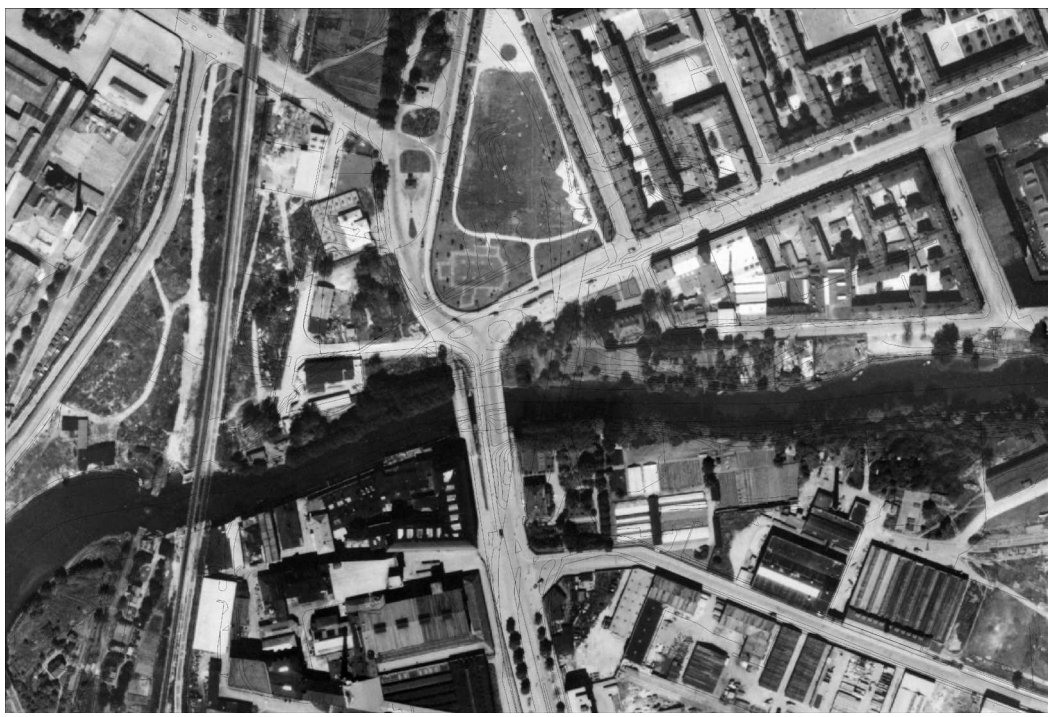
The processes of iteration imply, as mentioned above, a selection, in which certain parts of history are stressed and others excluded and denied (cf. e.g. Derrida 1995, Tunbridge & Ashworth 1996). The iteration of certain aspects, or the lack of iteration of other aspects, therefore imply concealment as much as an emphasis. To take only one example on the relevance of the process of selection, we may address social marginality in the form of spatial enclaves. While the existence of "slum" may be a recurrent feature over hundreds of years (as it has been in certain Latin American cities, for example), each such spatial enclave tend to have a relatively short duration, and are often physically demolished by violent means. The slum will then appear at another point in the larger urban space. In this way, by hiding the continuity of slum, marginality might be reinforced or made more permanent, but marginal city areas and groups are made invisible in their contemporary society and in the writing of history. Slum is, then (curiously, it may seem) referred to as a temporary exception with no continuity. There are many different causes or reasons to the expansion of slums or informal settlements. In a wider perspective, there are larger socio-economic processes at work. When it comes to their otherness and their "invisibility", these must also be explained through several such general socio-economic processes and cultural responses to such processes. But one particular aspect, or field, which reinforces the invisibility has again, to do with the lack of inclusion or participation in official society (and thus also in official history), and the way certain traits are included in the cultural heritage while others are excluded. The physical process of non-iteration in the built

environment is a major factor in sustaining marginality (Hjertman & Cornell 2014).
Iteration, connection or breaks against traditions in architecture, city environments or certain buildings, may occur at different times, and be the result of different (political) agendas. General marginality or invisibility, therefore, could affect different social collectives at different moments. At some point Christian churches might be favoured in the city space, while at other moments their function and physical dimension might be concealed actively and directly or indirectly through the emphasis on other buildings or features, religious or non-religious. Various kinds of concealments, or the opposite, the insistence on certain traits, i.e. the iteration, connection or break in certain parts of a city, are large processes, which affect the design, accessibility and layout of the entire city space. The constant non-selection of some aspects and iteration of others in the making of the city produces results in the physical city space.

The Old City excavations in Gothenburg

Turning now to a short comment on a case with characteristics different from those of cities like Florence or Rome, which both have thousand year old elements of built environment visible above ground. The case we address here, the "Old City" area in Gothenburg (*Gamlestaden*)[6], is an entirely different case, with few historical buildings visible above ground, and of a relatively recent date. In 2013 a larger archaeological field operation was undertaken in parts of the "Old City" of Gothenburg. The immediate cause was a large plan for infrastructural re-structuration of this part of Gothenburg. In Gothenburg, there have been quite extensive demolitions in the city centre, at least since the 1960's. The present re-structuration in the Old City area also includes certain demolitions. The Gothenburg strategy differs quite dramatically from that of Florence, for example, with its present zero level of new constructions in the old city core. The Old City area in Gothenburg has a varied history. Today, the contemporary Old City area is marked by industrial buildings, mainly from the 20th century, and extensive res-

Fig. 2 - *Ortophoto with cadastral information, part, Old City in Gothenburg (Gamlestaden) 1942, with markings indicating the location of the old church from the city of Nya Lödöse (1473-1624). Archive of the municipality of Gothenburg.*



idential areas with house blocks. Most of the buildings are from the end of the 19th century onwards. This area was, however from 1473 to 1624 a Swedish town, generally called *Nya Lödöse*. There are no remaining elements of this old town, the actual *Nya Lödöse*, visible above ground. After the abandonment of the town, the area became an open landscape with some agrarian activity and certain larger landed estates. In the end of the 19th century, factory plants were installed in the area.

In 1924 city planner Albert Lilienberg made a city plan for the "Old City" area, inspired by the work of Camillo Sitte, and the Garden City movement (Howard 1902; cf. Mumford 1938[7]). The period after 1945 saw other plans for the area, and major changes to Lilienbergs plan, with new urban models. Certain aspects of Lilienbergs work are, however, of relevance for our discussion. One of the main parts of his strategy was to form closed spaces, and to allow space for gardening within the enclosed areas of city blocks (cf. Bjur 1984). An interesting detail is that Lilienberg published on the history of the towns and cities of the wider Gothenburg region (e.g. 1928). Lilienberg's approach differed dramatically from that of Le Corbusier.

Lilienberg insisted on the importance of closed spatial arrangements, while Le Corbusier insisted on individual buildings and the importance of large open spaces between them. Lilienberg was to some extent inspired by the Garden City movement, while Le Corbusier had a negative attitude to this movement (e.g. Le Corbusier 1946:146-149). Lilienberg was inspired by historical examples, the Medieval, the Renaissance and the Baroque, while Le Corbusier stressed the importance of the new[8].

It is quite interesting that Lilienberg, despite an explicit interest in urban history, in his work as planner actually failed to incorporate direct knowledge from what was close at hand, the information on *Nya Lödöse*. The only piece of information which came up in the area were some markings on the ground, in a park, of the location of the old church of the town, which appears in an aerial map from 1942, but are not present in 1931 (SB-archive, Municipality of Gothenburg). These markings on the ground were removed in the 1960's, in relation to relatively dramatic changes of the Lilienberg plan and the construction of a highway intersection (Bengtsson Rylander 2014:33-35), and, thus, not visible in 2013. The lack of incorporation of information on *Nya Lödöse* in the planning process is largely explained by the lack of continuity from the 16th century. While in Stockholm, for example, several old buildings, or parts of old buildings, remained at *Gamla Stan*, this was not the case in the Old City area in Gothenburg. In part it is also explained by the lack of sources, notably the lack of old maps or drawings from the time of the existence of the town, and the lack of more advanced archaeological documentation from the site at Lilienberg's times. Still, these explanations are not sufficient. The use of archaeological or even historical information from the particular locations were not extensively used in cases like that of Bologna, mentioned above, when the city core was made more "medieval" like. It seems that a part of the explanation of the lack of use of local information is related to the ways of thinking style, indeed in the fixation on style as such, and in the use of an "ideal-type" thinking concerning the meaning of a particular period. Thus, in general terms a perspective of the kind Le Corbusier suggested or a perspective of the kind Lilienberg defended are both rather interesting but both are also unsatisfactory and difficult in several ways, and the need for fresh approaches is fairly evident.

Turning back to the excavations at the Old City site in Gothenburg, they mainly concerned Early Modern materials. Again, the difference to Florence is striking. In the Swedish context there are, for example, no Roman age remains, and in general the time depth is relatively short in Swedish urban contexts. In the case of the Gothenburg "Old City" area, the excavation thus unveiled traces of parts of the town of *Nya Lödöse*. This town has, on the base of written sources, been estimated to house 1100-1300 inhabitants at its maximum, but this number is largely guesswork; the number is, however, fairly close to the median for a Swedish town in

Fig. 3 - *View of the section of the Old City in Gothenburg, Nya Lödöse, excavations 2013-2014. Photography Markus Andersson. Indications of excavated areas projected by Mattias Öbrink.*

this period (cf. Lilja 2000). The story of the city is complex, with periods of temporary (partial) re-location to another site, Danish occupation, and re-populations. A number of written contemporary sources relating to the city exist, but much of the archival material has been lost. The first archaeological project at the site was made by Sixten Strömbom, an art historian by formation, from 1915 to 1918 (1924). This early fieldwork, though lacking in many respects, not least in the documentation, is unique for Sweden. At that time it was not common to excavate sites of this type belonging to this time period. There has been some interventions through the years, mainly in the 1960's, but the 2013/2014 excavations was the first larger systematic work at the site, using new digital methods in documentation and with extensive use of dendrochronology, osteology and archaeobotanics. The 2013/2014 excavations were organised as a joint-venture between the Contract Archaeology section of the Swedish National Heritage Board (*UV-Väst*), the Regional Museum of Bohuslän (*Bohusläns Museum*) and the contract company Rio (*Rio Natur och Kulturkooperativ*). The excavated surface of relevant cultural layers in the 2013/2014 excavations corresponds to approximately 6000 square metres; a second operation in 2015 is supposed to cover a somewhat larger area. The cultural layers related to the Old City of *Nya Lödöse* varied between 0.5 to 1 m, and were situated at 2 to 3 meters below present-day surface. The fieldwork unearthed foundations, floors and yards (at least partially paved with stone) for a number of enclosed house-complexes. The sizes of plots seem to relate to a standard of 15x15 meters plots, but there are variations, and in some instances two plots have been connected to a larger unit. There are differences as to building methods, artifacts, the handling of refuse, and in other variables in between these house-complexes. Certain plots exhibit special features. The buildings were built largely by wood, but there is evidence for a variation in construction methods. The floors were often by wood and in some cases earthen floors.

There are indications in the material of the presence of poor and unhealthy people in the city. Their conditions and life is worthy of much attention.

Iron work, brewery, bakery, and butchering of oxen have been documented in the excavations. The excavated artifacts and archaeobotanical material indicate contacts largely oriented at the North Sea and towards the Mediterranean, at difference with the Swedish cities at the time, which were mainly oriented towards the Baltic. At the churchyard, not visible or indicated above ground prior to excavation, and which had largely been considered more or less destructed, more than 700 burials were excavated, which produces a very interesting material.

Considering the relatively short life-span of the city it is a rich source material.

The material form *Nya Lödöse* can be compared to the material from 17th century Gothenburg (*Göteborg*, founded in 1621) which came to replace *Nya Lödöse*. This early town of Gothenburg was located in what is today the City core of Gothenburg. But *Nya Lödöse* can also be interestingly compared to excavated materials from other 16th and 17th century towns and cities from the Sweden realm of the time, for example evidence from recent field projects from Kalmar, Jönköping, Uddevalla and Norrköping, and with material from towns and cities related to the Danish realm of the time, like Ny Varberg, Halmstad och Marstrand, relatively close, and the larger cities of Helsingör och Köpenhamn. The towns and cities in what is today Netherlands, Germany and Poland are also highly relevant, not only due to Nordic kingdoms operating in various ways in the region, but also due to the existence of wider regional connections (cf. on recent research on towns from the periods in question e.g. Ehn & Gustafsson 1984, Ersgård 2013, Kihlberg 1986, Lilja 2000, Riis 2012, Rosén 2004, Rosén 2013, Tagesson & Nordström 2012, Tagesson 2013). The Old City excavations of 2013 were, in terms of budget, a considerably large rescue-archaeological field-project in the framework of Western Sweden. Archaeology was not involved at a larger scale in the initial steps of planning, but at a later stage archaeologists were invited to meetings with various subsections of the administration of the municipality for thinking about how to communicate and visualise the results of the fieldwork to the public. Being late in the process, it was difficult for the archaeologists to intervene constructively in the general planning. Architects operating on the area were also present at some of these meetings, which opened for interesting discussions.It would probably have been possible to avoid extensive excavations, if the material would have been left below ground, below the concrete foundations, with only pillars going through to the cultural layers. However, the municipality and certain other actors insisted on the need for parking lots for a high percentage of the apartments to be built, and these were considered best located below the future buildings. This policy can be questioned in various ways and it could be argued that such a strategy has a series of negative effects. On the other hand, the quantity of pillars would be decisive for the alternative strategy suggested, in order to avoid massive destruction of cultural layers. The strain or load on the cultural layers from the heavy construction must also be contemplated. While Norway has a regulation on this latter field, there is nothing similar in Sweden.

However, the municipality and their partners in this case decided to cut deep into the earth at the "Old City" site in Gothenburg. There are several different dimensions in relation to the cultural layers and their potentials, given the choice to excavate the cultural material from this site. One question relates to preservation. It seems this possibility was largely discarded at an early stage. The material was not ideal in its state at excavation, but perhaps some fragments could have been placed visible below a glass in the floor in some public building. An even more important question is how to document the wooden materials from excavated buildings. There has been no truly advanced strategy in that respect in Swedish historical archaeology. At the Old City excavations photography was used more intensively and certain new documentary methods were tested, but still much remains to be done. New techniques for future work could include scanning of certain kind of remains in the field, notably larger pieces from wooden constructions. Digital visualisation could have a special role, and a work on that has been initiated. Interesting possibilities could be to have some kind of exhibition with photographs, plans and visualisations in public buildings in the area. Certain aspects of the old city layout could be marked in the ground. Perhaps there could be large paintings on the walls of some buildings to illustrate aspects of the Old City.

The question of how to handle the remains and the knowledge from the excavations in

Fig. 4 - *Archaeological work in process, general view, Old City in Gothenburg, Nya Lödöse, excavations 2013-2014. Photography Markus Andersson.*

the Old City area is interesting. We are talking about remains from a period not visible at all at this location prior to fieldwork. It is, thus, a question of adding a sort of previously hidden dimension to the contemporary setting. At the same time, later periods must remain at place to some extent, with their decade long processes still visible, at least in some instances. And, finally, new urban projects must enter and be given their corresponding space. This is a difficult but highly interesting challenge.

Archaeology and the urban planning process

The cultural role of materials found in excavation is not a new phenomenon. At least from the 15th century onwards excavated materials played a key role in discussions on design and architecture in the Italian peninsula (e.g. Palma Venetucci 2007; cf. Rowland 1999). This role of this "unknown" is of greatest importance, what is found and put into operation in a distinct present than its "original" context, or to be more precise, the moment of its abandonment prior to be covered by earth and other materials. Stefan Larsson (2000) has insisted on the hidden layers of the city, and the importance of archaeology in the discussions on the reconstruction of the history of towns, and in the discussion on urban layout. These are some of the fields in which the professional archaeologist can contribute with special knowledge, both in a general sense, but also, and this is important, on particular regions and particular locations. There are and must be many actors in an urban planning process. The people living in the region are of utmost importance, but not always allowed to play a major role in such a process. However, several specialists in varied fields must also play a role. Archaeology has often had quite low profile in this context, mainly appearing if it is considered necessary to make some field archaeology. In some instances, archaeologists are also asked to make some kind of general summary of the state of research and a list of relevant sites, according to existing knowledge. Both these functions are most certainly important and relevant. But we would argue, like several contributors to this volume, that archaeology could play a much

more active role in the planning process. In Sweden there has been a certain increase in certain municipalities to involve archaeology in new ways, and the case of Kalmar (Englund, Frank & Larsson this volume) is an interesting example. Still, this is not common, and there is a need to develop ideas and strategies for new kinds of collaboration, and to develop new rules and practices in the planning process, which would allow archaeologists to participate at different stages. Archaeology could play an important role in planning in various ways. Archaeologist's both work on what is seen above ground, in visible remains (e.g. in buildings archaeology, cf. Eriksdotter 2005, Giles 2011, 2013) and on what is hidden below ground (Larsson 2002). In both these fields, archaeology can contribute with new knowledge. In depth studies of the walls of a standing building may reveal important data on different phases of its use and on more complex issues. Archaeology can highlight what is hidden below ground, which increase general knowledge and makes it possible to identify what has been selected to demolition, which in certain situations is of great importance. Archaeology can bring interesting and relevant features or aspects to light, which may, to varied extents and by different means be brought back to the open, visible, urban space. One evident point has to with preservation. Archaeology can contribute to illustrate the relevance of maintaining certain areas or buildings intact. Excavated materials may also, in certain cases, be worthy to preserve in a visible form. This can be done in a large series of different ways, including the open area of ruins, archaeological areas below surface, which can be visited using stairs or lifts (or just be visible through glass at the street level), or by bringing parts of a construction intact to a museum. Another means, of course, is to integrate parts of older constructions into new ones. The means used and the extent to which this should be practised must be addressed for individual cases, and depends much on the character of the remains and their spatial distribution. There are many different scales of value which must be considered in such a process. Artistic value and aesthetics is one scale, which must be

Fig. 5 - *Archaeological work in process, detail, Old City in Gothenburg, Nya Lödöse, excavations 2013-2014. Wooden constructions in the foreground. Photography Markus Andersson.*

allowed to play a role. The pedagogics is another scale, the way we can use material to tell stories. Uniqueness is yet another scale. Also the daily-life object may be highly relevant. In a way, certain kinds of remains which are usually not preserved could be of particular interest to preserve. Not only is the monumental of value, neither only the stone wall nor the marble column. In making such evaluations related to preservation we must try to be humble towards the past, and remember the importance of a varied fabric of remains. But, and this is important, archaeology can also contribute by other means. It can be related to deeper narratives, showing new aspects of the past and elucidating certain important socio-economic problems. Such narratives can be demonstrated in a wide range of ways, also including, beyond texts, exhibitions, models, movies, 3D visualizations and the like, indications of older streets or other old features in the contemporary urban landscape, or by illustrating events or patterns on large walls of larger contemporary buildings, for example. Archaeology can also produce highly relevant knowledge related to questions of landscape use and abuse through history, to the way topographical and environmental problems have been handled through history, and to questions of sustainability. Archaeology can also contribute to refine our thinking on style and period, and make us avoid certain destructive stereotypes, which we have seen operating in some of the examples mentioned above. Further, there is a potential for a contribution to general questions of layout and design, to questions of aesthetics and gestalt, of certain new kinds of thinking and designing, on small or large scales. There is a need to think in new ways, as Ricci has insisted (2006), not being afraid of alterity; and to exploit better the archaeological knowledge, to find new ways to work and collaborate, to open our minds critically and creatively.

Acknowledgements

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Archival sources

GSB. Aerial photography, *Gamlestaden*, Gothenburg, with added cadastral information 1942, Municipality of Gothenburg, Archives, *Stadsbyggnadskontoret* (GSB).

WM. Working materials 2013-2014 from the "Old City" excavations project (*Gamlestaden*, Gothenburg, Sweden), Christina Rosén, project manager (UV-Väst/Raä, Mölndal) and Mattias Öbrink (Bohusläns Museum, Uddevalla), field director.

Quoted websites

Eisenman Architect's: www.eisenmanarchitects.com/ (2014-11-12)

Municipality of Bologna, Italy: www.bolognawelcome.com/eventi/ (2014-04-15)

Notes

[1] This is not the place to scrutinise and analyse more in detail this argument developed by Le Corbusier (1887-1965). What he call "Arab" urban planning tends to create units of various dwellings, which constitute a kind of island in relation to larger streets, while what he calls "European" urban planning gives the street a major role in close proximity to dwellings. What concerns the term tradition, it does not appear frequently in Le Corbusier. It is tricky to get at its particular meaning in his work. To some extent it has to do with the non-official, it seems. But there is also, beyond doubt, a certain resemblance to the term style, as it was used by the classical art historians of the 19th century. Thinking of Le Corbusier's hatred to the concept of style it is an interesting observation, and points at a weak point in Le Corbusier's argument.

[2] Le Corbusier is, however, not always against Renaissance. For instance, he argues that there were good elements in Flemish Renaissance, and believes the combination of Classic French Renaissance and the Gothic to be productive, the latter being the rational element, according to Le Corbusier (Le Corbusier & Jeanneret 1935:112-113 respectively 1937:87). An important element in Le Corbusier's arguments is the dislike for academies and formal schooling.

[3] An interesting (anecdotal?) detail when it comes to the choice of the medieval monuments at Pisa as an inspiration for the Palace of the Soviets, is the highly political character of this assemblage at Pisa in the period of its construction. Wolfgang Braunfels characterised the monumental Cathedral at Pisa as a strong political symbol and a place of power in Medieval times (1953:139-142, cf. Nilsson: forthcoming).

[4]"Alle starke Architektur sucht den Typus.", our translation. Fritz Schumacher (1869-1947) discusses Michel Angelo, using the dome at the Cathedral in Florence for St. Peter, and Wren using St Peter for the dome at St. Paul. These are well selected example, of course. And he continues, stating that "The individual masterpiece is done from the Type".

[5] In this case, the space around the walls of the Classical Roman constructions (the macellum) was filled with soil and waste, which had to be excavated to be able to access the area and allow for visits (cf. De Simone 1985, and for a critical discussion Arthur 2002:55).

[6] *Gamlestaden* in Gothenburg should not to be confused with *Gamla Stan* in Stockholm. The words mean Old City in Swedish, with certain local differences in the expression.

[7] This Garden City movement to some extent has a renewal in the so-called New Urbanism movement, cf. Duany, Plater Zyberk & Alminana 2003.

[8] The intricate relation between the ideals of Sitte and Le Corbusier, with certain similarities and certain rampant differences, is a highly interesting field, which merit more attention, but cannot be developed here. In another plan developed for Stockholm, Albert Lilienberg (1879-1967) suggested applying certain ideas by authors from the Early Modern period to 20th century Stockholm, concerning a ceremonial street, but this idea was not approved by the authorities (cf. Selling 1973).

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Urban pre-Hispanic maya settlement patterns in Quintana Roo, México, and its transformatitons. From abandonment to agglomeration

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Abstract: Throughout the years, the record and study of diverse pre-Hispanic archaeological sites located in present Quintana Roo, México, has allowed us to obtain more and better information about the characteristics and changes in the conceptualization of the urban spaces that Mayan cities experienced in pre-conquest times, where the adaptation to the landscape and the organization of socio political structures had a fundamental role. In this presentation, we will perform a brief analysis of the characteristics of some pre-Hispanic cities located in diverse regions of Quintana Roo, and we will pose some hypothesis about the organization of their internal spaces depending on their chronological location and emplacement. We will try to put some emphasis in the transformation processes that took place in these maya settlements throughout their pre-Hispanic history (ca. 200 B.C. - 1550 A.D.), as well as their dramatic break at the time of the Spanish conquest. In this same way, we will talk about the strategies for survival, and the new adaptations to the space that both maya and Spanish populations underwent during the colonial period, and closing by looking at the intense processes of growth and transformation in Quintana Roo from the 20th century to the present day. These changes have forced us not only to create new strategies to preserve the ancient vestiges of the past societies, but to showcase the past as a useful experience to plan the future as well.

Keywords: Maya Archaeology, Quintana Roo, México, Settlement Patterns

Introduction

Throughout the years, the record and study of diverse pre-Hispanic archaeological sites located in present Quintana Roo, México, has allowed us to have more and better information with regard to the characteristics and changes in the conceptualization of the urban spaces that Mayan cities have in pre-conquest times, where the adjustment to the landscape and the organization of socio political structures had a fundamental role.

In this presentation, we'll do a brief analysis of the characteristics of some pre-Hispanic cities located in diverse Quintana Roo regions, and we will advance some hypothesis about the organization of his internal spaces depending on its chronological location and emplacement.

As is well known, the Peninsula's Mayan civilization developed over a little more tan 175,000 sq km, that included what are now Yucatan, Campeche, and Quintana Roo states. Researchers have divided this área into four great regions: the North plains, the Pucc montainous región, the East Coast region (mostly current Quintana Roo), and the southern lowlands. These great differences contributed to enriching Maya culture, and creating successful subsistence strategies over the centuries.

Recently, we have learned a little more about the early Mayan ancestors; new research, as the brand new exploration of Hoyo Negro cave, near Tulum (Chatters et al, 2014) shows that 12,000 years ago, most of current Quintana Roo was a plain with savannah vegetation, very similar to Africa's, covered by now-extint animals, its first inhabitants, very different from historical Mayas, hunted some of these animals, and explored the dry caves in the Tulum área –the, dry, but now flooded- in search of temporary shelter, wáter, and a place to bury their dead.

Fig. 1 - *Las Palmas woman, Reconstruction by Attelier Cayness, Paris. Photo: Mauricio Marat, INAH.*
Fig. 2 - *A captive carved in Dzibanché's hieroglyphic stairs. The text commemorate the victories of king Yuhkno'm Ch'e'n I on some nearby places, in diverse moments of the 4th century A.D. Drawing: Luz Evelia Campaña and Javier Lopez Camacho, INAH.*

The first villages

Initially, the region's inhabitants set up small camps that they struck to search for food. This way of life made them familiar with the developmental cycles of the animals and plants, and led them to start manipulating them for their own purposes. So, by around 2,800 BC, they were already cultivating maize, and by 900 BC, in places like Chacchoben, in southern Quintana Roo, they were raising platforms with small temples, surrounded by platforms housing, possibly already very similar to the ones that were built in later centuries.

In Preclassic period, Quintana Roo Mayas developed the esencial concepts of their view of the World, and the divine nature of their rulers, who became the raison d'etre for the largest construction projects. Starting in 600 B.C., cities like Dzibanché and Ichkabal, already had rather important structures. At that time, the foundations of Mayan world view, was already the divine power of their rulers, based on their claim to a mythological genealogy that gave them the sacred right to exercise power. This is why, representantion of the divine lords in great stucco mask placed on the basements of the pyramids became the way to express the king's power and authority.
Preclassic settlement patterns were very diverse in the different regions of Quintana Roo: southern and northern region seems to have had an important population from very early times, but there are no evidence for a similar situation on the East Coast. It has been documented the existence of domestic units that could have had some economic autonomy due to that there were still no large central places. More studies are needed to know the reasons for these circumstances.

The consolidation of Mayan power

Final years of Preclassic period (approximately 200 B.C.) saw the burgeoning divine dynasties become all-powerful, each establishing its own political territory. From then on, war and high level alliances would be the constant in the dynamics of Mayan politics.
Throughout Early Classic period (AD 200 – 600), Mayan settlement pattern in Quintana Roo became notably complex, with great cities and enormous buildings in Petén style, like the ones in Dzibanché, Kohunlich, Ichkabal, Cobá, and many others. Of course, Mayas were not cut off from what was going on in other regions like Central Mexico, were Teotihuacan exerted immense territorial dominance. However, despite the many elements present in the iconography of the time, there is no reason to think that Teotihuacan culture dominated the Yucatan Peninsula, or has influenced the internal organization of their set-

tlements. Early Classic Mayan settlement in Quintana Roo begins to show an enormous concentration around the large emerging cities, built in high and well drained places, with access to water and good soils; this was, obviously, the time of a great population growth, wich led to the development of new strategies for the functioning of the settlements and changed forever the level of autonomy of domestic units.

Late Classic period was a time of true agglomeration in most of the land not flooded in current Quintana Roo. One of the best known examples is the area between the current border with Belize (the Hondo river) and the limit with the State of Campeche, a region of approximately 2,500 square kilometers in which there is practically no place without evidence of cities, towns, villages and dwelling units of this period. The capacity of organization and control of the territory, as well as the production and the redistribution of resources has been highly efficient.

Glyphic inscriptions show us the complex policial relations the Maya kings established, but they offer little information about the way of life of anyone who was not part of the nobility. Excavations in residential areas of sites as Kohunlich, Dzibanché, and Cobá, show that maya people may have been organized themselves in neighborhoods, each one with its own temple and ruled by a minor lord who was in charge of coordinating the group activities.

Cities of Late Classic period, as we said before, were the combination of a viable locale, with high ground and good drainage, surrounded by fertile lands and water resources, with a design linked to the socio-economical order, and to the Mayan ideas about the sacred Universe, wich gave a sense to every element of the urban and no-urban landscape.

We are far from understanding how the political and economic inner workings of Late Classic Maya cities in Quintana Roo broke down around the ninth or tenth century, the moment traditionally known as the Classic Maya Collapse. It seems to be a fact that the royal authority of the great cities had seriously deteriorated, wich leads us to think that the powerful lords were dethroned. However, evidence also show that cities were not abandoned, since its inhabitants continued to live their daily lives, invading old ritual and elite spaces to turn them into dwellings, re-utilizing sacred monuments for simple building

Figure 3.- *Cobá, structure known as "La Iglesia" (The Church), Constructed during Early Classic times, though it continued being modified during the later centuries, and used as a place of worship until the 20th century. Photo: Adriana Velázquez, INAH*

Fig. 4 - *Dzibanché aerial view. Photo:Alejandro Blazquez, INAH*

Fig. 5 - *Kohunlich aerial view. Photo:Alejandro Blazquez, INAH*

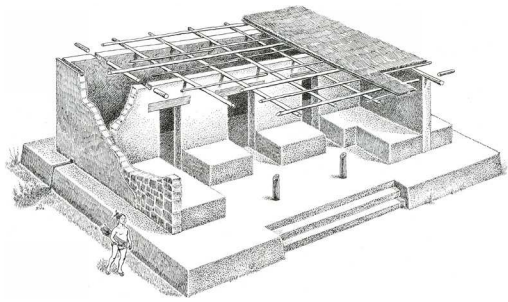


Fig. 6 - *Reconstruction of a tandem plan residential unit from an Early Postclassic Maya site, Drawing: Raúl Velázquez*

materials, as has been observed in the Gann and Xibalba plazas, the most important of the monumental complex of Dzibanché.

Maya society did enter, again, into a process of change and transformation that would lead to new political and economic structures. Until now, in southern Quintana Roo región there is no evidence of war or widespread destruction. It seems to be a very long process of abandonment and population movements toward the East Coast. Meanwhile, in the northern Peninsula, there were more succesful strategies that apparently centered on new government structures, may be with non-permanent members. Very closed to Quintana Roo, Chichén Itzá began to grow rapidly, becoming an enormous city, in permanent competition with the equally powerful city of Cobá, for the control of the territory, its people and its resources.

The consolidation of Chichén Itzá as a new regional order, represents the first time in Mayan history, that a single city had concentrated control over a enormous región, developing at the same time, a new visión of the world that include very innovative political structures and dynamics in the organization of the setlements.

Early Postclassic settlements in Quintana Roo area seems to show two trends: sites in the Chichén Itzá hinterland seem to replicate the architecture and the organization of the space of Chichén, but outside this area, neither the construction nor the ceramic materials show a close contact with the big city. It seems as if peasant comunities at the East Coast continued life without major changes; although some activities like salt gathering or fishing became most important. Ordinary people dwellings were practically identical to those from previous periods.

Chichén Itzá was the most powerful capital of Early Postclassic Mayan world until almost AD 1200, when its highly centralized power structure broke down, incapable of containing the conflicts among -probably- the kin groups of the city multepal, or governing boards.

The Late Postclassic, decadence?

After Chichén Itzá fall, East Coast population grew rapidly; at that time, its architects perfected a style that would become very popular in the whole area. Most of the buildings of the coast zone, both religious/administrative as housing, were built after AD 1350 in a way that would become known as “East Coast style”, characterized by palaces and houses with colonnades and flat roofs, miniature temples, and small rooms inside larguer ones, inter alia.

The strengthened coastal cities attracted a large population, thanks to the control of the salt-producing regions and the coastal ports. Tulum, Xcaret (Polé), Xamanhá (today Playa del Carmen), Xelhá, and Ichpaatún, among others, are some of the most important port cities of those late-period times, some of them walled (like Tulum, Xelhá and Ichpaatún), others concentrated in clusters lining the coast.

Quintana Roo Coast housed an enormous population between the fourteenth and sixteenth centuries; there are known more than one hundred archaeological sites along the East Coast, and between each of them there was a system of continuous dwelling constructions. The numerous residential groups, with different sizes and forms, were defined by albarradas (stone fences), wich represent one of the major constructive efforts made by Maya Postclassic people.

This demarcated lots were the basic economic and social units for this time; inside them there were houses, workshops, garbage areas,

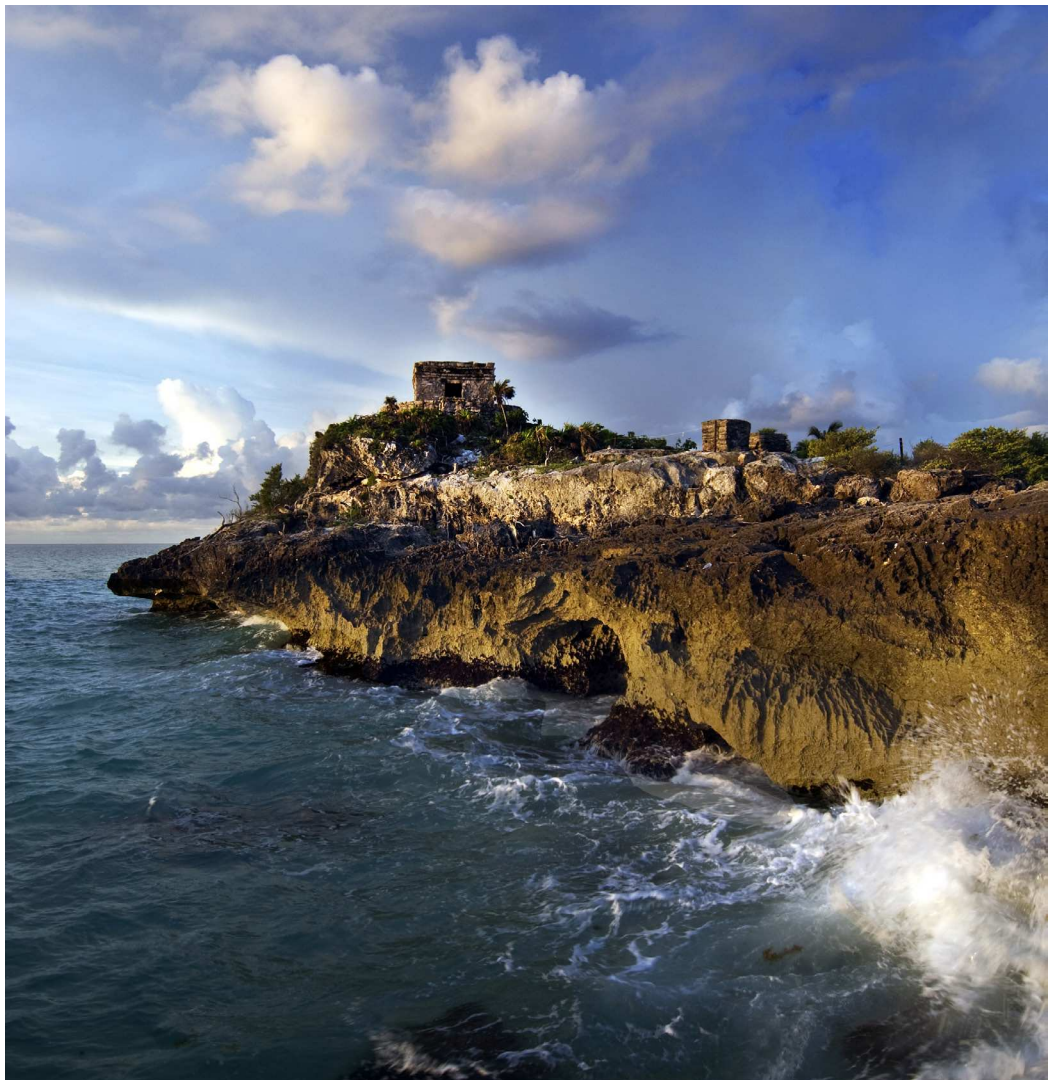


Fig. 7 - *Tulum, the most importat coastal city in Late Postclassic times. Photo: Ignacio Guevara, INAH*

storage structures, kitchen gardens, family altars and burial places. Most of them have caves that allowed access to fresh water and served as scenarios for family and personal ceremonias. The settlement system based on lots and parcels demarcated by albarradas covered most of the East Coast and islands surfaces. In a similar situation to Late Classic settlement pattern, the new Late Postclassic system shows a great people aglomeration, at this time, along de coast. It was a system of settlements totally reformulated, which helped communities to get benefits from the growing coastal trade and the resources of the área.

In spite of the great activity of the Coast, the inner and southern Quintana Roo territory was not abandoned; at this time, East Coast style buildings were constructed to the side, or on the collapsed Classical temples in ruins, whereas old monuments were relocated in conditioned spaces for a ritual to the ancestors. Most of the abandoned cities continued to be inhabited by rural populations, and its ruined temples continued to be seen as sacred places.

Socio-political dynamics in current Quintana Roo were very complex at the beginning of the sixteenth century; a large population and an intense economic activity showed at the

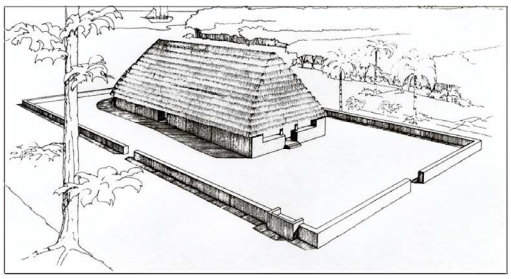


Fig. 8 - *Sixteenth century Spanish chapel in Xcaret. It was built with pre-hispanic stones, and it had a maya style tatch roof. Reconstruction in Andrews and Andrews (1975).*
Fig. 9 - *Eighteenth century church at Lalcah, in central Quintana Roo área. Photo: INAH.*

many sites recorded, reject the old idea that this was a period of decline. Sixteenth century society was dynamic, and in permanent recomposition, with intensive contacts with the Mexican Altiplano, and other Mesoamerican regions.

The Spanish conquest, a truly collapse

These were the settlements the Spanish conquerors sighted when they arrived at the Peninsula's East Coast in 1517. From that time on, history would be different. The start of Spanish conquest and colonization of the Yucatan Peninsula corresponds to a long and painful process, which had a devastating impact on the region. In 1579, only sixty-two years after the first Spanish arrival, the splendour of the East Coast was a thing of the past, and most of the Mayan Postclassic cities were in ruins. Again, the abandonment, the dramatic depopulation. At the time of consolidation of the Spanish presence in the Yucatan Peninsula, the almost depopulated northern portion of the Quintana Roo Coast, became part of the jurisdiction of Valladolid, where most of the Mayan people of the area, the Cupules, were relocated. The region became a small encomienda that paid a miserable tribute due to its small population.

In subsequent years, almost the entire population of the central coast and north of Quintana Roo was relocated, leaving only some military posts and no Spanish settlement of a permanent nature. Demographic studies considered an estimated population of 250,000 inhabitants for current territory of Quintana Roo at the moment of the first Spanish contact in 1518, a figure that contrasts dramatically with the 149,810 inhabitants recorded for 1609 (Careaga and Higuera, 2010: 74-75), wich means a decrease of 40% in only 88 years, and the death of 100,190 people.

Virtually did not exist a system of permanent settlements in Quintana Roo between seventeenth and nineteenth centuries. To Spanish conquerors were never possible to consolidate their domain in this region, thus, its inhabitants continued to live with relative independence. Mayan resistance to Spanish rule was developed through a number of strategies, mainly, the run away and dispersal of populations to the untamed jungle regions unknown to Europeans, called "la montaña" (Farris, 1984; Bracamonte, 2001). Mayan fugitives, also called huidos, cimarrones or pudzanes, repeatedly resisted colonization and recreated their ancient forms of life, settling their camps in the vicinity of ancient Mayan sites in ruins and resisting the constant intrusions of friars and encomenderos, but incorporating european elements to their culture, such as the use of latin characters in scripture, metal utensils of tillage, as well as chickens and pigs husbandry. (Bracamonte, 2001: 29).

The constant revolts against Spanish control that took place in the region, were a second form of resistance, although there were not as successful as the run away. Long before the well-known Caste War of the nineteenth

century, there was a bloody rebellion in the Bacalar area, which lasted for almost a hundred years (1547 – 1641). Another great rebellion, the Jacinto Canek revolt, occurred in Yucatan in 1761 and it's considered one of the most direct antecedents of the Caste War that it would begin a century later.

