Social transformations in burial place making: a visibility pattern analysis of three historical cemeteries

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Abstract

The development of European burial grounds can be split into three periods: burial grounds in catacombs through Early Christianity, churchyard graveyards throughout the Middle Ages and a great shift in the 19th century, when cemeteries, considered a threat to public health, were taken away from city centres. The paper employs visibility graphs as a way to study burial places in different periods of Christian history in Southern Europe: Saint Callixtus catacombs, Les Saints Innocents cemetery and Père Lachaise cemetery. Every type of burial ground had its own cultural and political context that can be identified in the visibility graphs retrieved by Depthmap software, developed following the theory of Space Syntax. The visibility graphs presented in this paper show the distinct visibility pattern of each type of burial ground. Visibility conditions vary from one case to another and confirm the historical and cultural context of each type of burial ground. The first burial place is analysed through the historical context of the period. In the second, its internal structure is analysed using the data obtained from Depthmap software, focusing on the aspect of visibility inside the burial ground. Cemetery morphology analysis helps us to understand the patterns of European burial constructions. Such an approach encourages one to reflect on the social relations between the living and the dead, and the hierarchical arrangement of spaces, as well as sustainability issues that led each society to change its mode of burial. Configurative relations confirm the premise that a cemetery is able to indicate the religious situation of a period, and
it reveals a city’s social scenery through the morphogenetic set of visibility patterns. 

Keywords: burial ground, graveyard, cemetery heritage, history of burial, space syntax, architecture for death, urban cemetery, cemetery architecture, historical cemeteries.

1 Introduction

The paper analyses 3 types of burial places from different moments of Christian history in Southern Europe. Burials are the source of material information that indicate the mentality and the relation to the surroundings since the earliest civilizations and reveal themselves as the only pieces of architecture to be studied in situ. Burials during the last 4000 years have been constructed either as an independent construction serving an individual or a group; or a territory serving a community burial. 

Though all studies of architecture always start their “journey” by describing funerary architecture, burial systems (tombs, mausoleums, cemeteries, graveyards inter alia) have been scarcely studied as an independent urban element, with their interior spatial and functional relations. This paper argues that visibility is a critical aspect of burial physical design that influences visitors’ spatial behaviour. Visual boundaries connect or separate spaces, and reflect the underlying social ‘structures’ and meanings presented in the burial program. Thus, the “disposition and arrangement of boundaries” structure visual permeability in space and organize visibility patterns [1]. The research question refers to the role visibility plays in the ways in which visitors experience burial places.

The research question is addressed by comparing 3 types of visibility patterns of Christian burials (catacombs, churchyard cemeteries and modern 19th century cemeteries), aiming to understand how certain burial structures “behave” in relation to the visitor, i.e. how they interact with visitors and influence visitors’ spatial experience, and how this visibility pattern is related to the historical and political system of the period. Understanding if any visibility patterns exist in these 3 types of burial places, leads to defining a genotype of burial place, and relate this data to historical context of foundation and functioning of a certain type of burial place.

Genotype, as Hillier and Leaman [2] describe by using the example of a military camp, “is the information carried in the instructions and embedded in the instrumental set”. In the case of a burial structure or field, it is a set of rules and norms of a certain time, given either by religious systems, or governments, or both. Phenotype that will be approached in a later stage, as Hillier and Hanson [3] defined is “the observed layout and activity of the camp”. For a burial structure or field, phenotype can be defined as an application of genotype by certain society in a certain historical moment or geographical location, revealing different layouts and different movements inside the burial ground. It must be noted that this paper primarily analyses burials of European cultures of Latin origin.
This paper is an attempt to approach a visibility pattern, such as burial place’s genotypes, where an aspect of visibility is a result of a burial’s structure and its social logic.

Visibility pattern concept follows the theory of space syntax, defined by Hillier and Hanson [3]. For this study, a visibility graph convention (isovists) and the digital tools for generating and analysing these visual fields (Depthmap,) are used to evaluate visibility patterns.

