



Best Practice Handbook on Modern Management of Cultural Heritage - - case studies



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CASE STUDIES – – EXAMPLES OF BEST PRACTICE

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Babylon

last of five cultural sites and one mixed site on the list of sites in Iraq. Of the six sites, three are presently listed as in danger, and 12 are on the tentative list of Iraq. The first site in Iraq, Hatra, was listed in 1985, followed by inscriptions in 2003, 2007, 2014, and 2016.

Considering the tremendous threat and damage Babylon has faced in the past, and is continuing to face concerning wind and water erosion to its sensitive, mud brick structures, it is imperative to have a well devised and comprehensive management plan, which is regularly assessed and modified. The basis of a successful site management lies also in the involvement of the relevant local communities and stakeholders, who ideally collaboratively contribute to sustainable protection of the site. This can be only achieved if, on the one hand, local communities are aware of the threats to the site and act to protect it. On the other hand, communities can gain benefits from being involved at the archaeological site.

I. Characteristics of the site¹

Babylon is defined as an “*archaeological and symbolic site that includes groups of buildings and monuments.*”² It is one of the most well-known ancient cities with a long and rich history. It is associated with prosperous and powerful kingdoms, with World Wonders, biblical tests, and is still a source of inspiration for the arts. More recently, however, it has been a site of political unrest, civil war, and conflict due to ISIS.

¹ The information for the description of the site are taken from the UNESCO World Heritage nomination text: National Commission for the Nomination of Babylon (2018), Babylon. Nomination Dossier for inscription of the property on the World Heritage list. Available online at <https://whc.unesco.org/document/166322> (accessed 7 February 2020), as well as the Management plan that was prepared as part of the nomination. It is available at <https://whc.unesco.org/document/168481> (accessed 16 February 2020).

² National Commission for the Nomination of Babylon (2018) Management plan, p. 9.

Babylon comprises an area of over 1,000 hectares. It is the oldest settlement in Mesopotamia and the Middle East, and it was the capital of the Neo-Babylonian Empire between 626 and 539 BCE. Babylon is associated with famous rulers such as Nebuchadnezzar II and Hammurabi, and was a highly significant and powerful empire of the ancient world. It is an exceptional testimony to one of the most powerful and influential empires concerning political, technical, and artistic aspects, in addition to considerable achievements in mathematics and astronomy.

The property is located in Babil Governorate in the municipality of Hillah, 85 kilometres south of Bagdad. It comprises 1,054.3 hectares, whilst the buffer zone is 154.5 hectares, resulting in a total 1,208.8 hectares (see fig.1). Babylon is situated on an alluvial plain between the side branch Shatt Al-Hillah of the Euphrates and the Tigris. The climate is characterised by scarce precipitation with arid, hot summer months. However, when rainfall is more pronounced, it causes considerable damage to mud structures and impacts water drainage at the site. The Euphrates divides the city in two halves.

History and development

According to archaeological remains and cuneiform texts found at Babylon date back to the middle of the 3rd millennium BCE. However, due to the high ground water level,³ the archaeological excavations were limited, so that the layer relating to the late Old Babylonian period could be investigated.

Babylon faced considerable damage, decay, and (re-) construction of its urban fabric. Some of these events were caused by natural factors, such as the changing water course, and erosion, or the violent destructions, armed conflicts, and periods of rebuilding.

Early references to Babylon date as far back as the Early Dynastic period, in which the Marduk temple (2500–2400 BCE) is mentioned in an inscription, and a few centuries later during the Old Akkadian period, during the rule of Shar-kali-sharri (2217–2193 BCE). Babylon functioned as a secondary administrative seat during the period of Ur III, a time when it was already flourishing.

³ According to the archaeologist Robert Koldewey, who had excavated Babylon from 1899–1917 believed that because the ground level constantly rose, Nebuchadnezzar II and Nabopolassar were compelled to raise the level of the Processional Way and the Ishtar Gate.



Fig. 1. The map of Babylon with the nominated area, and the buffer zone (UNESCO World Heritage List, 2019, <https://whc.unesco.org/document/176318>, accessed 16 February 2020).