The Maya insumisos (rebellious) and their revolts, the pirate raids, and the illegal timber trade, turned the Quintana Roo region in an area completely abandoned by the spaniards. At the middle of eighteenth century, the area was known for being virtually depopulated and extremely dangerous. It was full of stories that narrate the fierceness of their few inhabitants, such as the sinking of the ship Nuestra Señora de los Milagros (or El Matancero) in 1741, which crashed a few kilometers north of Tulum. Survivors told how they managed to escape from the massacre of the indigenous people who lived in the area, which were small, but numerous groups of Maya free of Spanish rule.

There are virtually no archaeological record of the villages or camps of the Maya pudzanes; surely, they were bohíos (comunal houses), and single tatched and wood houses; it is estimated that there were more than 30,000 fugitives living in the Quintana Roo jungles between seventeenth and eighteenth centuries (Careaga and Higuera, 2010:80). But, we know well the location of Santa Clara Chichanhá (or Chachanhá), the center point of the spanish missions, and the last spanish effort to comunícate the Yucatan Peninsula with Guatemala, as a desperate attempt to achieve some degree of dominance on this impregnable región.

Founded by franciscans in 1687, on the ruins of an ancient Maya Late Classic site, Chichanhá was designed, not only as a mission, but also as a prison, resting place for spanish troops and, of course, as a reducción de indios. The great franciscan effort to construct a truly colonial town and parish church, got a very little success; to 1700, it had 655 inhabitants, and to 1795, only 600. Most the cimarrona population fled, as

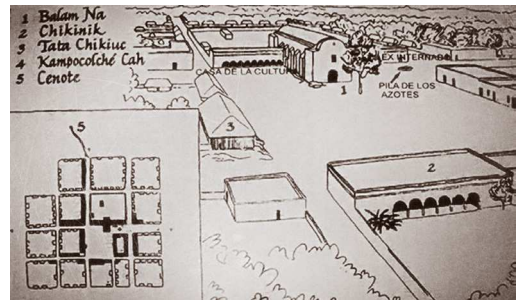


Fig. 10 - *Chan Santa Cruz sketch map. Drawing at Museo de la Guerra de Castas. Tihosuco.*

they always had, and another part died from an epidemic that struck the village (Jones, 1989: 254; Rocher, 2011).

In the second half of the eighteenth century, Quintana Roo situation was not very different, but it had appeared new actors, who soon would change the destiny of the region. A pirate named Peter Wallace, discovered the great value of logwood (palo de tinte), to produce a red or purple dye. So, with the support of the British Crown, he established a colony in the south of the Rio Hondo, that later would become Belize. Spanish colonial government tried to prevent English forward to the East Yucatan Peninsula, for what it was fortified Bacalar and it was promoted the creation of new towns (Weaver and Sabido, 1997).

English presence in Belize was strengthened, and in this process, it was of great help the good relationship they built with the maya fugitives. The Spain – England conflict was inherited to independent Mexico, who through its first president, Guadalupe Victoria, attempted to negotiate and regularize british presence in the territory, but a new, long and bloody war, was going to change dramatically this situation and generate a new model of settlements: the Caste War (Careaga and Higuera, 2010: 89).

This is not the place to discuss the course of the Caste War. We wil mention only, that it was the most important event of the nineteenth century, that change forever the configuration of the Yucatan Peninsula and its settlements. After Mexico's independence, Yucatan began a period of great economic growth thanks to

Fig. 11 - *Model of the old Chetumal city, destroyed by Janet hurricane in 1955. Photo: Adriana Velázquez*

the cultivation of the henequén (sisal), an organic fiber, widely used in industry and navigation of the nineteenth century, and also, thanks to the strengthening of the production of sugar cane in a large area covering the East of the current state of Yucatan and the northern part of current Quintana Roo.

Both agricultural enterprises changed the configuration of the Mayan settlements, by grouping significant indigenous populations around the prosperous haciendas, but also, they generated a huge economic and social inequality. The war between Mexico and the United States in 1847, as well as the declaration of neutrality of Yucatan in front of the American invasion, led the Maya communities that still had some autonomy, to find the propitious moment to defend their land and preserve their freedom. They had close contacts with the still fugitives mayas of Quintana Roo and they had taken advantage of their good relationship with Belize to buy weapons, so in July 1847 they began a fierce struggle against the main mestizo populations of Eastern Yucatan. After a year of fighting disorganized and to address the need for more arms and return to cultivate maize, the rebels retreated to the forests of Quintana Roo where they found the raison d'être of their movement: the talking cross oracle, the Santísima.

The figure of the holy talking cross allowed the rebel leaders to create the conditions to establish a new settlement in the jungle that not only would be the center of decisions for the war, but also a sacred place, a sanctuary.

Toward 1852 it was founded the town of Noh Cah Santa Cruz Xbalam Nah, better know as Chan Santa Cruz. This was a town with a typically maya configuration around a plaza (and of course also with a church of spanish inspiration), that was the first Maya settlement of a permanent nature built in Quintana Roo in more than three hundred years. The new settlement allowed the Mayan rebel to create an independent community of the Yucatecan and Mexican governments and lead a relative everyday life in the middle of the jungle, at least, for a short time.

The conflict was stalled about ten years, thanks to a relative balance of both forces (Careaga and Higuera, 2010: 118), but the coming to power of President Porfirio Diaz, who soon showed his interest by achieving an absolute control of the national territory, resulted in a new strategy, wich includes the granting of concessions for the exploitation of timber and agricultural development in the north of Quintana Roo, and the signing of an agreement with England to establish a permanent border between Mexico and Belize, to brake arms trafficking to the rebels. This agreement required the establishment of a checkpoint in a border almost depopulated, so it was decided to invite Mayan refugees in Belize to return to Mexico, and with them it was founded a new population: Payo Obispo (currently Chetumal).

The new setllement had a precarious start, but due to the fact that its inhabitants had spent a long time in Belize and because all the supplies of food and building materials came from this British colony, the nascent city acquired the configuration of the English colonial architecture of the Caribbean, with lots arranged in an orthogonal network, within there were built wooden houses with sloping ceilings and spacious income porchs in front of stairs. With a similar design, there were repopulated strategic places, such as the islands of Cozumel and Isla Mujeres.

A well-designed military strategy, resulted in the final abandonment of Chan Santa Cruz by the rebels and the conversion of the settlement

in a town controlled by the federal army. Since that time, Porfirio Díaz government decided to convert the eastern portion of the Peninsula in a federal territory named Quintana Roo, which was created in 1902 with 3,798 recognized inhabitants (Careaga and Higuera, 2010:132). The creation of the new territory did not mean a population change immediately, although the intensification of economic activities, especially the removal of timber and chicle (gum), represented the beginning of the transformation of the landscape and the gradual loss of its vegetal cover. There were numerous, but still small logging and chicleros camps, where there were concentrated the extracted products, but abandoned as soon as it became depleted the resources. Life in jungles remained hard and dangerous for non local people for many years more.

It's important not to forget, as Macías Zapata (2004) has indicated, that since the end of XVIII century, it was a generalized idea in Mexico, that Quintana Roo's current territory was an empty place, plagued by fugitive indians. This manichean idea allowed later, at the end of the Caste War, to justify Porfirio Díaz's government, the distribution of forest concessions and to define new agricultural areas, leaving aside the maya settlements and their tradictional use of the jungle.

After the violent years of the Mexican Revolution, it started a process to draw Quintana Roo from its isolation. The colonization of the regions formerly covered by a jungle that sheltered little maya settlements, was very slow, and the new towns remained small and precarious. Hardly, they had more than 500 habitants and were formed by wooden and tatched houses, whose only permanent construction, in some cases, it was a church or a house of the authority.

It is specially interesting the process of resettlement of towns abandoned during the Caste War, all of them located in the central portion of the territory. Yucatec farmers gradually arrived to occupy old houses in ruins, exactly as their ancestors in the Late Postclassic period. Also, semi destroyed churches were again consecrated and dedicated to other saints.

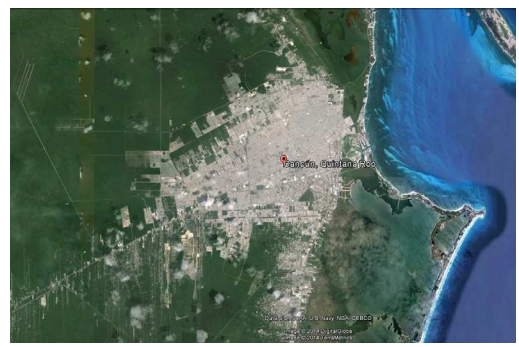
Colonization of new lands and the creation of new towns showed an slowly progress until 1960, when Quintana Roo government began to invite farmers from various mexican regions to receive land for cultivation and stay to live permanently in the region. This policy continued especially in the seventies, when it was openly expressed the interest in converting the territory in an autonomous state. The arrival of people from all over the country: Michoacan, Sinaloa, Durango, Zacatecas, Veracruz and other, originated very diverse villages, with equally diverse housing architecture. Quintana Roo was starting to be a multicultural community.

At the same time, along with the decline of the forest activity due to over-exploitation of the jungle, in the northern portion of the nascent State, it began to develop the economic activity that would define its future, the tourism. With this, it started the construction of tourist infrastructure and communications, the arrival of new settlers and, again the trend toward the agglomeration.

The beauty of its beaches, the extraordinary pre-hispanic culture and the conditions created by the Mexican Government to facilitate investment, led to a rapid expansion of tourist activity, which included the entire northern part of the State and created a new big city: Cancun.

Unfortunately, the rapid growth of tourist activity and the equally rapid population growth, have not been made in an orderly manner.

Fig. 12 - *Satellite image from Cancún city, from Google Earth, 2014.*



With one of the highest rates of increase in Latin America, Quintana Roo has developed enormous constructive projects without considering the fragility of their ecosystems. With more than 700,000 inhabitants in Cancun and almost 150,000 in Playa del Carmen, Quintana Roo faces serious problems of security, water supply and provision of basic services. There have been serious damages to the underground water, the soils, the coral reefs and the cultural resources, and each year, negative consecuences caused by rains and uncontrolled fires generate affectations more serious and unpredictable.

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Landscape Archaeology and Urban Growth: the case of Campanar (Valencia)

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Abstract: Towns expand over their peri-urban territory in constant evolution. Their structures are marked by the historically stratified features like the geography, geomorphology, hydrology or the infrastructures, as well as, the evolution of the social and cultural uses of the place. Its knowledge requires of a multidisciplinary approximation. We talk about "the historical urban landscape" (UNESCO 2011) understood as a "human landscape" (Tello, 1999) where archaeologists, anthropologists or geographers as well as engineers, architects and urban planners must do jointly research into its origins, its characteristics, its cultural values and its transformation laws.
Within the archaeology, the landscape requires an specific discipline that are sometimes called "landscape archaeology" (Malpica, 1999) that count on own searching methodologies like the "morphology method". Towns have historically expanded to their periphery, adapting the guidelines marked by the surrounding territory. In the twentieth century this habit will be broken and they start to spread following the rules unconnected to the place by the plan direct action or by a fast and uncontrolled growth due to a birth rate increase and/or rural exodus (Arizaga, 2002). In the last decades the concept of heritage has developed appreciating cultural features which meanings awaken some identity feelings to the members of a group. Then the "history landscape" has value as inherited good, being object of protection. Now it is unavoidable the knowledge of the value and the territory structure rules before the extension of urban edges planning. The presentation will show the morphologic analysis of *Campanar* urban settlements in the historic Valencian *Huerta* and the aggression that the last city growing has provoked in its structureArchaeology and Public Art in Changing Urban Places

Keywords: Landscape Archaeology, morphology method, irrigated regions, Minor Heritage

According to ARIZAGA (2002), modifications in our urban centers, many of them configured from medieval times, were minimal until the first half of the 20th century. The historical development of these settlements has preserved the structures more or less intact from the origin, and the cityscape has been remained almost complete.

We could say that an organic growth, respectful with the surrounding territory, has been developed. A proof of this is that many old maps show veracity or similarity with the reality of its epoch, allowing us to rebuild, with hardly any error, the villas belonging to previous centuries. The elements which form the urban fabric, like parcels, roads, canals, landmarks, etc.. can be perceived in a plane as tracks in the soil, that have been preserved over time with hardly any modification. From the 20th century, this inertia will be broken and cities, overwhelmed by the increase in the birth rate and/or by the rural exodus, will begin to spread towards the periphery with a quickly and uncontrolled growth, as an oil stain. This is the product of an unwise developmental politics, with a vision of planning completely oblivious to the surrounding territory and the history. Aggressive urban actions, which sacrificed the traditional systems of town planning, were defined.

The outlying irrigated regions, which had remained intact for centuries, began to be in danger, being a passive subject of this uncontrolled growth that swept the territories close to the cities. The fertile irrigated regions, with agricultural and pre-industrial settlements, will not be an exception, as the case of the *Historical Huerta* of Valencia. The

Fig. 1 – *We can identify the tracks in the territory in diferent planes: On the top, Plane of de Valencia´s city, 1808, Author anonymus and on the botton, General Plane of Valencia, 1925, Author anonymus.*

break between cities and their origins, a direct result of this evolutionary process, was and still is a widespread phenomenon that worries historians, archaeologists, students of architecture and urban planning, among others. This recognition or historical sensitivity that we have today about the preservation of historical settlements, is linked to the reconstruction plans that emerged from the Second World War, in 1945. The need for rebuilding cities and restoring the destroyed architectural heritage, led to devise plans that showed interest in preserving buildings

and enhancing their artistic and historical value. From that moment, conservation policies have begun to be developed with varying success. Some of them undertook the intervention on the building without first performing a thorough analysis about the origin and the historical surroundings, resulting in renewed buildings devoid of its traditional context. It was not until 1964, with the Venice Charter, when the need of preserving historical areas will become evident.

In this manifesto, the concept of historical heritage is aroused for the first time, not only limited to the isolated monumental work, but it includes the urban or rural setting where it stands. This vision of heritage, expanding its margins to the immediate environment, has allowed its preservation by the governments of many rural enclaves threatened by the urban greed.

Obviously it is not difficult to assume that these conservation policies have been developed on buildings and urban settlements with a recognized architectural and historical wealth, leaving to their fate many architectural manifestations which are not cataloged, but which are an essential part of the city history. They are recognized as Minor Heritage and defined by Beatriz ARÍZAGA as: *"todas aquellas construcciones características de una época determinada, que nos han llegado a través del tiempo, realizadas con materiales propios de la región, con formas arquitectónicas empleadas por la inmensa mayoría de la población, y por tanto simples en su concepción, que no necesariamente tienen por qué tener una calidad extraordinaria, pero que no informan sobre el tipo de vida de la mayor parte de la sociedad urbana medieval"*

The *Historical Huerta* and its irrigation system, mill artifacts, farmsteads, concentrated settlements, etc.. are examples of this Patrimonio Menor that contrary to the great manifestations of heritage, are a reflection of the daily nature of society. Clearly, the great value of this heritage is not artistic but rather historical and cultural. The fact of safeguarding only the monumental heritage can distort the historical reality of a population, thus denying the traditional cityscape. If we focus on the particular case of Valencia, no one questions the historical debt that the city of Valencia has with its *Huerta* and its peripherals villages: *Campanar*, *Benicalap*, Benimaclet, Patraix, ... Small populations that reached the autonomy and that have seen their identity reduced at the same pace as their rural environment disappeared, becoming literally absorbed by the phenomenon of the big city.

The *Huerta* and the peri-urban rural settlements were essential for the growth

Fig. 2 – *Barracas in the Cabañal, Valencia,1888. Archiu Roger-Viollet (DEL REY, 2002).*

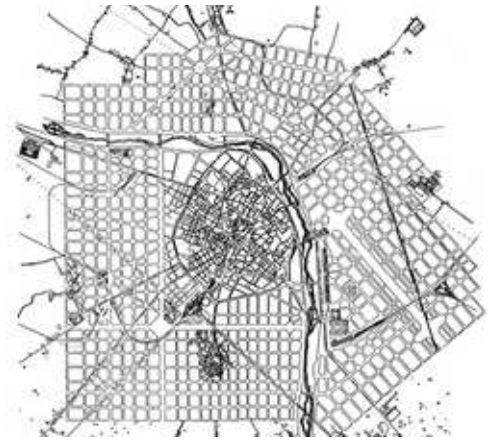


Fig. 3 – *Ensanche´s plane of Valencia, 1907. Author anonymus.*

and the economic development of the city, from almost its origins. It was a necessary relationship based on the respect between the parts. The start of the 20th century brought about the industrial revolution and the consequent growth of the city, highest exponents of modernity and clear opponents of tradition.

The *huerta* and its rural area will lose their leading role to be part of the background of the social reality. This will involve the hegemony of the city over the *huerta*, of modernity over tradition, in sort, the prevail of the anarchic and thoughtless growth of the city over the *huerta*. That assumed the absorption of peripheral population close to the capital, becoming part of their urban fabric as neighbourhoods.

In the case of Valencia, it will be essential to study its historical link: the *Huerta*, that is to say, its characteristic traditional landscape.

According to the definition included in the Article 1, Chapter I, of the European Landscape Convention held in Florence in 2000, and which Enric TELLO (1999) endorsed as follows: *"In general, human landscapes are a historical construction resulting from the interaction between biotic and abiotic factors of the environment, ...".*

We can assert that our subject of study, the *Huerta*, corresponds to a traditional human landscape, that is, a system where there have been incessant changes, produced by the natural processes and by the human activity for centuries. In short, a historical urban landscape, as defined by UNESCO at the Inter-Governmental Meeting of Experts on the Landscape, held in May 2011.

We must keep in mind that studying the traces of a landscape as the *Huerta*, which is continuously in state of flux and with a strong human impact, is very complicated if we apply the concepts of traditional archaeology. The structure of the territory is marked by historically stratified features, such as the topography, the geomorphology, the hydrology and the infrastructures, but also by the evolution of the social and cultural uses of the place.

Consequently, to get to know it, we must make a work of multidisciplinary approach, where in addition to archaeologists, other specialists as anthropologists, geographers, sociologists, engineers, architects and town planners, should investigate together to clarify the origins and transformation laws. So, we get into a variant of archaeology called " landscape archaeology", being one of its greatest exponents Antonio MALPICA (2009), who belongs to the research group Toponimia, Historia y Arqueología del Reino de Granada.

Within the landscape archaeology, one of the complementary disciplines that this methodology collects, is that proposed by Ricardo González VILLAESCUSA (1996) as essential to the understanding of a rural landscape, such as the *Huerta* of Valencia. We refer to the morphological method, based on the interpretation of the landscape structure, from the information that photographs, cartography, land registry... provide us, and on the subsequent diachronic analysis, necessary to value the obtained data. That method is ideal for a first understanding and issue of hypothesis about the construction and degradation of a rural scene.

We have applied this discipline on the particular case of *Campanar*, one of the settlements of the *Historical Huerta*. We have analyzed the urban fabric and the elements that conditioned its growth in a natural way, in harmony with the landscape, detecting the typical tracks that characterize this landscape. Then, by crossing the extracted data and the knowledge of the body, we have been able to produce even the first hypotheses about the origin and development of this particular rural scene.

A detailed investigation to determine the characteristics of this rural landscape, would have meant a recognition for it, and consequently a transcendental tool for making decisions about the growth of this part of the city, which at that moment led to the disappearance of this historical

Fig. 4 – *Two aerial photos where we can see the transformation of Campanar betwen 1944 and 2010.*

enclave, as we can appreciate in the pictures. Therefore, we are going to know the object of study. First, we will make a work of approach, identifying geographically, socially and economically the subject, and immersing ourselves into its history. This preliminary phase will lay the foundation to undertake a second phase of detailed study, about its hydraulics and land structures, its network of roads or its interesting traditional architectures. It will be in this phase, where we will step into the analysis of the existing planimetry and cartography, providing substantial data to the morphological study.

Phase of identification or approach to the object

Currently the city of Valencia is composed of a total of 19 districts. The fourth district, known by the name of *Campanar*, is in the western end of the town. Valencia is bounded by the old course of the *Turia* River on the southeast, by *Benicalap* and *La Saidia* districts on the northeast, by *Mislata*, *Quart de Poblet* and *Paterna* populations on the southwest, and by *els poblats de l´Oest* on the northwest. *Campanar* district covers an area of 98.6 hectares, of which 53 are residential land and the rest are divided between public and private non-residential land, and the area of *huerta*.

The district is divided into four neighborhoods: *Campanar*, *Les Tendetes*, *El Calvari* and *Sant Pau*. These four neighborhoods are the current simplification of a historical reality of rural districts that comprise the traditional landscape of this population: *Dalt*, *Pouet*, *l´Horta*, *D´Enmig*, the old village of *Campanar*, *Sant Pau*, *Vora Riu*, *Tendetes* or *el Calvari*, among others.

It is important to highlight that, among all of them, the only moderately undamaged are *Dalt* district and the old village of *Campanar*, thanks to various protection plans which,

in both cases, have avoided they to suffer the same fate as the other areas, which are missing today. In them, you can find such interesting items as *Molino de Frares*, *Molino Nou*, *molino de Llovera*, *Lleonart* farmhouse or the *Cementerie*. The traditional center of *Campanar* has remained thanks to the protection laws which became effective since the PGOUV in 1988 and that, in the same way as the *Plan Especial del Entorno* BIC of 2010, still keep the protection of the urban landscape.

It is mainly composed by the church square and its immediate environment: *Barón de Barxeta* Street (*carrer dels porcs*) and *Obispo Mayor* Street, *Grabador Enguídanos* (*Conde Buñol* before), *Maestro Vagant*, *Vinalesa*, *Mosén Rausell*, *Molino de la Marquesa*, *Benidorm* Streets and *Médico Vicente* Torrent Avenue.

Campanar, like other settlements of the *huerta*, historically grew as a suburb on the outskirts of the city. Over time, the *huerta* landscape has accompanied the city of Valencia, being a part of its own identity.

This fertile landscape has a peculiarity that lies in the "complex interrelationship between regional planning ... , the establishment of the settlement network, traffic flows and the structure of farmland plots" which is not significant in other Mediterranean cities that share the same agricultural landscape, as the Professor of Medieval History Enric GUINOT (2002) highlights.

Phase of configuration or deepening in the object.

The *Turia* river irrigates the fertile plain of Valencia, distributing the water by a total of 31 channels or *acequias*, being the last eight branches in charge of watering the *Historical Huerta* of Valencia and the ones that compose the *Tribunal de las Aguas*. Ancient legal and administrative institution which was declared Intangible Heritage of Humanity in 2009 and through which the irrigation community is governed. Out of these eight *acequias*, we are going to focus our interest on those which irrigate the North *Huerta* where *Campanar* is placed, that is, *Tormo*, *Mestalla* and *Rascanya*.

The *Tormos* channel is the first of the group of *acequias* that get water from the left side of the river, being the closest to the *acequia Real de Moncada*. Its irrigation area comprises *Benimàmet*, *Beniferri*, *Benitaha*, *Benicalap*, *Borbotó* and *Carpesa* districts, and part of *Paterna*, *Burjassot*, *Quart de Poblet* and *Campanar* districts. This vast area of *huerta* was watered by a great diversity of arms, rows and rolls that facilitated the works of distribution of water.

Specifically, the area of *Campanar* which is irrigated by this *acequia*, collects a wide fertile region, from *l'Horta Nord* to *Beniferri*. Part of this *huerta* is irrigated by the row of *Campanar*, which is one of the most important and ancient arms, dating from medieval times. This *huerta*, located on the north of *Campanar*, in the *Dalt* area, is the only fertile area in this region which is still active today.

The *huerta* of *Campanar* was watered almost entirely by the *acequia* of *Mestalla*, particularly by the braç de Petra and its branchs, that is, the *bracet del Pouet* which watered the southern part and the *bracet de Batle* and the *fila del molí d´Horta* which watered the northern part. To give a closer idea of that, in 1815 the *historical huerta* of *Campanar* represented a 42% of the total watering of this *acequia*.

Today, all these fertile areas have vanished. The *acequia* of *Rascaña* is the closest system to the *Turia* river and the last to get water from the left side. With Islamic origins, its purpose was to serve the fertile lands of the north, such as the old farmsteads of *Orriols*, *Rascanya* and *Convent de San Miguel dels Reis*, among others. However, the copious flow of the mother channel located at *Campanar*, was used from its origins to install many mills, as the historian Ignasi MANGUÉ (2001) says.

From the 13th century, there is evidence of the existence of a defined network of main roads, which are radial from the city center and are called *els camins reials*. In the plane of JAU-

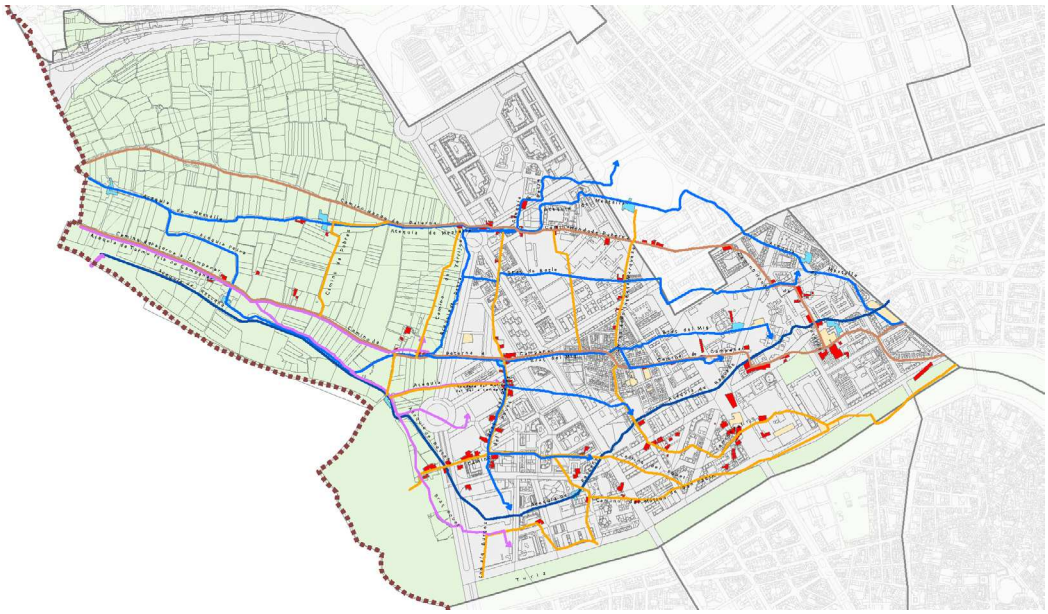
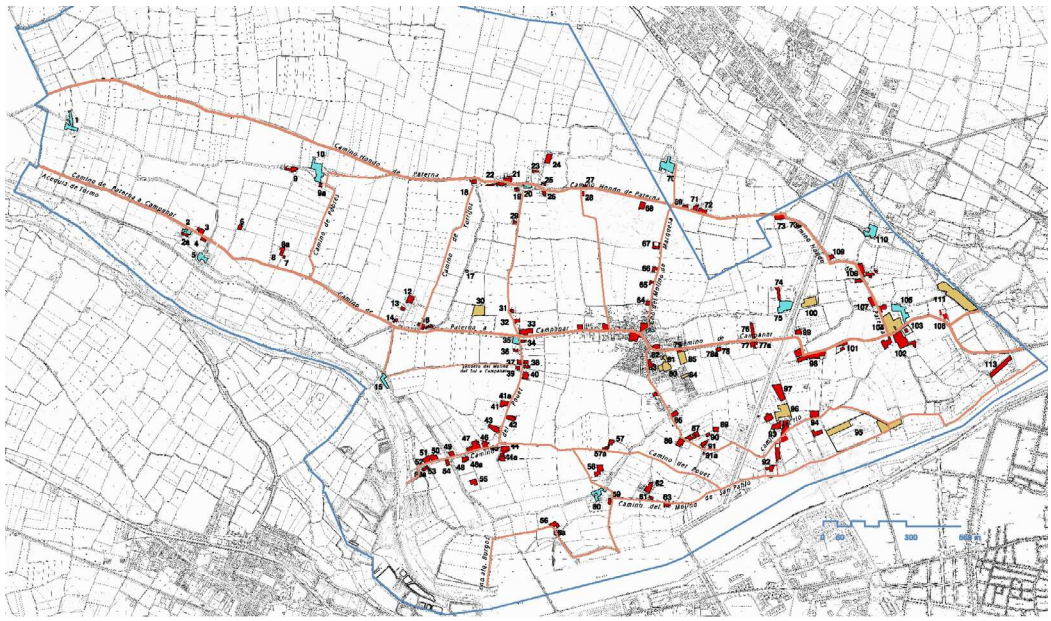


Fig. 5 – *The structures of historical Campanar landscape on a current plane.*

BERT DE PASSÁ,1820, we can see this network and its radial configuration from the city to the different peripheral populations. Obviously, this road system was in turn composed of crossings, trails and secondary roads that connected the peripheral populations among them, or simply linked the multiple isolated settlements of the *huerta*.

With the evolutionary development registered from the 19th century, this network of main and secondary roads began to be destroyed by the construction of new road infrastructure that invaded the *huerta* and fractured the ancient road system. These regional roads that had remained unchanged over time became second order roads, known as *Camins Vells*, that is, *camino de Paterna*, *camino de Campanar*, *camino del Pouet*,

Fig. 6 – *The structures of historical Campanar landscape in 1929 before of the urban development.*



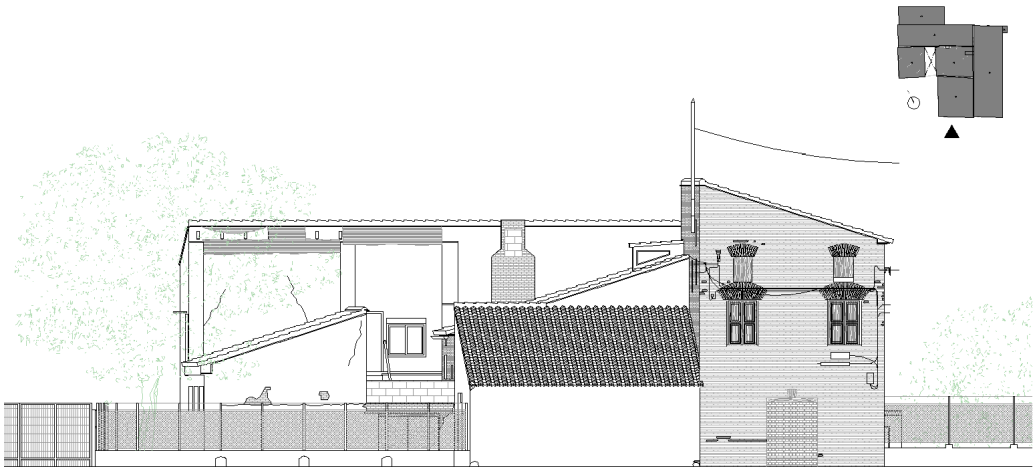


Fig. 7 – *Farmstead of Lleonart. Graphic drawing ceded by José Manuel Durá. PFG 2012 2013.*

camino del cementerio, *camino al río*, *camino del Molino de la Marquesa* or *camino del Molino de San Pablo*, among others. Most of these routes coexisted with the new traffic roads until the urban progress, uncontrolled from the 20th century, finally dismantled these ancient and historical rural roads. Of course, another essential element of the structure of the *huerta* is the land itself and the division that, from ancient times, different people have done for making better exploitation and profit. We may find different modules of land division, as Roman or Islamic subdivisions, the land distribution of the *repartiment* or the *microparcelación* in contemporary times. Roman subdivisions were large areas of land, perfectly modulated, where wheat, grapes and inclusively olives were cultivated, and where the villa stood at the center of the farm. In contrast, in the Andalusian *huerta*, they considered so much the structural elements such as *acequias* and roads, as well as the contours lines of the land, creating terraced, uneven and irregular parcels, which adapted to the territory, developing farm units where the farmhouse was placed on the top of the *acequia* and next to the road.

Fig. 8 – *Partida of Pouet during the devastating urban intervention, Campanar, 1998. Eduard Pérez, historian.*

The "contemporary" parcel plan that has survived to these days, as the result of the feudal division of the 13th century, would be characterized by the homogeneity of plots, as consequence of the equitable distribution of the territory. In morphological terms, it was a rigid structure compared to the Andalusian parcel plan, based on the "organic regularity" as R. VILLAESCUSA (2007) says.

Relating to its rural and pre-industrial architecture, what can we highlight besides of being an extraordinary heritage with a high historical content, that has been buried together with its natural habitat?

Over a hundred of hydraulic devices, which represented for centuries the only existing industry, were raised on the structures belonging to the eight *acequias* that watered the *huerta* of Valencia (ROSELLÓ, 1989), perhaps from late medieval times. In the *Campanar* area, a significant number of mills, including the largest, *Molino de la Marquesa*,

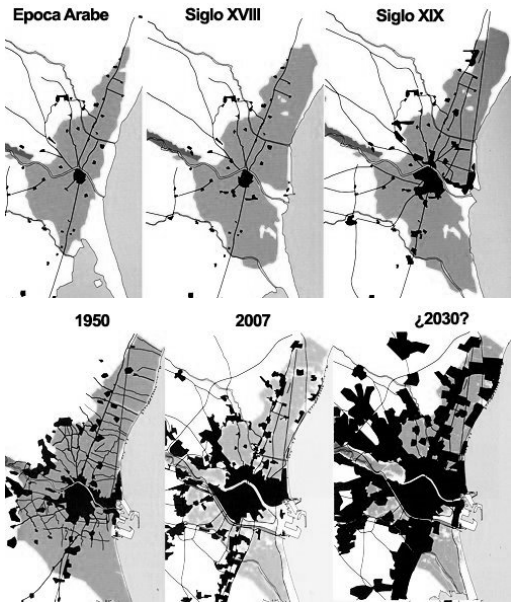


Fig. 9 – *Sequence of pictures over the continuous growth of the Valencia´s metropoli. PAT, (MUÑOZ, 2010).*

San Pablo and *Molino de la Esperanza*, were placed on *Mestalla* and *Rascaña acequias*. Of course, they all disappeared.

Over a strip of two kilometers long around the city of Valencia, the farmhouses and houses were widespread everywhere. In the area of *Campanar*, there was not only a high density of these units, but also many of them were old, as V. ALGARRA (1988) proves in the archaeological studies conducted on the *Pouet* farmsteads before its demolition, as the case of *Barberá* farmstead.

In short, they are the characteristic structures of a landscape of *huerta* that is history today, where its last characteristic elements are at death´s door pending its final stab. They are the consequences of a town planning that could be described as immature and egocentric, that is completely outside the structures of the territory that it takes up.

Consequences of the town planning of the 20th century

Below we can see the sad consequences that involves the arbitrariness of a poorly planned growth: Large roads between the city and the suburbs are open, which fully divide the territory of the *huerta*, like *Campanar*, *Pio XII*, *General Avilés* or *Maestro Rodrigo* avenues, real barriers that isolate and subdivide the large open area.

Large groups of civic buildings are created. *Tendetes*, *la Figuera*, *el Calvari* or *el Ateneo* neighborhoods succumb to the construction of prominent hospitals, commercial and educational facilities, among them we could highlight La Fé Hospital, *Nuevo Centro* Mall and the *Consellería de Educación*. The implementation of planning was usually carried out in a slowly and chaotic manner, except the case of *Pouet*, historical division placed in heart of the *huerta*. The actions in it would be delayed until the end of the century, but the intervention would be rapid and devastating, (TEIXIDOR, 1982), creating a building typology of residential districts, fully outside the area.

Conclusions

The purpose of this paper is to support the promotion of a conscious planning to ensure a sustainable growth, capable of maintaining the city connections with its history and its identity. The key tool lies in understanding the historical landscape on which we aim to develop the planning.

Since a knowledge of the body involves the recognition of it. The ignorance can incapacitate us for developing a city planning in line with the new ideas of sustainability, where we can take decisions more respectful with the structures of the historical landscape and with the heritage preservation.

Once given the future scenario that suggests the continuous growth of the metropolis over the *huerta*, we think that the knowledge and deference accorded to the territory structures, by means of methodologies such as the landscape archaeology and its complementary disciplines, the morphological method. They can be a basic tool of discernment and elaboration of hypothesis when considering new intervention strategies on the extended edges of the city of Valencia, and by extrapolation, on any contemporary urban center.

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Archaeology and Public Art in Changing Urban Places

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Museum of London Archaeology

Abstract: In the United Kingdom, archaeology has been a legislated part of the urban development process since the early 1990s when government guidance paved the way for developers to routinely include archaeological consultation and mitigation in their plans. Artists too have long been a part of the process of urban change around the world, whether working in the design process with architects, producing permanent installations for public and private spaces, or working 'unofficially' to investigate and comment on changes both good and bad. Recent work in Bristol, UK, and Copenhagen, Denmark, has shown the potential for a further development of the relationship between these three disciplines. Using approaches developed in contemporary archaeology, archaeologists can investigate existing public art to gain a deeper understanding of how attitudes to specific, local places have changed over time. This analysis can be used to develop a wide-ranging, highly nuanced context within which to judge the implications of any new development.

Keywords: Urban archaeology, public art, planning, Bristol, Copenhagen

Archaeology in the UK Planning System

Archaeology has been part of the development of urban areas in the UK for a long time, but in its current form it has its origins in the immediate post-war period, when large scale demolitions of urban centres and the redevelopment of bomb-sites caused a direct threat to the historic remains beneath them. Archaeological work was not compulsory on such sites, but despite this much work was done to 'rescue' archaeological remains faced with destruction. The notion that this was a good thing continued to develop, becoming part of local legislation through the subsequent decades and in towns and cities across the UK, archaeological excavation by universities, local authority units or some private companies, came to be a regular part of the development process.

The great turning point in archaeology's fortunes came in the early 1990s. In 1990, based on consultation and political developments through the 1980s, the *Town and Country Planning Act* was passed, placing a new legislative focus on the conservation or other appropriate treatment of archaeological remains and other historic environmental features encountered during the development process. This was accompanied by the *Planning (Listed Buildings and Conservation Areas) Act 1990* which gave added consideration to the built environment. These pieces of legislation were accompanied by two very famous pieces of Planning Policy Guidance; PPG15: *Planning and the Historic Environment, and PPG 16: Archaeology and Planning*. These documents have their own complex histories of development and impetus and deserve reading in their own right, but here it is sufficient to state that these new Acts and the associated guidance documents, that strongly suggested archaeological consultancy and fieldwork be carried out in a certain way towards particular ends, led to the establishment of numerous new private-sector archaeological contractors and a correlating solidification of the role of archaeology in the planning process. The situation today, with the PPGs having been replaced first by a document called *Planning Policy Statement 5: Planning for the Historic Environment,* then by the current guidance*,* the *National Planning Policy Framework* (the core of the associated guidance for which stems from PPG 15 and 16), is that private-sector archaeology firms (a number, however, with charitable status) now undertake the vast majority of archaeological mitigation fieldwork and

research, with associated tasks ranging from excavation in advance of development to consultancy, built heritage analysis, conservation area work and, increasingly, design work within multi-disciplinary teams.

The Place of Built Heritage in Planning

Within this world of largely private-sector archaeological work in the planning system, built heritage work takes a number of particular forms, usually carried out by specialist individuals within archaeological units, although different units spread the work differently between departments. Probably the most common form of built heritage work is connected to the aforementioned NPPF and is the provision of built heritage advisory work to developers in advance of development as part of the planning application system; analysing the built environment on and around a proposed development site and developing an impact assessment to accompany that proposal and aid the relevant curator (usually a local authority Conservation Officer) in making their suggestion on whether a development should be allowed to go ahead – the final decision is taken by elected officials, weighing heritage factors against others – or what particular conditions should be attached to any permission.

The most likely condition on a permission to develop that includes the demolition of buildings of any heritage interest is one to ensure the recording of built heritage scheduled for demolition to mitigate its loss through standing building recording. This is a practice also covered by the PPGs and later practice guides. Guidance on the preferred methods for undertaking this work exists in English Heritage's *Understanding Historic Buildings: a guide to good recording practice* and in the *Institute for Archaeologists' Standards and guidance for the archaeological investigation and recording of standing buildings or structures*, and such mitigation work generally consists of metric survey and historical research, subsequently reported with archaeological analysis of the building's historical development up to the present day.

Increasingly, archaeologists with built heritage expertise are adding to the two common kinds of work described above and becoming more integrated with the planning process at earlier stages, i.e. with the design of proposals for development and not just their assessment and mitigation. Two particular examples of this type of work are worthy of mention here. Firstly, as large-scale developments aim to be more socially sustainable (in connection to the long-term financial needs of international investors, but that is a different discussion) greater care is being taken by certain kinds of developer to ensure that proposals have at least the potential to enhance the existing historic environment and create better lives for people now and into the future. It is beginning to be acknowledged that archaeological investigation of how the past exists in the present is integral to achieving this aim.