Visibility graphs represent visibility connections inside a certain space. The character of visibility connections defines how the space is used and how the visitors orient themselves there. What is more, certain visibility patterns can be used strategically for obtaining certain effects on the visitors.

Visibility graphs follow a formula of connectivity that show a relation between the internal points of a certain space, and how easily each point is accessed by the eyes of a visitor.

Understanding the visibility pattern of European burial constructions, as well as the relation between a burial ground and the surrounding urban tissue, i.e. the city encourages reflection on the social relations between the living and the dead, hierarchical arrangement of spaces that respond to the social structures of a certain period, resulting in a specific relation to the city itself.

2 Historical contexts of burial places

Mumford [4] when speaking about Palaeolithic man mentioned that the beginning of every city was the foundation of a burial ground that was a kind of landmark to be visited by the living “to commune with or placate ancestral spirits”. Mumford [4], referring to Palaeolithic man, calls a cemetery the “forerunner; almost a core of every living city”.

This observation suits almost every case of any occidental city until the 18th century – a union of a temple and a place for consecrating the memory of the dead. It must be noted that memory is fundamental in the mentality of the homo religiosus [5] enabling a perpetuation of myths and rites that constitute a system of orientations for the life of religious man.

Egyptian, Neolithic European stone constructions and Graeco-Roman burial structures approached burial as a permanent house [6].

Romans used exterior roads that were included in the daily urban life for burial, serving as the place to honour the memory of the dead and as a place for commercial encounters; placing market tents there [7].

Apparently, Romans cohabited with the dead on a daily basis, and that could have been a first step in embracing a cult of the dead and bringing it back to the city. Romans themselves used galleries of pozzolan extractions for burying non-incinerated bodies [7]. Since the 1st century, Jewish communities excavated their own catacombs for burying in loculi – niches carved in the walls of the galleries [8]. The first Christians took on the same attitude towards the dead [7], excavating underground structures up to 5 levels and reaching 25 m in depth.

Early Christians rejected the Roman custom of incinerating their dead for two main reasons. First, the resurrection of the dead required keeping a body intact
(as in Judaism); second, it was a way to distance the new Christian rituals from the pagan ones [7].

At this time, the burial lost its function as the “permanent house”, turning a place of repose into a temporal stay.

Two thousand years of European Christian tradition embrace three types of burial – chamber-like catacomb burial (Fig. 2), churchyard cemeteries (Fig. 3), and eventually 19th century burials outside the city (Fig. 4) following an image of a paradise [7].

The burial inside the city (Fig. 3) did not arise all of a sudden. After the Christian cult became legal in 313, its followers began building the temples in the places where the body of saints and martyrs were buried [7]. Ariès [9] mentions, that Christian continued to visit Roman cemeteries in the faubourgs, because many of the Christian martyrs and Saints were buried there.

After some time, a Christian temple was built there; first, as archaeological discoveries prove, it could have been a small chapel, and later, as the crowds of “pilgrims attracted by the celebrity of the saint” [9] were growing, basilicas with several naves were necessary for receiving them. And since the religious writers irresistibly argued that “martyrs protect us while we live in our bodies and take care of us after we have left our bodies” [9], it attracted the pious that desired to be buried by the tombs of the martyrs or the locations of the sacred events (Oliveira [7]). Ariès [9] observes, that around these cemeteries “in Roman towns of Africa and in Catalonian Ampurias”, Christian neighbourhoods grew around the cemeteries, or the urban fabric when expanding embraced the cemeteries, and as the Christians had no fear of the dead and did not think that living alongside them was unsanitary, cemeteries eventually became part of the city territory. At this time there were two genotypes of burial – catacombs and churchyard cemeteries. The latter model was used until the 18th century, until the necessity to question the public health of a city became urgent.