Babylon became a powerful city in the first half of the 2nd millennium BCE (Old Babylonian period) exerting influence on political, economic, and ideological levels in the south of Mesopotamia. During this period the royal palace was built, and the Esagila Temple was most likely erected during this time, whilst the outer city wall and the Ishtar temple were rebuilt. In 1792 BCE, Hammurabi's reign commenced. His legacy was considerable, as from that point, Babylon became the most powerful and influential city in that area for the proceeding centuries. Riches obtained from military operations financed extensive building projects, which then focused on the renovation of the religious structures in the city. Despite the looting of the Hittites in 1595 BCE, Babylon's position as seat of cultural and political power in Mesopotamia was maintained well into the 400-year dynasty of the Kassites. During this period, Babylon had relations with Assyria, Egypt, Mitanni, and Hatti. The end of this period was marked by invasions by the Arameans and Elamites, and conflicts with Assyria. Under Nebuchadnezzar I (1126–1105), Babylon rose again to political power, but at the turn of the millennia, its position waned.

Assyria expanded in the first half of the 1st millennium BCE and strived to dominate Babylon. By 728 BCE, Babylon was ruled by Assyria, however not without resistance, resulting in considerable damage caused by the retaliation of the Assyrian king Sennacherib in 689 BCE. His successors followed his rule with comprehensive reconstruction works.

The Neo-Babylonian Empire (626–539 BCE) was characterised by two significant rulers: Nabopolassar (626–605 BCE) and his successor Nebuchadnezzar II (604–562 BCE), who also visibly left their mark in Babylon. During this period, extensive building programs were carried out. Of the structures that still exist today, many of them were erected or reconstructed during these periods, as they employed more durable building materials. Among the most notable constructions are the North and the Summer Palace, the reconstruction of the Ishtar Gate, the Procession Way and the city walls.

Regarding archaeological remains, the Achaemenid period from 539–331 BCE provides rather insignificant findings. Alexander the Great, upon having declared Babylon his capital (330–323 BCE), he renovated the sacred area of the god Marduk. Babylon was later occupied by Parthian rule from 200 BCE onwards, and then by Persian rule from 200 ACE. By then time Babylon fell under Muslim rule, the site had become nearly deserted.

European travelers started visiting Babylon at the beginning of the 12th century. Their accounts, and those to follow in the next centuries, however, do not refer to any digging at that site. This changed in the 17th century when Roman Pietro della Valle began investigating Babylon. His documentation of the site stirred interest amongst scholars. From the 18th century onwards, Babylon became more and more studied, whereupon the first excavations took place. At the same time, however, fired bricks were being taken

from the site and used in construction work at Al-Hillah, due to their good quality as building material.

The first systematic and long-term excavation was carried out by the Deutsche Orient-Gesellschaft (German Oriental Society, or hereafter DOG) in collaboration with the Royal Museums in Berlin between 1899 and 1917, led by the archaeologist Robert Koldewey. They worked on the Ishtar Gate,⁴ the Processional Way, the inner city wall, the Etemenanki and the Maduk temple (Esagila), among others (see fig. 2). The excavated areas of Babylon were, however, not secured to withstand the effects of environmental forces, resulting in erosion and finally the collapse of structures. The first excavations under Iraqi leadership were carried out in the 1940s.



Fig. 2. Excavations in Babylon by the Deutsche Orient-Gesellschaft at the beginning of the 20th century (Robert Koldewey, *Zentralblatt der Bauverwaltung* 71, fig.3, at Wikimedia commons, accessed 16 February 2020).

By the end of the WWI, Babylon had become a symbol of Iraqi national identity, and by the end of the 1950s, visitor facilities were installed to accommodate growing tourism. From this period onwards, reconstruction works of important structures were carried out on

⁴ The findings, including glazed brick low-relief fragments of the German excavations were divided between Istanbul and Berlin, and were transported to Berlin in 1926, where they were used for the reconstruction at the Vorderasiatisches Museum.

top of the existing foundations, a strategy that was followed by a more extensive reconstruction work in the 1980s with the Revival of Babylon Project, that culminated in the Babylon Festival of 1987. This project aimed to further archaeological research, using Babylon as a key site associated with Iraqi identity, and it became a political tool of Saddam Hussein. For these works, modern building materials were employed, most notably containing cement. In addition to reconstructions, new features such as an artificial lake and three artificial hills were introduced.

The most recent significant destruction of the archaeological site occurred during its time as a military base during the Iraq war, between 2003 and 2004. The Iraqi State Board of Antiquities and Heritage (SBAH) regained control of Babylon in 2008, and as of 2009, visitors are allowed to access the site again.