Secondly, there is potential for archaeologists to work with existing communities as they take steps to exert their own control over the places in which they live. Of particular importance here is the (relatively) new scheme in England of allowing community groups to bring different interest groups together in the designation of neighbourhood areas which can then become the basis of Neighbourhood Plans, documents which effectively set the parameters for future development by agreeing common ground between perhaps disparate groups. Again here we can perhaps infer some potential for archaeological investigation of the ways in which the material remains of past iterations of the built environment exist in the present day to add both detail and nuance to how those same remains are incorporated into planning for the future. There is also a potential here, perhaps harder to realise, to give people access to archaeological methods and methodology (i.e. through teaching or training) helping them to understand the places they live in in different ways and to help them demonstrate what they think within the planning process, without having to use time and money employing private-sector archaeologists. This too, is a different discussion to be expanded

elsewhere, but for now it is sufficient to note that archaeologists are becoming increasingly involved with the creation of new places as well as the 'preservation-by-record' of old ones, and that these new work contexts necessitate archaeology placing itself at the centre of a wide network of different people, things, political perspectives and other concerns, rather than off to one side to be consulted as fully independent and objective experts.

What Archaeology Does

The role of archaeology in both understanding and contributing to the process of ongoing change in urban areas springs directly from the discipline's central subject of aiming to understand human-material interactions. Contemporary archaeology, a sub-discipline with varying definitions but best defined here as the archaeology of the present day and recent past, realises a new potential in the existing and accepted subjects of archaeological enquiry by focusing on how things exist today, and by allowing contemporary and historical perspectives to inform each other. As such, the discipline is essentially connected in aspects of its focus and aims with contemporary artists. Public art has developed in the UK at the same time and in similar ways to the way in which archaeology developed in connection to the PPGs and artists are increasingly being 'officially' included in design teams or commissioned to produce site specific work to accompany developments, the debates around which partially overlap with archaeology's focus on mitigation.

In recent years, as the remit of urban archaeology has begun to develop, so too has public art, with more varied and artistically interesting forms of work being created as part of development schemes, some of which will be discussed below. This move is partly in response to critique of the 'heavy metal' public art monoliths so often commissioned but rarely loved or discussed after installation. Current perspectives on public art are perhaps best summed up with reference to the 'New Rules of Public Art' created by Bristol-based consultancy and commissioning agency Situations in 2014. I will quote them here in full:

1. It doesn't have to look like public art; 2. It's not forever; 3. Create space for the unplanned; 4. Don't make it for a community, create a community; 5. Withdraw from the cultural arms race; 6. Demand more than fireworks; 7. Don't embellish, interrupt; 8. Share ownership freely, but authorship wisely; 9. Welcome outsiders; 10. Don't waste time on definitions; 11. Suspend your disbelief; 12. Get lost.

This list of ideas provides excellent criteria against which to consider what any artwork is doing, but it can also be applied to some extent to contemporary archaeology. In the case studies below, which consider both contemporary public art and what archaeological engagement with it can tell us about the historic built environment in the present day, there are certain qualities to the archaeology, and to the archaeology that this paper suggests can develop in urban areas in future. It doesn't have to look like conventional archaeology and will take any influence or direction that is useful in achieving the aim of the analysis. By its nature, it is specific to the present moment. It will incorporate uncertainty. It is primarily aimed at understanding specific local places, not the development of academic theory (although this does come naturally from it). It aims to challenge both the subjects of the research and the archaeological methods used in it. Definitions are secondary to doing good and interesting work and if you don't think it is archaeology feel free to call it something else, the work will be unchanged. Although I will draw some conclusions necessary to a paper of this kind, the case studies presented also exist for their own sake and can be taken simply as random observations if you wish.

Art and Archaeology Combined

Through their recent development and contemporary practice, even perhaps in their central ethos, we can see that public art and contemporary urban archaeology share similar concerns. In particular, they both have functions as tools for investigating what it is to live in a par-

ticular place, especially at moments of change. In the following case studies, I will look at what public artists have done to address certain situations, or creative contexts, within which they are required to interpret an urban landscape and respond to it. Archaeological perspectives are used here both to critique the work itself, as it goes to exist in changing contemporary landscapes and becomes an active part of the historic built environment, and the artists' interpretations of the contexts in which they are invited to work. Although there is little relevance in declaring any interpretation or opinion to be 'wrong', it is worth putting some effort into trying to uncover what wider contexts are being enrolled in the establishment of a particular viewpoint and what the implications might be of the embodiment of those wider contexts within a situated work of public art.

Public art and contemporary urban archaeology can both also work as 'solutions' to some of the problems associated with change at different scales. Although there is not space to develop this aspect of the work in great detail here, we can retain the possibility of extending our bringing together of these two disciplines and our critique of them to encompass notions first of their instrumentalisation and application towards particular ends, and secondly, by extension, of 'success' and 'failure'.

In the case studies presented here, I will not go that far. Instead, it is my intention to present three sites, outline specific contexts in which change is taking or has taken place, examine artistic interventions into those contexts, and develop some archaeological critique of what exists in the built environment today. Each is necessarily brief and intended to illustrate the central point that both artists and archaeologists have particular approaches to urban space, and that investigation of these approaches can contribute to our understanding of the wider world of urban planning and development.

What I hope these case studies will show is that artistic responses to specific local places can be hugely varied and it is hoped that this can allow archaeology a similar freedom of expression in approaching these disparate forms and ideas. It will also be possible to see overlaps and similarities that create links between seemingly disparate places, artworks and events, allowing us to develop work in response to specific local places that can have some applicability to, or at least some level of relation with, other specific local places, despite the primacy of what makes each unique being the main driver of the analysis.

The first case study is that of Castle Park in Bristol, UK, a former shopping district turned into a public space and opened with an associated public art programme in 1993. The second, adjacent to Castle Park, is Bristol shopping centre Cabot Circus, opened in 2008, the development of which had a public art component covering the whole construction period and only slightly overlapping into the use-life of the building. The last case presented is that of Mimersgade in the Nørrebro neighbourhood of Copenhagen, Denmark. Here, a public art scheme was created in response to a period of rioting within Nørrebro's multi-ethnic community and which has been added to with further schemes in recent years.

Case Study: Castle Park

Castle Park in Bristol was, until 1941, a closely-packed area of Victorian shopping streets on the site of the city's medieval castle. Following bombing during the Second World War, and a prolonged debate over the future of shopping in central Bristol, the area was compulsorily purchased by Bristol City Council and, after a long period of use as a vehicle parking site for the construction of a new modernist shopping centre adjacent to the site (Broadmead, more below), it was opened as a new public park. In 1993 it was reopened with a new landscape design, historical interpretation boards, the newly excavated remains of the castle keep on show, and a large public art scheme. The scheme itself, although incorporating a wide variety of forms and types of artwork, was resolutely focussed on the site's medieval past; *Throne* by Rachel Fenner is a stone block bearing the imprint of a royal posterior; an artist-designed playground in the form of a castle

and keep (and animals) takes over the eastern end of the site; *Line From Within* by Ann Christopher makes reference to the medieval city wall. The list goes on. The new park and its art were opened with a ceremony including falconry displays and the mayor arriving on a Saxon boat.

The scheme works to create a public space in Bristol with a distinct identity centred on the 'Old City', the castle and Bristol's past. What it also does is erase what are two of the more problematic episodes in Bristol's history. Firstly, the site presents a history of Bristol devoid of reference to the slave trade, in which

Fig 1 - *Castle style playground in Castle Park (photo by author)*

Bristol played a key role that goes serially unaddressed, if not unacknowledged. The space now called Castle Park was purposefully created as a shopping district in the 17th century using material from the demolished castle, a literal refocusing of England's energies from internal politics to global domination and capitalism. Thereafter, as the central shopping area of one of the most important towns in the entire North Atlantic area, the connection between the site, commerce, colonialism and the slavery that was central to that process is the key narrative of the site and Castle Park one of the most important post-medieval sites in the world, at least symbolically.

The other narrative ignored in 1993 was that of the demolition of the Victorian centre and the creation of the space itself. The area was, in 1941, the heart of the city, and the decision not to redevelop it and instead to follow international modernist influences (and the opinions of certain commercial retail chains) was hugely unpopular. This conflict is largely forgotten, at least enough for recent proposals to re-establish shopping on the western end of the site to be met with protest at the disruption of public space.

What is clear though is that in 1993 art, regardless of the skill and integrity of individual artists, was used to erase problematic narratives from the material of the city by making another overt, equally problematic in some ways, but rather altered by the soft lens of 500 or so years distance and a relative lack of contemporary relevance.

Case study: Cabot Circus

The shopping centre, Cabot Circus, opened in central Bristol in 2008. It has been the focus of a public art scheme, including a large number of artists and an artist-in-residence, Neville Gabie, on the site over three years. Although some of the works of this scheme remain to be seen today (although without much signage), much of the work was both temporary and focussed on the construction period *within* the boundary fence of the development, i.e. it took as its public the people building the shopping centre, not its (future) users; Dan Perjovschi brought his drawing to the walls of the workers' canteen; Marie-Jeanne Hoffner created photographs of the work-in-progress and had them incorporated behind the plasterboard of the finished rooms; Dryden Goodwin and Neville Gabie both created works focussed on the individual people building the site, in the form of sketches incorporated into the final building and the collecting of songs and recipes from

people's home countries. Other works were more permanent and make comments on the contemporary context of the work, such as Neville Gabie's *A Weight Of Stone Carried From China For You or Susanna Heron's Roche*, an attempt to define an certain Bristolian quality of light and introduce it to Cabot Circus in the form of etchings in glass and bronze.

Although many of the works of the Cabot Circus Public Art Scheme are not there to be seen and were relatively little documented, I was able to follow them in some detail through the course of my doctoral research and interviewed a number of the artists. What was particularly clear from speaking to the artists working within the site and producing temporary work was that they tended to be more engaged with the site, as if temporariness and short-duration were conducive to contemporary relevance, understandable if works are not necessarily intended to last in the landscape.

Fig 2 - *Signage for Neville Gabie work alongside a competing narrative for the same space (photo by author)*

Archaeology is always meant to last, in that almost its entire purpose is to create enduring records of things that have gone. What the temporary works of the Cabot Circus scheme suggest is that there is room for different approaches to the contemporary built environment that produce things that are temporary, or performative, or relatively private, but that still demonstrate a deep engagement with context. As archaeologists come increasingly to work at the creative end of development projects, it may be possible to develop forms of archaeological engagement that are specifically of the moment (as opposed to looking to understand specific moments and record them). Archaeology can also learn to develop the confidence to produce work that is site-specific in the sense that it exists at a moment in time and requires the interrelation of site and viewer to be fully realised. Again, this notion is 'as opposed to' those archaeologies that seek to create for general, or maximum, dissemination. Lastly, the idea that acts of archaeology can themselves be temporary and not primarily focussed on the creation of records may be of some use in developing ways of approaching people and things in the present day that is obviously different to anthropology and sociology, and that is not overly concerned with the future-thinking inherent in heritage archaeologies.

Case Study: Mimersgade, Copenhagen

The final case study to mention here is that of Mimersgade in Copenhagen. Here, after a period of high tensions between different groups within this multi-cultural, working class part of the city, efforts were made to develop a large neighbourhood renewal project that had (and still has in later iterations) public art at its core. The Sit Down! project took place in 2006 and the works included a series of benches designed by Jeppe Hein, a collaboration between a school and a local cafe, *Cafe Heimdahl*, the creation of a hilly play landscape within the area called *Bakkeland* and other projects commenting on how the neighbourhood was seen differently from inside and outside. Again temporary, perhaps the most interesting aspect of this work was that it was developed after, and partially in response to, a riot. Here we see, in part, a use of public art as mitigation, again regardless of the integrity of individual artists. Although the

Fig 3 - *Cafe Heimdahl, part of Sit Down!, Mimersgade, Copenhagen (photo by author)*

pieces included in Sit Down! all work to make the neighbourhood a better place through enabling interaction between people and between people and the landscape, it remains essentially reactive. Also within the Mimersgade area, and succeeding Sit Down!, an area known as the Super Wedge (*superkilen*) has attempted to continue the 'artistic presence' in the area. Although it has incorporated a number of different projects in recent years, it is currently occupied by a collection of items of street furniture collected from around the world. So, we have a children's climbing frame from Japan and a bin from England, next to a lamppost from Germany and a bench from Mexico, and so on.

The effect is to make what has long been an overlooked or unused space a place to spend time, although it is also incoherent and, after initial surprise, largely uninteresting. In the centre of the space, filled as it is with all of the world's tables and benches, is a circle of concrete temporary fencing footings, a sitting place created by local people who, it is clear,

Fig 4 - *Arrangement of concrete blocks in Superkilen, Mimersgade, Copenhagen (photo by author)*

prefer not to use what has been im posed from outside. Here, we see tension, both as a progenitor of public art and existing alongside and in opposition to it. It serves as a reminder that whatever intervention art and archaeology seek to make, and however 'real' those interventions become in a material sense, the artistic and archaeological narratives implied by their existence necessarily exist alongside others that give them little regard. To a point, this reinforces the need to develop more flexible archaeologies when approaching urban spaces, partly to make room for the unexpected, but also so that they can exist in their own right, including being temporary or private, without the hurt feelings that can come from 'failing' to conform to the procedural needs of expected kinds and levels of impact on the wider discipline.

Conclusions

This look at art and archaeology in the contemporary built environment has been necessarily brief, but has attempted to demonstrate the wide range of contexts in which that relationship, or contemporary archaeology alone, can find itself working. At present, archaeology is only beginning to move into the position to be able to have an impact on the development process at the design stage, the creative end. Artists are already there. What this short paper has tried to show is that archaeology too has the potential to be of use in the creation of new urban 'things'. It can bring an understanding of the relationship between people, places, things and politics over time as manifested in the present day that is not as immediately to other disciplines, with their particular expertise focussed elsewhere. What archaeology brings to these contexts is a deep chronological understanding of what exists and a detailed contextual understanding of the value and significance of individual elements within a wider built environment. These perspectives can be of great use in the formulation of neighbourhood Plans and other similar documents, but also more generally in developing more nuanced critique of architectural and planning proposals. There is certainly potential for archaeologists to work differently within architecture and planning, especially if it develops new working methods and philosophies more appropriate to engaging in certain contemporary contexts, as outlined above, including flexibility and temporariness.

The New Rules For Public Art can easily be those of the new urban archaeology too and help us move towards being better at using archaeology to do good things for people. Although developed here is a way intended to show as much of the working as possible, these ideas are not abstract, not just a theory. Slowly, archaeology is beginning to work in the kinds of contexts discussed here and this paper aims to begin a discussion about taking the next steps towards creating a new mode of archaeological engagement uniquely suited to the task at hand.

Further Reading

Art and the Public Realm Bristol http://www.aprb.co.uk/
Cabot Circus Public Art Scheme http://www.insitearts.com/projects/cabot-circus-bristol1/
National Planning Policy Framework https://www.gov.uk/government/publications/national-planning-policy-framework--2
Planning (Listed Buildings and Conservation Areas) Act 1990 http://www.legislation.gov.uk/ukpga/1990/9/contents
Planning Policy Guidance 15: Planning and the Historic Environment
http://www.planningportal.gov.uk/planning/planningpolicyandlegislation/previousenglishpolicy/ppgpps/ppg15
Planning Policy Guidance 16: Archaeology and Planning
http://www.planningportal.gov.uk/planning/planningpolicyandlegislation/previousenglishpolicy/ppgpps/ppg16
Planning Policy Statement 5: Planning for the Historic Environment http://webarchive.nationalarchives.gov.uk/20120919132719/www.communities.gov.uk/archived/publications/planningandbuilding/pps5
PPS5 Practice Guide http://www.english-heritage.org.uk/publications/pps-practice-guide/pps5practiceguide.pdf
Sit Down! Mimersgade, Copenhagen http://www.publicartonline.org.uk/casestudies/regeneration/sit_down/
Standards and guidance for the archaeological investigation and recording of standing buildings and structures http://www.archaeologists.net/sites/default/files/node-files/IfASG-Buildings.pdf
Superkilen http://www.superflex.net/tools/*superkilen*
The New Rules of Public Art http://publicartnow.com/2013/12/12/the-new-rules-of-public-art/
Town and Country Planning Act 1990 http://www.legislation.gov.uk/ukpga/1990/8/contents
Understanding Historic Buildings: a guide to good recording practice
https://www.english-heritage.org.uk/publications/understanding-historic-buildings/

Digs, data collection and dissemination - any chance for wider collaboration?

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Abstract: The article reflects the prevailing practice and relationship between archaeologists, developers, city planners and officials in Finland. It aims at raising a discussion of a new kind of collaboration, which would integrate archaeology with city planning and construction activities creating a new kind of townscape and city identity.
The focus of this paper is on the recent excavation project carried out in the city of Lahti in the southern part of Finland. The project included close co-operation with archaeologists and the construction company, since the construction of the site began while the excavations were still going on. The excavation project included also communication with the public and the media, which turned out to be very successful. In this paper, I am also presenting some ideas how archaeology and findings from the site could be incorporated in the construction of the site and how the history of the town could be presented in the townscape of Lahti.
This project proved that besides getting and disseminating new information about the past, archaeologists can affect the opinions of the public and change the conceptions of the town and city identity. History should not be stored in museums and archives only, but be a visible part of the townscape of today. This needs wider collaboration between archaeologists, architects, city planners and town officials – the interest of the city dwellers exists already.

Keywords: Archaeology, excavations, archaeologist, architect, developer, construction, city planning, city of Lahti, Finland

The role of archaeology and archaeologists in the city planning in Finland

In general, the role of archaeologists in the city planning in Finland has limited on excavations in the areas where archaeological remains and layers are to be destroyed because of construction activities. The excavations can be characterized as single projects where the information about the past has been gathered from layers and transferred to the archives and collections. Systematic city surveys, which have been made in Finland since the 1980s, are aimed at helping developers, constructors in the city planning. (HIEKKANEN, 1981; 1983; 1990; PIHLMAN & KOSTET 1986)[1]. Furthermore, the National Board of Antiquities is keeping an open record of all archaeological remains, sites and cultural landscapes[2]. In practice, the role of archaeologist beyond research is easily encapsulated to carry out the digs or preserve the cultural landscape as obligated by the Antiquities Act[3].

In Finland, nearly all excavations are rescue or commission excavations connected with construction activities and land use. In urban environments, only a few excavations have been carried out purely on the research basis. There can be great differences between different excavations depending on the town and the organization responsible for excavations as well as different parties involved in the project including individual archaeologists and their way of realizing the project.

From the 1990s onwards, the number of urban excavations has increased in Finland due to construction activities in many towns. There have been many large excavations especially in Turku, which is the oldest town of the present-day Finland founded in the turn of the 13th and 14th century. (SEPPÄNEN 2012: 12–16, 941) Another town where archaeologists have been engaged with fre-

Fig. 1 – *The location of Lahti, Turku, Vyborg, Helsinki and Oulu mentioned in the text. The centre of the village of Lahti was situated in the midpoint between Turku and Vyborg, which were two important towns of Finland from the 14th century onwards. (Copyright: Liisa Seppänen / http: //upload.wikimedia.org/Wikipedia/commons/1/16/Finland_1996_CIA_map)*

quent excavations and construction works is Helsinki, which was first founded in 1550 and became the capital of Finland in 1812. Among the top three towns of archaeological activity is also Oulu, which was founded in 1605 and which is today forming a lively business town in the northern part of Finland (Fig.1)(SEPPÄNEN 2012: 44).

There has been a substantial increase in urban archaeology and excavations in Finland in the past 20 years. However, the co-operation between builders, city planners and archaeologists is normally very limited and the roles of different parties have remained very unambiguous. Usually, the excavations are carried

out on the site before the construction activities, and consequently they are included in the construction project. However, archaeologists do not have a possibility to participate into the planning of the construction projects or land use in the area. Their responsibility is either to protect or excavate the site. In practice, the construction plans are already made when archaeologists come into the picture. In most cases, archaeologists are still considered as an unavoidable drag for the construction and development of the town. However, they are tolerated, since the cultural heritage is protected by the Antiquity Act and thus their work is justified and unavoidable. After the excavations, archaeologists are to release the site for construction and to continue their work in analyzing, reporting and researching the excavated material. Normally, the co-operation between archaeologists and developers ends when the archaeological fieldwork has been carried out and the construction of the site can begin. Archaeological excavations generally arouse interest among townspeople, who sometimes have a possibility to visit the site under guided tours or even participate in excavations as volunteers or against a little payment as a compensation for the insurance and guidance to the work. In most cases, the citizens do not get much information about the findings, remains and history of the area during or even after the excavations. The results and findings of the excavations are generally presented in the report and articles meant for other archaeologists and scientific research. The public meets the past in museum exhibitions displayed in glass cases and in representations of a different kind.

Excavation and construction project in Lahti

In 2013–2014, I was engaged with a large excavation project in the city of Lahti, which is not very famous for its history or urban archaeology. For many, Lahti is one of the youngest towns of Finland, whose reputation is based on winter sports, design as well as clothing and furniture industry. However, the place has a history dating back to many centuries. The town was preceded by the village, whose history dates back to the 15th century. The town is situated in the southern part of Finland, c. 100 km north of Helsinki. Interestingly, the centre of the town, the present market square of Lahti, is situated in the midpoint between Turku and Vyborg (Fin. Viipuri), which were two important towns of Finland from the 14th century onwards (Fig.1).

The village of Lahti was situated by an important road (Ylinen Viipurintie) leading from Turku to Vyborg, which was probably one of the reasons for the importance of the village (Fig 2). In May 2014, the market square of Lahti was surrounded by a solid fence and a large construction project was launched with archaeological excavations. The aim of the construction project was to build a parking lot underneath the market square down to nine meters and consequently, all remains of the village were to be excavated from the area.

The earliest mention of the village comes from 1445 and according to historical sources in the 1520s the village had consisted of 23 houses. The village of Lahti flourished especially from the 1860s onwards. However, the boom of the village remained brief since the village was destroyed in a fierce fire on the 19th of June in 1877. Soon thereafter, the remains of the village were levelled and a town was established on the site with a large marked square covering the heartland of the old village (Fig 2) (AIRAMO 1999: 53–54; HASSINEN 1999: 20–21, 32–35; TAKALA 1999:41–45). The earliest history of the village is quite unknown due to lack of historical sources. Consequently, thus there were many expectations of the excavations and high hopes especially for revealing some information about the foundation time and the earliest history of the village. Probably, this was one of the reasons, why I was hired for the project as a leader of the excavations, since in Finland I am noted for carrying out large excavation projects especially in medieval and post-medieval urban environments. In Lahti, the excavation area covered 12.500 m^2, which made it the largest area excavated in Finland by now.

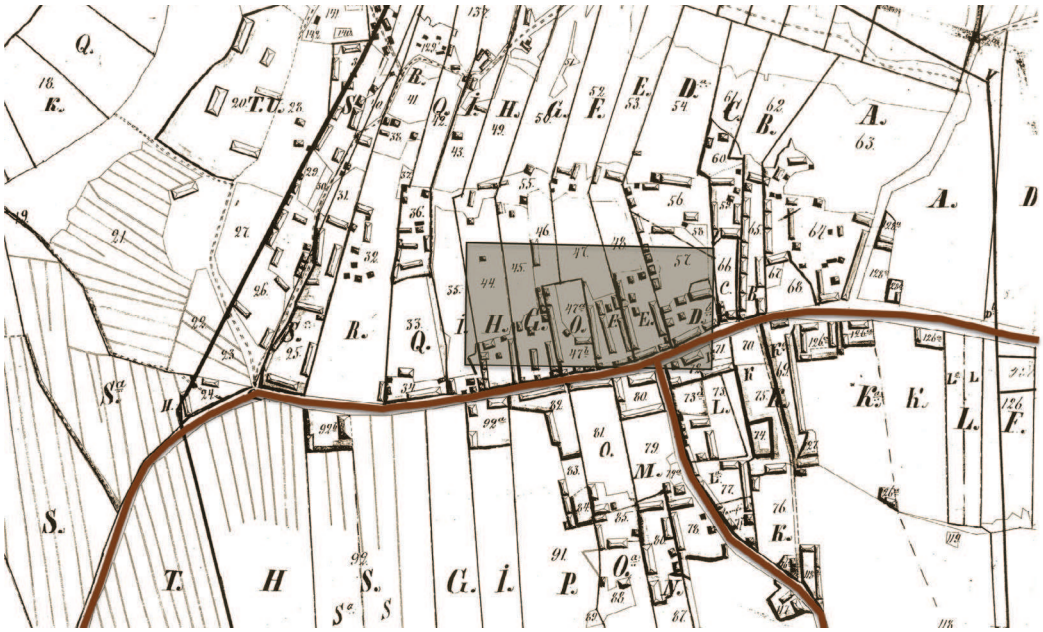

Fig. 2 – *The location of the excavation area marked on the map from 1870 (redrafted in 1876) illustrating the village of Lahti. The market square is situated at the crossroads of two important roads leading to the east, west and south. (Copyright: Kansallisarkisto, Helsinki, Takala 1999: 40 & Liisa Seppänen)*

We started excavations in late May and finished the fieldwork in mid November 2013 after six months of intensive digging and documentation. The construction of the parking lot started already in the summer 2013 when we had finished our work in one of the sub-areas and released it for the construction company. The construction work has continued ever since with the aim of opening the parking lot to the public on the 1st of May in 2015. The construction of the parking lot as well as the archaeological excavations were commissioned by the city of Lahti. The local City Museum was asked to carry out excavations and consequently it was responsible for arranging and budgeting the excavations. The museum employs permanently only one archaeologist, whose interest and expertise are focused on prehistory and especially on the Stone Age. Consequently, a project of this size needed to hire a group of archaeologists with an experience and insight in urban excavations, methods and material. (Fig. 3).

Results of the excavation

In short: I did not work up the expectations. I, known as the medieval archaeologist of Finland, did not find any traces whatsoever from the earliest history of the village from the 15th century or from older periods. The earliest finds of the site can be dated to the 16th century, but on the whole, the find material from the 16th to the 18th centuries is quite limited and few in numbers. Instead, we found a destroyed village from the late 19th century with plenty of finds and remains of different constructions. All in all, we were able to document c. 30 buildings, seven cellars, eight wells, remains of two roads and a garden as well as other constructions including plot borders, workshops, fences etc. One of the most interesting finding was a shop with a collection of the merchandise, which was sold at the shop when the fire destroyed the village in June in 1877.

We documented everything as well as possible within the very tight timetable and salvaged all the material regardless of the age of the find and context. The material covers the periods from the 16th century until the early 20th century, but the majority of the finds comes from the end of the 19th century, from the 1860s and 1870s. All in all, there is c. 1408 kg of

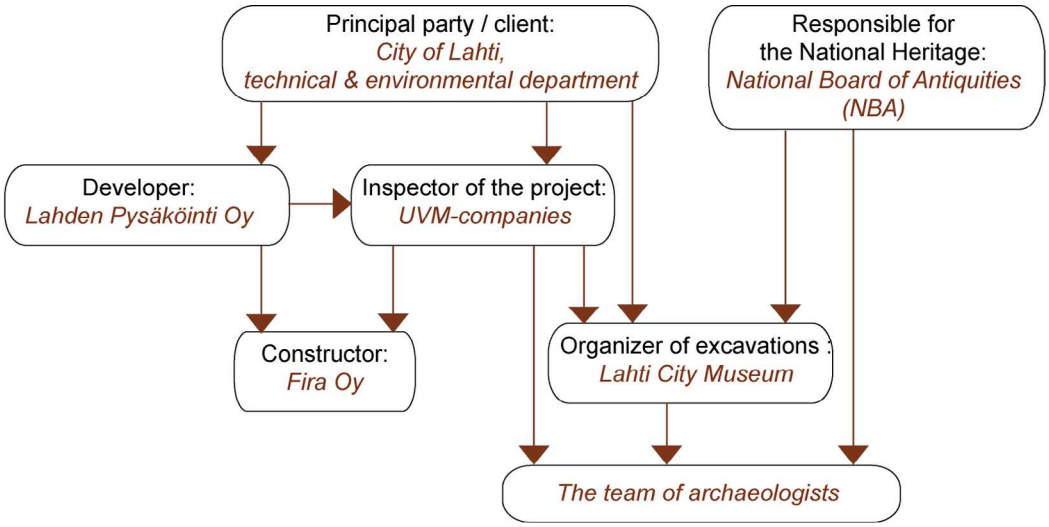

Fig. 3 – *The simplified organization chart of the construction project including archaeological excavations (Copyright: Liisa Seppänen).*
Fig. 4 – *The find material contains e.g. plenty of ceramics, which could be used for decoration and artworks (Copyright: The Lahti City Museum/Photo library).*

different kinds of finds from pins to bombs. The material was divided into two main categories: A) the ones to be archived and saved in the museum collections and B) the ones that can be removed, reused and destroyed after listing and documentation (Fig. 4). The majority of the artefacts (86%) belongs to the category B and only c. 14% of the finds are to be saved in the museum collections. The bones are not included in these calculations, but the majority of them will be included in the category B. The number of listed finds exceeds 61.000. However, it does not equal to the real number of finds, since there are many finds (especially in the category B) that have not been counted individually, but as a group of one finding only. To give some sort of concept of the documentation of the site and excavations, a few other figures can also be presented: There are more than 3400 archaeological contexts, 15.000 photos, 130.000 measurements, hundreds of maps and 750 samples for different kind of analysis. All in all, the material offers many possibilities for the research as well as for the popularization of the history and archaeology.

Communication and enthusiasm of the public

When I started the project, I was told by the archaeologist in the Lahti City Museum that I am not going to be liked and welcomed by everyone in Lahti. This was not because of what I am, but because what I represent. I, as well as the whole team of archaeologists, represented the project, the construction of the parking lot, which had been a very contested issue among townspeople and decision makers in the town for a long time. Our appearance to the square launched the disputable project making it visible and concrete. The Lahti City Museum had carried out minor excavations on the market square in the 1990s because of municipal engineering repairs and at that time the experiences of my colleagues of the encounter with the public had not always been positive.

The museum had a good reason to assume that this might be the situation again with even a more hostile reception (AINASOJA 2013; AL-

VIK 2013, TAKALA 2013).

I decided to go public with our work as much as possible. The direct contact with the public was however very limited, because the whole market square was surrounded with a high and solid fence due to security reasons. The length of the fence was more than 500 m, but the townspeople were able to follow our work on the other side of the fence through three peepholes covered with plastic. At the beginning of the project, we opened Facebook Pages where we told about our work, the finds and history of the site from different perspectives on a daily basis. Although, we were not able to advertise our Pages, we became very popular and got more than 1570 friends. Furthermore, we were followed daily even by c. 2000–4000 people every day from 22 different countries with 11 different languages[4]. In comparison, the Facebook Pages of the Archaeological Department in the National Board of Antiquities, who is responsible for all kinds of archeological field-work and is continuously carrying out projects in Finland has 1253 friends, most of whom are archaeologists[5]. We were not able to hire anybody who would have taken responsibility for communication and public relations and consequently the pages were updated by me and two archaeologists in my team. At the beginning of the project, I was also thinking about sharing our work in Twitter and webblog, but due to lack of time and resources we had to restrict the use of social media for one format only.

Besides daily updatings in the Facebook, I reported about our work each week to each party involved in the project (city of Lahti, contractee, inspector of the project, developer, contractors, Lahti City Museum) and the local media. The reports were also published on the web pages of the Lahti City Museum. Weekly reports resulted in several media contacts every week, even up to ten interviews per week. Naturally, all this took a lot of my time, but since the starting point and atmosphere for our work was not merely positive, I considered it very important to try to influence the attitudes of the people and to arouse their interest in their own history and past. I emphasized the importance and uniqueness of the site and the research possibilities that this excavation project opens up. I did not have to exaggerate. Firstly, the excavation site and the project were the biggest ever in Finland. Secondly, this was the first time when a village of this age was excavated in Finland. Thirdly, the site offers different kinds of possibilities both for the research and for other kind of collaboration. On the basis of the feedback, the people in Lahti became interested in local history and eagerly followed our work behind the fence. It turned out that many of them liked and sympathized us. The following comments were not rare: “These excavations are the best thing that has happened for a long time in Lahti.” “Even though I do not like the idea of having a new parking lot, I am so pleased that this project brought along these excavations, which make the history of Lahti visible and comprehensible”[6].

Although the excavation area was closed for the public, the people were able to visit the site on one Saturday in August. Three archaeologists of my team gave guided tours inside the fences for three hours for 250 people. This day proved that the interest in archaeology was evident and real among ordinary townspeople, too.

In the autumn 2013, the schools of Lahti and the Lahti City Museum decided that all pupils who have just started their studies in history (the 5th class in primary schools) are given a possibility to hear about our excavations on the site. The pupils were not allowed to visit the site, but they were able to follow our work behind the fence by one of the peepholes where one archaeologist of our team told them about archaeology and our work, and presented them some of the findings from the site. Each visit took 30-45 minutes and there were 43 visits in total within one month.

It was not only pupils and citizens of the Lahti who were informed about our work. Besides my weekly reports sent to each party involved

in the project, I had a meeting with the representatives of the developer, constructor and inspector of the project every week when my principal task was to inform others about our timetable and progress of the project. These weekly meetings plus unofficial meetings and contacts in between offered a possibility to explore interest and possibilities for wider co-operation between archaeology and the construction project.

Ideas for presenting the archaeology and history of the site

Already at the beginning of the project, I came with an idea that the history and archaeology of the site could be included in the new construction and presented on the reconstructed market square as well. The new pavement of the square could contain and disseminate some information about the history in this area. For example, with different kinds of paving stones one could mark the plot borders or the location of the buildings on the site as they were before the final destruction of the village. Since the majority of the finds (bones, metal waste, nails, glass sherds, ceramics, wooden waste and slag) will not be archived and saved after listing and analysis, I suggested that instead of destroying the material it would be given to local artist/-s, who could make up an installation or work of art to the square as a symbolic expression of the history of the village. A part of the find material could be included in the constructions of the parking lot and its entrance as decoration and artwork on the walls and other surfaces. Since the digging of the parking lot reached the depth of nine meters, it was not possible to save any of the remains in situ. However, a part of a stone cellar was reserved for a possible reconstruction. Actually, the stones of this cellar were saved on the special request by the project leader of the contractee, who was in charge of the construction work of the parking lot (Jouni Kanervo, Lahden Pysäköinti Oy). Although, this was the first construction project for him including archaeology, his attitude to our work and co-operation was highly positive and he became very enthusiastic about the idea of displaying archaeology and evidence from the site in the parking lot. He would have wanted also wooden constructions to be saved for this purpose, but due to possible conservation costs and preservation problems he satisfied himself with the stonewall of one of the cellars.

The documentation material of the excavation project comprises a wide variety of photos about the fieldwork, constructions and finds, which could be displayed on the walls of the entrances and in the parking lot (Fig. 5). Naturally, the location of buildings, wells and other constructions of the village could also be displayed underneath a square with one way or another combining art and archaeology. One way of bringing the past to present and commemorating the village of Lahti, the life and the people who lived in this area, would be the re-introduction of plot names into parking areas. Normally, different parking areas are identified with symbols or / and numbers. Instead, in Lahti the old names of the plots could be used, on both floors of the parking lot, e.g. “Ylä-Juhakkala and Ala-Juhakkala, Ylä-Pekkala and Ala-Pekkala”. Many of these names and families are still remembered among the townspeople in Lahti, since the descendants of these families still live in Lahti. During the excavations, I was contacted by some of these people, who wanted to share the sto-

Fig. 5 – *Digging can be done in different ways. An archaeologist on a leash figuring out the contours of a cellar (Copyright: The Lahti City Museum / Photo library).*

ries related to these families with me since they felt that finally somebody is interested in their history and brings up the history of these families who once lived and experienced the dramatic change of the village and the establishment of the town. Personally, I would like to pay this tribute to these families of the past. I would like to give the people in Lahti a contact with the past in different ways also under the square, where the history and remains of the village and its people were hidden until they were revealed in this project.

On the market square, there will be two ventilation cabins comprising lifts and staircases. Also these cabins could contain some information about the excavations and the history of the village in textual as well as in visual form. Furthermore, the cabins could even contain a small display of excavated artefacts. This is something that has been done in the city of Turku in two buildings, which were erected on excavated sites. In the cabins, as well as in the parking lot, some of the material, which is doomed to destroyed, could be utilized as a decoration and artworks on the walls and other surfaces, which would give this material a new life in the area where they were once discarded.

Situation at the moment

The excavations ended in the middle of November 2013 (Fig. 6). The post-excavation period with sorting out and analyzing the data, listing the finds and photos and drawing the maps followed immediately thereafter. The project for archaeologists (including myself) terminated officially according to the original plan in April 2014, but the report of the project is still unfinished. The Lahti City Museum is responsible for concluding the post-excavation work and maintenance and storage the material. In July (2013), in the Lahti City Museum, a small exhibition was opened, which was related to archaeological work in general as well as to this project presenting some finds from the site.

The Lahti City Museum, i.e. the archaeologist in charge for archaeological activities, has suggested that I would continue with the project as a part-time consultant and take care of the analysis and conclude the excavation report for the museum. However, I was also told that it is beyond my concern to discuss the presentation of the results of the excavations and the use of the archaeological material. The way the material of these excavations is being used and presented is exclusively the matter of the Lahti City Museum, who owns the rights to the material at the moment (TAKALA 2014a & b).

Before I was given this restrictive notice, I had already discussed the possible co-operation with all parties involved in the project and expressed my ideas how the archeology and history of the village could be presented inside the parking lot and on the reconstructed market square. This was something I found very natural, since I was the one who was in charge of the excavations and aware of the material and all the possibities it entailed. All other parties apart from the Lahti City Museum have expressed they interest for co-operation as a separate project in the near future. During the project, I presented my ideas also to the responsible teachers of Lahti University of Applied Sciences, with whom I had another kind of co-operation during the excavation project. At that time, on my initiative, the co-operation included the making of archaeological database for our project as well as creating 3D-models of the area under study. The Lahti University of Applied Sciences has specialized in designing, new technologies and communication. The co-operation with the local school would have been most appropriate and beneficial for all parties. The teachers eagerly welcomed my ideas about the possible continuation of the collaboration we had all found very successful and inspiring.

During the excavation project, I spoke about my ideas and hopes openly in the meetings, seminars and sometimes also in the media. The reception of my ideas was very positive among my colleagues, city planners, developers, constructors, and most importantly among the people in Lahti. I was surprised to discover that the only party unwilling to co-operate and make use of my ideas was

Fig. 6 – *The excavation area in the end of the fieldwork period when the final subarea is still unfinished (in the upper right corner of the picture). The whole area was surrounded with a high fence decorated outside with paintings and advertisements. The townspeople were able to follow the work behind the fence through a couple of peepholes covered with plastic (down right in the picture)(Copyright: The Lahti City Museum / Photo library).*

the local museum and a person in charge for archaeological activities and collaboration.

Although, my contribution to the discussion and collaboration is banned by the museum, I hope that the ideas I have presented will be used in one way or another. I geniously believed that this project could have included a new kind of collaboration between different parties in combining the history and archaeology with contemporary construction. The abundant material from the excavations, which is not to be stored but will supposedly be exterminated by the museum, could easily have been used in a new way in the urban space and townscape of this city. In this case, the destroyed village, which once was covered with the market square of the town, could be revived and represented under as well as above the market square in the form of artworks, visual representations, names and information transforming the hidden past materiality of the site as the integral element of the townscape of today. Lahti is, however, only one case-study and one project where collaboration could have been possible. Parking lots and market squares of modern towns constitute big spaces, which are visited by different kinds of people, but which usually lack local identity. In my opinion, the historical layers and the past materiality of towns could and should be included in the construction and on-going development of urban environments. In Finland, the predominant practices and conceptions about the role of excavations and archaeologists maintained by the organizations responsible for excavations do not support this idea. Large urban excavations, like the ones in Lahti, bring the past as a part of the townscape of today during the excavations as pop-up performances attracting lots of attention. After the excavations, the material and information of the past, is isolated from its original context, stored in boxes and archives, and displayed in museum exhibitions and publications for those who purposefully seek the information about the past. This is exclusive practice controlled and maintained by the office-holders responsible for the protection and dissemination of the cultural her-

itage. Collaboration and new ideas need to be supported and welcomed by all parties and individuals involved in the project. Archaeologists, as the experts of past and the material, play a key role in this co-operation.

Understandably, there is a lot of material that cannot be displayed in public or used in artworks or decorations. However, when the decision is made between the destruction and transformation of the material, would it not be better to give a try to make something out of it that will commemorate the past and make a connection between past and present? The past history of the town with its people who once lived, built and transformed the town does not end up as a part of the contemporary town in reports, documents, publications or museum exhibitions. By bringing the stratified history of the town visible in the townscape of today we could build a bridge from past to present instead of isolating these two from each other as a normal result of excavations.

The presence of the past, the visibility and tangibility of history shapes the images and conceptions about the town. Systematic and planned city branding is used to make the towns more attractive and competitive compared with others. Conceptions of Lahti as a town of winter sports, design and industry are based on activities in the town, which are supported by marketing and investments in these sectors. (RAINISTO 2000) It would be interesting to know, would the presence and visibility of history affect the identity of the town and its people in a different way.