At a later stage of history, Ariès [9] notes, “if one wished to found a cemetery, one built a church”. A cemetery needed a church for processing the rites, and for maintaining the sacredness that attracted the faithful to be buried there. One had to build a church, because a church, as defined in the Council of Tribur in 895, couldn’t be built until after the cemetery was founded. The Christian church had all interest in maintaining its rule over the living through the deceased.

Mumford [4] notes, “Medieval city in Europe may be described as a collective structure whose main purpose was the living of a Christian life”. The dead would be buried inside the church under the floor, along the interior church walls, outside of the church walls – ad sanctus – to catch the sacred water, falling from the roof [10], as well as all around the church in a churchyard, even “inhabiting” churchyard walls, that were used as columbariums and charnel houses. The richest and the most pious were buried inside the church, receiving visibly significant positions, buried inside greatly decorated tombs. They were to be prayed for with the greatest ardour.

The 16th century Christian world noted the increasing quantity of people buried inside the church, and even though all possible places were used for
burying – under the church floor, placing tombs by the walls, inside and outside the church – church buildings and their surroundings were stuffed. The Council of Rouen listed three types of persons that could be buried inside the church [9]; in short, saints, church personnel and noble people. The rest were buried in the churchyard.

By the end of the Middle Ages, because of the great amount of people buried in the churchyard, the image of the churchyard was inconstant. The bodies of the poor after decomposing were placed into the charnel houses or ossuaries, built in the same church territory [9]. It was a new element that appeared in the genotype of the churchyard.

In the sense of a cemetery in relation to a city structure, it is important to mark that cemeteries in the Middle Ages served various functions – not only for burial. It was the centre of social life [9], and there were actual living inhabitants inside the territory; houses constructed over the charnels, inhabited by priests themselves, or even rented to laymen. All in all, it was a city’s meeting place, functioning as a public space for the socializing of the citizens, as well as for bigger church rites, when not all the people could fit inside the church. Considering these facts, obviously death in the Middle Ages was something that existed so close to daily life, that it did not threaten anyone. And if anyone felt threatened, it served as a reminder to live more devotedly in the glory of the Lord.

The Europe, which Alberti [11] saw in the 15th century, was still burying their dead in churches and in churchyard cemeteries, gathering the rest of the decomposed bodies in the charnel houses and using the cemetery as a place to meet and to live. Alberti [11], in relation to burying inside the churches, declared that it was polluting “the most sacred offices with the noisome vapours of a rotting corpse” and expressed that “the custom of burning the dead was much more convenient”. Ariès [9] as well noted that “in the seventeenth century, close to half of the inhabitants of cities, and at least a third, were buried in churches”; another part were buried in the churchyard.

These observations show that the amount of burials in the temples was high, and point out the worries about the salubrity of burying inside a church and inside a city (Oliveira [7]). These worries had been growing and in the 18th century a lot of European cemeteries had been demolished from the city territory and new cemeteries of a new genotype (Fig. 5) were founded outside. It was a kind of revival of Roman tradition, bringing vegetation to the cemeteries as well, which gave an image of the Eden that had been sought after during the last ages.

Most of the cemeteries today are no older than this period – previous ones were destroyed for reasons of salubrity. For example, in Paris, this process of relocation of cemeteries started at the end of the 16th century and continued until the end of the 18th century (Ariès [9]).

Class distribution was part of the organization of the medieval cemetery (Ariès [9]) and that continued to be used in modern cemeteries in the 20th and 21st centuries as well. Taking example of the Père-Lachaise cemetery in Paris, one does not need to read legends to understand the zoning. This social distribution of cemeteries could have happened on behalf of the church, which
could not fight the hygienist ideas. However, it still had interest in maintaining the income (Ariès [9]) and its power.

The relation of cemeteries and cities can be illustrated in the scheme that follows (Fig. 1). Located in the outskirts of a city during Graeco-Roman times, in the Middle Ages cemeteries entered an urban fabric, accompanying the church, turning itself into a centre of religious life. In the 19th century, the second generation of cemeteries appeared, located outside the cities, occupying larger territories that were turned into a nostalgic scenography, which revisited the imagery of a biblical paradise (Oliveira [7]). Twentieth century city growth embraced the cemetery, making it part of the city again.