Fig. 3. Marduk Gate in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Structures

Outer city walls: During his, Nebuchadnezzar erected an impressive city wall. It was made of three individual walls and has a length of 10.5 kilometres. Outside the exterior wall was a moat. The structure remained incomplete, and a large area was destroyed by brick miners in the 19th century. As of the site's inscription, no conservation work has been undertaken on this structure.

Inner city walls: Babylon was known in antiquity for having two of the seven World Wonders. One of these structures was the defensive fortifications, which were believed to withstand any attempts of destruction. It is 8 kilometres long, and consists of two mud brick walls (6.5 metres and 3.7 metres width respectively), interrupted by regularly placed towers. These walls are believed to have been first erected around 1600 BCE. However, the walls still present today were built in the late Neo-Assyrian period, and rebuilt during the reigns of Nabopolassar (circa 658–605 BCE) and Nebuchadnezzar II (605–562 BCE).



Fig. 4. Summer Palace in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Ishtar Gate: The Ishtar Gate is one of the key structures of Babylon. It is the largest gate, characterised by sumptuous, decorative elements depicting creatures in low-relief. They represent the animal of Marduk (dragon-like), the god Adad (bull) and lions. The gate connected the Northern Palace with the sanctuary of Marduk and the ziggurat (Etemenanki), and forms part of the Processional Way. It is roughly 50 metres long and 12

metres high, and each side of the gate is divided into 19 sections. Several of the bricks of this gate are inscribed with cuneiform writing and mention the rule of Nebuchadnezzar II. First known written references to the gate date back to about 1650 BCE.

The gate is divided into two levels. The upper one is more elaborate with glazed burnt bricks depicting ochre coloured animals on a dark blue background. Parts of this were taken by the DOG between 1899 and 1917 to Berlin, which were then installed at the Vorderasiatisches Museum of the Pergamon Museum complex in 1930.

Marduk Gate: This gate (see fig. 3) bears the name of Babylon's patron deity. It is the main gate of the eastern part of the city. Compared to the Ishtar Gate, it is much smaller and less decorated. It was rebuilt in 1978, which involved the use of modern-day bricks and cement mortar. The original floor was destroyed, substituted with concrete and steel rebar, and subsequently fitted with cement tiles made. In its present state, it is 13 metres high.



Fig. 5. Northern Palace in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Southern Palace: This building represents the biggest of all of Babylon's palaces (see fig. 4). It consisted of about 500 rooms and 50 courtyards. The structure was built upon the former palace of Nabopolassar. It served as the main royal residence during the Neo-Babylonian and Achaemenid periods. It is thought to have been the location of the Hanging

Gardens, the second World Wonder.⁵ It may have also served as a food distribution centre. It is here that walls were reconstructed on top of the existing ones in the 1980s. Northern Palace: This palace has never been reconstructed and its mud bricks remain exposed (see fig. 5). It was erected by Nebuchadnezzar II and included numerous square courtyards. Over 100 cuneiform tablets and spoils taken from the Kingdom of the Hittite and the Arameans were found inside upon excavation.



Fig.6. Ninmakh Temple in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Summer Palace: This palace has a square ground plan and lies to the north of the property on the mound called Jebel Babil. It was built during the Neo-Babylonian period. It was modified and amplified in successive times (Achaemenid, Selucid, and Islamic periods). Its function is believed to have been of a defensive nature. This assumption is supported by the fact that the structure is made of fired bricks. Over time, this building has been affected by looting, erosion, and the removal of bricks for other construction works.

⁵ Some archaeologists argue that the Hanging Gardens were located in Nineveh instead.

Ishtar Temple: The Ishtar Temple was made of mud brick and dedicated to the goddess Ishtar, the principal deity of Babylon. It is situated within a sacred area. It measures 37 by 31 metres and contains 22 rooms. The temple was first erected under Nabopolassar, and reconstructed under Nebuchadnezzar II, and again under Nabonidus. In the 1970s, this structure was also reconstructed on top of the existing foundations.

Ninmakh Temple: This temple made of fired bricks was constructed during the reign of Nebuchadnezzar II and is dedicated to Ninmakh, the mother of deities (see fig. 6). Numerous cuneiform tables were discovered therein. Presently, its state of conservation is good.

Nabu sha khare Temple: In this temple, the royal ceremony of investiture took place, and was located in the sacred quarter of the city (see fig. 7). It was dedicated to Nabu, the god of scholarship and writing. The temple is made of mud brick and features two entrances. Of all the buildings in Babylon, it was the most architecturally sophisticated structure.