Notes

[1] http://www.nba.fi/fi/kulttuuriymparisto/arkeologinen_perinto/historiallisen_ajan_perinto/kaupungit/kaupungiarkeologia
[2] http://kulttuuriymparisto.nba.fi/netsovellus/rekisteriportaali/mjreki/read/asp/r_default.aspx
[3] http://www.finlex.fi/fi/laki/alkup/1963/19630295
[4] https://fi-fi.facebook.com/Lahdentorikaivaus2013
[5] https://fi-fi.facebook.com/arkeologisetkenttapalvelut
[6] e.g. https://fi-fi.facebook.com/Lahdentorikaivaus2013

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Arezzo and its archaeological legacy, a matter of understanding and designing

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Abstract: The project proposal is articulated through the design of the new entrance to the Museum "Gaio Cilnio Mecenate" and the requalification to archaeological park of the Roman Amphitheatre in Arezzo. The strategic location of the city in the economic, commercial and defense together with the known fertility of these lands were the main causes of its foundation. The Etruscan and Roman city of origin is visible in the graphs and in arrays of tissue that have been preserved over the centuries by the overlapping of the elements. The Amphitheatre of the Augustan era, from the early excavations occurred in a serious situation of conservation; in the fourteenth century part of the remains were given to the foundation Monastery, Archaeological Museum today. The complex is located south of the city in a green area enclosed at the center of a densely built block . The project develops a new design of the park, a continuity between the town and share the arena, an archeological walk, a rational distribution of the rooms of the museum displays for the collections, design of cafe and bookshop, and a new architecture that contains the main entrance to the museum. The analysis of the past has pushed the project to the status of synthesis with the ruins; the architectural principle is that of a mimesis explanatory, but in fact allows us to express feelings that those ruins can give. In doing so the old becomes the new intervention. The archaeological highlights real critical situations; adaptation to safety standards and the removal of architectural barriers have the opportunity to propose an architecture of both functional and formal quality. The proposal is to make the park, the Amphitheatre and the Museo easily accessible to the public, allowing the city to reclaim this place not only as an image evocative of the past, but with daily use, a necessary condition because the architecture can be fixed scene of human life.

Keywords: Arezzo, Amphitheatre, Museum, Archaeology, Requalification, Architecture

Arretium vetus

The strategic location of the city in the economic, commercial and defense together with the known fertility of these lands were the main causes of its foundation. The Etruscan and Roman city of origin is visible in the graphs and in arrays of tissue that have been preserved over the centuries by the overlapping of the elements.

The Amphitheatre of the Augustan era, from the early excavations occurred in a serious situation of conservation; in the fourteenth century part of the remains were given to the foundation Monastery, Archaeological Museum today. (Fig. 1)

The excavations and the remains have determined, with some accuracy, the size of Architecture: the Amphitheatre measuring 121.40 metres along the major axis, while the minor axis is 92 metres; the respective size of the arena are 42,70 and 71,90 metres (Fig. 2). The complex is located south of the city in a green area enclosed at the center of a densely built block.

Project

The project proposal is articulated through the design of the new entrance to the Museum "Gaio Cilnio Mecenate" and the requalification to archaeological park of the Roman Amphitheatre in Arezzo. (Fig. 3)

Il tanto che si vede è già di interesse grandissimo per gli studiosi: ma non esito a dire che quanto si vede potrebbe ben permettere di arrivare alla ricostruzioni, immateriale senza pretese, di una piccola parte dell'edificio al solo scopo della istruzione dei visitatori, per illuminarli sul significato dei ruderi. (Aretini, Ascanio (1931*). L'Anfiteatro di Arezzo il Parco Archeologico e il Museo Etrusco Romano*.

Fig. 1 – *View of the remains of the amphitheatre excavated between 1926 and 1931.(Foto Club Chimera).*

"Atti e Memorie dell' Accademia Petrarca di Arezzo XI", 311).

Area

Quendam locum, qui vocabatur parlagi, positus in civitate Aretii, in porta sancti andre e et in contrada sancti Iacopi prope muros novo scivitatis aretii. (Aretini, Ascanio (1931*). L'Anfiteattro di Arezzo il Parco Archeologico e il Museo Etrusco Romano*. "Atti e Memorie dell' Accademia Petrarca di Arezzo XI", 308).

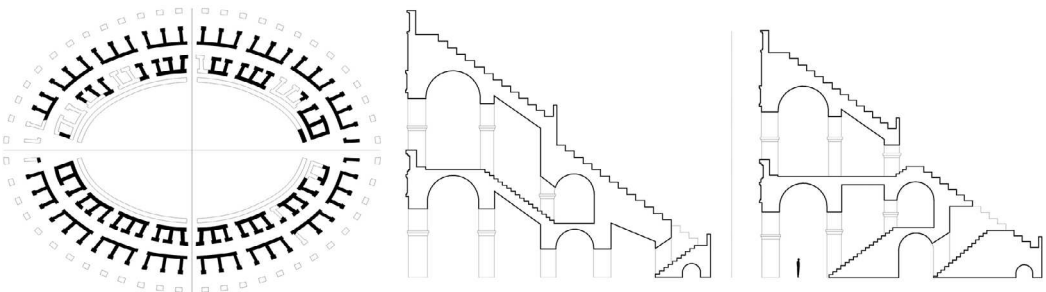
The project area of about 18,970 square meters is located within the walls of the Medici, downstream from the old town center, just below the line of the Castro; position due to the classical development of the Roman settlements (Fig 4).

The complex is located south of the city in a green area surrounded by multi-storey (multi-floor) residential and commercial buildings; It is positioned at the center of a densely built block, bounded on the north by Via Francesco Crispi, on the West by way Margaritone, east and on the south from *Via Antonio Guadagnoli / Via Nicolò Aretino*.

The block is permeable only through the two fences, the archaeological site appears paradoxically, as the back of the houses arranged in various heights.

Compared to the outer altitude of the block,

Fig. 2 – *Reconstruction*



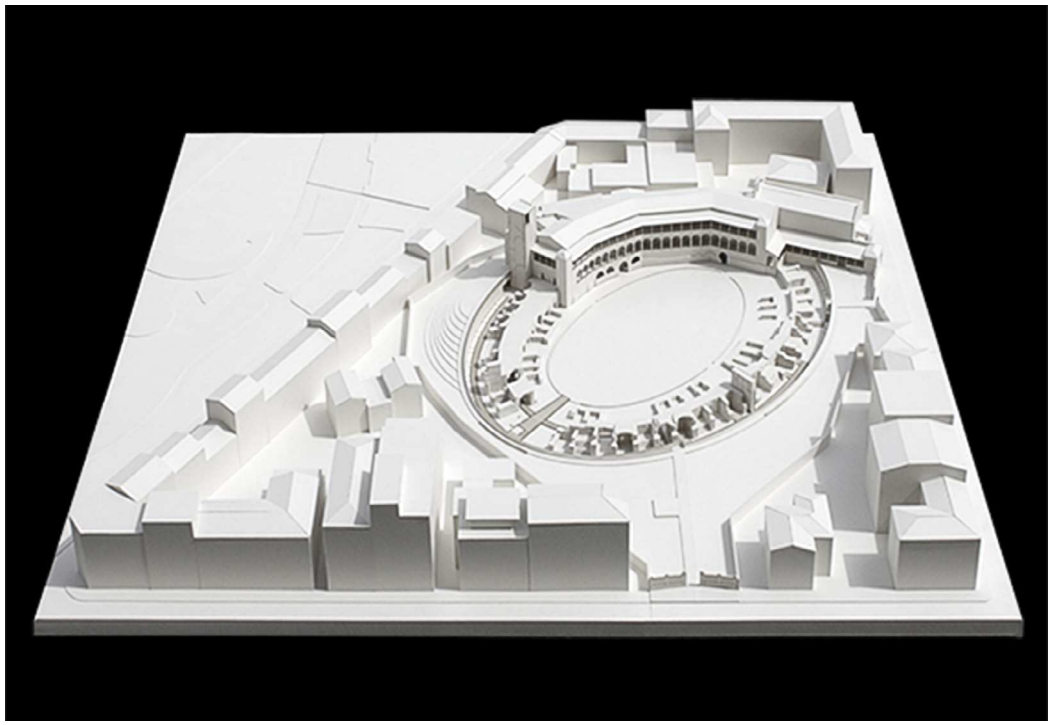


Fig. 3 – *Maquette of project area. Scale 1:200*

the park is slightly downhill and the ruins are located about three feet lower.
Since the fifties, the park is of municipal responsibility, while the remaining part of the museum complex (Amphitheatre, Monastery), is state-owned (Fig 5).

Emergencies

Only used as a "shortcut" to cross the block, the public garden is not very frequented by tourists because of the unacceptable conditions in full contrast with the importance of the monument it contains. The requalification of Piazza Sant'Agostino, a few meters north from via Crispi entrance, has transformed the park into a "urinal" of the city and into a receptacle of drug dealing, loitering and abandonment.
The archaeological site is maintained by a gate, controlled by employees of the museum that opens it whenever is required to visit the ruins; free visit needs an adequate musealization and a adequate management of the museum.
In times of events organization and control are difficult to implement due to lack of adequate management tools in accordance with the archaeological resource. The east side of the ruins is closed to the public by an additional gate and a wall, which is flanked by a volume for the toilets. The ambulacrum is currently used as a warehouse of artifacts found during the years.
The prefabricated emergency stairway arises as an element of disorder, in contrast with the archaeological context (Fig. 6).
The well-run Museum, in our opinion lacks a rational exhibition that fully valorize the ancient halls of the convent.
Compatibly with the characteristics of the historic building, the museum has been

Fig. 4 – *Arezzo*

Fig. 5 – *View on the arena just inside the entrance on Via Margaritone.*

made accessible to visitors with motor disabilities, by means of footpaths (stair lifts, lift outdoor ramps). These operations do not respond completely to a particular required architectural quality and do not have an easy and independent use within hot locals. The demands of regulatory compliance, safety and removal of architectural barriers can be an opportunity to solve the various emergencies and critical situations that the archaeological site and the museum complex have.

Fig. 6 – *Emergency staircase. On the right side of the ambulatory south-east*

Occasions

Ma in quell'arena risanata dalle acque e nei suoi resedi, in vista di quei ruderi sacri, capaci di profonda suggestione, per volontà concorde del Podestà di Arezzo e del soprintendente Minto, sorgerà il parco archeologico, aperto alla cittadinanza, alla gioventù che deve meditare sulla nobiltà della gente nostra e che la sentirà rivelarsi la grandezza dell'antica anima, parco che sarà un complemento delizioso di un' altra attrattiva aretina: il museo etrusco-romano che alfine vedremo sorgere nel poetico loggiato olivetano e nei magnifici ambienti facilmente ivi adattabili, in vista di uno dei più superbi panorami della città. (Aretini, Ascanio (1931*). L'Anfiteatro di*

Arezzo il Parco Archeologico e il Museo Etrusco Romano. "Atti e Memorie dell' Accademia Petrarca di Arezzo XI", 314).

The intention of designing within the urban park that hosts the archaeological area, the ruins of the Roman Amphitheatre and the Archaeological Museum GC Maecenas, doesn't born as usually happens in academia directives and intentions of zoning regulations, therefore normate proposals, but by a far more important and compelling reason: the need to live in continuity with the past and the comparison with the ancient city.

Designing architectures, in a historical manmade context, has a duty to enhance the existing in respect of the memory.

The archaeological complex shows real critical situations; the adaptation to safety standards and the removal of architectural barriers have the opportunity to propose an architecture of quality both functional and formal.

The needs of the city, the problems of exploitation, the situation and the knowledge of the condition of the ruins, are the reality on which comprises the proposed redevelopment of the archaeological site.

The project is part of a necessary precondition: a campaign to restore the ruins that brings to light the actual value and that enhances the structural layers of the work.

Presenting as main theme the museum display Amphitheatre and a rational redistribution of the Museum GC Mecenate, the intention is to stimulate debate around the heritage that the ruins of the Roman period represent. The birth of a museum complex composed by a park, a walkway and an Archaeological Museum would lead to a significant cultural quality offer of Arezzo. Making the ruins visitable is not enough to restore the dignity of the Site hence the location of the city. The block needs an architecture that acts as a predominant main distribution system so as to make the archaeological park and the former Monastery a system. Among the various critical points, the emergency scale, to the east of the convent, is suitable for a new rational design linking the various levels of the auditorium, the park and the museum. This architecture while performing the role of safety, rises as new entrance, but above all as a totemic element to the overall understanding of the ruins for developing such a height to reproduce the likely monumentality of the amphitheatre. The proposed rehabilitation was caught with favor by the Superintendence for Archaeological Heritage of Tuscany, in the figure of the director of the Museum, Dr. Silvia Vilucchi. This led to an exciting collaboration. Exchanges of ideas and a willingness to solve real critical issues have led to present a project that, in dialogue with the place and respecting the memory of the ruins, develops a new design of the park, a continuity between the town, the arena, the museum and the remains, a rational distribution of the museum, stands for collections, the design of coffee and bookshop and a new architecture that contains the main entrance to the Museum. The latter acting as a fulcrum for the park system and teaching work for the knowledge of the Amphitheatre structure is the main architecture of the intervention. As part of the rehabilitation program of the complex Amphitheatre, Monastery, Museum, particular attention is paid to the redefinition of the access to visit the Roman ruins.

At the moment the access is limited, as the cavea is protected by a railing that runs along the outer ellipse. The intention is to keep safe and guarded the ruins, directly accessible valuing it as "Monumentum" and placing it all 'inside of a path of knowledge. The function of delimiting the archaeological area of the park is expressed through the redesign of the elliptical external limit of the Amphitheatre. The project is, in addition to meet the existing relationship with the city and the need for enhancing the existing access from Via Crispi, way more experienced, such as the main gate to cross the park and get to the entrance tower; proposing the cloister as an open space for the city, it turns the area into a archaeological daily site. The purpose is to connect the Museum and Amphitheatre to the city and the suburbs, opening up a series of archaeological urban and suburban trails. The

crossing of the park, the access to the auditorium, the new entrance to the museum and the revitalization of the cloister as a bookshop and cafe, the museum complex transforme it into a center of connection and disclosure. The study and analysis of the past has pushed the project to the status of synthesis with the ruins; The architectural principle is that of a mimesis, which allows us to express feelings and emotions that those ruins can give.

Amphitheatre Park

The thesis provides a possible return of powers to the direction of the museum across the whole complex so as to complete the museum display area of the Amphitheatre. The ruins would find themselves included in a real archaeological park and enhancing their identity.

The silent design of the park expresses the intention to “protect” the Amphitheatre and to add it in a green container which can strengthen its presence in the city.

The urban stratification of Arezzo and the use of the auditorium as ortho, have meant that the ruin was not incorporated into the built fabric; The Amphitheatre has become instead the back of the housing, a marginal place compared to the routes and habits of citizens. The dismemberment in the early twentieth century by Engineer Tavanti have defined the cluster of houses around the complex of San Bernardo, connecting the Amphitheatre with the city; His presence, however, has always remained alien in the overall design of the buildings.

The park should contain and preserve the Monumentum that aliens itself with respect to the built around it; inside the block there is something precious, a unique work which must be returned to the dignity of ruin. The Amphitheatre is reached through two entrances, Eng Tavanti shaped arc of ellipse; architecture brick offers a plot that incorporates the stratification of the Amphitheatre.

Passing through the gates along a rough concrete pavement that leads us to the point of descent to the arena. From the Via Crispi we can head straight to the ramp down, or at the main entrance to the museum place in the new tower distribution; From the Via Margaritone we can take the stairs that lead to the ruins, enter the cloister or enjoy walks in the park.

The musealization of the archaeological park suggests a new organization of controls and safety: The project involves the construction of a pavilion, a steel frame and a clad in corten, with the function of the control room of the custodian, the initial reception informative and toilet.

The volume is flanked to the pavement behind the entrance in Via Crispi, so as to have control of the park, both of the ruins, which controls the number of visitors in the case of events inside the arena.

From the side of Via Margaritone the control is also ensured by the function of the cloister, now designed as a panoramic passage of the ruins. As the park formally embraces the ruins, the flooring perfectly defining the shape of the Amphitheatre, giving walkers a different perspective of the place and a complete visual contact with the ruins.

The park maintains its function as urban garden, a place of passage and rest, but also presents itself as an educational space, respect and enhancement of memory of the city: the continue seating in stone are drawn along the arcs of an ellipse, thus putting the ‘Amphitheatre in the center of the life of the place, where even those who stop for a short reading feels enveloped by the memories of the past.

From the inside, facing the cavea, the walk is bounded by a light parapet. This allows the control and protection of the ruins, but at the same time is an airy space where the green is in direct contact with the Amphitheatre.

The archaeological musealization area makes the architecture playing the role of educator and indirect control of visitor behavior allowing easy use of the site in various situations and in complete safety.

During events or archaeological visits the ramp placed in the axis of the gate via Crispi allows the descent to the share of the arena

Fig. 7 – *Park entrance*

for the disabled, which can easily get to the floor that marks the main entrance to the Amphitheatre.

The walkway connects the various points of interest in the archaeological park, as the cloister, the access points to the cavea and the main entrance to the museum: the paths are therefore designed in such a way that the tower has set itself as the goal of the walkway, a complement to the rooms inside the museum.

To reach the entrance level to the museum (4.60m) it is necessary to reshape the land on the east side of the area, the morphology, together with the disposition of cypress trees allows to shield a path of service adhering to the perimeter wall.

The border walls are restored so as to emphasize the boundary between the block and the park Amphitheatre. The intention is that of a rational design of the green keeping these species (Cupressus sempervirens, Pinus pinea, tilia vulgaris) and saturating the absences with new trees; cypress trees limit the perimeter, limes draw the ellipse proposing the sign of the cavea, pines take the visitor to the entrance to the arena.

The edge of the park become saturated by the presence of lavender, juniper, ornamental grasses and low shrubs that define a filter between the archaeological area and the surrounding rears. The park therefore will be a first room of the museum, a reception area that allows visitors to alienate the urban condition and prepare to view and experience of ruin.

The uniformity of the urban garden and the rationality with which they were drawn paths, stands in dialectical contrast with the decomposition and the "disorder" of the Roman ruins, which are placed in a context that respects them and puts them in a privileged and unique condition (Fig 7,8).

The archaeological walk

Non è possibile creare ex-nihilo, ma occorre trasformare tutto il passato in presente (Rogers, Ernesto Nathan (1954). *la responsabilità verso la tradizione.* Casabella-Continuità. n.202).

Reaching the 0.00 height the visitor can finally relate to the Amphitheatre.

The musealization of the archaeological site was made possible thanks to the design of the walkway that certainly can not be separated by a campaign of restoration and excavation that includes the decking to original levels.

The proposal was made already in the twenties. Drawing a path that will accompany the visitor to the ruins is essential to know the history of the Amphitheatre.

The objectives in the project follow and respect the line of action of the Charter of Syracuse. The use of removable and modular structures made of materials compatible with the ancient remains, does not affect the conservation and proper use, but it simplifies the

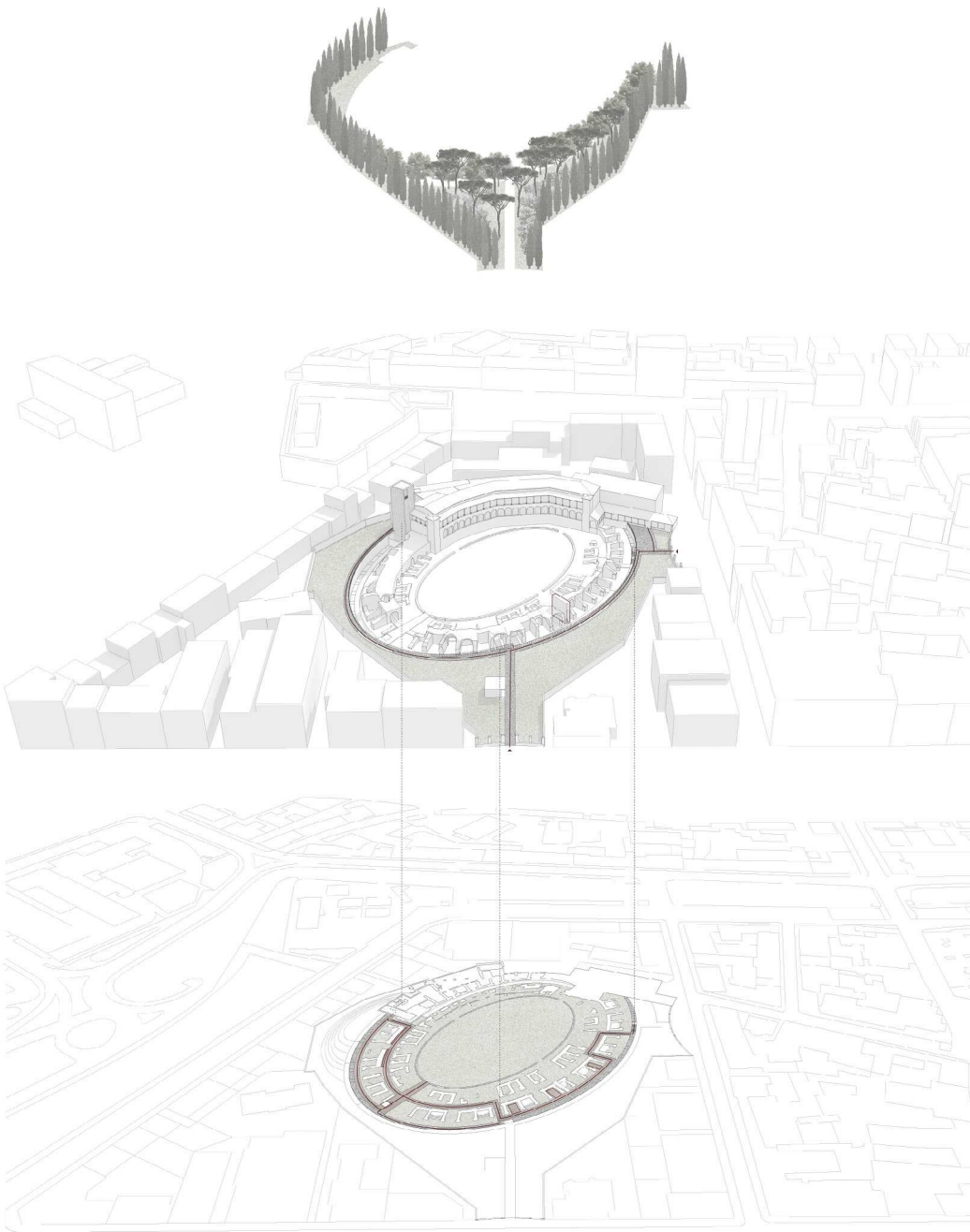


Fig. 8 – *Diagram of the park*

reading of the relationship between the landscape and the archaeological site machine.
Revitalize the past is a concept that led to the idea of making accessible, even for the differently abled, the archaeological area and accompany the walk with historical knowledge but also proposing actual size of the Amphitheatre. The critical situation and in particular the necessity of having to pull over and redefine the ruins has recommended the use of corten steel as an appropriate material for the intervention.
The walkway is composed by a network of 2 meters large paths, made with a lightweight structure and provisional made of steel strips, placed on the ground and set to 10 cm from the ground level.
The ramp-down lands in a plane that is the

entrance to the arena in the major axis; corten steel plate. It is incorporated in the only part of the original floor, composed of slabs of travertine. The idea is that of a path that starts from the greater axis. the aim is to make the visit of the ruins possible, manageable, and ordered. The beauty of the place is the diversity of perspective, the chiaroscuro and the sensations that the ruins evoke, before in the park, and then along the promenade.

he knowledge of the ruins occurs through the definition of some points of considerable importance. Starting from the side street Margaritone, the walkway looks into the cavea to reach a section of the internal ambulacrum proceeding inside the gallery you can enter in a cell where there are drains in stone that served the flow of water coming from the brick pipes.

Continuing, the walkway is the reconstruction of the stairs from the ambulacrum; the structure is a box made of corten designed on the basis of the real section that allows you to get to the quota of 4.60 meters and to relate to the real size of the Amphitheatre.

Externally the prospectus is etched with the design of the section, internally this is expressed through light cuts that shape the plasticity of the structure.

The musealization goes on inside another cell which highlights the stratification of Roman construction. Finally we cross the more preserved vomitorium that evokes grandeur with its splayed coverage. The walk defines a path, but at various points the gates are left down on the ground in the grass.

The essence of the project is the composition of a section of 24.7 meters that resolves the gap between the park and the arena, and that is the size of the cavea: the railing rods in series of steel has the role of custody, security and control, the wall clad in corten defines the two areas, the paving of 1.60 meters in stone represents the outer limit of the Amphitheatre with engravings marking the position of the columns, the lightweight walk visits the ruins and the continue seat surrounds the cavea.

The archaeological walk is completed with the outdoor exhibition hall which is distributed within the only remained portion of the ambulacrum.

From the major axis heading towards the tower you can visit the exhibition of stone collection and honorary and funeral inscriptions; this proposal is justified by the need to revitalize this part of the Amphitheatre, now closed and used as a warehouse, and to place these materials in a suitable space directly connected with the cavea.

Initially, the visitor can learn about the history of the collection through the captions and drawings made in the corten structure that redefines the size of the gallery.

Entering in the ambulacrum (3.90 m high and with a width of 3.00 m) on the left side there are exhibitors with double t section placed on corten floors , on the opposite side the fitting is made with shaped panels. The corten plate captures light illuminating the capital resting on the totem pole.

The end of the tunnel leads to the entrance of the tower, which can be reached directly by continuing the path in axis with the ramp.

The space that opens up at the base of the tower room offers one last outdoor exhibition: a well preserved cell with its layers of matter welcomes the presence of another finding of the collection; in front there is a setting that introduces the Museum at the level of restoration laboratories.

The preservation of the area does not exclude the possibility of events in the cavea; paths, pavements and furniture allow the controlled use during any shows.

The arena is surrounded by a stone seat, interrupted at the points of intersection with the axes.

The organization of events is supported by the facilitated transport of materials through the ramp and the possibility of obtaining small deposits in the spaces near the entrance recovered at zero quota . The arena is covered with clay, to highlight its ancient function but also to put it in an appropriate manner as a space able to accommodate events.

The definition of the interior space thanks to

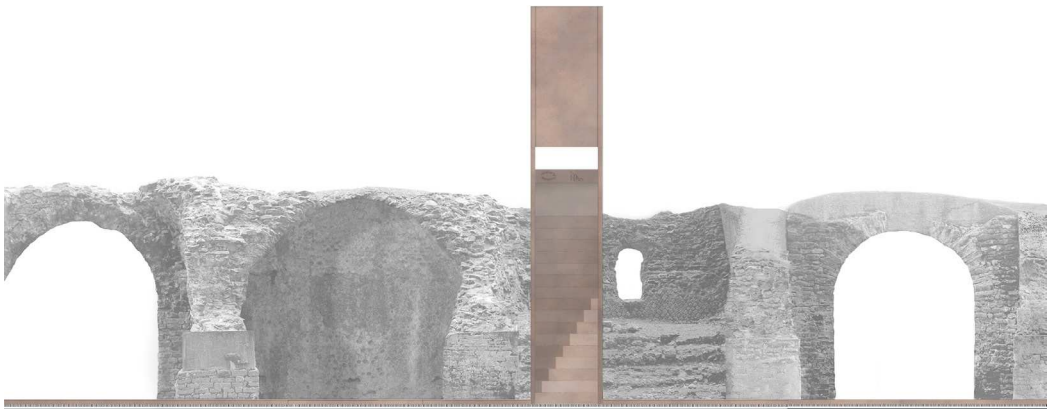


Fig. 9 – *The archaeological walk. The reconstruction of the stairs.*

the continuous seat, has the ability to put a light and to be used as a temporary stage.
The proposal aims therefore to conceive the ruins of contemporary architectural space. The ruins are reborn because designed as an experience to live fully in a dimension not only contemplative or picturesque, but as carriers of ancient, unchanging measures; tangible signs of identity of the community of Arezzo (Fig 9).

The museum complex

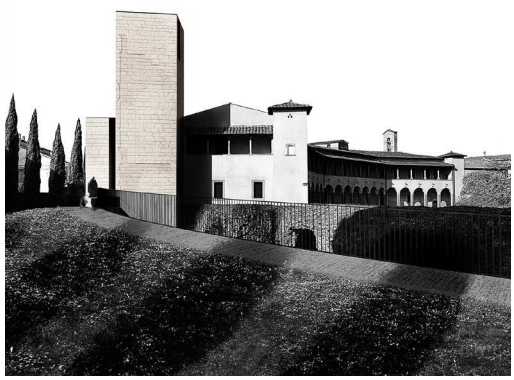
The area allocated to the new input, more rear compared to the covered portion of the *ambulacrum*, is presented as strong critical issues of the place.
The unused space is in addition of the presence of the emergency staircase which, given its provisional nature, stands in contrast with the romantic ruins.
This dissonance against the classical rationality of the front of the former convent, and the composition of monumental Amphitheatre, led the project proposal to a new reading of the emergency scale, converting problems into opportunities for redevelopment.
Connecting the park, the Amphitheatre, the convent and therefore placing them within a urban context, suggests the position of the scale as the point where the optimal design for the new entrance to the museum; its location easily visible and accessible from all parts of the archaeological site.
Considering the overall distribution of the archaeological area, the tower stands as dominant and attractive.
The opportunities that the architectural design of the new entrance presents are many: it acts as a safety ladder, as a distributing element, which connects the portion of the *cavea* with the two floors of the museum in order to rationalize the circulation of visitors, but above all, to get a panoramic view.
The access to the Museum today is done by entering the loggia opposite to the entrance of the church of San Bernardo entering the porch of the convent; the presence of a flight of stairs to resolve the difference in elevation between the cloister and the floor of the museum, already offers a first problem for the disabled user ; the leisurely stroll along the porch, from where you can admire the Amphitheatre and the whole archaeological area is not included in the current flow of the museum since the ticket office is located inside the first door closest to the west side.
Inside the tower placed at the end of the porch, in a plan of adjustment with safety regulations,the elevator was added.

The visit to the museum

The design of the new entrance offers the possibility of rationalizing the current system of flows. Entering the park from Via Crispi through the design of the pavement, the new entrance is reached, which is the focal point of the entire system. The new architecture hosts the connection, air-conditioned and

free of architectural barriers at various levels: the arena, the two floors of the museum and finally the top floor offers a privileged view of the city.
The entrance containing the ticket office can be reached both from the path in via Crispi, and from the cloister through the loggia and as a first room, both the share of the arena. The thesis proposes the reverse chronology of the museum. Starting from the reception hall which tells the story of the Monastery through vessels and utensils, the visit is divided between the Etruscan and Roman collections at the entrance floor,and upstairs the private collections form the antiquarian section.
The museum exhibition from the ticket office takes place in an east-west direction with chronological order on the entrance floor, opposite to the current, continuing upstairs through an existing staircase located in the extreme west; indispensable to the user with a disability will be the connection offered by the new architecture that allows you to reach the top level through an elevator.
The upper floor of the museum provides a fruition west-east to reconnect with the tower, which you can reach through the passage formed in the last room that contains the chrysography; the reopening of the loggia, placed above the ambulatory and now connected with the expected second-order loggiato of the main front of the museum gives the visitor a further point of view of the archaeological area. This recommended route can be betrayed, given the collection ordered arrangement , very various, present on the upper floor; it also justify the different point of arrival upstairs for the disabled.
The contemporary presence of a ticket office and a reception room at the same level improve flow control and respond to the need to have two different stations respectively divided on the selling and on the tearing of the tickets. Each point of entry and exit connecting to the tower will be checked by the staff of the Museum. The current input via Margaritone is maintained but re-designed as open to the public; the reorganization of spaces and functions is due to the need to offer to the city a place inside the museum not linked to the collections or archaeological walkway.
The museum with 15,000 visitors per year is included in the medium-small historic cultural buildings ,and its maximum turnout capacity is about 80 people.
With the transformation of emergencies scale in the tower input distribution, aspects for improvement are brought in internal flows and in visiting the museum. This completes the adjustment to the safety standards for historic buildings by streamlining and facilitating the flow of the exodus through new and large emergency exits. The intervention has made possible an improvement of maximum outflow in case of fire; This has increased the capacity of number of visitors that the museum can host. A leading organization on safety on the part of the guardians of the museum, complete the picture of the complex normative adaptation; This can boast a new emergency exit to the share of entrance that leads into the tower (a safe place), the reopening of the loggia and *loggiato* leading to the first floor, a further escape at the end of the exhibition, and finally the connection with the outside of the tower at a height of the *cavea* (Fig 10).

Fig. 10 – *Arriving the new entrance*



The cloister.
The present structure of the museum will not have a cafeteria nor a bookshop. The solution of this gap leads inevitably to the proposal of assessing the cloister (current entrance) as a

strategic redevelopment of the museum. Currently this is the main entrance to the collections, a place of great emotional impact, but away from the city trends ; space reflection of the former Monastery becomes, for those who visit the complex, the final resting place for a coffee or for buying a book, while those coming from urban assumes a role, with services that can also be separated from the museum while maintaining the role of access to building. The role of the service that takes the cloister in the proposal is also explicate in the design of the pavement outside, which connects directly to the via Margaritone entrance . This space in the warm seasons can be experienced as an outdoor place; it transforms the area into a structure of society, where culture, ludo or simply walk merge into a single system. From the side of the church we enter through a loggia in a cold space from which the host through a glass door can enter into the bookshop and café. Problems solved with air conditioning, the furnishing is divided along 22 meters of the corridor leaning to 1.80m on the right side, so as to increase the perspective; the composition of furniture in light oak finished with iron waxed want to keep the austerity of the place respecting the rhythm of the columns.

The division between the walk along the side in light and the functions distributed in series in the south side is defined by an iron plate, which acts as flooring and as a glue for the two new services. The bookshop has a wooden first floor that exposes brochures, two shelving, one low and one high next to the wall, are placed in front of the exit to the park. The rational design and uniformity of furnishing continues with the presence of a wooden table along the spans of the cloister used for consultation and reading but also for coffee.

The size of the furniture are justified by the desire to insert an object in its monumental form, remembering the ancient role of the place in which it lies; the presence of a table similar to that of a refectory doesn't want to be only an element of respect to the memory of the Monastery but also a functional furniture, the union of the two services. The café consists of a small pavilion in steel 3x1.8m; the back of the bar uniforms the furniture and connects with the headboard of the table that is made up of 16 seats divided between the bench next to the wall and the wooden stools arranged along the corridor. This space lends itself well to temporary exhibitions or events related to the life of the museum.

At the end of the cloister, the visitor can finally walk and enjoy the views that the lodge offers towards the Amphitheatre and the park. By direct request of Dr. Vilucchi the project tackles and resolves the problem of the height of the parapet (ca. 70 cm) that does not meet the safety standards. This situation is the main cause of excluding the colonnade; returning the path to the monastic life of the museum has been a main objective in drawing the project.

Above the current paving brick leans a corten steel plate that is shaped at the sides with a parapet and with a box that alternates seats, signs and containers of security tools.

The parapet is composed by a horizontal profile that accompanies the whole walk. At the end, where now there is no elevator, is placed the head of *Maecenas*, a sculpture, located in front of a panel in corten upon which is etched the full name of the museum. The corten flooring and a final flight, allow us to solve part of the difference of proportion with the interior of the museum which we enter through the space of the exhibition hall, but at the same time, where there are currently housed the toilet.

Here is buffered the current emergency door thus becoming a first exhibition space suitable for the presence of a relic mosaic.

The Monastery hall

The first museum exhibition begins with a reception room with free access which serves as a link between the new entrance to the museum and the porch of the former convent. This space, starting with the status quo of management, contains a further reception before the actual exposure start. Taking advantage of this particular feature, in addition

to a desk and a space for stop, the room is furnished with a display of some exemplifying finds of the history of the complex supported by panels. Entering the loggia at the end of the ramp that exceeds the slight difference in height, crossing an opening lined with waxed iron which constitutes the entrance threshold itself; in continuity with the coating of the opening there are the panels and the space for rest consisting of a wooden bench; continuing within the room there is a single piece of furniture in metal and glass divided into several exhibitors who collects materials of the monastery history, such as pottery kitchen stove and dishes from . At the end of the ambient, at the connection with the new entrance and at the beginning of the museum, there is a counter in wood and metal for all welcoming and control by the internal staff of the museum.
The museum tour starts through the first rooms that can accommodate the remains of Etruscan then the exposition of Roman materials.

The Terra Sigillata hall

Of particular importance in the Roman collection is the part of the Terra Sigillata. The quality and importance of the findings has led to a detailed study proposed in the rooms to the south of the complex that already host them. The birth of a unique place to watch over the most important collection ennobles the museum visit.
The exhibition draws a uniform space designed to bring out the individual finds reinforcing, however, the totality of the collection. The new resin floors and the clay applied over the existing floors, evokes the color of the shiny reddish paint of terra sigillata; the walls completely lined in wood paneling with matte black finish, are a uniform bottom that regulates and defines the edges of the existing rooms. The colors of the findings suggested a choice of colors that characterize the production of terra sigillata in order to strengthen the perception of all of the artifacts.
The exhibition is divided into two rooms: the first room shows the exposure of the three most significant pieces placed at the center of the space in the container with iron base waxed and tempered glass showcases with metal profiles , with the addition of a neutral stone where the remains rest *(1_ cratereofficina m perennius 2_coppa emisferica appartenente all' officina di m perennius 3_coppa emisferica di cn.ateius);* low showcases on the sides containing matrices, punches and tools with which they were made, and panels exemplifying the production technique of the Terra Sigillata ; the installation is completed by exhibitors with high crystal embedded in the lining of the walls, which are a collection of black-painted ceramics, ceramic smooth Arezzo and additional tools used to perform the decorations.
The next room houses the production of relief ceramic of the most prestigious workshops in the Arezzo area *(m.perennius, p.cornelius, rasinius, cn.ateius, vibienus)* reserving for each of them an exhibitor integrated into the covering of the walls made of glass and steel with a double stone base that extends into the back of the exhibitor to form a neutral background for a better understanding of the findings. Also in this room there are integrated graphics in coatings in support of the collections on display.
The display cases are illuminated by the presence of minimal led. The general lighting of the halls is obtained by light from a continuous frame crowning of counter walls and reflected from the vaulted ceilings that keep the role of the visible presence of the original museum subtracting the risk of a alienation of the place. The reflected light creates a condition of twilight enhancing the lighting in the halls of exhibitors and showcases (Fig 11).

The new entrance

The new architecture arises from considerations and guidelines in the field of security: the work is designed as a partitioned building who plays the role of fire protection.
The analysis of the status quo has showed, with the collaboration of Arezzo fire department, that the septa of the wall of the former convent would respond to the required fire

resistance and therefore would allow the adhesion of a new structure composed of structural elements chosen according to the rules.
The preexistence of the ruin has forced the project to fit in respecting and redefining old signs and alignments.
A study and a graphic reconstruction, result of an on-site measurements, has allowed us to understand and implement the basic principles of Roman construction both in plan and elevation. The repetition of the construction module consists of a vomitory, a scale and a cell that marks the oval with rays scanned in a rhythmic manner. The design that comes out has been followed throughout the development of the project, but especially in the choice of the tower.
This is a solid extruded from the plant of a wedge of Roman architecture, designed on the radii of the ellipse. The tower marks in a clear manner the outer limit of the Amphitheatre, becoming a monument in dialectical continuity with the historical process; its role is to make an objective value of the old. In his writings Rogers states that: *"nelle preesistenze si manifesta quella parte del passato che vive nel presente e qui sta la chiave per rianimare le esperienze culturali e storiche in una nuova opera architettonica".* (López Reus, Eugenia (2009). *Ernesto Nathan Rogers, continuità e contemporaneità*. Marinotti Editore, Milano).
The tower is monolithic and slender, 24.7 high, in relation to the section that defines the Amphitheatre in the plant. This proportion indirectly aligns with the architectural order that the city of Arezzo presents.