![Figure 1: The relation between the cemetery and the city.](image_url)

3 Visibility patterns of 3 types of burial systems

In order to understand how 3 types of burial systems (catacombs, medieval cemeteries and modern 19th century cemeteries), all of them Christian and later Roman Catholic, located in Southern Europe (Italy and France), “behave” inside the structure, visibility analysis was approached as a way to analyse how the situation of Christian religion, and later Roman Catholicism, can be identified in the visibility graphs, and if there exists any visibility pattern, that is replicated throughout various examples of burial types.

Three different burial grounds refer to different periods of history, where the situation of Christian religion had a different social context. Catacombs (Fig. 2) for the early Christians served as place to bury their dead and celebrate religious rituals, as well as a place for hiding when they were chased as a religious sect not accepted by the political system of the period.

Visibility graph (Fig. 2) of Christian catacombs is based on the plan of Saint Callixtus catacombs, located close to via Appia in Rome (Auzelle [8]). The percentage of points with least visibility (lightest tone) in the catacombs overpasses a number of the most visible ones (darkest tone) that are located in the entrance hall to the burial ground. A catacomb is a subterranean structure, following an orthogonal logic of gallery organization with burials in the walls “loculi”. The plan has the characteristics of a labyrinth and in the case of lack of light would be quite difficult to riddle out of.
Figure 2: Saint Callixtus catacombs.

Figure 3: Les Saints Innocents cemetery.
When the situation changed, and the Christian religion turned official in the Roman Empire, there was no need to hide, and the whole centre of Christian life was the church and the cemetery. Medieval cemeteries had a completely opposite character of visibility, where an area’s most visibly connected points exceeded the least visible ones. Medieval cemeteries are a kind of square, a public place, where society celebrated life and death; it was the place to “parade” their beliefs without any threat. Death in medieval society was part of daily life without there being a need to hide it.

For the visibility analysis a plan of Les Saints Innocents cemetery in Paris was used as an iconic model of medieval cemetery (Fig. 3). The most visibly connected area (darkest tone) expands from the centre, stretching towards the opposite corner of the church. Most of the visibly inaccessible points (blue colour) are located around the church wall, in the gallery that gives access to the temple. The visibility pattern is opposite the one of the catacombs, different from the modern garden type cemeteries from the 19th century.

For the analysis of the 19th century cemeteries, a plan of Père Lachaise cemetery in Paris was selected. It is a cemetery that gave the start for a new type of cemetery in the Christian burial culture [12]. It follows an imagery of Eden, revisiting an image of a garden as a place for peaceful repose. An organic garden plan, composed of undulating topography, draws through the whole network pathways that inspire meditation rather than the parade of one’s faith. The whole Edenic atmosphere was part of the development of a healthier environment, leading to more sustainable cities.
Figure 5: Diagrams of visual connectivity of 3 burial grounds.
The points of less visibility overpass the most visibly connected ones. However, for different reasons, cemeteries in this century are seen as nostalgic meditation of memory of those who passed away, while the centre core is kept as a kind of medieval churchyard cemetery, where visibility reigns over the hidden.

4 Conclusions

After generating visibility graphs by Depthmap software and analysing the visual data cross-connected with historical facts, conclusions can be represented as follows:

- Christian history in Southern Europe can be divided into 3 burial types, most common in a certain period: catacombs, churchyard cemeteries and garden type 19th century cemeteries.
- A visibility pattern gives insight into the definition of the genotypes of burial systems: behind the physical structure of the burial, there are certain visibility features that confirm the historical approach to the issue, suggesting the political and cultural aspects of a burial place.
- A visibility pattern responds to the condition of the Christian (later on Roman Catholic) religion in Southern Europe.
- Visibility data retrieved in this study must be confirmed by a larger field of examples of a certain period in Christian history in Southern Europe.

References