Fig. 7. Nabu sha khare Temple in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Esagila Temple: The statue of the god Marduk was housed here. The temple was made of fired bricks, had a nearly square ground plan with a length of roughly 78 metres and 86 metres, and was fitted with a large courtyard.

Babylon Lion: The sculpture (see fig. 8) does not stand in its original location and was placed upon its current pedestal in the middle of the 20th century. It was discovered by the local community in the second half of the 18th century in the Northern Palace. It is believed to have formed part of the collection by Nebuchadnezzar II.



Fig. 8. Lion of Babylon in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Shrine of Amran Bin Ali: This site is characterised by structures built in different periods. The tomb and shrine of Amran Bin Ali remains a destination of Shi'a pilgrimage (see fig. 9), as Amran Bin Ali was buried there in 658 CE. The shrine is believed to have healing powers and was especially known for curing skin diseases, infertility, and headaches. The shrine with a double dome is a presumed 18th century construction, whilst additional buildings were erected in the 20th and 21st centuries.

Nintura Temple: Only the foundations of this structure still exist and was excavated by the DOG. It lies in the south of Babylon.



Fig. 9. Shrine Amran Bin Ali in 2018, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Z-Temple: This temple was made of mud-bricks and featured three courtyards.

Gula Temple: The temple was excavated by the DOG. Today, only mounds attest to its existence. It lies in the south of the city.

Processional Way: The Processional Way (see fig. 10) was 440 metres long and 6–8 metres wide. It is oriented on a north-south axis and lies in the centre of the city. It divided the urban space into functional spaces of public vs. private, religious vs. secular, and royal vs. rural spheres. For the New Year celebrations, the king and his court and the gods took this way from the Bit Akitu (House of the New Year) to the Etemenanki and Essagila. The walls along the way were decorated with low-reliefs. Some sections were taken to

Berlin after excavations by the DOG (see fig. 11). Some of the original floor bricks still exist in situ (see fig. 12). They are covered with bitumen.



Fig. 10. Processional Way north of the Ishtar Gate in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Greek theatre and gymnasium: The theatre and gymnasium were built during the Hellenistic period (see fig. 13). The theatre was rebuilt commencing in the 1970s, and employing modern building materials. The aim was to establish a centre for arts and culture, and served as a museum dedicated to Alexander the Great, who is said to have died in Babylon.

Etemenanki (ziggurat): The ziggurat had a square ground plan measuring 91x91 metres, with a height of 91 metres. The temple on top is believed to have been decorated with blue glazed bricks. Over time, the building was demolished, reconstructed, and modified.

Today, little of the building still exists, as the building material was exploited for other constructions. The base of the ziggurat was excavated in the 1960s.



Fig. 11. Processional Way, detail with low relief on glazed tiles at the Pergamon Museum in Berlin, photo by Richard Mortel in 2018 (Wikimedia commons, accessed 16 February 2020).

Babylonian houses: In the past, residential structures were of little academic interest. Three houses were excavated here in the 1980s, along with a small temple.

Ancient bridge piers: Excavations revealed the remains of bridge piers at the Shatt al-Hillah. This bridge connected the east and the west of the city. The bridge was made of fired bricks. Later excavations revealed seven pillars that used asphalt as mortar. This was usually done for building elements that were in contact with water.

Unexcavated areas: Of the entire property of Babylon only small areas have been excavated so far. They lie in the south and in the north of the city.