Fig. 11 – *The Terra Sigillata hall.*

The area occupied by the tower, which at first appeared peripheral almost like a backyard, now finds himself the protagonist, an orderly distributed central hub that focuses on the system that enhances the Amphitheatre and the new entrance to the museum. The tower looks like a didactic panel on which the rebuilt section of the Monument is drawn.
The educational value of the project is important and significant enough to justify the height of the tower, its location but also its presence. The remains in their ruined condition do not understand the scale of ancient architecture; for this reason the intervention combines a museum of the ruins with the design of a work conditioning measures imposed by that educates and that with a mere formal mimesis restores dignity to the past.
The tower does not want to historicize the present and certainly doesn't want to presume to be an always existed architecture; hierarchically inferior to the monastery and the ruins it is at the service of archeology of the site, enhancing the size to understand the contrast between the full and empty of the architectural type of the Amphitheatre (Fig 12).
Compositionally the new entrance is articulated in the tower and in the other two volumes of lower height: one is the continuous ring which joins the tower at the convent, the other resembles a buttress out of the limit of 24.7 to draw the cut entrance in addition to containing the elevator shaft.
The construction of a permanent work, that saturates the rear part where the convent within the archaeological area, is possible after confirmation of the absence of findings validated by tests occurred during the last decades.
The structural choice will be the next step in the design resulting in a more careful study of the terrain and of the construction area.
The fronts are clad in sandstone, cut in three different heights and placed in opera highlighting the horizontal lines; the tone of the material, changing according to the light and the seasons, contextualizes the tower in the stratification of Arezzo built over the cen-

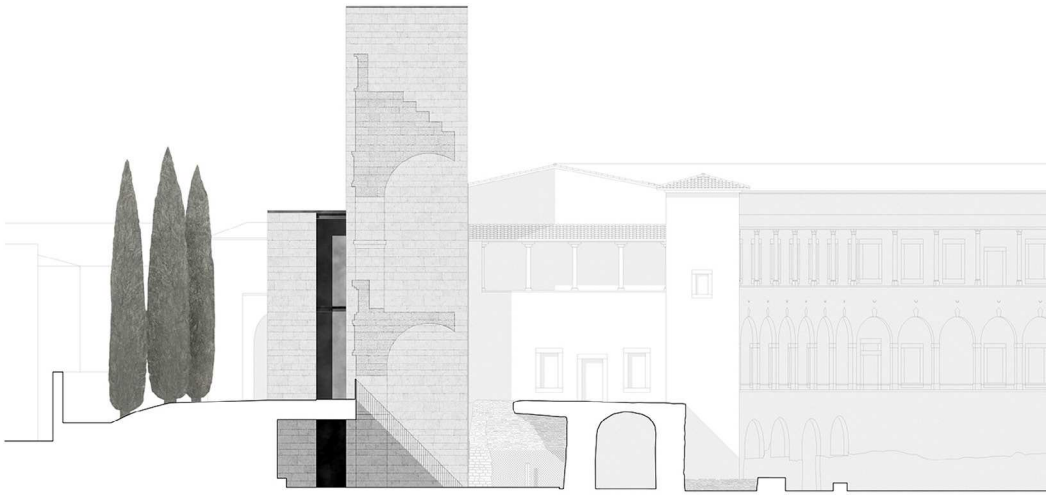


Fig. 12 – *The north elevation. A detail of the amphitheatre section carved in stone.*

turies with the use of the same stone. The sandstone has proved to be a suitable material to bring the section of the Amphitheatre as a clear sign of the north elevation: the sectioned parts were materialized with hammered stone, so as to highlight the composition and dimensions with a light shadow; projections were made by cuts in the slabs.The presence of a tower on the edge of the Medici walls certainly does not respect the evolution of the city; the new architecture does not arise as the work of "neo-medieval" but as an abstract figure that follows characters and colors related to the history of Arezzo. It is intended to fit in a silent stratification of tower-houses which dominate the profile of Arezzo.

From the pavement ring of the park it is drawn towards the cutting full-height of entrance; on the left the elevator, that connects the share of the auditorium with the plan of entrance to the museum, is added; in the wall opposite the entrance you have an informational reception and a seat that furnishes the transit.

As soon as we cross the threshold of the museum we can see the rest of the vomitory incorporated in the new architecture. The ruin is contextualised in the new entrance hall; the interior is organized on the section with the double volume that contains the surviving part of the Amphitheatre.

The box office looks also like a room in the museum where the skylight above the ruins, which indicates the point of attachment with the building of the convent, illuminates the space, highlighting the complexity.

On the lower floor as well as a reception counter and toilet prepared for outdoor use, it can be seen, through a glass wall, the storage of the collections of the restoration workshop. The interior is directly connected to the *cavea* by a cool space but covered and furnished with a bench that looks at the ambulatory.

The scale is designed in the respect of safety standards developed throughout the spatiality of the tower connecting the shares of the *cavea* at the museum until the *loggia*.

The solid oxidised brown steel parapet and stone treads increase the architectural quality of the atrium. To connect the tower and the ticket office to the museum has been necessary to intervene with technological solutions of fit with the existing and compositionally through infill gaps and openings in the septa of the former convent. This action falls within the proposed adjustment and reorganization of the museum complex that have been submitted for the opinion of the Superintendent.

The main link with the museum atrium occurs thanks to the design of a plate that halves the space in the double volume room currently used as storage and adjacent to the new architecture. The dark room is adapted to place of toilets and wardrobe, both composed of

Fig. 13 – *The mirador view.*

steel structures finished in wood. The new architecture covers the role of main distribution hub. The presence of the lift adaptes the structure of the possible disability of users. From the top floor of the museum along the other seven sets of stairs we reach the *mirador*; the space is cold and therefore reachable through a door placed at the end of the climb. The new "loggia" offers a view of the city at an altitude of 20 meters, that the reconstruction seems to be the last large step of the Amphitheatre.

At the top there is a resting, meditation and knowledge space; sitting against the wall the information panel on the opposite side completes the mirador (Fig 13).

A beam of light breaks the dark atmosphere of the space and illuminates the floor.

The opening of the mirador breaks the monolithic tower and draws a cut proportionate and orderly with the seriality of the *loggiato*; a lightweight steel rods banister serves as a parapet. The panoramic point of view stems from the need to tell the true height of the Amphitheatre and to live the experience of that share; but out of the box the *mirador* is alienated from the system park, the ruins and the museum, becoming urban space, a city landmark reached without having to visit the ruins or the former Monastery.

The proposal becomes more complex: the solution of continuity between the various dimensions of the archaeological area, the conversion of it into an archaeological museum complex is accompanied by the urban role of the *mirador* tower. The architecture, a contemporary reference within a historical context of Arezzo, plays a urban role of a catalyst for civic community through a vantage point of view. The requirement of the project is to share Amphitheatre and to return the archaeological area to citizens by making sure that it returns to live and to be a part of their everyday life, making up for that desire told at the time by Aretini.

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Considerations about the role of Archaeology and Architectural interventions in the Historic Urban Landscape

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Abstract: Investigations carried out in order to establish criteria and determinations of the historic urban landscape planning necessarily must consider Archaeology and Architecture as disciplines that together are capable of showing some of the most important features of the material history of the city and its surroundings. It is also desirable that they incorporate in very different ways to the final image of the current city which is designed. Therefore the role of archaeologists and architects can be considered essential and must have a greater role in the management and public information systems of urban plans. Some recent architectural and archaeological studies and interventions provide an example of new ways of collaboration between architects and archaeologists that have contributed to the resolution of problems of urban architectural heritage integrated in the historical urban landscape, topic on which will focus our talk in this workshop.

Keywords: Historic, urban, landscape, Architecture, Archaeology, Maya, El Cabanyal.

Introduction

The conservation and enhancement of the historic city must inevitably to deal with its complex reality and avoid, as it has happened on many occasions, that the emphasis on the material conservation of its architecture with monumental or environmental value, entail the abandonment or the gentrification of the city centre, with the displacement of their residents.

So, emphasis needs to be put on the integration of urban conservation strategies into local development processes, including contemporary architecture, so as to maintaining urban identity.

For this, the abandon of ancient rigid standards that were used in the last decades of the last century is required, as well as to seek a broader vision of the historic centre, that drifts away from the univocal conception of monumental conservation, looking for a broader horizon that can integrate the urban context -ancient and modern- and its geographical and natural environment.

Older proposals such as the "Ordinances previously drawn" or out-dated heritage commissions, that created bizarre styles emerged from their resolutions, have proved to be ineffective and harmful for the conservation of historic ensembles (Fig. 1).

The document known as the *Vienna Memorandum*, result of an international conference that took place in May 2005 in the capital of Austria, under the auspices of UNESCO, with the participation of more than 600 experts from 55 countries, provides a new approach to the conservation of the historic city, integrating contemporary architecture, sustainable development and the integrity of the landscape, based on historical models. As a result a new concept was born: the historic urban landscape (HUL), which six years later was endorsed by UNESCO.

Historic Urban Landscape

The 36th Session of the General Conference of UNESCO adopted a resolution with specific recommendations on the historic urban landscape that includes a clear definition of it:

Definition

8. The historic urban landscape is the urban area understood as the result of a historic layering of cultural and natural

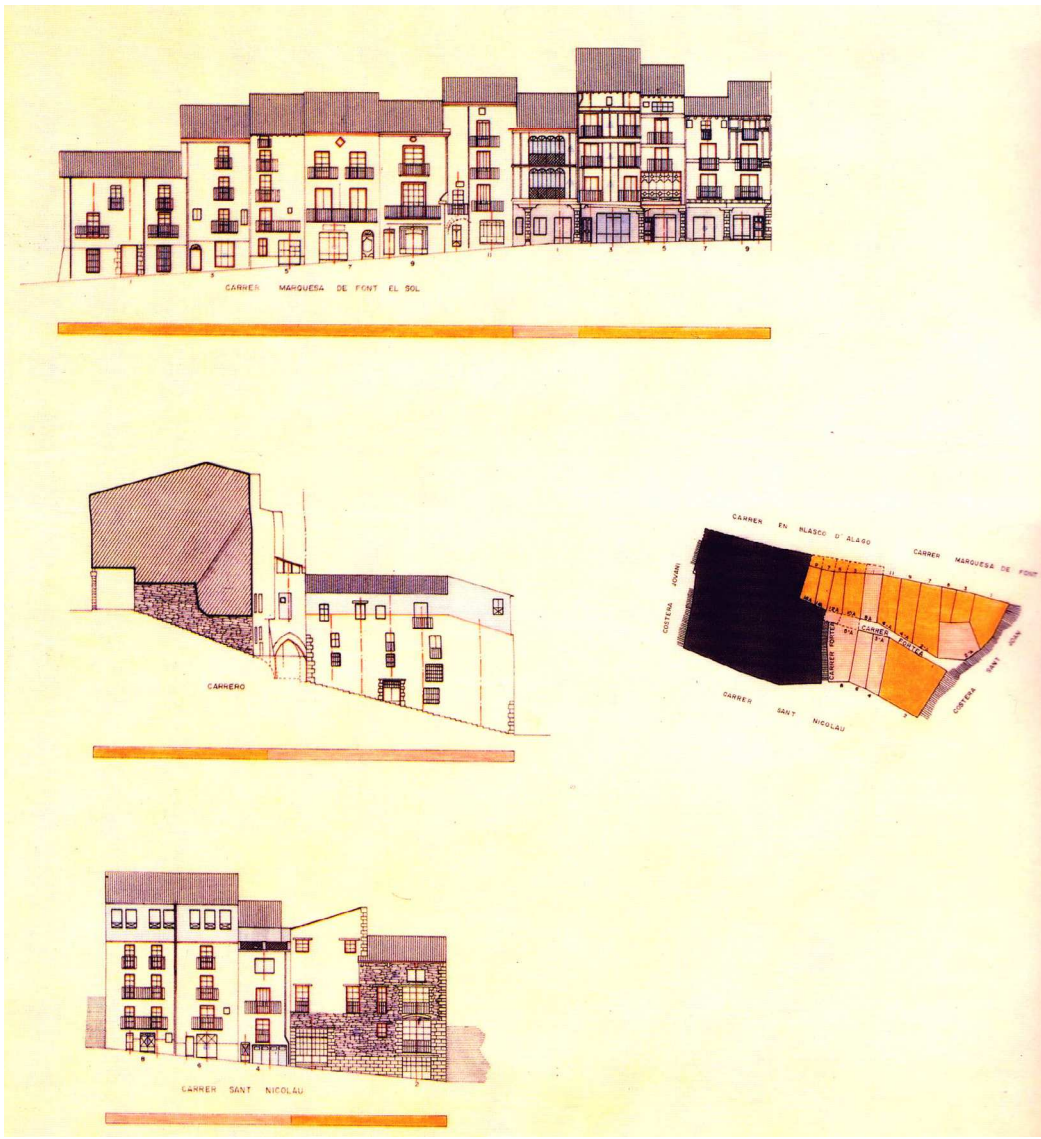


Fig. 1 - *"Ordinances previously drawn" from Morella (Castellón, Spain). (From Plan General Municipal de Ordenación Urbana.Morella, 1989: 354).*

values and attributes, extending beyond the notion of "historic centre" or "ensemble" to include the broader urban context and its geographical setting.

9. This wider context includes notably the site's topography, geomorphology, hydrology and natural features, its built environment, both historic and contemporary, its infrastructures above and below ground, its open spaces and gardens, its land use patterns and spatial organization, perceptions and visual relationships, as well as all other elements of the urban structure. It also includes social and cultural practices and values, economic processes and the intangible dimensions of heritage as related to diversity and identity.

It is important to highlight the aspects related to the sustainability of actions, what is essential in our society in the 21st century, as well as the integration of interests between the conservation of the cultural and historical heritage and the issues of social and economic development of communities that inhabits it.

Thus, the above-mentioned recommendations are indicated:

11. The historic urban landscape approach is aimed at preserving the quality of the human environment, enhancing the productive and sustainable use of urban spaces, while recognizing their dynamic character, and promoting social and functional diversity. It integrates the goals of urban heritage conservation and those of social and economic development. It is rooted in a balanced and sustainable relationship between the urban and natural environment, between the needs of present and future generations and the legacy from the past.

12. The historic urban landscape approach considers cultural diversity and creativity as key assets for human, social and economic development, and provides tools to manage physical and social transformations and to ensure that contemporary interventions are harmoniously integrated with heritage in a historic setting and take into account regional contexts.

With such renewed vision of the concept of city or historic centre, it is necessary to establish the tools we need for an adequate planning, allowing preservation but without the degradation of its vitality and its social and economic development. In this sense, some of the tools, which need to be developed as part of the process involving the different stakeholders, might include:

a). Civic engagement tools
b). Knowledge and planning tools
c). Regulatory systems
d). Financial tools

In the above recommendations, and in reference to the second of them, the knowledge and planning tools, it is indicated that these tools: should help protect the integrity and authenticity of the attributes of urban heritage. They should also allow for the recognition of cultural significance and diversity, and provide for the monitoring and management of change to improve the quality of life and of urban space. These tools would include documentation and mapping of cultural and natural characteristics. Heritage, social and environmental impact assessments should be used to support and facilitate decision-making processes within a framework of sustainable development. In this sense it is essential to have a deep knowledge of the historical reality and the material reality of the city, as well as its social and economic context, and only with a multidisciplinary research approach it is feasible to build awareness of the historic urban landscape:

26. Research should target the complex layering of urban settlements, in order to identify values, understand their meaning for the communities, and present them to visitors in a comprehensive manner. Academic and university institutions and other centres of research should be encouraged to develop scientific research on aspects of the historic urban landscape approach, and cooperate at the local, national, regional and international level. It is essential to document the state of urban areas and their evolution, to facilitate the evaluation of proposals for change, and to improve protective and managerial skills and procedures.

All this leads us to consider this new conceptual scenario that modifies the criteria for intervention and that encourages us to structure the systems of multidisciplinary research, study and analysis of the urban reality of the historical centres, and understand the several contributions which are necessary for establishing the adequate tools.

Architecture and Archaeology in the historic city

Architecture and Archaeology are two of the most important disciplines that must contribute to the conservation and preservation of the historic city. These two disciplines must be coordinated in these two ways of looking at material urban reality. Both will be responsible of offering the historic x-ray of the physical

space of the city. Either together or separately they must be considered and undoubtedly they will contribute to a greater or lesser extent to the planning of the historic city, allowing to combine and integrate the unique and valuable elements of the cultural past with revitalizing new actions.

In this sense, we will expose two examples in which Architecture and Archaeology play an important role in the proposals for conservation and sustainable revitalization of the historic urban landscape: the first one is related with a present-day conflict among social interests and local administration that has taken place in the District of El Cabanyal in Valencia (Spain). The second example, from a more general point of view, is centred in the actions that are performed on pre-Hispanic cultural heritage in the Maya area of Mesoamerica.

El Cabanyal: Heritage in risk

The city of Valencia, as almost all the Mediterranean medieval cities on the Iberian Peninsula coast, was connected to the sea by a peripheral urban nucleus called Vila Nova Maris (El Grao), located about 4 Km from its walls, far enough from the sea to avoid being attacked by pirates or enemies, but close enough to take advantage of maritime trade and fishing.

El Grao was founded in the 13th century and immediately an informal settlement was placed outside the North walls, among the fertile and irrigated lands known as "Huerta de Valencia" and the sea.

At the beginning of the 17th century forty mud houses (called *barracas*) and fishermen huts are recorded, which can give us an idea about the existence of a stable population mainly engaged in fishing activities. These first settlements originated de so-called *Poble Nou de la Mar*. They developed a particular urban structure based on a grid of parallel and perpendicular streets to the Mediterranean Sea where the *barracas* traditional arrangement favored the exposure to sunlight, proper ventilation, and a relation with the street. Some great fires motivated a continuous renovation of these constructions as the neighborhood extended from the historic core and occupied the land released by the sea, as it was moving backwards due to the port works (Muñoz *et al.* 2012).

The first graphic image of these settlements is a map of 1796, made with great precision and that shows us the reality of this population established in the 18th century, fruit of a spontaneous and rational urbanism (Fig. 2).

In 1875, a local low regulation banned the reconstruction of the *barracas* because of the risk of fire its thatched roof implied. The regulation recommended its substitution with new buildings made of more resistant materials. This fact meant a progressive renovation of these constructions that were built according to the taste of the time and of every owner, which is reflected in the variety of façades, but which always maintained the old and beneficial urban structure. As a matter of fact, when Poble Nou de la Mar –an independent municipality since 1837- was annexed to Valencia by the end of the XIX

Fig. 2 - Geographic Plan of the seaside settlement of the city of Valencia in 1796. (From MUÑOZ and PEIRÓ Eds., 2012: 64-65).

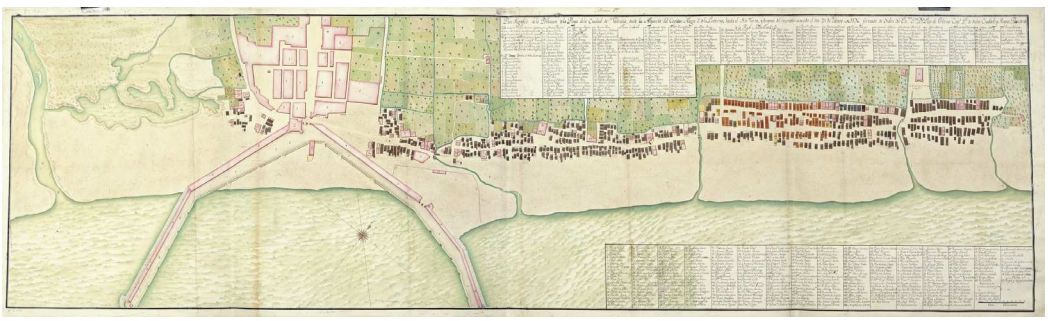
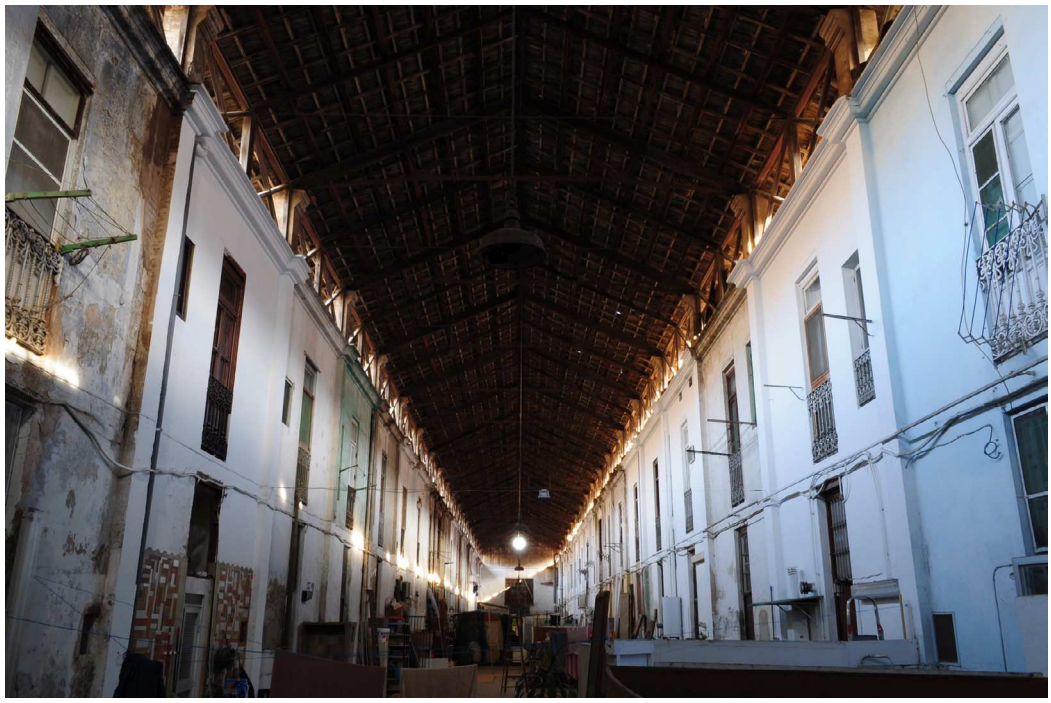


Fig. 3 - *Lonja of Pescadores. View of the South façade (Photo G. Muñoz).*
Fig. 4 - *Lonja of Pescadores. Interior. (Photo A. Toepke).*



century, it presented a consolidated urban fabric that contrasted with a metropolis that was just beginning to expand after the demolition of its walls (Muñoz *et al.* 2012).
In 1893 a new project called Paseo de Valencia to el Cabanyal was formulated. Its purpose was to create a new route linking the city of Valencia with the Poble Nou de la Mar, but the formal definitions just end up with a straight line in the administrative boundary of the municipality of Valencia, without proposing a solution of continuity.
Forty years later, in 1933, the architect José Pedrós recovered this old idea. His solution was to open two avenues of 22 meters wide that allow the permeability of the District of El Cabanyal.
In 1946, during the urban development age (called "desarrollismo" in Spain), a new decision was adopted: the prolongation of Paseo de Valencia to the sea through an avenue 100 m wide and 800 in length, which would wipe eighty thousand square meters of the historic urban core of El Cabanyal.
Despite these urban determinations, the prolongation of this Avenue never was carried out, but in 2001 the City Council of Valencia approved a Special Plan of Protection and Interior Reform, that included this extension.
The controversy has erupted thereafter because in 1993 El Cabanyal and its peripheral area was declared "Bien de Interés Cultural", a category of the Spanish heritage register, that replaces the former heritage category of "National Monument". This declaration was made by the Autonomous Government of Valencia (Generalitat Valenciana) and published by the National Official Gazette in September 1993.

When the City Council of Valencia sought to implement the Special Plan approved in 2001 faced the opposition of a large number of neighbors and social and cultural entities, who considered that the partial destruction of El Cabanyal would lead to a significant heritage loss to Valencia. In 2009, the Ministry of Culture of Spain ordered the suspension of this Special Plan, considering that its execution produces the annihilation of the Spanish historical heritage. This order was endorsed by the National Court on July 2012. All this led to a situation of disagreement and hostility between the City Council of Valencia, which recommended the prolongation of the Avenue, and the social institutions of El Cabanyal together with the Ministry of Culture, which supported the preservation of the cultural heritage of El Cabanyal.

This situation arose the proposal for an urban research to study the possibilities for the revitalization of this area, considering the recovery of some buildings that had enough potential. It was claimed that their reuse was a motor of development and urban revitalization.

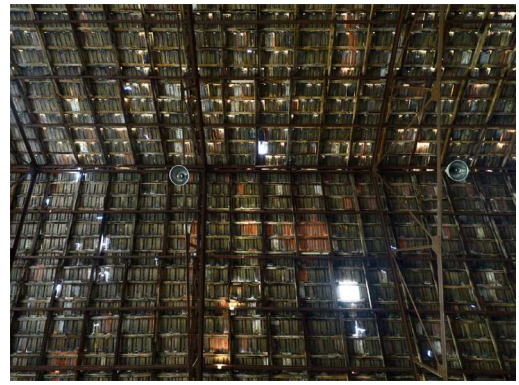


Fig. 5 - *Ice Factory. Interior of the oriental naves. (Photo A. Toepke)*
Fig. 6 - *Ice Factory. West nave roof. (Photo J. Bérchez)*
Fig. 7 - *Casa dels Bous and Lonja of Pescadores at the convergence of Pescadores Street. (Photo G. Muñoz).*
Fig. 8 - *Proposal of the Central Urban Space Development Plan. (From MUÑOZ et al. 2013: 149).*

Fig. 9 - *Satellite view of La Blanca community and La Blanca archaeological site on the left upper side of the image, surrounded by a very affected and altered landscape (Photo Instituto Geográfico Nacional de Guatemala).*

After the study of the urban reality of El Cabanyal, and its architectural and functional analysis the area that was most appropriate to propose an example of reuse and enhancement of the architectural heritage for a public use was the area in which is located the Brotherhood of Fishermen (Cofradía de Pescadores de la Marina Auxiliante), as well as the ensemble of its buildings:

Lonja of Pescadores: the fish market built by the beginning of the 20th century and which warehouses are currently used as dwellings. (Fig. 3 and Fig. 4).

The *Ice Factory*: built in 1925 and devoted to the manufacture and storage of ice to keep the daily fish catch fresh for as long as possible (Fig. 5 and Fig. 6).

Casa dels Bous or Ox House: opened in 1895 with the main purpose of accommodating the oxen in charge of carrying the boats in and out of the sea (Fig. 7).

Teñidores: or Dye complex that served to dye and strengthen the fishing nets used by the fishermen.

Today is possible to confirm the great appearance that this inherited architectural heritage has in this neighbourhood.

Even though these buildings have lost their original use, been abandoned or been reused in a totally different way than they were used in the past, this valuable architectural complex still has many possibilities to be reused (Muñoz *et al.* 2012).

In this sense, in December 2012 the Institute for Heritage Restoration at the Polytechnic University of Valencia presented a proposal[1] for an adaptive reuse of this architectural complex, considering the architectural characteristics and the current conditions of these buildings. This proposal includes an architectural survey and a structural analysis of the whole building complex (Fig. 8).

By adapting and rehabilitating this singular historic complex, the proposal seeks to create a center for public use.

Therefore one of the main objectives of this project is to structure and link these buildings and architectural spaces so they can be enjoyed as an urban unity by the visitor. The

result of this proposal should be the revitalization of this architectural heritage in risk. Its public reuse would generate an engine of social, cultural and economic development with a clear impact in the immediate surroundings.

Archaeology and Architecture in Maya Cultural Heritage interventions

It is not easy to address the issue concerning the historic urban landscape interventions when referring to a Maya city, usually located in a place that was abandoned more than 1.000 years ago. However in several occasions these ancient urban sites are located in an environment where there are neighboring populations and a natural landscape, affected and altered by man, which must be studied and planned jointly from a present-day perspective (Fig. 9). Thus, the small community of La Blanca is located less than two miles from the ruins of the ancient Mayan city, and has a population of about 1.500 inhabitants. Currently they do not have electricity or standardized systems of water supply and sewerage. The economy is based on subsistence agriculture and farming. In 2004 we have launched a research project

Fig. 10 - View of the community of La Blanca (Petén, Guatemala). (Photo G. Muñoz).
Fig. 11 - Excavations at the Acropolis of La Blanca (Petén, Guatemala). (Photo Project La Blanca 2008).

at La Blanca, with a vision of development and sustainability, aware of the importance that has to recover the history and culture of ancient peoples, but this is useless if its permanence and sustainability not arises at the present time, with current populations and taking into account social, cultural and economic conditions of the inhabitants (Fig. 10).

Thus, from the beginning, Project La Blanca[2] tried to involve local populations and to carry out activities of awareness and consciousness with the purpose that the extraordinary cultural heritage that emerged after archaeological excavations would be appropriated by these inhabitants (Fig. 11 and Fig. 12).

Once the archaeological site was enhanced and prepared for tourism through an Interpretation Centre built at the entrance of the ruins and an interpretive tour inside them, the recovery of the historic ruins is consolidated and represents an important contribution to the life of the village, as well as an engine of development that attracts a tourism of low intensity to this area of the Petén[3] (Fig.13).

Notes

[1] This Project was directed by Gaspar Muñoz Cosme. For further information on this proposal see: MUÑOZ and PEIRÓ Eds. 2012; MUÑOZ et al. 2012; MUÑOZ et al. 2013.

[2] MUÑOZ and VIDAL Eds., 2005, 2006, VIDAL and MUÑOZ Eds. 2007, and VIDAL, MUÑOZ and VÁZQUEZ DE ÁGREDOS 2014.

[3] For further information on the La Blanca Project, see: www.uv.es/arsmaya

Fig. 12 - Local visitors at La Blanca, during restoration works at the Acropolis. (Photo A. Peiró).

Fig.13 - Interpretation Centre at the entrance of La Blanca archaeological site. (Photo A. Toepke).

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From simple traces to extended hypothesis, the case of the Cadì Gate at the Alhambra, Granada

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Abstract: The ruins have always a special fascination over their visitors, moreover, behind the romantic aspects and their poetic "resonance", often they are a meaningful witness of past choices and readable traces of the previous asset of a town. Granada is well known all over the world for the beauty of its downtown and the presence of the Alhambra monument. The specific combination of European and Islamic Architecture all over the town make it an awesome place testifying a nodal moment in the European story through its buildings. In the town a lot of these elements are clearly readable, but there are also some interesting traces still in need to be investigated. One of these is the so called "Cadi Gate", a large ruin along the Darro river, just at the feet of the hill where the buildings of the Alhambra rise. The research presented here has been established on the analysis and investigation of the actual state of this ruin, basing the whole approach on digital survey to document the state of the area, passing across a complete digital reconstructive hypothesis based on the geometric analysis using 2D and 3D digital modeling solution. In the presentation the ruins of the "Cadì" will be analyzed and it will be showed the specific approach where the investigation is based on digital tools: starting from the photographic and SFM survey, passing from a complete reconstructive hypothesis based on the geometric analysis of the remains and on a set of architectural references and completing a digital 3D reconstruction of a possible original asset of the ancient urban asset. Starting from the actual "not so clear" condition of this urban element, a better understanding of the ancient Granada will be enriched with a meaningful benefit coming from the digital tools involved in this research.

Keywords: SfM survey, 3D modeling, Puente de Cadì, Alhambra, Granada, Bab al-Difaf

Introduction

The city of Granada is full of monuments and signficant architectures, which are known for their beauty all over the world, whose meaning and role within the urban city planning is well known and easily readable.

There are some examples which have not found yet a specific location and a role within the "system" in the city and they are still waiting for a correct interpretation. In major part their "suspended" character is caused by incompleteness of the State's archival records, by degradation of the monument and also by missing oral testimony, which keeps alive its history and its location in the city.

What people know as "puente de Cadi" is an example of the conditions that we said before. This monument from Ziri period, placed between the Islamic district of the Albaicin and the Alhambra, raises still a lot of interests among the group of researches. First of all, what is its name? Cadì, Los Tableros or Bab al-Difaf? There are so many names for a single enigmatic monument along the fortifications of Granada.

The interests that revolve around the Bab al-Difaf are many and inherent to many disciplines. But what is most fascinating is the mistery surrounding its origin, its purpose and the morphological aspects that are now lost.

The city of Granada

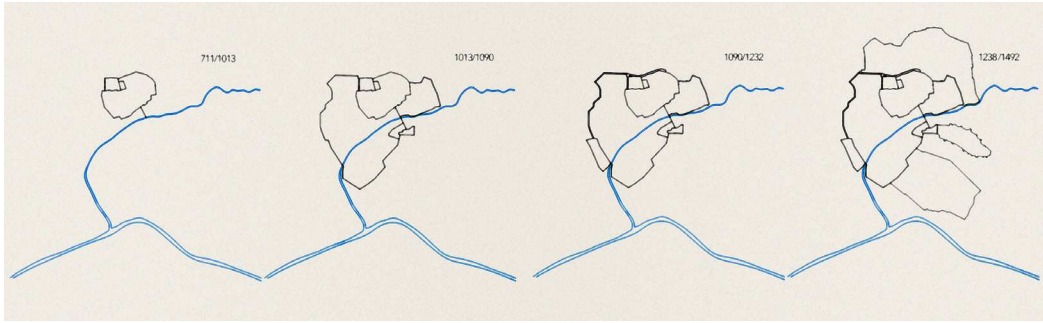
At this point, it is important to study and understand the historical evolution of the fortification in Granada. As it's possible to see from the picture (Fig. 2) the origin of the city reflect the canonical aspect of the medieval settlement with the city placed above a hill not so far from the water. In Granada the relation

between the city and the river Darro was always a very important aspect. In VIII century the connection was made by a fortified corridor called “coracha” in Spanish. With the increase of population and the resources generated by new irrigated fields, the Zirid dynasty was able to consider a new plan for the city in the area adjacent to the old pre-Islamic city. Thus, a large walled area was delimited that was urbanized in accordance with the principles of Islamic law. In addition to producing more comfortable growing space, this expansion had a strategic objective: to connect the emerging fortress of the Alhambra with the town walls, thus preventing any potential enemy attacks from that point. The high part of the city, which had better natural defensive conditions, was the most heavily fortified and would continue to be the site of the alcazar (fort, castle or palace), the seat of power.

It was called the “high city” (al-madina al-fýqà) or alternatively the alcazaba (al-qazaba) to distinguish it from the “low city” (al-madina al-suflà).The great mosque (aljama) was moved to the lower area and became established in a central and accessible position with respect to the new city design. In this time and exactly for those reasons was build up the Bab al-Difaf.

After the Almoravids conquered the taifa kingdoms, Granada became one of the most important cities in al-Andalus, at times serving as its capital.

Its governors remained in the alcazaba,

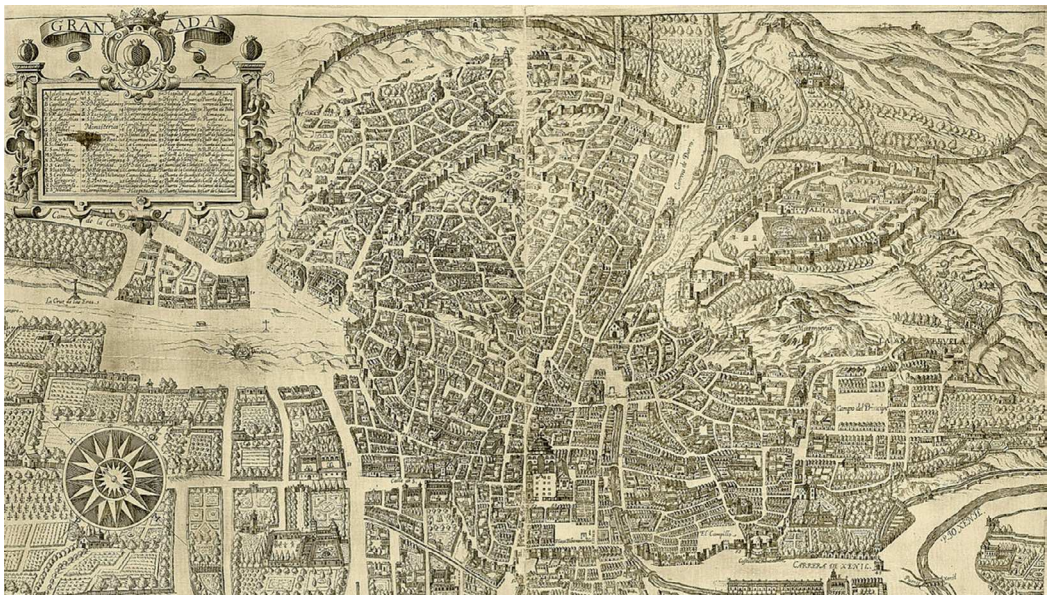


which al-Zuhri described as “the big one” to differentiate it from the small one on the Alhambra hill. In 1125, after the incursion into the southern Iberian Peninsula by Alphonso I the Battler, a new tax was created to reinforce the damaged fortifications of many cities, including Granada.

In 1232, the Nazaridi set up their capital in Granada. Initially, they were established in the alcazar, located in the great alcazaba, the point from which the territory had been governed since the beginning of the Zirid dynasty.

However, a few months later, they decided to create a new city on the Sabika hill, on the left bank of the Darro River, taking advantage of

Fig. 1 – *The Puente de Cadì with the river Darro on the left and the Alhambra at the top of the hill*
Fig. 2– *The evolution of the fortification of Granada*
Fig. 3– *Areal view of Granada with the evolution of the fortifications and the urban positions of Cadì, marked with a circle*



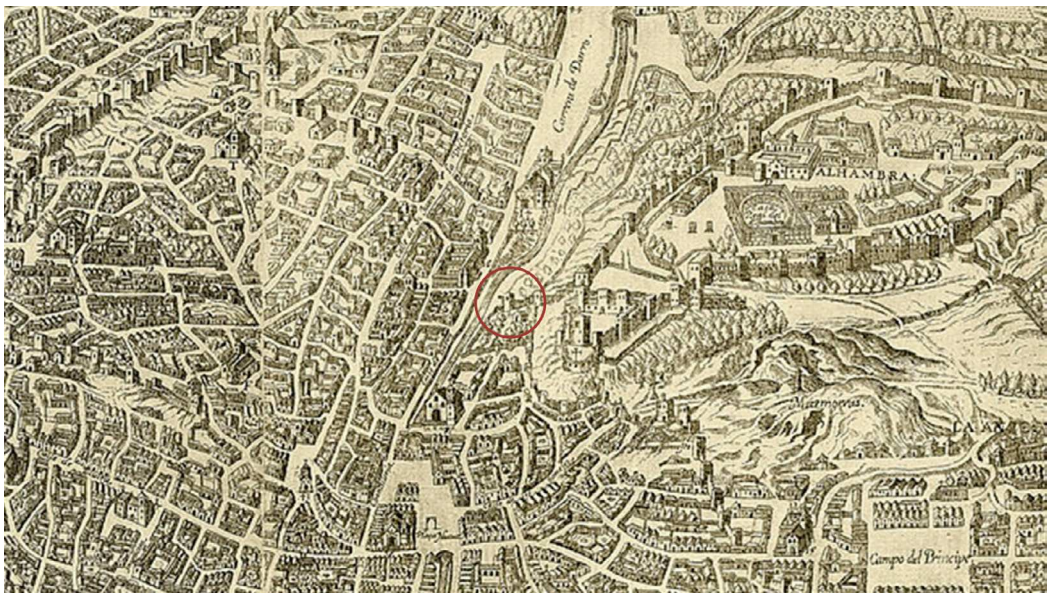
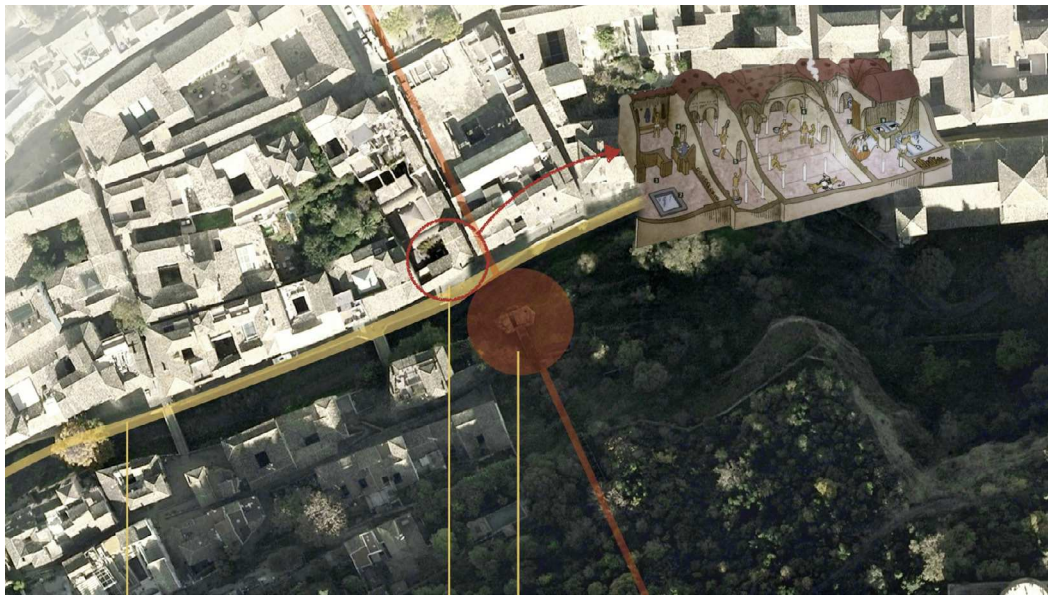


Fig. 4 – *Plattaforma de Vico*
Fig. 5 – *The ruin of the Puente de Cadì in the Plattaforma de Vico*

a much more secure strategic position. They took over the small alcazaba that had been built there but had to create a new irrigation channel from the river to guarantee their own water supply.
This operation was in keeping with a long tradition of creating palatial cities for the emir, his court, his personal guard and closest advisors to live in dating back to the early days of Islam. Like this Alhambra and Granada became two juxtaposed, autonomous cities with different functions. In the picture (Fig. 3) it's possible to see the evolution of the city wall above the arial view of Granada, with the plan of irrigation and wells system.
Granada's complex topography and the compartmentalisation created by the interior walls in different areas are still quite noticeable at the end of the Nasrid period. Consequently, the main streets in each sector were fairly autonomous with respect to the others. There



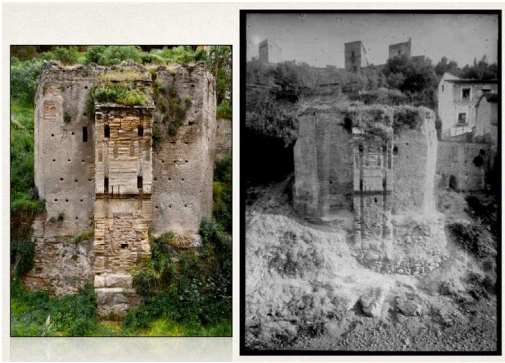


Fig. 6 – *The areal view and cross-section of the Banuelo*
Fig. 7 – *The bridge as it is today and as it was in a photo from the archives of the Alhambra.*

was a hierarchisation of streets, indicated by their width and the intensity of the flow of people through them.
These important routes, which were characterised by heavier commercial activity, began at the main gates of their respective walls and ended in a square or at a crossroads. In Granada, due to the eccentric location of the great mosque (aljama), the true centre of communication was at the end of the main city street, Elvira Street, and a small square called Cuchilleros, which were joined by the Baño de la Corona bridge.
This spot continued to be very important until the end of the 15th century and would later be converted into a square called Plaza Nueva, which covered the Darro River. The communications within the city walls between the two banks of the Darro were established by five bridges. One of main document in urban history of granada that known as "Plattaforma de Vico" or "Plano de Granada" dating in XVI century (Fig. 4). It is important to highlight that If we zoom in the image we can discover exactly our monument that at this time is already ruined.
The ruin of this arch starts on the North bank of the river Darro, the original structure should be crossing the river having his second point of support on the South bank. The red circle in the picture indicate the Puente de Cadì.

The "Banuelo"
Situated near the Darro river in front of the Cadì (Fig. 6) and earlier known as the "Walnut Baths", the structure may be considered the prototype of the public Muslim bath.
Its entrance had a patio and outbuildings used by the establishment's keeper. A narrow doorway leads to a hall used traditionally as a dressing room, which is vaulted as is the rest of the construction, and which also presents the characteristic starred and octagonal skylights used for lighting and ventilation.
Next comes a long hall with dividers which served as a cold room, from which an axi-

Fig.8 – *The house standing over the ancient tower in the XIX century (David Roberts, engraving, 1832-34).*

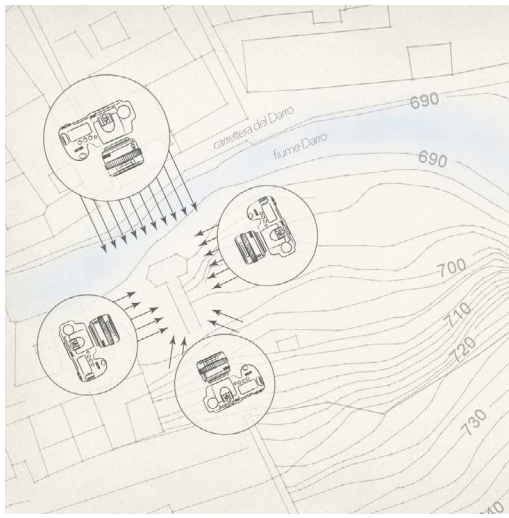
al door leads to the warm room, the largest of all. There is a central covered area with a cloister vault and galleries on three sides over horseshoe arches with splendid capitals, most of whichwere borrowed from earlier constructions.
The hot room has a similar layout to that of the cold room, but it also provides access to the areas where the basins used for bathing were located. A central opening which was originally closed provides access to the oven room and the attendant's area where the fire was kept burning.
The floor of the hot room has the characteristic inferior hypocaust for the circulation of the furnace refuse which heated the floor and walls. It has been fairly well-preserved thanks to its solid lime mortar construction.

The Puente de Cadì

This research is focused on the remains of a Moorish arch supported by a large tower that is part of the old Moorish walls of Granada (Fig. 7). The ruin of this arch starts on the North bank of the river Darro, the original structure should be crossing the river having his second point of support on the South bank.
It is also curious as in recent times the previous owners of the lot where the Cadi rises built a house over the ruin, but without hiding or changing its aspect (Fig 8). The result was a curious house standing over the ancient tower with a quite unstable look. However this house was demolished in 1920 and the remains were declared a Historic Artistic Monument by the Spanish state in 1931.
Leopoldo Torres Balbás in 1934 provides a description which agrees with its current state. The tower is built with thick walls of rammed earth reinforced with bricks and stone masonry. The design of the plant has a hexagonal shape, long and narrow according to the direction of the river flow, sheltering inside two symmetrical staircases leading down to a door which communicates with the river, but this passage today is closed. Each of these stairs has a loophole for the defense on each side.
The whole tower has lost its original height, the house built over the top at the beginning of the century probably gave a contribution in the meaning of flattening the remains of this part of the tower, nevertheless it's quite clear that the height of the tower was already reduced at that time.
The fragment of the Moorish arch is built with blocks of sandstone, alternating outgoing and incoming segments decorated with floral motifs, and alfiz. Inside the arch there are two vertical boxes that correspond with the guide gates to close the river. The double guide gate might respond to the need to close the passing but not the course of the river, so a fence would be used, while the other is for a floodgate that could also close the flow of water, either for cleaning the channel either to inundate the valley, hindering a possible enemy incursion.
But little more is known about this gate, raising many unsolved riddles: how was the entire arc? What is the relationship with the other side of the bank? Is it possible to imagine another twin tower? Was this structure providing also access for people along the banks of the river? Was used also as a bridge? Let's see then if digital surveys can answer some of these issues.

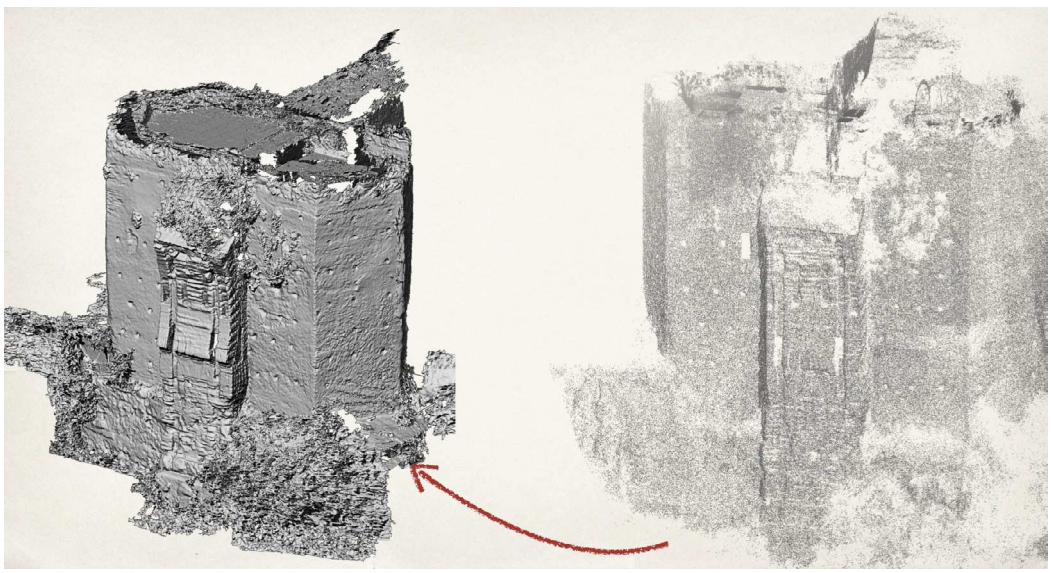
The digital survey

Because of the difficult access to the gate and according to the needs of this research the first approach to this building was mainly



photographic, and based on the direct reading of the masonry plot of the structure.
This was done trying to better understand the system of "traces" left in this building, in this way it has been possible to have a clear vision about the possibilities in the planning of its virtual reconstruction.
Since the first inspection of this fragment, the need of a complete and easy to use 3D digital model was immediately taken in count.
The choice to adopt a 3D Photogrammetric survey was done to allow an easy and quick

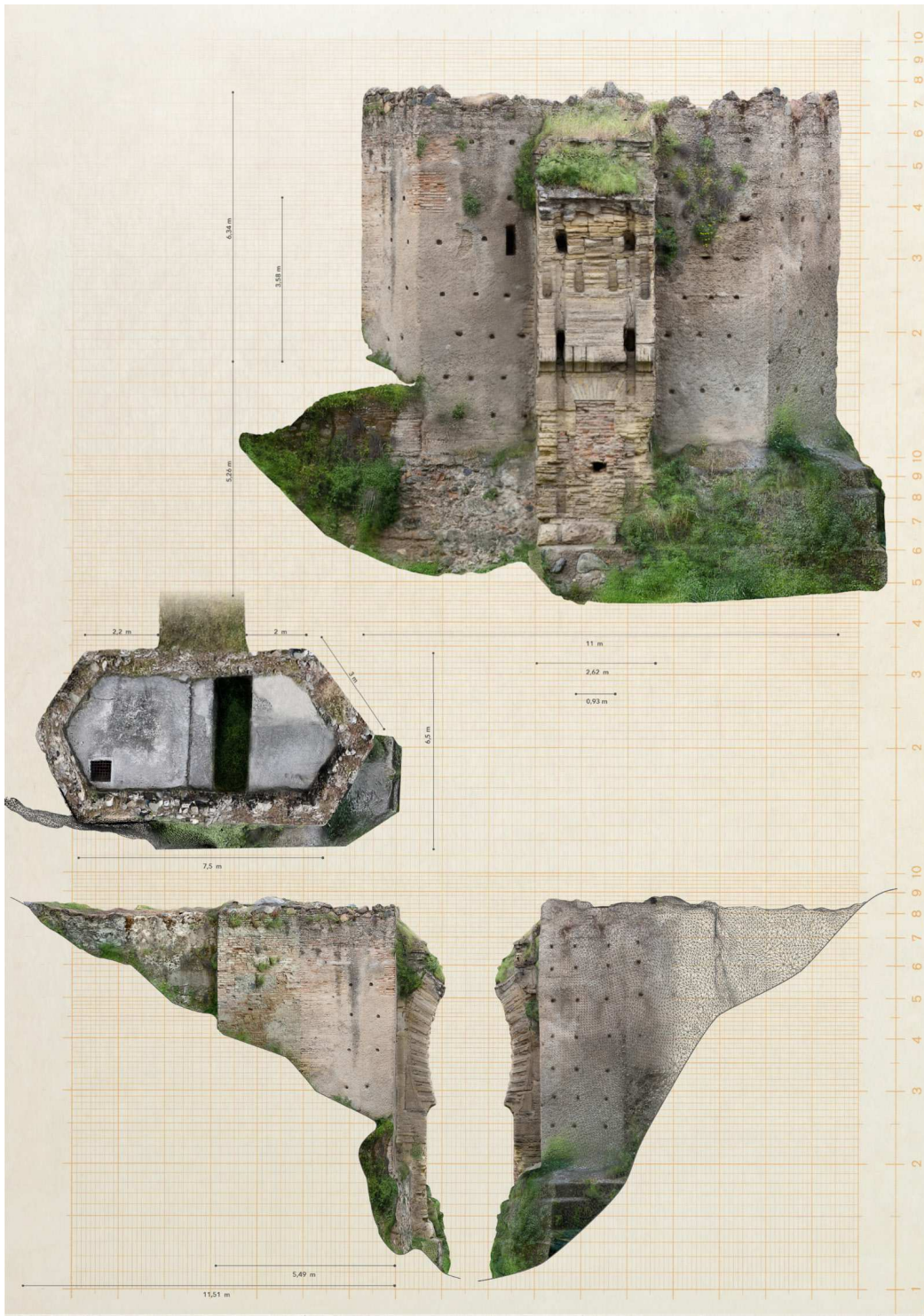
Fig. 9 – *The camera's position around the monument*
Fig. 10 – *The point cloud of the survey*
Fig. 11 – *The process from the point cloud to the 3D model*



approach to the monument and its surroundings. So the specific photographic campaign about the Cadì, took care about crossing the river and taking a complete survey of the whole monument, even from the side facing the Alhambra hill (Fig 9).
The planning of this campaign was quite difficult, while the area of the monument is not easy to be reached, the private properties on the border of the river has no access to the Cadi and the very rainy period create two odd conditions: the Darro river in flood and all the plants and tree in a very luxuriance state. So we need to cross the river at an higher point along the canal and then climbing a part of the hill to reach the rear part of the Cadi.
The overall campaign produced a total of almost 6000 shots, all the shots were taken in raw format with a difference of 3 step of exposition, using different lenses stopping them down to have a convenient depth of field in each shot.
Most of the shots were taken on a tripod, in the most difficult positions it was preferred to reduce the working time handholding the camera. One of the main need was to have a good overlapping between the shots from the front, the sides and the rear parts of the building. Because of the idea for the further post processing was aimed to the use of

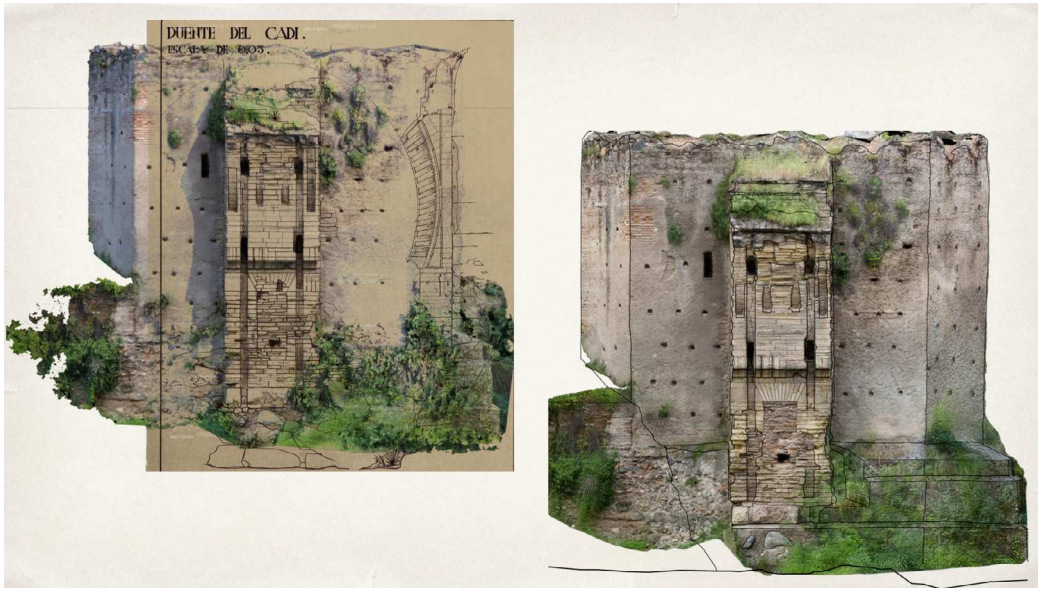
Fig.12 – *Digital model produced by photogrammetry: Perspective view with the full texture.*
Fig. 13 – *Digital model produced by photogrammetry: Front, top, left and right view.*

Agisoft Photoscan, the new campaign was oriented to produce set of shots optimized for the division in the so called “chunks” inside the software workflow. The possibility to reference different group of pictures into a single alignment creates a basic condition to allow this kind of operation. The group of pictures coming from the front, the sides and the rear parts of the Cadi were aligned into an unique model.
This process took time and long calculation hours, the alternative should be the exporting of single parts to other alignment software to complete the work, but completing the whole task in a single software was in certain way more interesting in the meaning of a better exploitation and exploration of its possibilities.
The first step for the digital process, is to create a point cloud: the point cloud represents the set of points that the software has measured on the photos. As is possible to see from the picture (Fig.10), the result is a really dense point cloud and its already possible to recognize the details of the monument.
The resulting 3D mesh-model was very high quality with a meshes created at the maxi-



mum available resolution, with a resulting set of 154.375.638 polygons for the whole model, reduced at 131.381.414 polygons after a cleaning procedure.

Obviously this very heavy weight model was quite far from being really usable nor easy to manage, so at this point it was preferred to export it and operate the whole process of optimization, hole capping, smoothing and decimation in Raindrop Geomagic Studio,



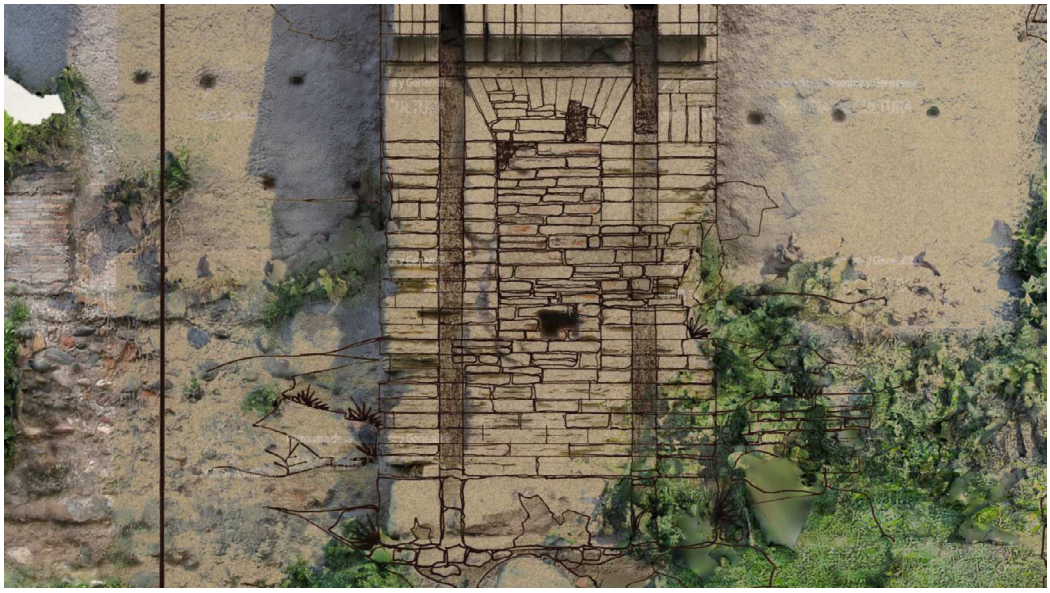


Fig.14 and Fig. 15 – *Comparing the previous traditional surveys available in the Alhambra archives with the new digital survey.*

taking the advantages of a more complete and versatile set of options for the whole post processing sequence.

The final model, usable for analysis, reconstruction and study was made by 70 million faces, so it is not a model easily usable for multimedia and or real time purposes, but it was characterized by a good balance between quality of the architecture details and the possibilities to operate with reasonable quickness for the virtual study of this ruin (Fig.11).

The last operation of the digital process is to apply a texture map to the surface of polygons. This map is made by creating a mosaic from all the pictures that we used for the survey campaign.

During this process, it was necessary to build a correct UVmap and the final result is a texture with 268.000.000px (Fig.12 and Fig.13).

One of the first use where this accurate model was applied was a simple compare with the

previous traditional surveys available from the Alhambra archives.

This set of drawings were a good documentation about the Cadi ruins and are mainly dedicated to the arch in its front over the Darro river and to its side fronts, in some of these drawings, the presence of overlaid curves, tracing the prolongation of the arch remains makes the drawing even more interesting, showing previous basic investigation processes about the original shape of the arch.

As usual in this kind of drawings, there is a very good graphical quality and all of them are very similar each other, both because the accurate work and the common behaviour to use a previous survey as a base for updates or detail enhancement.

To start a comparative test between the old drawing and the new survey, some selections were in need to be done. First of all a group of drawings was selected according to the presence of a clear metric reference, in this way any risk of error in the scaling process was reduced, then the drawings were compared to check the presence of meaningful differences. In the end, the drawing catalogued as P-000550 (Alhambra Archivo de Planos scale 1:20, author: Pietro-Moreno, Francisco, 1934) (Fig.14 and Fig. 15) and the survey of Arch.Antonio Almagro, LAAC, were chosen for the matching with the new digital survey.

Those simple matches between images was based on the drawing scan and on rendering images produced from the 3D digital survey model, the mode option for each
layer where the images were placed allowed obtaining a map of the differences between the old drawing and the renderings.

As expected, the differences were quite modest and not meaningful in front of the state of the knowledge about the Cadi, except for the fact that, with this result, the quality of the old drawings was confirmed, but also the new survey get is final validation for the following steps of the research.

The geometric reconstruction of the arc

As it is common for any historical town, Granada changed a lot along its history, so the ruins of the Cadi now rise with a very transformed contest, where sections, paths, levels, buildings have a quite different condition in front of the time of this element construction. So the best thing is to start from the more “solid” evidences coming from the architecture element in itself. As done in the ancient drawing the first process must take care about the main arch, trying to find back the main lines of the missing part of the Cadi.

The first reconstruction process was done as a 2D drawing, using a vector layer over a high resolution rendering image produced from the 3D digital survey model. The tracing of the arch was focused on the best fitting of the curvature and checking it back to the “ideal” Moorish arch construction.

The overall process of reconstruction was based on few steps:

1). The curvature of the arch is found starting from the traces along its remains in the ruins, this was done using a simple three points arch, identifying a single curvature, in this way it was found a first axis crossing the center of the arch. All the lines generated by the lengthening of each single stone are then projected to the axis.

2). Discretization based on the interpolation of the lines coming from the stones, optimization of the curvature according to the new centre and the arch ruin profile.

3). Definition of a mirrored set of lines and curves, tracing of the second arch.

4). Check of some measurements according to cubit units.

5). Optimization of the suggested reconstruction according to the cubit units.

6). First definition of the theoretic model of the symmetric Cadi.

7). Confrontation with the actual section crossing the banks.

8). Completion of the theoretic model.

9). Cubit unit grid aligned on the theoretic model.

10). Final adjustments and optimization of the proposed model according to the cubit grid (Fig. 16).

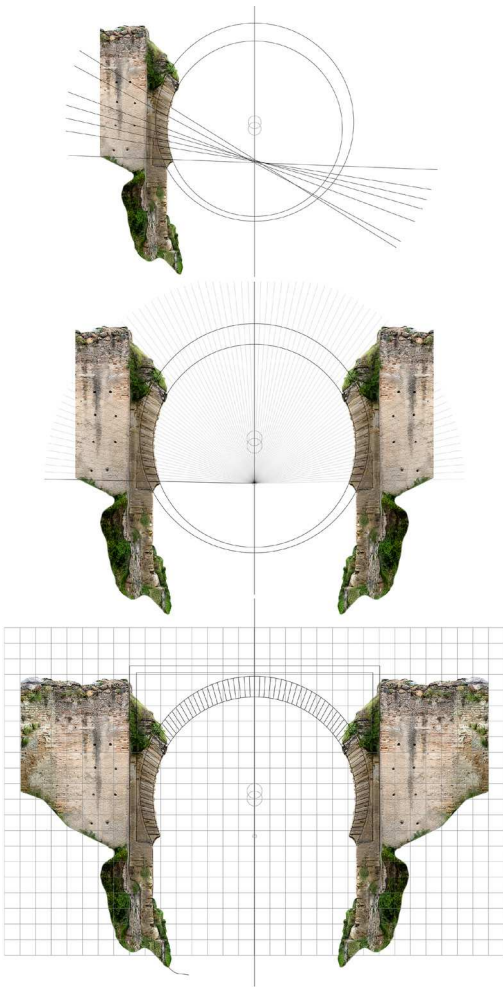


Fig.16 – *Graphic scheme of the geometrical reconstruction of the arc*

The best fitting grid is based on the cubit measurement unit, adopting 1 cubit equal to 64 centimeters, this creates a main grid made of 21 cubits along the height of the tower, 35 units along its front, according to this grid the arch was 15 cubit large (external profile) and 11 cubit from its impost to the keystone.

Extending this grid it is possible to imagine the original aspect of the tower and starting to develop reconstructive hypothesis.

Completing the grid according to a symmetric choice, the plot of the arch come out clear, showing a massive construction, with the second tower meeting the opposite side of the river.

The remains of the arch allow the reading of the original shape, it is clearly an Horseshoe arch, very typical in the Moorish Architecture, this is proved by the angle and curvature of the inner arch profile and by the external, interior profile, defined by the stones and having a divergent curvature as is classic for this architectural element.

Conclusions

One of the most meaningful result in the geometrical reconstruction is the fact that the second side enters the actual river bank, close to the buildings.

The bank has seen various changes in time and now but, by drawing an imaginary line along the natural direction of the road, it's possible to see that the second part of the arch is exactly along this line.

Along with the archival research, it has been of fundamental importance the collaboration with the LAAC (Laboratory Architecture and Archeology of the city) and in particular with Prof. Julio Navarro y Palazon.

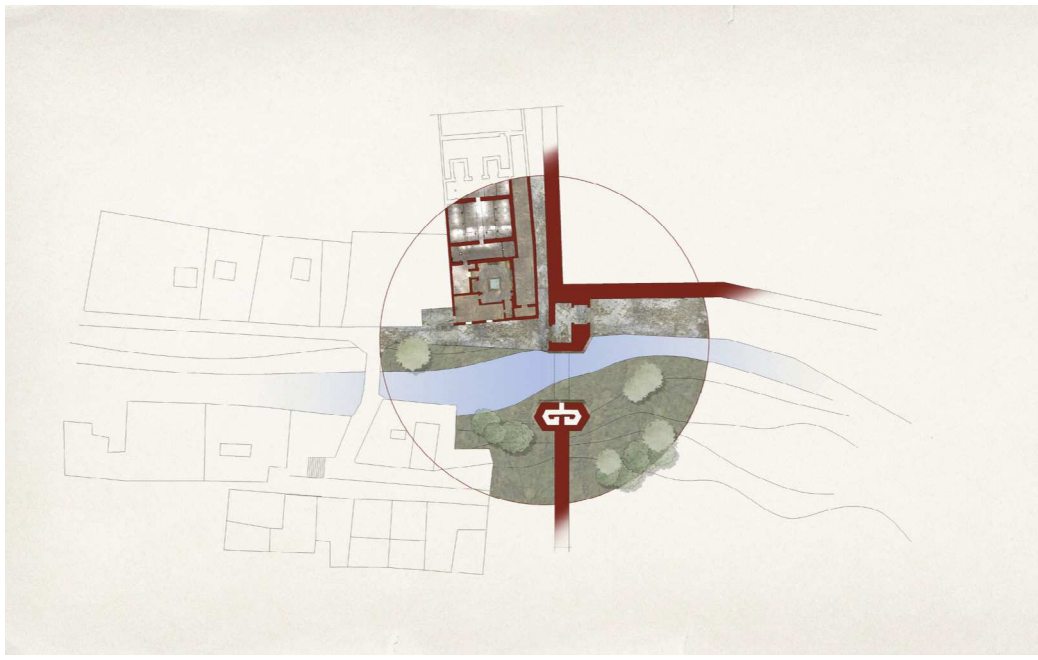
This has made possible to identify and develop a new morphological hypothesis related to the presence of the Arab baths in this area.

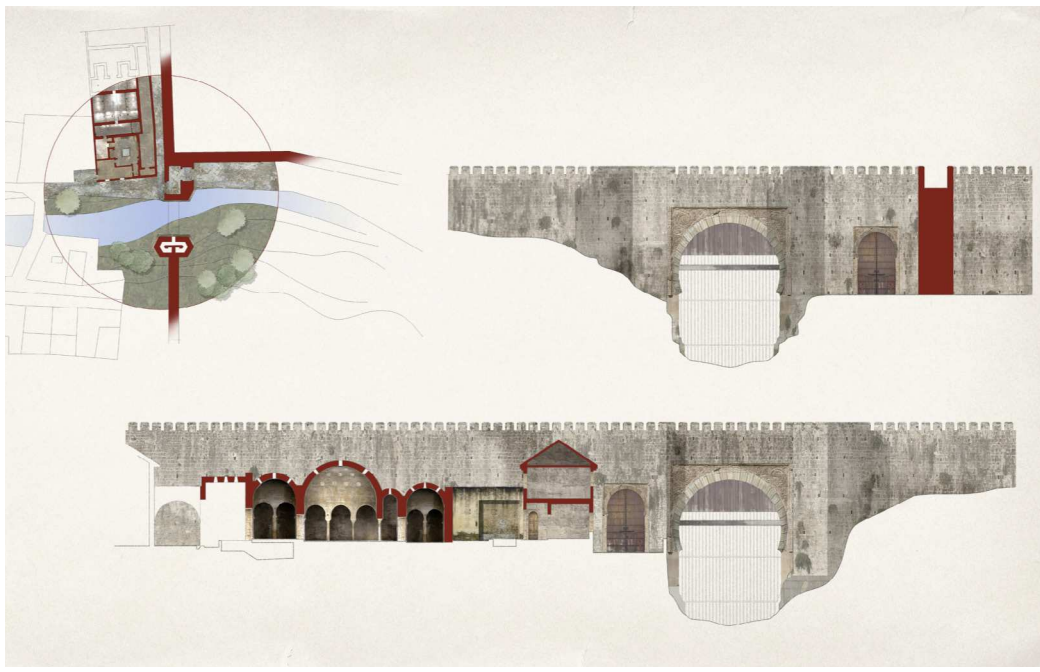
So it is possible to imagine the Cadi as a part of a defensive system composed by a double door protecting the urban area, closing the flow of the river and defending the town from possible opponents coming along the banks.

Studying the aerial images of the area it is possible to notice a system of ancient walls connecting the Cadi structures to the main Alhambra fortress, this obviously gives even more meaning to this ruin, opening further questions about the construction sequence and the overall urban system.

This complex set of questions needs well structured information to base hypothesis and enhance the knowledge about these ruins.

An accurate survey is, as it has been





demonstrated again here, the best base to start organizing information and to focus on an "architectural" reading of the remains, spotting on the relationship between urban settlement, logic of the fortified architectures and environment.

While the digital approach to the reconstruction confirms one more time its importance and its capacity to be one of the best "melting" space between evidences and new ideas.

Fig.17 – *Graphic reconstruction of the ancient aspec of the area, with its road and the particular relationship with the river Darro.*

Fig.18 – *Hypothetical reconstruction of the entire complex at the time of its completion.*

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Urbanism and restoration of ancient buildings of nineteenth and twentieth-century in Rome. The importance of archaeological monument in studies of urban planning during the 19th and 20th Century

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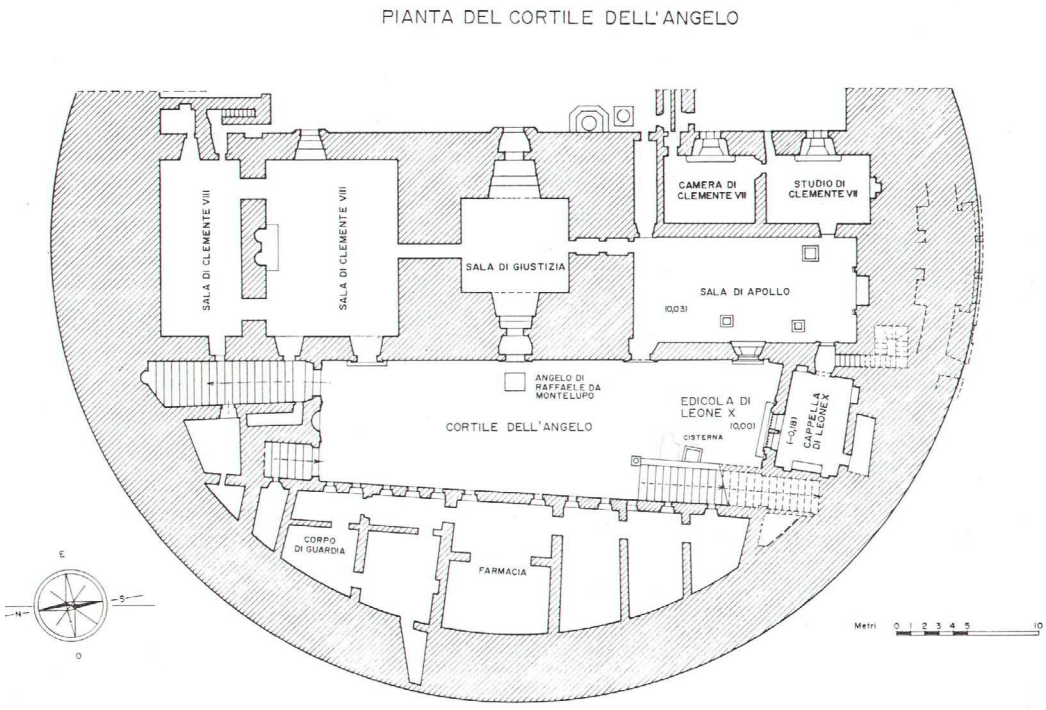
Abstract: The urban development in the 19th and 20th century in Rome brings about destruction of anciens buildings. In 1871 Rome becomes the capital of the Kingdom of Italy: The urban renewal arouses interest in archaeological monument; the monument is a focal point in the town development plan. The Roman and medieval remains are the heart of matter in urban renewal, railroad and road transport in old city centre are the problem.
The ancient monuments are in the middle of the squares and architecture must intervene with a modern buildings in old city. The urban renewal in 19th and 20th century takes inspiration from buildings of Renaissance, Roman Remains and Medieval Remains. The Urban projects for Rome Italian Capital (1880 - 1911), were facing the past.
Today the historic project of Rome Italian Capital, in archaeological urban planning, is fulfilled in the historic building restoration, this is the idea. In 1911 restoration of "Castel Sant'Angelo" in Rome is the most important event about architecture. Under the weight of history, General Mariano Borgatti restores Castel Sant'Angelo.
Castel Sant'Angelo is an exemplar renaissance fortress and exemplar archaeological monument, being mausoleum of Emperor Adriano; in 1911 the castle is turned into a museum, structured as an urban center. In XIXth century, urban growt of "Prati" quarter arise from Castel Sant'Angelo and the "Forma Urbis", urban scheme, takes inspiration from the Roman Remains and Renaissance.

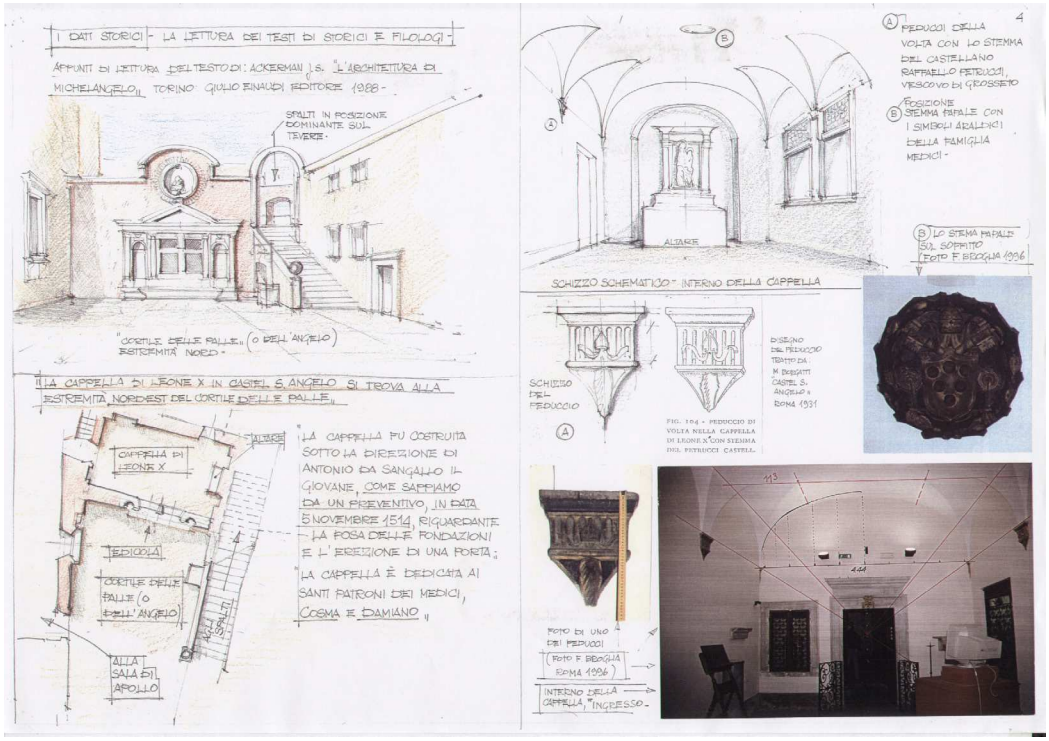
Keywords: Archaeology, Restoration, Urban Project, Roma, Design

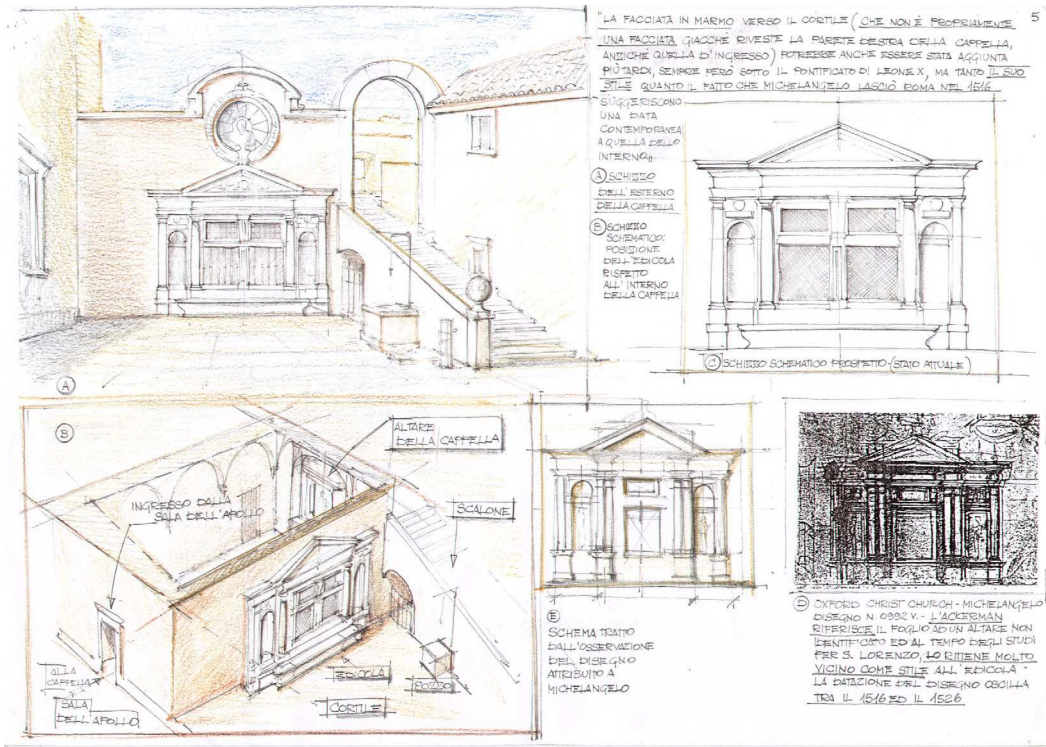
The urban development of Rome in the 19th and 20th centuries implicates the demolition of ancient buildings.
In 1871, Rome becomes the capital of the Italian Kingdom: the urban renewal rouses a new interest in the archeological monuments; the monument is the focal point in the urban development plan.
On the one hand, the Roman and Medieval remains are the kernel of the urban renewal; on the other hand, the railway and the road transportation in the city centre are the problem.
Ancient monuments are in the middle of the squares and the architecture has to interfere with the old city through modern buildings.
The urban renewal of 19th and 20th centuries sources of inspiration are the Renaissance buildings and the Roman and Medieval remains. The urban projects for Rome as an Italian Capital (1880-1911) face the past. Today, the historical project of Rome as an Italian Capital, from the urban and archeological point of view, is fullfilled in the historic building restoration.
This is the main idea. In 1911, "Castel S. Angelo" restoration in Rome is the most relevant architectural intervention.
Under the weight of history, General Mariano Borgatti restores Castel Sant'Angelo. Castel Sant'Angelo is an exemplar Renaissance fortress and archeological monument, as it is also the Emperor Hadrian's mausoleum; in 1911, the castle is turned into a museum,



structured as an urban center. In the XIXth century, the urban development of the "Prati area" starts from Castel Sant'Angelo and the "Forma Urbis": the urban project, finds its source of ispiration in the Roman and Renaissance remains.