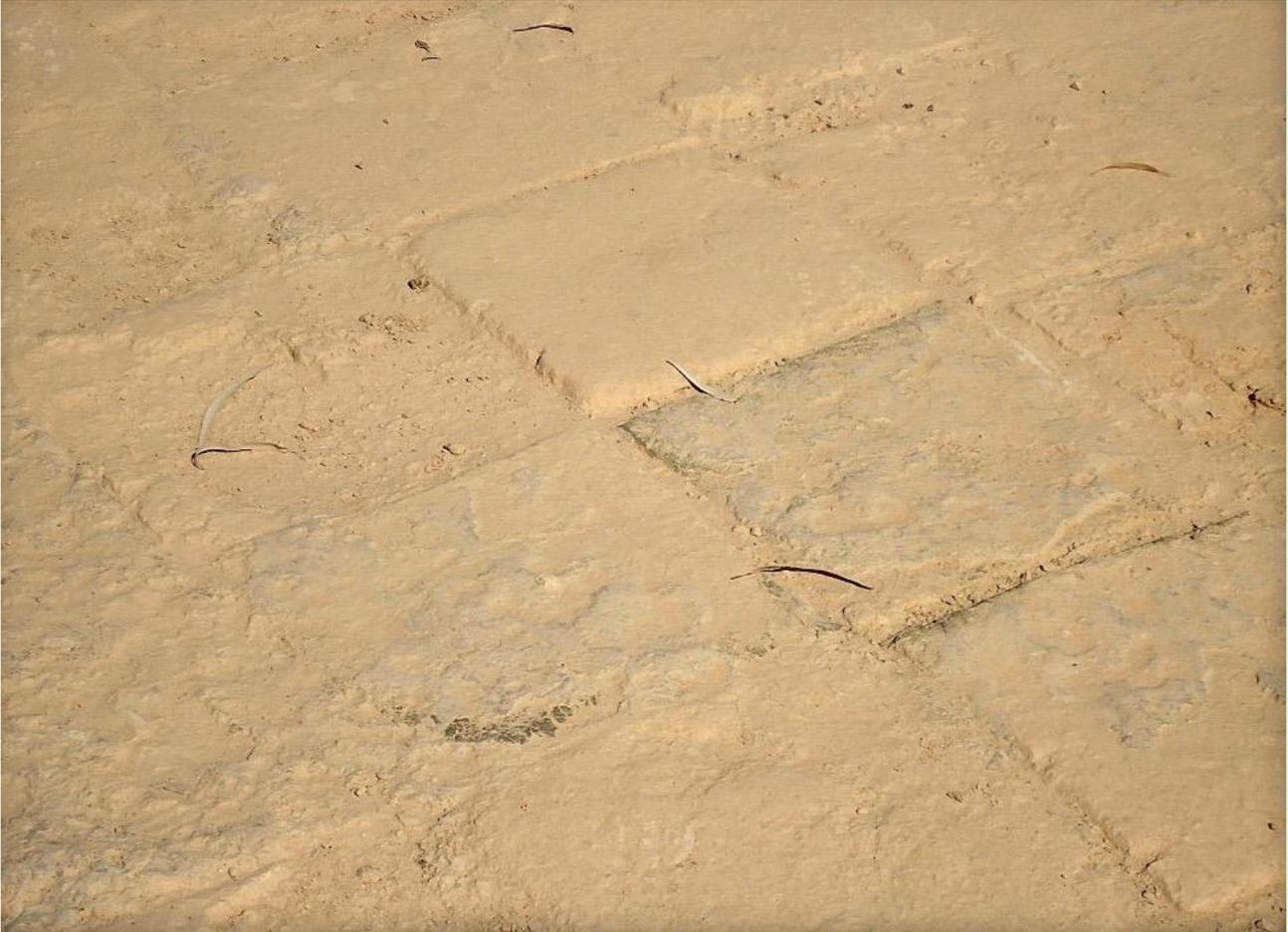


Fig. 12. Pavement tiles at the Processional Way, photo by Osama Shukir Mohammed Amin in 2011 and slightly cut by the author (Wikimedia commons, accessed 16 February 2020).

Additional structures at the site

In the 1950s and 1960s, the Iraqi Government built several administrative structures. There is also an excavation house, a guest and a guards' house, as well as offices of the Babil Inspectorate, a police station (later storage space), and residential houses for the SBAH staff and families. Furthermore, there are visitor facilities, such as two museums, the reconstruction of the Ishtar Gate, a picnic area, garden, and tourist village. Other facilities were established to attract visitors to this area, such as a nightclub, casino, restaurant, a conference centre, and an extended parking lot. As part of the Babylon Revival Project in the 1980s, buildings were constructed in the archaeological area. In addition, some privately owned buildings are in the southwest of the property.

At the end of the 1980s, Saddam Hussein built his palace close to the palaces of Nebuchadnazzar II on an artificial mound (see fig. 14). Part of these building activities included the man-made Lake Saddam and additional buildings.



Fig. 13. The Greek theatre in 2017, photo by Qahtan Al-Abeed (UNESCO World Heritage list, Babylon, <https://whc.unesco.org/en/list/278/gallery/>; accessed 16 February 2020).