The bastions become gardens, the moats become avenues and the castle rooms become the ideal place to tell the history. Visitors can observe the monument in its

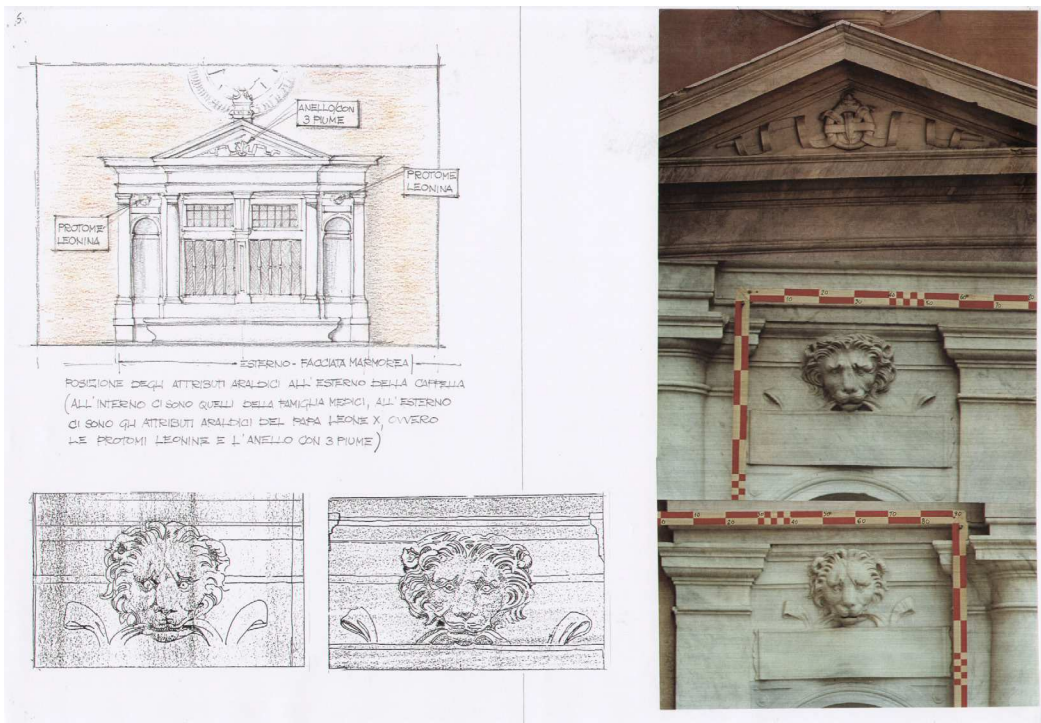


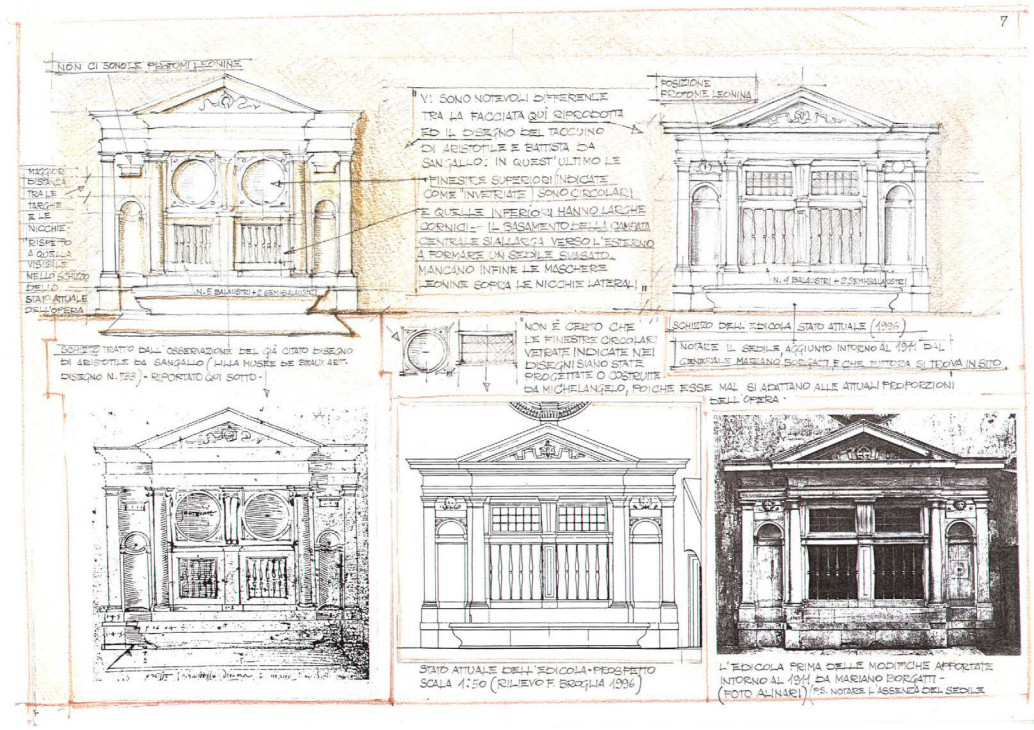


different historical phases: from Ancient Rome till Renaissance.

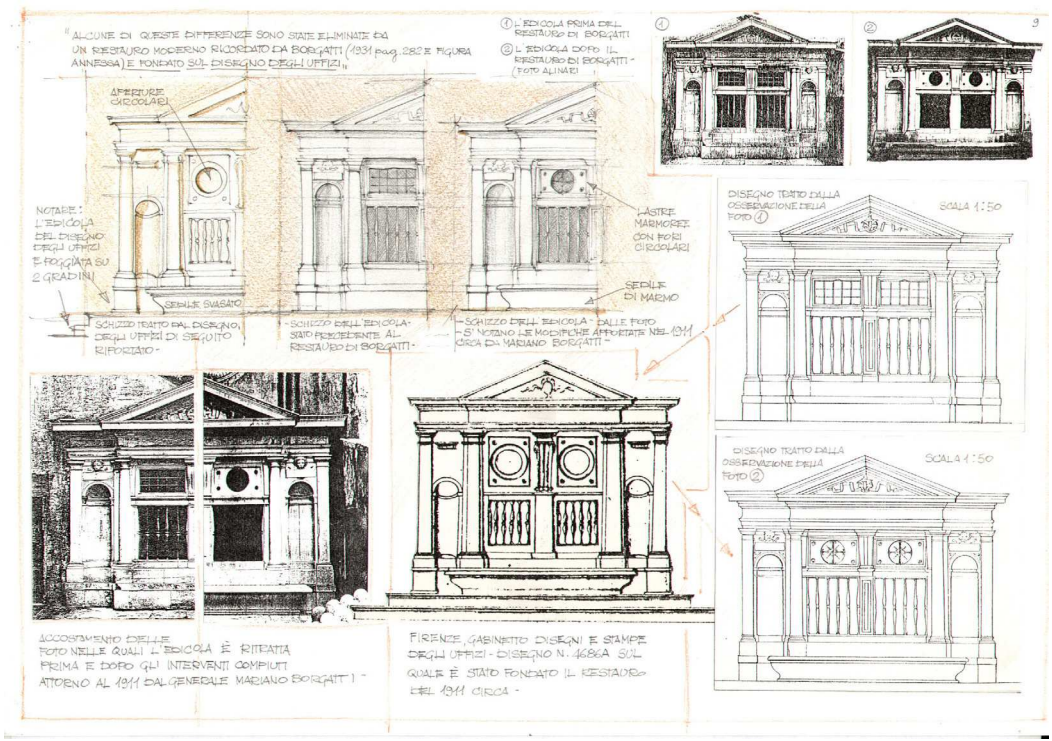
The buildings and the houses around the castle are designed around quadrangular yards. On the façades, bricks and different kinds of ashlaring, appear as in an archeological stratification.

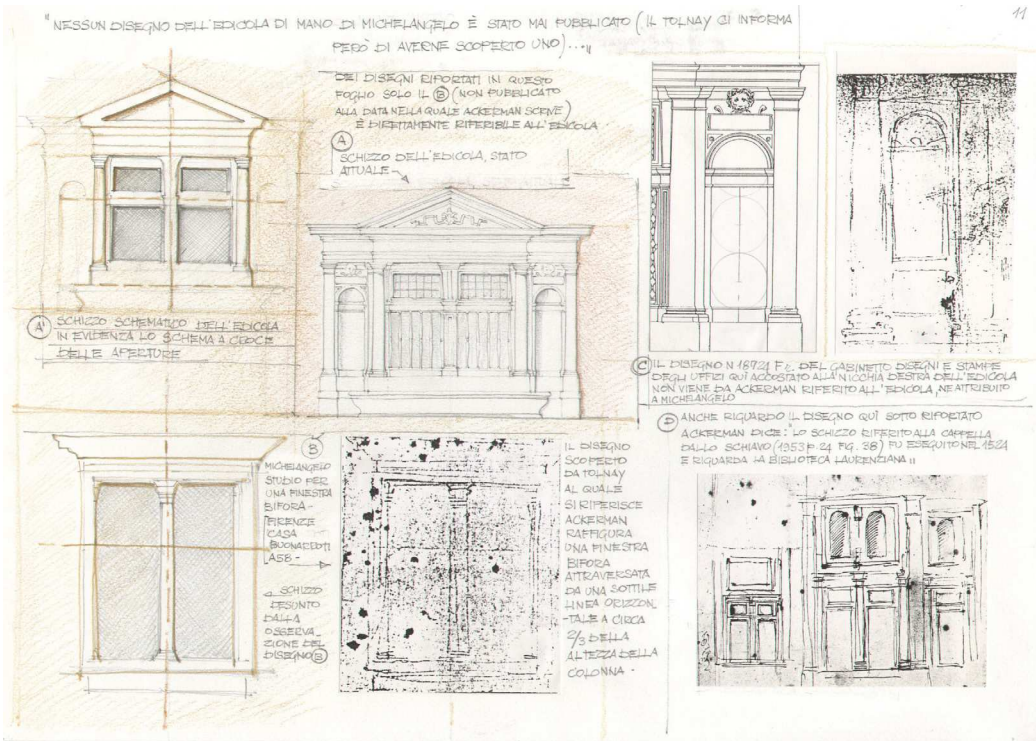
In the castle, a window designed in an ae-



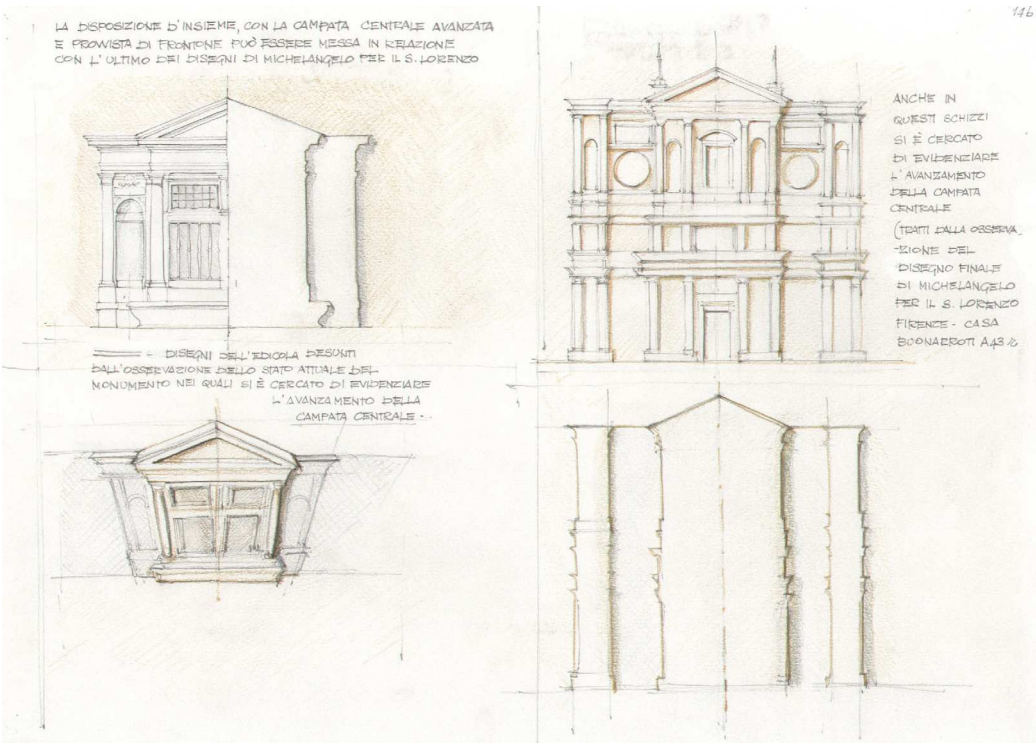


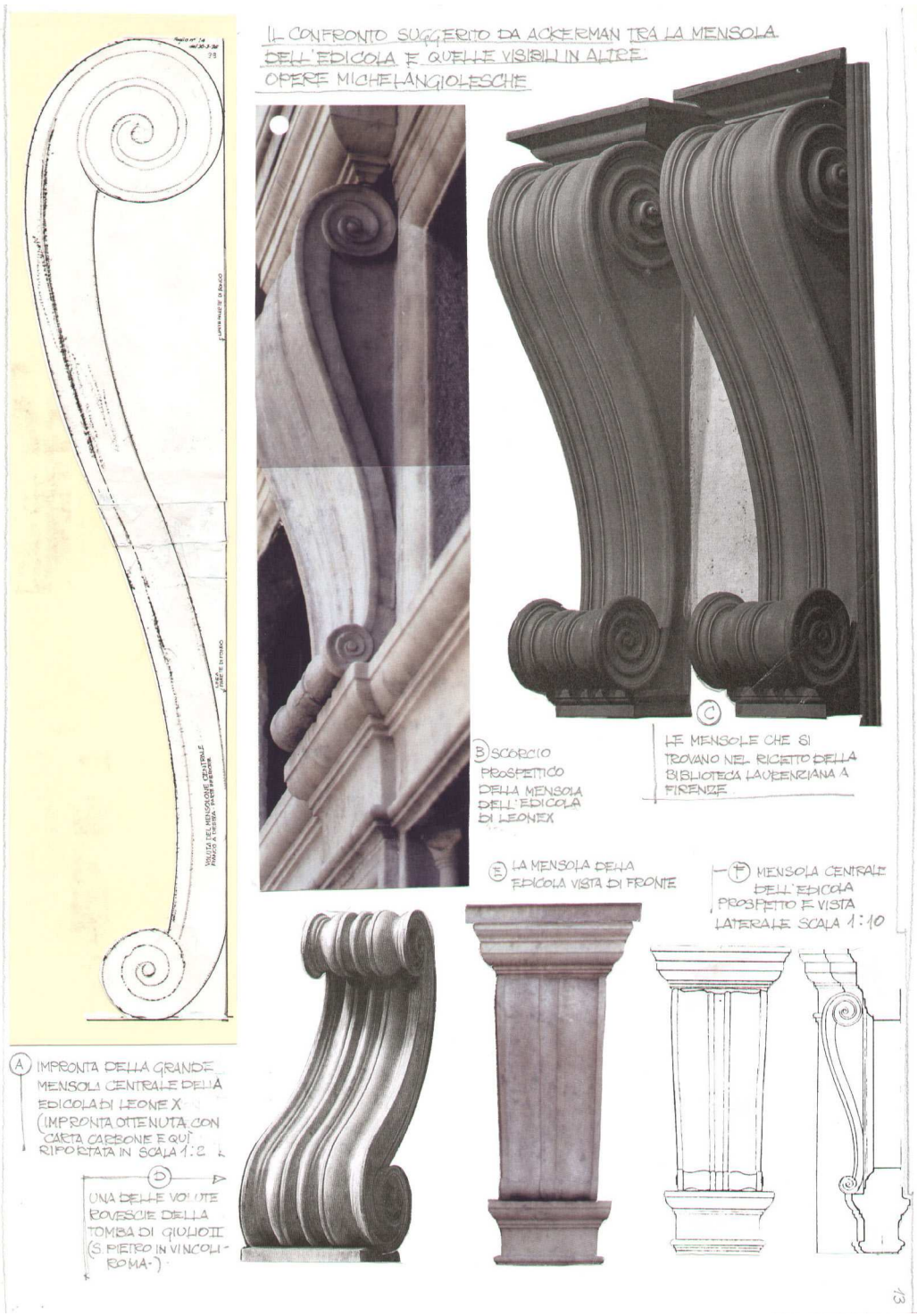
dicule shape by Michelangelo Buonarroti – maybe his first architectural work – the restoration work brings it back to its original condition thanks to the study of archive drawings. Archaeology inspires the principles of the city-garden: from quadrangular shapes to dynamic and complex planimetries. Squares, roads and façades are de-





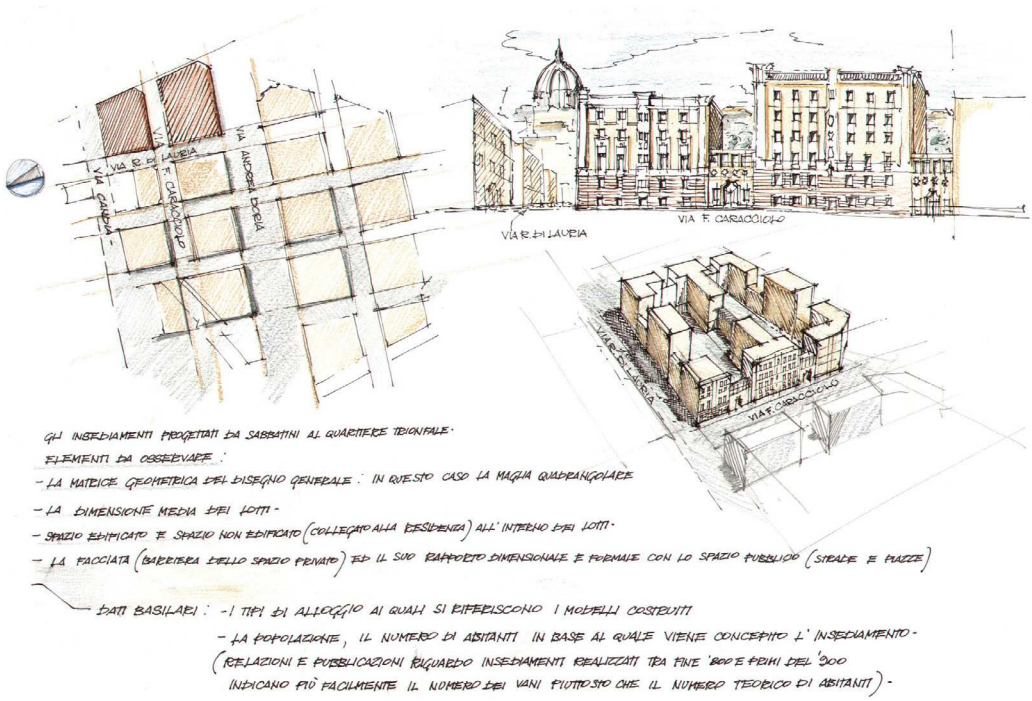
signed in order to avoid any monotony.
The study of the Foro di Pompei and Foro Romano by Camillo Sitte has a great influence over the architectural and urban culture of the perod. The sensation inspired in an individual, observing the volumes of the buildings differently developed, is not the result of casual events, but it's studied and



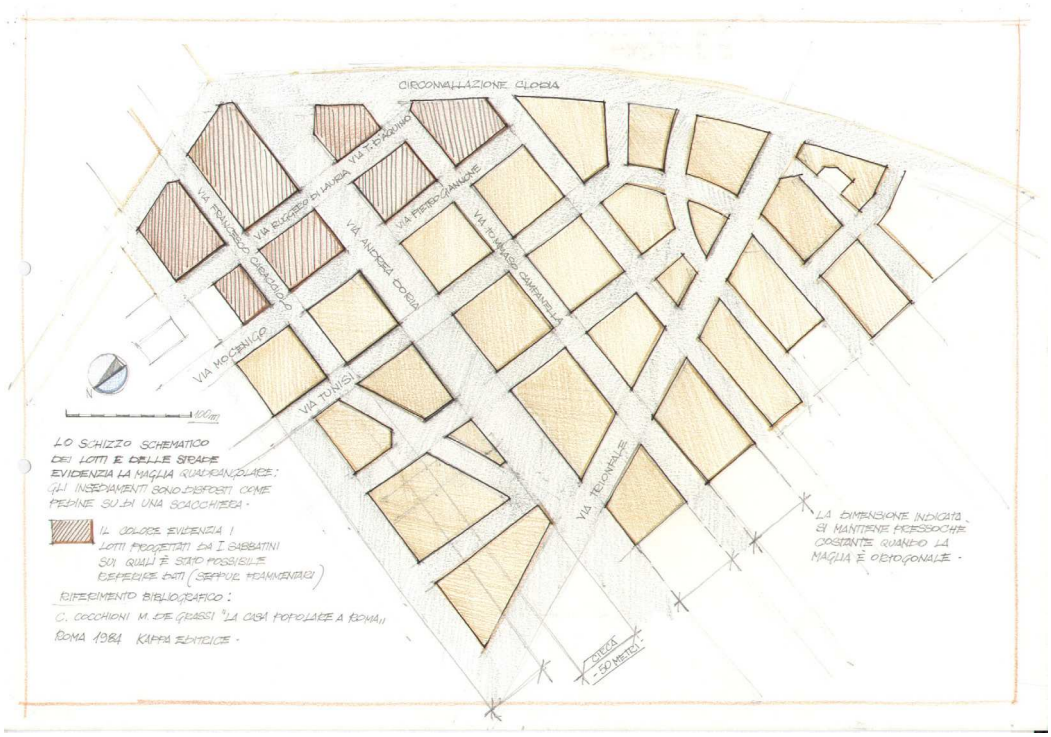


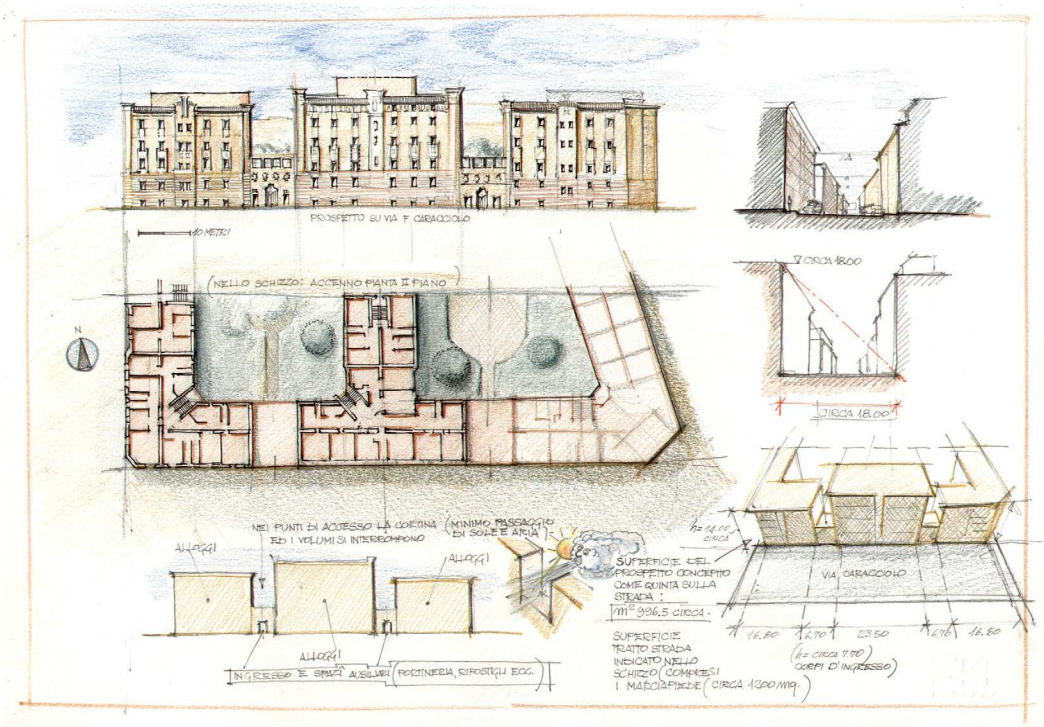
comes out from a solid will. Since 1910, the study of Medieval and Renaissance archaeology suggests the shift from the simple, roman, chessboard scheme – *cardo* and *decumano* – towards geometric and complex structures – the polygons of the bastions of the castles.

Thus, the walls of the buildings are drawn by archaeologists. So is the map of the city between the end of the 19th century and



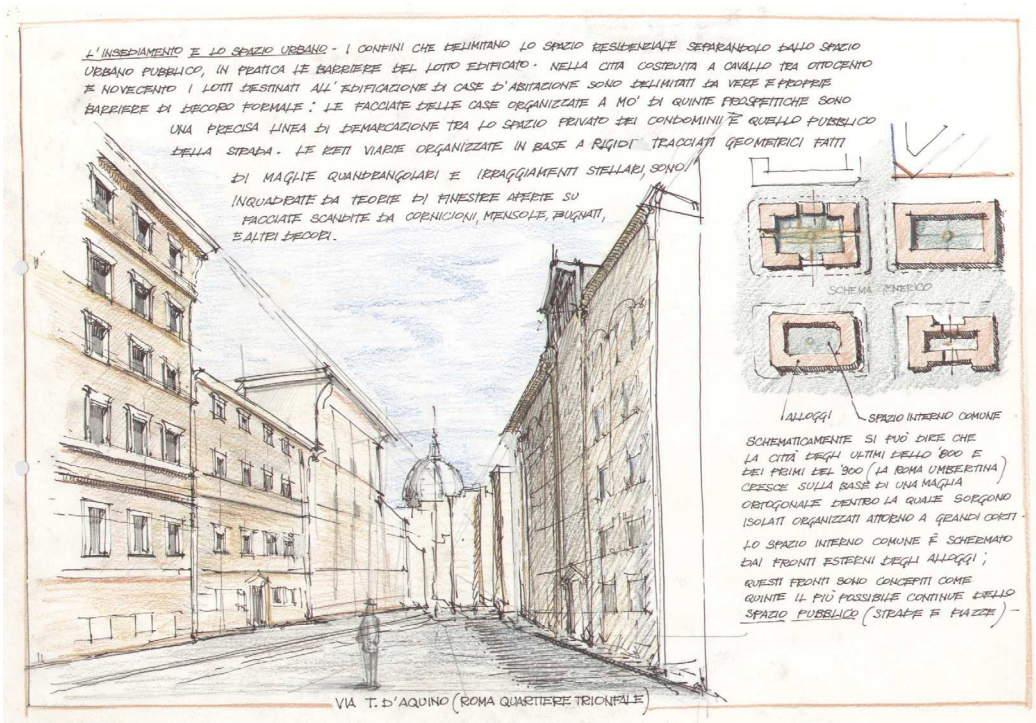
the beginning of the 20th century. In 1919, Roman engineers founded the Faculty of Architecture. In this school, lessons are given by engineers, art historians and archaeologists. An architect's mission is to restore and transform the pre-existing city. The studies that has been carried out, are very detailed. The historical buildings are classified according to their epoch, style, shape and structure. This is work re-

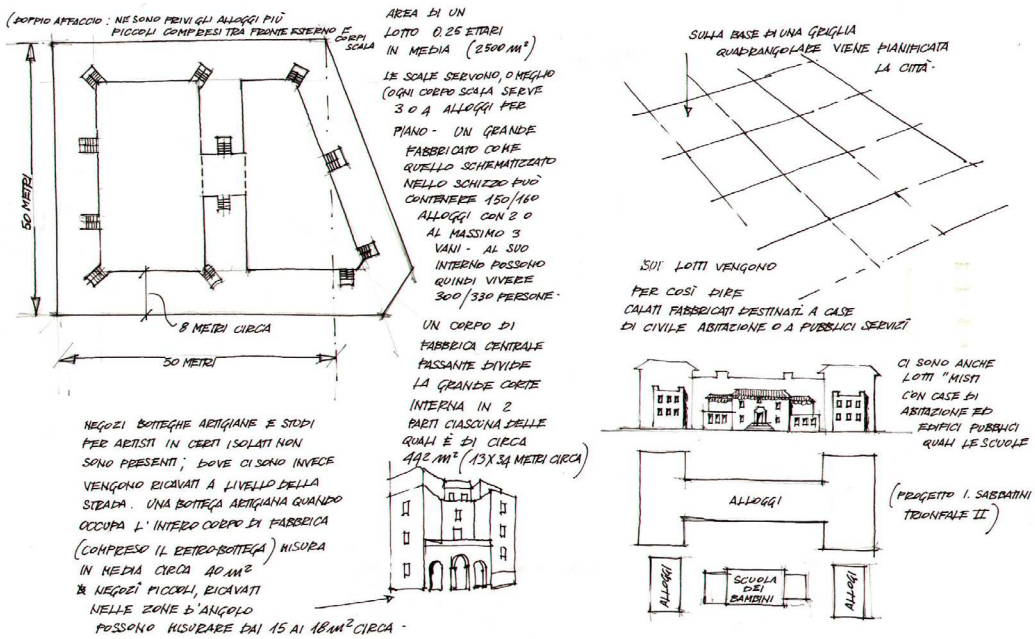




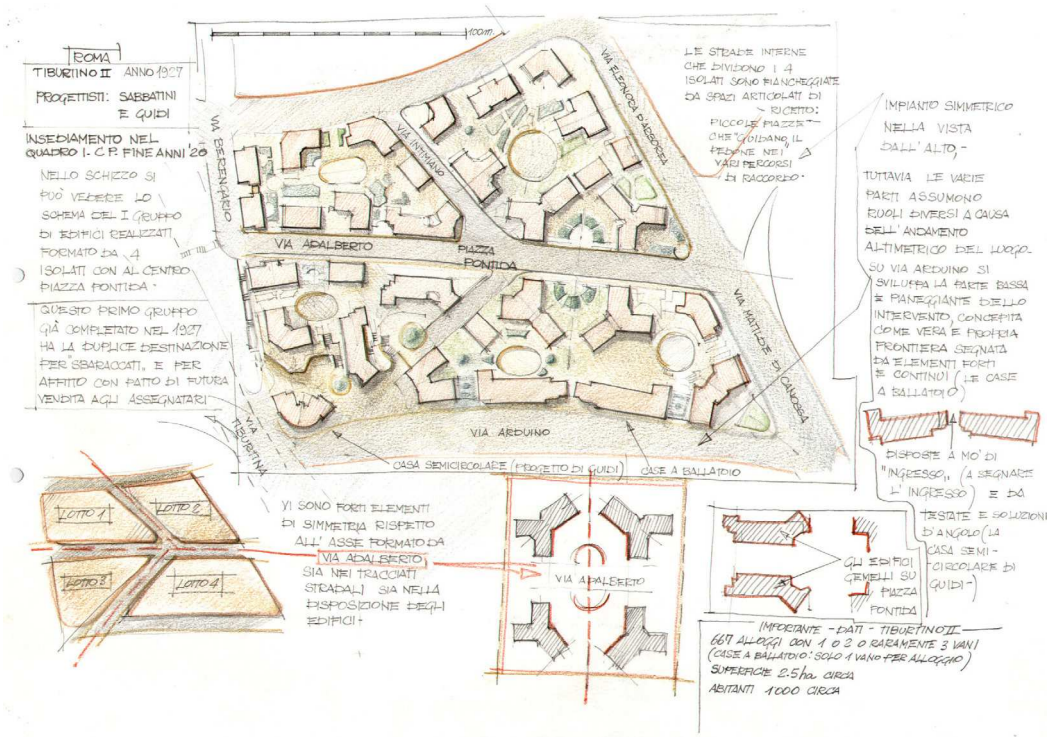
quires an accurate knowledge and it defines the origin of the so-called eclectism. Each designer chooses a historical period according to his own and his client's taste, and repeats its main characteristics.

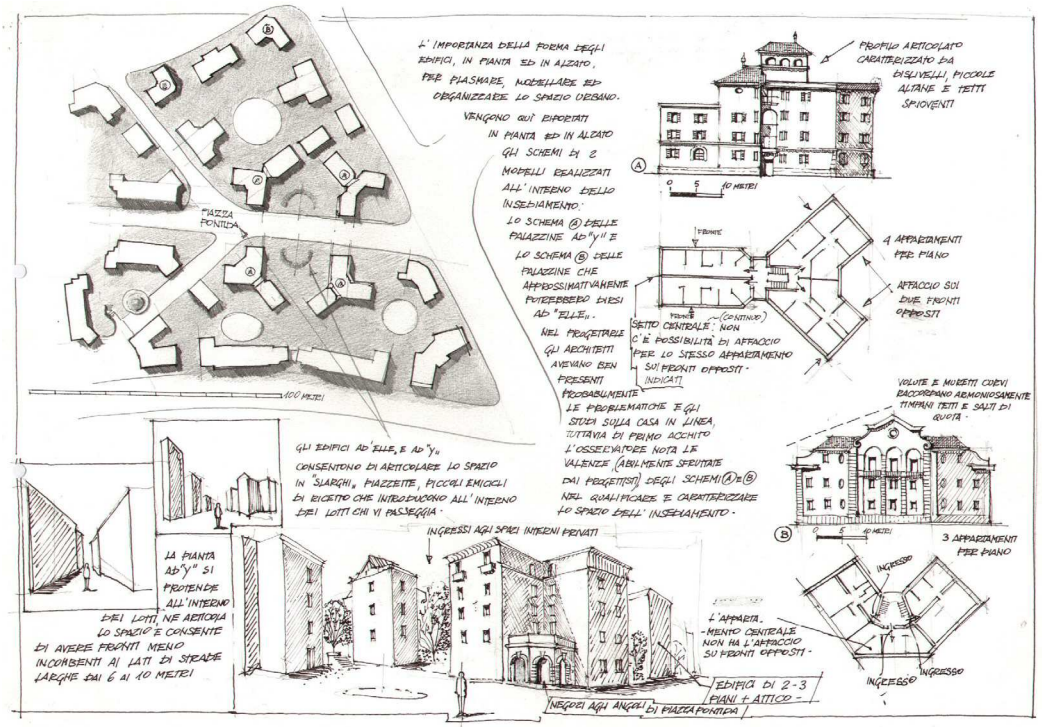
This is the epoch of the so-called architectual neologisms: neo-Medieval, neo-Gothic, neo-Romanic, neo-Renaissance, neo-Baroque, known also as '20th century late Baroque'.
In reality, an original neo-Baroque does not



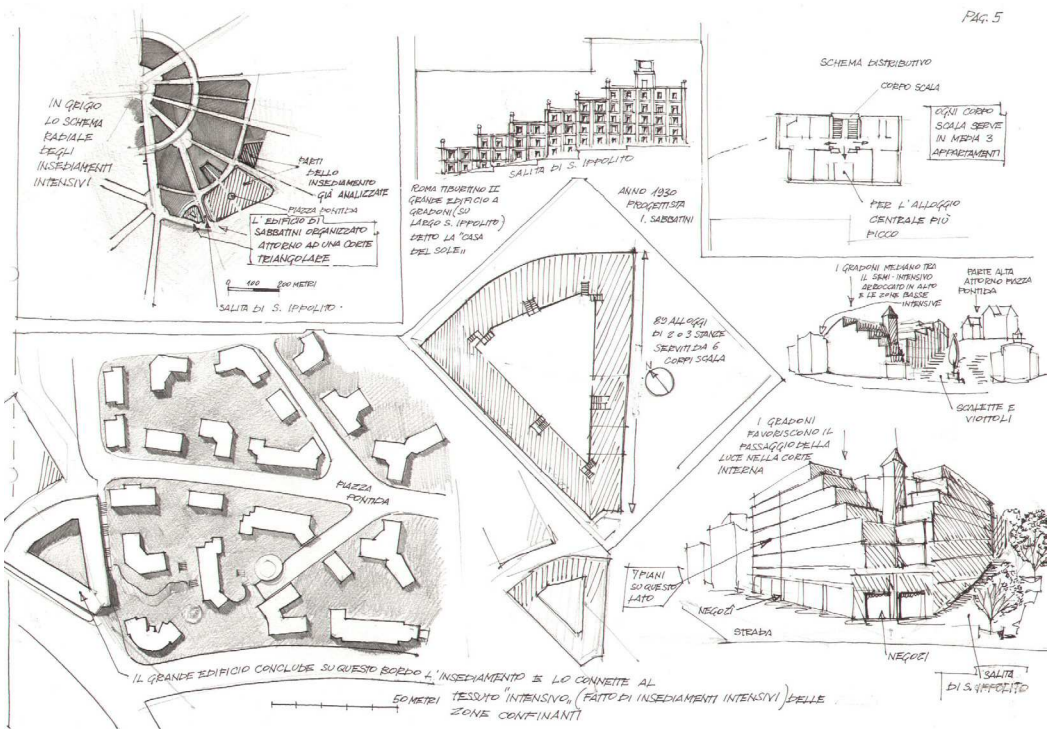


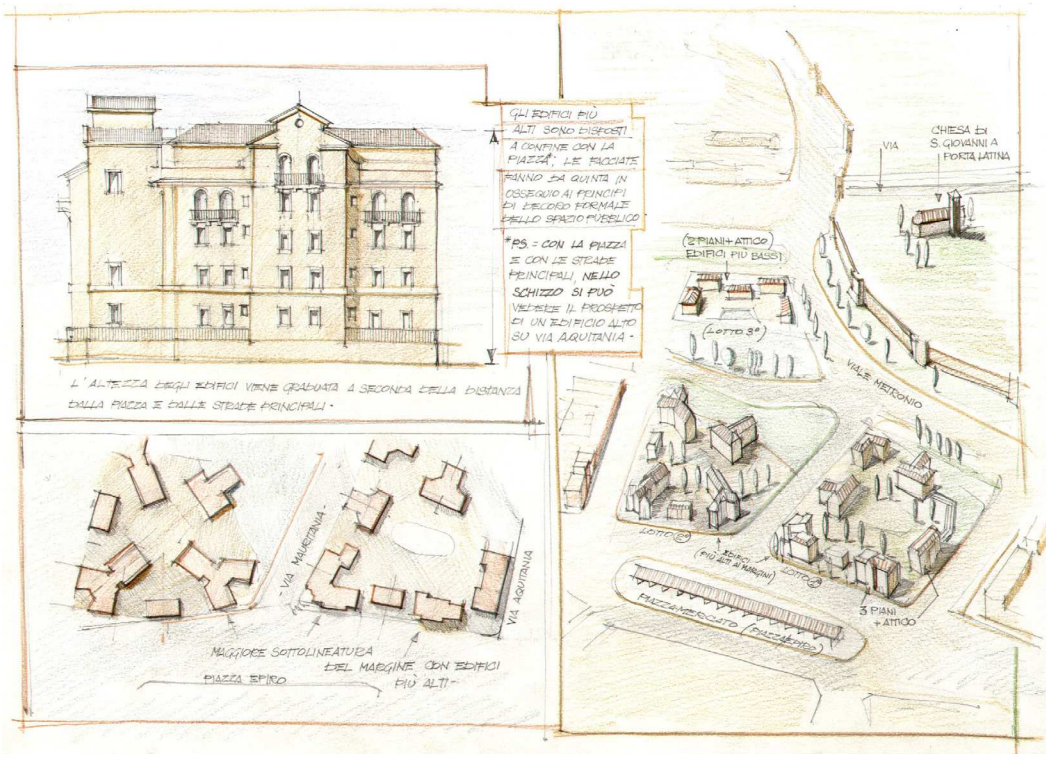
exist, as many scholars, at the beginning of the 20th century consider it a sort of decadent style. Basically, each style chosen by an architect corresponds to a particular kind of building: is up to each architect to choose the most suitable style for the building.
For instance, neo-Romanic and neo-Gothic are popular in churches, neo-Renaissance in theatres, neo-Manerism in buildings.
On the other hand, the so-called '20th century late Baroque' is a particular style defined in these terms by the inhabitants of Rome. This approach to architecture is elaborated by the engineer Gustavo Giovannoni.



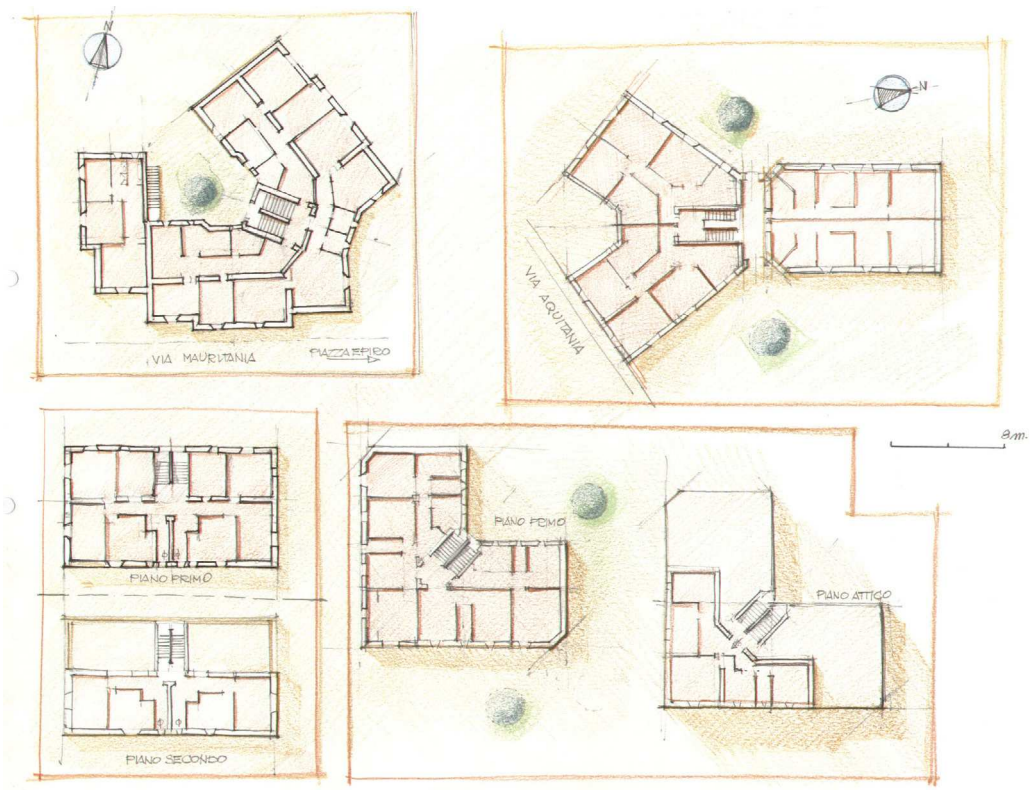


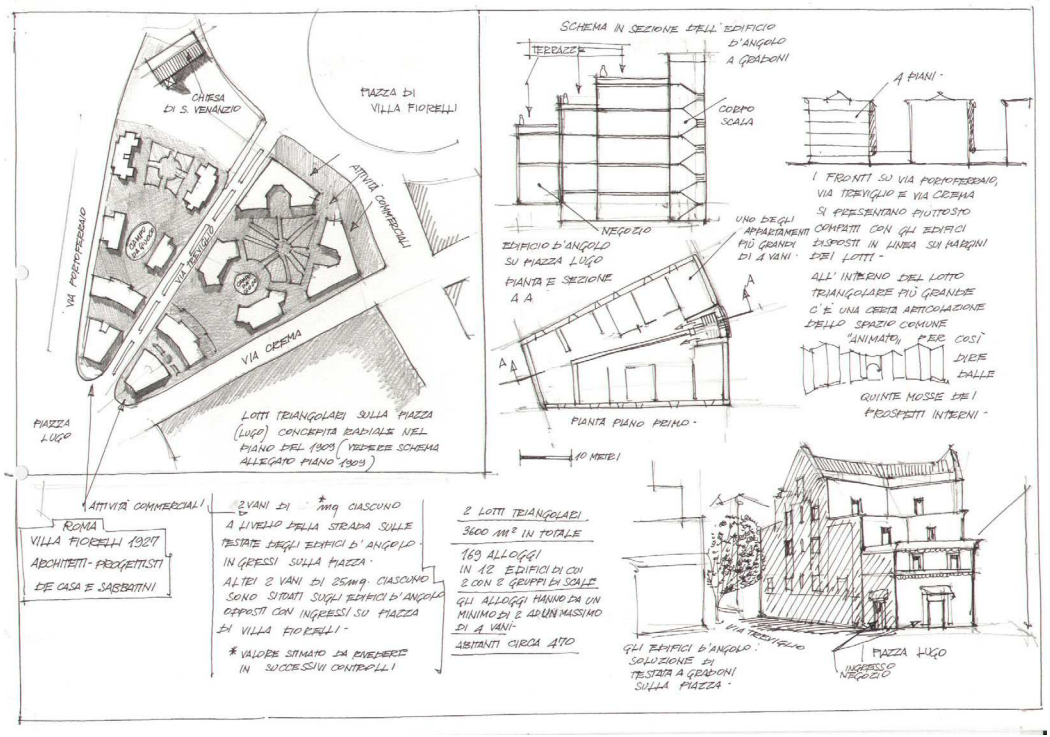
In his personal interpretation, he mixes together typical elements from different Italian styles. His desire, founded on history and archaeology, is to give birth to an Italian nationalistic style. In such a context, in the development of the master plans, archaeological remains, Roman ruins and monuments in general turn into perspec-





tive focuses at the crossroads of important street axis and into set wings that flank the roads. Both as a whole or in detail, what is ancient is an object of study, but also a liv-





ing matter in the hands of the restorer-engineer and architect.

The history, the ancient buildings and the archaeological remains have a relevant didactic value and at the beginning of the XXth century they are the base of the re-foundation of the Capital, the "cement" of the national unity. The historical buildings have to express the power of the Italian Culture, the importance of a great unifying tradition. Castel Sant'Angelo, evoking Victor Hugo, turns into a great stone book set in the middle of the town. Restorers, according to the principles of the Historical Philological and Scientific restoration, will flip through the pages of this great volume and will highlight the chronological phases of the construction for the observers.

Acknowledgements

All the drawings illustrating this article are realized and copyrighted by the author.

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Changes in scale and matters of faith, the case of San Vivaldo, near Florence

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Abstract: It is common to consider the element of architecture composing the urban assets as linked to well defined rules of structure and proportion, but reading in the past it is possible to find some examples where the proportions and the size of the building are guided to reproduce "small size" contest based on well known model. A sort of "miniatures" made to present the values of faith and history to the visitors. Out of Florence, in a peaceful area on hill, it is possible to meet the "Holy mount" of San Vivaldo, a rich complex made by a sequence of small chapels and churches placed to create an involving landscape between the trees and reconstructing the path of the "via crucis". All the chapels and churches were made in the XVI and XVII Centuries and are enriched by statues and ceramic artworks. The complex of the San Vivaldo area is a very interesting "architecture catalogue", inspired by the reference to the Holy land and Jerusalem. The use of well consolidated models referring to the holy sepulture as well as to other chapter from the Holy Writ made this place a very interesting case study in architecture analysis. The digital survey operated in 2010 and 2012, created the basis for a detailed reading of all the architectonic apparatus.An even more in deep analysis was brought on with the photographic survey of similar settlements in Europe, like the one in Dresda, Germany, which give a right base of confrontation like it is for the Holy Sepulchre chapel allowing a better understanding of the plot and of the specific architectonic logic behind these kind of settlements. The gathered data has provided the right base for the developing of a very accurate 2D drawings, with a level of details ideal for a 1:10/1:20 representation, the further reading of the project scheme behind each single churches has completed the work enriching the knowledge about this important complex.

Keywords: SfM survey, San Vivaldo, Digital survey, 3D Laser Scanner, Jerusalem

Introduction

On May 1497 the local authorities of the town of Montaione, near Florence, offered the old nearby hermitage entitled to San Vivaldo to the Provincial Chapter of the Tuscan Observant Franciscans. After the formal settlement of 24 March 1500, the friars took possession of the site and start building a convent and a church. Within the walled seclusion close to the convent, a group of small oratories and chapels was built over the century, each one making a reference to a Holy Place in Jerusalem. So in our days, out of Florence, in a peaceful area on hill, it is possible to meet the "Holy mount" of San Vivaldo, a rich complex made by a sequence of small chapels and churches. The digital survey operated in 2009 and 2011, created the basis for a detailed reading of all the architectonic apparatus, allowing the creation of the most accurate 2D and 3D representation this complex has never had, but also an "in depth" understanding of the historical and architectonic relationship working in this specific religious settlement.

Architecture and place

The San Vivaldo settlement is a Renaissance monument and a thematic park of faith as well. It collects the architectonic idea of a far away place, while giving the space a powerful sense of a Middle Eastern image: In fact, the group of chapels is realized as a transposition of Jerusalem as the faithful visitors might easily recall. The Jerusalem of San Vivaldo, despite a first impression of randomness, is a place developed according to a precise iconographic program. Just as giving a hint of the places of the earthly Jerusalem choosing to

represent them just through plants. Sometimes not only peculiarities of access had been repeated, but also some measure cited.
The use of a well working and recognizable plot, made this place a sort of "out of scale" town, but with all the value of the faith well preserved and presented. Even if the single chapels and small churches are defined by small sized buildings, the most meaningful elements of veneration are realized according to their original and accurate size. So the tomb of Christ has an exact measure. The high quality of the artworks and the particular architectonic solutions create a very original settlement, with interesting aspects that go beyond the occasional use linked to religious events (like the Via Crucis procession).
At the same time the essence of the place is characterized by a link to a sort of "network" of "Holy mountains", realized all over Europe to allow some kind of "virtual visit" to the places of Christ in the Holy Land when this travel was impossible to the pilgrims. In these specific places the architectural premises are always the same, even if the final setup and the number of churches/chapels may encounter variations and site specific adjustment. So in need to bring on an "in depth" research about these settlements, it came out quite logic to identify a complete and correct approach including the digital survey starting from the complete and rich situation of San Vivaldo and then starting to analyse the specific characteristics of the building combined to the state of the artistic and historical knowledge about these places.

The digital survey

The whole survey was done in two separated campaigns (operated in April 2009 and December 2011 by the Department of Architecture in Florence and the collaboration of AREA3D S.r.l., Livorno) using a phase shift 3D laser scanner. The small size of the architectures and the good accuracy of this tool allowed to produce a very detailed model with high readable details in a quite short time. The whole survey took just two days to be completed, with the full coverage of every parts in and out the building. The whole set of scans was referenced to a system of targets, some of them materialized using flat or spherical specific elements, and other localized over meaningful details all around the architectures. The logic of the survey

Fig. 1, 2, 3, 4 - *Views from the first 3D laser scanner survey campaign, aligned pointclouds.*

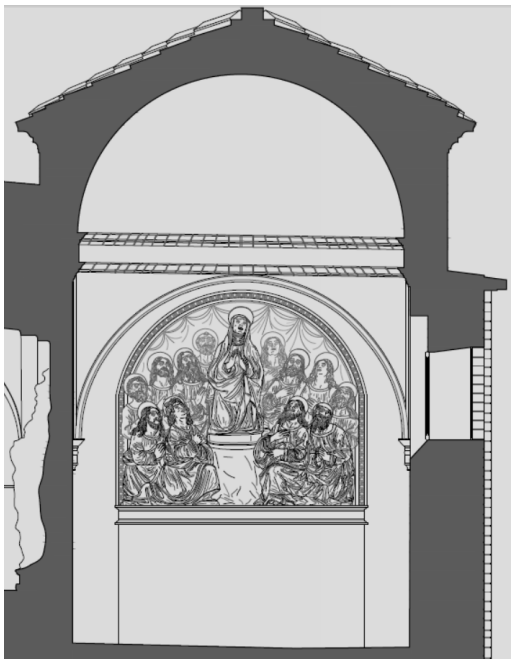
was quite simple, taking the whole outside, entering, taking the whole inside, making an evaluation about possible "in depth" extra scans to enhance some details and then passing to the following building. Each building of the whole settlement is quite near to the other and this facilitated a lot the sequence of operations. As told, for some specific chapel some special operations were done. In example, for the Saint Sepulchre a special set of scans was taken: this chapel presents the demolish of the original roof and is covered by the newer roof. This change in the aspect of the building has caused the original top opening to get lost. But some remains are still in place, under the new structure.
So for first the building was at first surveyed in his contemporary condition, then, with the help of a scaffolding and of some operators from the municipality, a part of the new roof was removed, leaving visible the original base of the opening. At this point all the scans covering the upper part were replied, creating a "double" version of the same building, and creating the possibility to study the shape of the original opening from a very detailed and accurate survey.

Data treatments

After a first alignment of the pointclouds describing each building, a specific editable version of the whole dataset was created. Starting from this one the choice felt on a first classical 2D reconstruction, with a particular attention to an accurate vector drawing of all the statue and ceramic elements. The graphic rendering, through plans, elevations and sections was aimed to produce a detail scale equal to 1:20 of the seven chapels covered by the two measurement campaigns. The process of the data was quite simple, working with snapshots from Leica Geosystem Cyclone, choosing classical section planes and preparing the image to be suitable for the further treatment in the CAD software. Bringing the whole set of bitmap based representations inside Autodesk Autocad, a very involving work of redrawing was operated, taking care to respect at the best the details from the screenshots. It is worth to say that the set of screenshots, for each section or plan was not based on a single solution. To enhance the readability of the drawing, for each representation at least three different visualization styles were chosen: a "colour from scanner" version (with the reflective value in generic colour scale); a "grey scale" version, and a "silhouette" style to enhance the borders and the planar surfaces of each architecture. In specific cases, one more screenshot was prepared, the "elevation map" one, done introducing a variations in the colours according to the "elevation" in a single direction of the whole pointcloud. In this way the possibility to better read differences in a section or in a front view were greatly enhanced with an automatic process. The main intention was to provide a very traditional graphic representation, the most detailed possible, this is the reason why the choice of the 1:20 scale. The aims are to encourage the subsequent analysis and specific studies on individual chapels offering a high quality set of drawings made in a style that appears like a sort of "tribute" to the tradition of architecture survey and architecture representation.

The architectures and their design

The system of small churches and chapels all around the hill are at the same time a sort of selection of architectonic elements and design solution from their age. The high precision of the survey allows to describe in detail and trace with accuracy the grids and the proportions between each part of the buildings. The geometrical analysis based on the ancient measurement units allows to develop important considerations on building purposes and to advance hypotheses on geometric series used in the design phase, searching proportions and relationships in the use of multiples and sub-multiples.
It comes out clear that the whole asset is based on the "braccio fiorentino" (florentine arm) measurement system, a typical solution of that time, but not an obvious find in this area. The use of the extracted and treat-



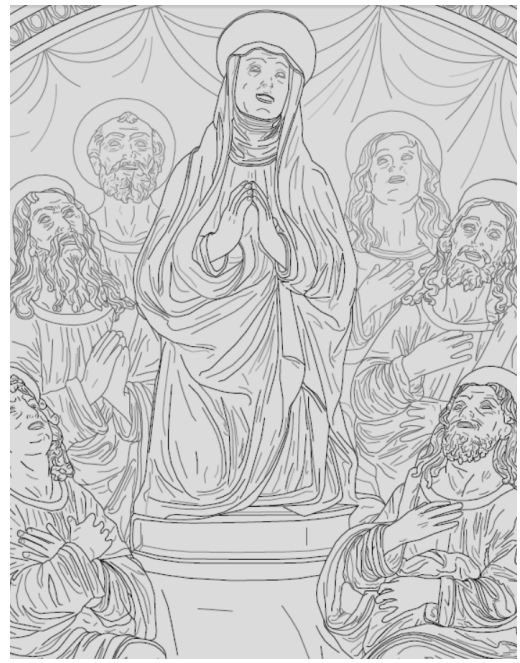


Fig. 5, 6 - *Views of a section from the Pentecoste chapel in San Vivaldo*

ed 2D drawings allows to enhance and put in evidence the combination of geometry and architecture, showing a clear, simple but rigorous criteria that put in robust proportions each building. The dimensioning is oriented to create a very "human" and "easy to catch in a single sight" condition, but all the parts have sober proportions, empathizing the sculptures and the ceramic elements which became the real inhabitants of each church and chapel.

The "Holy Sepulchre"

One of the most interesting dilemma about the original layout of the San Vivaldo Jerusalem is the previous design of the Holy Sepulchre. This meaningful building, with his altered roof is worth of an accurate study, while it can give more than one indication about the way the people working on this settlement intended architecture and the "model" they were representing here. A study based on the geometrical analysis has helped in this direction, but it is not that easy to define a digital reconstruction of the missing parts of this chapel. First of all the remains and the reference to the "theoretical" model of the sepulchre can give a clear indication about the presence of a lantern over the roof, but to make further assumptions about its possible size some accurate reflections are needed. To hypothesize the dimensioning of this element it was chose to follow its graphical traces to extend them into lines and creating a reference pattern to compose the architectural parts. The first passage was doubling the square located on the main front by six Florentine arms, then developing a proportional grid starting primarily by the proportioning of the classical orders, in the specific case using the typical Tuscan order, but this first try was not successful. So the further try started taking into account the possibility of columns without entasis, obviating the failure result of the initial proportions (the stem determined in that way was disproportionate, rather short and stout) and trying to live up to the remains of the base of the columns, which was founded during the past restorations. In addition, the reconstruction and sizing plant has been possible thanks to the results of the survey carried out using the 3D laser scanner, which revealed the hexagonal base of the lantern (two of the six sides, others were built accordingly to a geometrical reconstruction). In this way, following a step

by step analysis of the possible design grid, a first and meaningful working grid came out. In the choices made in the reconstruction a very strategic rule was played by the observation of the equivalent monument in Görlitz, Germany, an interesting parallel, which was studied and surveyed using a photogrammetric solution, based on the use of Agisoft Photoscan, one of the most well diffused and better working SFM (Structure From Motion) software. The SFM reconstruction was tested at first with a previous version of Photoscan, the 0.9, then with the use of the new release, the 1.0 the results came out in a more complete and usable way. The testing and the experimentation using Photoscan were operated in collaboration with arch. Mirco Pucci.
The reading of the germanic example gave an interesting contribution in imaging the original aspect of the Holy Sepulchre. From this reading it came out clear how the specific architectonic solutions are a very "elastic" language for these buildings, where the only rigorous element is the size of the Jesus's sepulchre, it is the element of faith to be respected, all the other elements adapt themselves to the environment conditions and architectural preferences.

Designing an APP for San Vivaldo

The developing of an app for San Vivaldo is one of the advanced challenge in this research, it looks more to the tourist and to the curious than to the scholar, but it can be helpful to enhance a right interpretation of the value of this architecture. The development has been carried on in collaboration with arch. Francesco Sani and the APP was initially thought for the use with an Apple Ipad, but it is possible to imagine an easy translation into a Google Android operative system. Inside the APP it has been outlined visit to the chapels, especially trying to create a path as much as possible linear and following as much as possible the timeline of the "episodes"of the life of Jesus represented at San Vivaldo.
The proposed visit to the area starts from the parking area, and provides a passage across the trees leading to the church and to the convent of San Vivaldo and then proceed according to a progression starting from the Chapel of the Samaritan, passing by the Mount Sion chapel, crossing one after the other all the other 13 chapel to focus on the Holy Sepulchre and then closing with the remaining 5 chapels.
The intention is to go beyond the traditional visit based on the use of an audio guide or information boards, reducing the impact of signs all around the "The Jerusalem of San Vivaldo" and giving more attention to the original asset of the place. The APP can be used on site, exploiting a local net or as a home application, it will allow to move through the site information (events, sightseeing, how to get there, touristic information), history and the map which will help to complete the real visit. The application, ready for the visit, will show a map of the site where the various points of interest, the individual chapels are located , specific markers will help in the identification of each element. An arrow indicates the direction to follow in the path led through the activation of a GPS positioning system, the latter will drive both the planned visit of the site. During the visit, an alert tone will signal the proximity of a point of interest. Only those points of interest which have correspondence both with Jerusalem and Görlitz will present in its form, and automatical procedure will propose the connection with one and/or another website containing appropriate information.

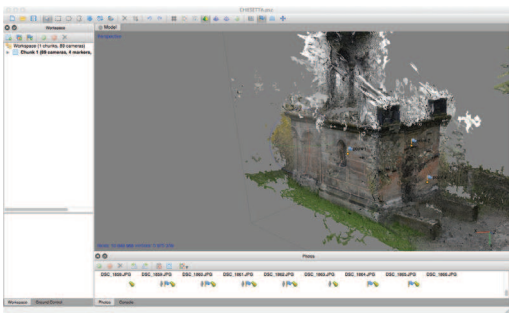


Fig. 7 - *Screenshot from the processing of the photogrammetry of the "Holy Sepulchre" in Görlitz.*

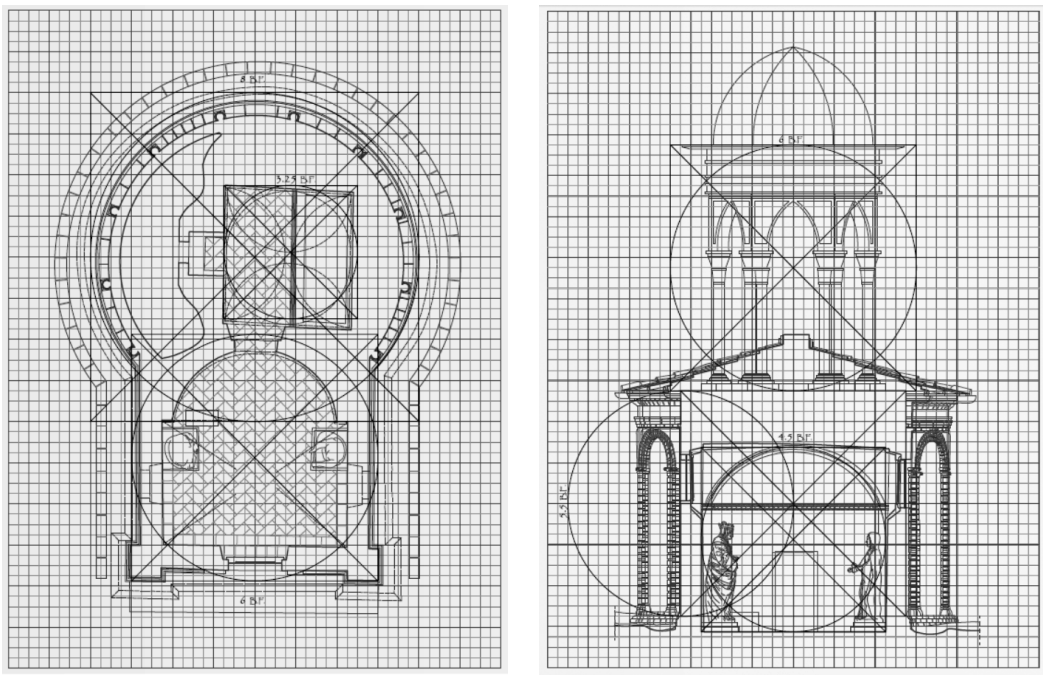


Fig. 8, 9 - *Grid Analysis on the virtual reconstruction study for the Holy Sepulchre chapel*

Conclusion

The "Jerusalem" in San Vivaldo shows its particularities and create the occasion for thinking and reflecting about the historical architecture and the way ancient architects approaches themselves to the logic of building and how they were used to communicate the faith of their age. The articulated subjects create the conditions for more than one challenge, where digital solutions, documentation, representation and new technologies are called to research side by side with the historical and artistic value of a meaningful place.

The use of contemporary technologies studying the subject is done trying to enhance the research, exploiting the high accuracy of the survey to better understand the geometry and the design logic of the most important building. The possibility to capture a detailed survey of one of the chapel from a far away place shows the potentiality of such an approach, creating the conditions for any scholar and researcher to create his/her own catalogue of digital three dimensional models, capable to allow comparing and matching between architectures. It comes out clearly how this way to operate the knowledge about architectures can get a great benefits in advancing studies about the past starting from its ancient traces.

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Urbs, *civitas*, and general aspects on the necessity of an "archaeotecture"

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Abstract: This short article wants to stress general aspects of the importance of combining both architecture and archaeology in research on urban history. Both disciplines can be seen as dealing with and creating knowledge on different, but complementary aspects of an urban place. While the architectural discipline may provide information about physical aspects and structures, the *urbs*, of a city, may the archaeological work provide this physical frame with a social content, *civitas*. The relation between *urbs* and *civitas* are not always predictable or according to initial plans, why the study on both are needed for more complete pictures of urban pasts. Archaeological research as well as expertise is also argued to have its natural place in contemporary city planning.

Keywords: Urban archaeology, architecture, "archaeotecture", urbs, civitas, city planning

The early modern period (generally ca. 1500-1800) has often been considered to be a period of minor archaeological importance. It is not a traditional archaeological period to be taken in exam. The urban morphology of this more recent past, is clearly more well-known for instance through historic documentation, maps, blueprints, and later on through photographs and news media. This amount of sources could lead to the conclusion that archaeological investigations and excavations of more modern urban contexts are less needed, since they would only confirm what we already know through a variety of sources. This impression has in many countries, not at least in Sweden, lead to an unbalanced research situation when it comes to knowledge about early modern cities. Especially common during the 1960´s to the 1980´s, but still practiced even in our days, was the removing of later centuries of archaeological cultural layers in order to reach down to the medieval layers, which were considered more interesting. The centuries after the medieval ages has thus not been closer, or at all recorded, and thus knowledge is fragmented and lack a larger synthesizing and comparative work (ERSGÅRD 2013; LARSSON 2000). Today the situation has improved and certain towns are examined with the impression that every epoch of history are equally important. Since archaeology as discipline examine human societies through material remains, archaeological studies are of course essential, not only when dealing with Medieval or prehistoric time periods, but for any human context. The study of different material sources catches different aspects of the same time and place. That is why archaeology also play an important part in the study -for instance- of urban contexts well-known through historical sources.

In the study of a more recent past, archaeological research is more able-bodied in how it may generate knowledge on a micro-level (cf. O'KEEFFE 2009). Historical documentation of different kinds indeed give important information essential when creating an understanding of urban history, as well as generating backgrounds and information significant for contemporary city planning. Maps, blueprints, sketches, photos etc. will certainly generate knowledge on, for instance, city layouts, street patterns, building types, districts and neighborhoods and, to some extent, activities. However, overconfidence in that these types

of sources generates the whole picture, will miss out on important aspects and give a poorer understanding of the complexity of urban societies. Nevertheless, these sources will generate a sort of physical framework, into which a social content can be filled. Here, information gained through archaeological excavations may fill in the blanks.

Urbs and civitas – physical frames and social entities

To think of and work with an urban place as archaeologists and architects, there are probably a vast range of concepts one could apply. Here I propose one way of regarding an urban place that might inspire and be fruitful, even though it is a bit simplified.

In the 5th Century B.C. Thucydides wrote in *History of the Pelepponesian Wars*, what seems to be one of the earlier divisions between the city as architectural unit, and the city as its inhabitants. In a speech in this book, a distinction is made between the city defined as *urbs* – meaning the physical entity – and the city as *civitas* – referring to the human association. Hereafter, this division is to be made by several others in other historical settings. In early 15th century Italy, the idea of the complementary concepts of *urbs* and *civitas*, lead to the organized exploration of ancient ruins from the Roman *urbs,* in order to reach an understanding of its *civitas* – a kind of early archaeology that is (KAGAN 2000: 9, 20).

The study of architecture and city layouts on a larger scale - the physical frame - may thus be considered as dealing with the *urbs* of a city. Archaeological research is here considered to reach the social levels of a city, to fill the physical frame, or the *urbs,* with a societal content - the *civitas*.

The relations between these concepts may then be discussed, for instance, how and in what ways they are affecting each other, or are a result of the other. The Spanish colonial project in Latin America was connected to the perception of a town as something synonymous with civic order, civilized life, justice and religion. In an unfamiliar environment populated by hostile natives, the towns stood for the opposite. A thought was then, that forcing native people to live in organized towns and districts was essential for Christianization and refinement (KAGAN 2009: 20f, 27f, 31). A well-ordered regular town was thus granted with certain beneficial qualities, affecting the outcome of its *civitas*, its inhabitants. Nevertheless, the encounter with unfamiliar social collectives and their different settlement patterns with various grades of higher or lower density, must have been necessary to control and force natives into Spanish systems of urban layout and political organization, in order for a successful conquering of the New world. City layout and design of urban places, as means of controlling people's movements, visual experiences and so on, is for instance discussed by scholars like Michel Foucault. These calculated actions were probably increased during the renaissance, when a new more holistic city planning emerged (cf. ZUCKER 1959:99). Theorists and artists during the renaissance believed human life could be rationalized through logical schemes, which were eventually taking the form of specific patterns of town layouts (ZUCKER 1959:100). This belief that a rational design would make rational societies has been common also much later, for instance in the 1920's. During the history of architecture, some have instead cared less for the social dimensions of architecture. Occurring have also opposing beliefs, that the physical dimensions are the effect of its inhabitants. This is clearly seen in 19th and early 20th century debate about slums, where these dwellings were considered to be the direct result of the undisciplined and unmoral classes own failures and disinterest (GASKELL 1990: 5, 7f).

The discussion about the relations between social and physical aspects of an urban place, could easily fill shelf after shelf with books and articles. If the relation however was easy predictable and straightforward, if for example one type of building or settlement automatically would generate a certain type

of society, historic and archaeological research would to a high extent be superfluous. The relation is not obvious, direct or always predictable. There is a vast range of variables affecting: like housing policies, market powers, private interests, socioeconomic factors and so on. Interdisciplinary studies between, for instance, architecture and archaeology are therefore of great value.

Regulations vs actions, or, non-planned use of space.

As hinted previously, historical documents, for instance in the form of maps, blueprints and photos, will give a good understanding of more physical aspects of maybe no longer existing cities or districts. When it comes to maps or blueprints however, they might as just be idealistic plans or whishes on how architecture and city layout were supposed to be built. Maybe they were not realized, or got additional changes later on. Archaeological material on the other hand, are traces of what actually have taken place. Archaeological research can thus reveal how urban places, streets, alleys, districts and buildings were used – which does not always correspond to original intentions on how they were supposed to be used. Different archaeological research show how people's actions don't always correspond to what they declare they do, or are expected to do. The most famous example of this is the Garbology project (RATHJE & MURPHY 1992), while others like Steven Mrozowski work in the same tradition and show how people secretly use spaces for activities they were not intended for (cf. MROZOWSKI 2006).

The Latin American colonial grid-plan towns could serve as an example of the tension between overall regulations and what is taking place on a more individual micro scale. These towns, founded after Spanish initiatives, to a large extent looked the same when it came to overall urban layout and design, and in regulations on where indigenous people were put together in certain blocks and suburbs. On the surface, on blueprints, maps and regulations, this gigantic urban project to a large extent may look regular and uniform. Nonetheless, examples of archaeological excavations exists, which reveal how different social and ethnic strata in reality not always were separated in different blocks as they were supposed to, but could live mixed with each other – both in the city cores as well as more peripheral quarters (cf. SCHREG 2010; FUNARI 2006). Getting in-between the grid so to speak, would thus reveal a reality not totally conform to regulations and blueprints. Intense studies on household levels would probably reveal individual solutions on organizing the own lot and home, even if at least outwards adapting to the grid plan. This can be seen also in contemporary examples from Latin American slum, which also often follow a grid regularity in their layout. For instance in unofficial areas studied in Bogotá, houses show very different architectural patterns even if the lots are uniform (DUARTE 2009).

Finding social strata

The main point with these examples is that both studies on the *urbs* and *civitas* are necessary to get a better understanding of historical urban contexts, valuable also for contemporary urban planning. Historical studies on architecture and urban design will not so much reveal how it was used, neither on all who used them.

General trends in historical and archaeological research have been to focus on certain traits of a city; often the most monumental architectural features, the city core, and people that were connected to these buildings or city parts in some way. This has also meant the exclusion of other social dimensions. People which are not from the uppermost parts of the society or the culturally dominant groups are therefore little or not all represented in official history writing (read more about this in HJERTMAN & NILSEN 2014). Function or social content of buildings or districts are not always revealed just by their look or placing of them. There might be areas, unplanned and unofficial, which holds larger parts of urban

Fig. 1 - *The poster presented at the workshop (A0 size)*

populations, such as squatter or slum areas. In such cases, the settlements could be highly visible and dominant in a city, even if their inhabitants are more invisible in official debate or history writing.

There are other urban environments which are not that visually apparent as slums, and in this way may conceal those different social or

marginal strata that exist within them. For instance, these environments could be castles, fortresses or villas.

Larger and richer villas or palaces are in need of a staff of different servants and craftsmen, which all live and work within these environments firstly associated with the owner family.

Closer archaeological examination of material cultures found in these kinds of environments, may show a more facetted picture.

For instance, in the case of the Swedish Läckö castle, archaeologist Kristina Carlsson (2008) could relate much of the everyday culture to the servants. The actual castle owners were seldom at place and probably brought their high-status objects with them.

Additionally, second hand renting of stables or rooms is not an exception in history, and it can be detected through research that go beyond intentional plans and for the buildings (cf. LIS & SOLY 1979).

Probably this kind of activity is not always mentioned in historical records. Thus, people from different societal strata may not always be detected only through the study of historic source materials of different kinds, but may be discovered through archaeological research. In an excavation of two 18-19th century town yards in the Swedish town Jönköping, the material clearly showed evidence of several households residing in economy buildings, not originally meant to be lived in.

This was probably a kind of second hand renting which was never planned when the house was built. Nor are the less well-to-do people who resided in places like this mentioned in any written documents which make archaeological studies even more important (cf. PETTERSSON 2014). In most cases, to reach beyond the sometimes idealistic or well-ordered view on how buildings and cities have been used and whom they represent, architectural and historical studies need to be combined with archaeological excavations, providing the *civitas,* or social content.

Final words on the necessity of an "archaeotecture"

When it comes to the combining of architecture and archaeology, and the inclusion of archaeological work and research in city planning, there are some general points. Knowledge about different historical layers, obviously give an important contribution to the understanding of the past.

Taking this knowledge into account, this could enrich contemporary urban environments in that it connects those different time layers the city usually consists of. This would prevent buildings to stand as solitaires without connection to its historical surroundings (cf. CAITHLIN 2005). It may also give specific answers about lost knowledge, technical and urban solutions and innovations through the ages.

A strength with combining archaeology and architecture in city planning is also how this may generate understanding of how city environments have been used. This is not always in line with intentions and plans, and valuation of and using of the same place, the same house or district, may change over time and mean diverse things for different social groups or people. Hopefully, interdisciplinary work could also detect effects of earlier planning ideals, how they have created segregation or benefited certain groups and their use of urban space.

Finding these different temporalities is also to catch more dimensions of a city's history, and include stories and experiences of more social strata into the larger picture.

Awareness of changes or continuities over time and the relation to different social groups, may prevent city planning to be too locked into certain purposes and contemporary ideals likely to change fast. It may also prevent city planning to become too idealized and only suitable for certain whished for inhabitants or users.

The meeting as equal partners early in the process is important for a successful collaboration between disciplines as architecture and archaeology in work with city

planning. Hopefully, positive collaborations could not only help in generating a more interesting and democratic urban planning, but may also change the unjust presentation of archaeology coming from the news medias, showing it as a costly evil, which goes delaying construction work and hindering progress.

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Pictures from the workshop

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Abstract: Behind a conference, behind the proceedings and the book left to testify the complexity and the mountain of ideas flowed in few days, there is always the group of people who debated all the subjects, and their life around the event. So documenting with pictures is a nice way to add something more to the acts, and its something that can be done with group pictures, with reportage pictures, with casual shots, but is also something that can be done with an effort, the one that trying to capture the real essence of visit and of the people around. In this closing contribution it is possible to see a selected series of images from the workshop, the visited towns, but no people posing or common postcards, only few shots to put in order what was done and trying to capture the involvement of the participants to the workshop. All the pictures here are taken and post processed by the authors.

Keywords: Photography, Workshop, Firenze, Lucca, Livorno

The scholar workshop took place in June 2014, in a year that, in Italy, will be remembered for a very rainy and cold spring and summer, overall the climate was not a problem for the interested group of scholars taking part to the event, and the few nice weather occasions happened exactly when needed, so it was possible to have all the foreseen events in the right order and with the right mood. The workshop was organized in two phases, a first, preliminary moment of meetings and visits in Tuscany to learn and see places with significant example of urban tissues combined with its past and grown layer by layer until our days, and then a second one, made of meetings and discussions, organized around the presentation of each participant contribution, in the rooms of the Dipartimento di Architettura in Palazzo Vegni. The idea at the base of the workshop was to stimulate the discussion and create occasion to match each participants ideas and develop concepts and clear thinking.

Taking images of these moments was not easy, but it's a part of the activities who organize an event must always take care of, in our time, the continuous use of images makes difficult to concentrate on few, well chosen pictures, most of the time there is a poor level of abstraction in taking images and few time is left to the further processing, but its a part of the multimedia approach to the media, and it's not a rule everybody must obey.

So, to close the rich series of contribution from most of the participants, here some pictures from those days are presented. Not a lot of images, but a small group of 25 images, just more or less like a typical rollfim in 35mm format, chosen to document the mood and the significant moments of the workshop, some instant extended to represent the relationship between the event, the participants, the places, the towns, the monuments and the subject of the discussion.

All the pictures (except the scan of the sketch at the end of this series) were taken using an Olympus OMD EM-5 16Mp digital camera, a good quality and compact tool, capable to operate in low light as well to capture an high level of details from architecture and context. All the images were treated to get a specific consistence, paying attention in the enhancement of the details and in the tone calibration in the idea to add a "something more" to suggest the "climate" at moment of the shot.

The Conference Venue

The location chosen as the place of the workshop in Florence was "Palazzo Vegni" one of the building hosting the *Dipartimento di Architettura*. The palace, placed in *via San Niccolò*, near the Arno River and at the feet of the hill of *San Miniato*, is the result of the unification of various houses from the XIVth century into a single building in the XVIIth century. The owner at the time of this transformation was Gherardino Gianni. The work of unification took time and included also a tower-house from the middle XIIIth century. During these transformations a large room named "galleria" was realized at the first floor, it has been designed by Antonio Maria Ferri at the end of

the XVIIIth century. The idea of such a space was to offer a representative space for the new owner of this property. This large, vaulted room, has paints from Alessandro Gherardini, a Baroque florentine painter. The building has seen various transformations across time, with a meaningful change in the façade operated by Angelo Vegni, who bought the palace in the 1860 and who left his name on it. The complex was later acquired by the Florentine Municipality who is its owner since 1980, and then it was partially given in use to the former Architecture Faculty (now *Dipartimento di Architettura*). The "galleria" became the *Aula Magna* or *Aula 1,* a space for conferences, for lessons, for presenting degree thesis.


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Visit to Florence

Florence is such a rich town that any kind of visit is always capable to bring new surprise and interesting subjects worth of widening. The evolution of the town from the Roman period to the contemporary age made it a perfect subject to start any discussion about the balance between contemporary city planning, archaeology and architecture. In the days of the workshop a very curious event took place: the quite uncommon setup of the scaffoldings for the restoration of the Baptistery, made with colourful graphic and schematic layout. Thus the main visit took care about the town center with a special attention to the "Viali dei Colli" designed by Giuseppe Poggi for the works of "Firenze Capitale" and crossing the hills at the shoulder of the conference venue, a nice place to take an higher look to the whole town and to appreciate the integration between the ancient town and the intervention from the XIXth century, passing by significant and well known places like San Miniato al Monte and Piazzale Michelangelo.

Visit to Lucca

Towns like Lucca offer an important context: they show well preserved walls and allow the reading of the balance between the ancient "inside" and the country outside, the richness and density of monuments inside the walled town once more create the conditions to interpreter the relationship between the previous traces from the roman and medioeval age as the main guidelines of any further development. A visit to the church dedicated to the Saints Giovanni and Reparata (developed over roman remains since the VIth century) was due while in this place, in facts there it is

possible to visit the whole stratigraphy from the ancient Roman villa up to the middle age reorganization, to the rising wall of previous baptisteries and the final connection between the last baptistery (obviously the St. Giovanni) and the church of St. Reparata. But even if the visit was about the “underground”, this same place offers a visit to reach an high eyepoint, the ancient tower bell of the church is accessible to visits thank to a recent iron staircase, so it is possible to take a look to the roof and having a very nice view all over the town. The two picture documenting this visit are taken from the bell tower in that day.

Visit to Livorno

Livorno has a very suffered town centre, the ancient remains suffer from the impact of the contemporary town and from many limits coming from poor choices made in the modern era. The whole system of ancient walls and fortresses, developed from the XIVth century, is going in pieces little by little, and for each part partially restored a new one seems near to be lost.

Overall the general aspect of the ancient town can be better appreciated visiting it from the water, using a specific touristic service, bringing people to visit the system of channels and tunnels around and beneath the town. And so we did.


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The workshop days

And so, starting from the 16th of June, the workshop took place, and for all the people there were very intense days, there was a lot to see and to listen and a continuous invite to the discussion. And at the end of the sessions, there was Florence all around, and this was like coming back to the subject of the discussion, having the

subject in itself talking to you. The scholars brought their studies to the others, and the participation of some students, professors, researchers, Ph.D. and collaborators from the Dipartimento di Architettura created an extended communication of the subjects of the discussion. The great level of attention and interaction allow to say that the workshop had a successful result in bringing each researches to be enhanced by comparing methods, subjects and strategies.
And just because when architects think, they often draw, here to close the book, a sketch realized during the workshop by Panaiotis Kruklidis architect and graphic.

Firenze
16-18th June 2014

Scholars workshop:
ARCHITECTURE, ARCHAEOLOGY AND CONTEMPORARY CITY PLANNING

Workshop organizing committee:
Giorgio Verdiani, Per Cornell, Alessandro Merlo, Gianluca Belli.

The workshop has been realized in collaboration between Architecture Department of the University of Florence, Italy, the Department of Historical Studies, University of Gothenburg, Sweden and MOLA (Museum of London Archaeology, UK)

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In discussions on urbanism, the need to involve new actors has been a major theme of recent debate. In this field, throughout Europe, various ways of allowing citizens to take a more direct part in planning is stressed. It is also important to look at the role or lack of role played by particular research fields. Architecture plays a major role in city planning. While archaeology has become increasingly involved in field projects in urban environments, the discipline seldom plays an important role in city planning. In several countries and particular cities this situation has been questioned during the last decades. In June 2014 a group of scholars from 8 different countries met in Florence to discuss about the relationship between Architecture, Archaeology and contemporary City Planning. This book collects the final papers from that meeting.

The workshop was realized in collaboration between **Dipartimento di Architettura (DIDA)** of the University of Florence, Italy, **Department of Historical Studies**, University of Gothenburg, Sweden and **MOLA** (Museum of London Archaeology, UK).

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