Values

For a site to be included on the World Heritage List, it needs to demonstrate OUV, or Outstanding Universal Value. Concerning the values of a site, it needs to fulfil at least one criterion that justifies its inscription. However, in the case criteria (vi), one criterion alone is insufficient. Of a total ten criteria, six relate to cultural heritage and the remaining four to natural heritage.

Babylon was inscribed on the World Heritage list in 2019 under two criteria: criterion (iii), which is “to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared”⁶; and criterion (vi), which is “to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.”⁷

⁶ Operational Guidelines, p. 25, 2019

⁷ Operational Guidelines, p. 26, 2019



Fig. 14. Palace of Saddam Hussein in 2003, photo by U.S. Army by James Matise (Wikimedia commons, accessed 16 February 2020).

The Babylon nomination dossier states:

“Criterion (iii)

Babylon is one of the largest, oldest settlements in Mesopotamia and the Middle East with earliest references dating to the third millennium BC. It was the seat of successive powerful empires under such famous rulers as Hammurabi and Nebuchadnezzar, and a political and cultural center that radiated its influence over all regions on the ancient Near and Middle East.

As the capital of the Neo-Babylonian empire (626-539 BC), it is the most exceptional testimony of this culture at its height and represents specifically the expression of this civilization’s creativity through its urbanism, the architecture of its monuments (religious, palatial and military or defensive) and their decorative equipping as artistic expression of royal power. The property is also of exceptional significance for the history of the ancient Middle East before, during and after the Neo-Babylonian period, an importance supported by an extremely rich record of documentation, particularly cuneiform archives.

Babylon’s cultural legacy was enhanced by previous Akkadian and Sumerian cultural achievements, which included the cuneiform writing system, a significant tool for today’s knowledge of the history and evolution of the region in general and Babylon in particular. In turn, Babylon exerted considerable political, scientific, technological, architectural and artistic influence upon other human settlements in the region, and on successive historic periods of the Antiquity. Astronomy was first elaborated as a science in the city, alongside advances in mathematics that would inform all subsequent studies of the stars.

Criterion (vi)

As an archeological site, Babylon possesses exceptional cultural and symbolic associations of universal value. The property represents the tangible remains of a multifaceted myth that has functioned as a model, parable, scapegoat and symbol for over two thousand years. Babylon figures in the religious texts and traditions of the three Abrahamic faiths and has consistently been a source of inspiration for literary, philosophical and artistic works originally in the Western world. Today, Babylon also inspires artistic, popular and religious culture on a global scale.

The Bible offered Babylon’s greatness as a cautionary tale, a warning against hubris, idolatry, and the moral laxity linked to the city’s wealth. The Holy Qur’an mentions it in reference to a tale of human weakness. In the works of Greek historians, Babylon was distant, exotic and incredible. Classical texts attribute two of the seven wonders of the

world to Babylon: the walls of the city, whose remains as [sic!] still visible today, and the Hanging Gardens. The innumerable artistic and literary representations of the Tower of Babel and the Hanging Garden are iconic or philosophical but they have their origin in real ancient structures of which archaeological traces are still preserved: the ziggurat Etemenanki and Nebuchadnezzar's palatial complex.

Babylon is also a powerful political metaphor. In the Judeo-Christian tradition, it is a degenerated archetype. In the twentieth century – the age of nationalism and post-colonial independence –, it became the symbol of power and historical pride and was heavily invested by Iraqi leaders who strived to leave their mark on the site by reconstructing the grandiose monuments of Nebuchadnezzar.”⁸

Integrity

As a further requirement for the inscription of a site onto the World Heritage List it needs to show its *integrity*. This means it must show the extent to which it is intact and whole, whether or not it is of an appropriate size—to be able to represent the attributes that show its significance—and show how much of an impact any kind of developments or forms of deterioration have had on the site.

The buildings and urban structures, including archaeological remnants from the period of Hammurabi up until the Hellenistic period, are the representative and comprehensive attributes of the Neo-Babylonian period. The boundaries of the site include the outer walls of the capital of the Neo-Babylonian period. The demarcation of these boundaries is supported by archaeological investigation of the mounds that indicate the position of former fortifications.

The property shows, however, considerable damage and loss, which was caused by several factors, such as encroachment, illegal construction work, pollution, and dumping. In addition, environmental factors affect the material remains. The stationing of US and Polish army in the 2000s caused further damage to site, and the (re-)construction work undertaken for the “Revival of Babylon Project” in the 1980s has impacted the integrity of the site. Amongst these works are three large mounds (Mounts Nissan, Saddam, and Tammuz) built inside the property. Additionally, Saddam Hussein had intended to erect a cable car system for visitors.

⁸ National Commission for the Nomination of Babylon (2018), Babylon. Nomination Dossier for inscription of the property on the World Heritage list. Available online at <https://whc.unesco.org/document/166322> (7 February 2020).

Authenticity

World Heritage Sites require a statement of *authenticity*, or provide credible information that attest to the site's credible cultural and/or historical expression and “*within the cultural context to which it belongs.*”⁹ Authenticity is divided into different attributes (form and design; materials and substance; location and setting; spirit and feeling; traditions, techniques and management systems; use and function; language, and other forms of intangible heritage, among other factors).¹⁰

The site meets the test of authenticity based on a variety of factors, which relate to the *materials and substance* found there, which has been since the 19th century of archaeological and historical scientific research. Although the site has not been left untouched in its history with constructions dating from the Ottoman period, and from the 20th century. The latter ones concern for one the reconstruction works carried out to provide a more complete picture of the site due to the scarcity of preserved structures and ultimately to attract more visitors to the site. The modern constructions are, though, distinguishable from the original remains. In addition, these constructions do not disturb the legibility of the spatial layout of the site, enabling to understand the location of different functional quarters (religious, political and administrative seats), as well as the inner and outer limits of the city. As the research in former times focused primarily on large public buildings, much of the vernacular constructions in residential or commercial quarters have not been excavated or rebuilt: all in all this concerns roughly 90% of the site.

Condition assessment

The site presents pressing conservation issues which relate to man-made causes of deterioration and natural causes.

The buildings, which are made in earthen material, are more sensitive to erosion and precipitation. Rainfall and high levels of ground water would cause a loss of earthen building material. Fired bricks in contrast withstand these threats much better. Due to this, though, bricks have been mined in the past for other constructions.

The areas that were subject to excavation (mostly done by Robert Koldewey) and left exposed deteriorate, in general, at a higher speed, especially if the buildings are made of earthen material. Since the 1930s, the site has been the subject of conservation efforts, and an extensive reconstruction project was undertaken in the 1980s with the Babylon Revival

⁹ See Operational Guidelines, p. 26, 2019.

¹⁰ See Operational Guidelines, p. 27, 2019.

Project. The various reconstruction projects also had an effect on the historic archaeological fabric, as some of the materials employed for the reconstruction, especially if they contain cement, are not compatible and ultimately cause more damage to the original fabric. Furthermore, the reconstructions and conservation work were carried out without much regard to scientific standards. These works, however, also affected the water drainage at some areas, resulting in new drainage patterns, so that water and humidity found their way into monuments and archaeological remains, and accelerated decay.

Other works that impacted the archaeological site were the construction of a railway line in the 1920s and a highway in 1981. In 1970s and in the 1980s, oil pipelines were laid in the archaeological site of Babylon. Again in 2012, the Babil Governorate allowed the Ministry of Oil to install an oil pipeline, although the site had been already on the tentative list for nomination as World Heritage site.¹¹

A more recent threat faced by Babylon was the military presence of the USA and Poland between 2003 and 2004. Some of the monuments were vandalised. Archaeological material was filled into sandbags, a helipad was made by destroying part of archaeological remains. The Iraqi army had dug out firing trenches at the Summer palace and the inner City Wall. Although the aim was reportedly to safeguard the site from looting, the army destroyed some of the archaeological remains and disturbed the archaeological context. Amongst the key structures were the Ishtar Gate and the Processional Way. The treatment of the site by the armies is especially questionable, as all three countries are a member of the Hague Convention; the USA since 1964, Poland since 1984, and Iraq since 1954.¹²

From the moment the nomination dossier was written, the site faced residential encroachments. These, however, did not impact the archaeological layer, as the structures lacked foundations. Agricultural activities of date palms can be found on the site and they form part of the landscape. They will not be removed if they remain outside of excavated areas.

Three further studies were carried out to assess the natural environment of Babylon. They include a geo-hydrological, a topographical and bio-diversity study. The geo-hydrological study determined two major risks to the archaeological material: the rising groundwater and the concomitant high amount of saline deposits. In addition, existing drainage patterns at ground level and on roofs impact the monuments. The topographical investigation revealed that the Euphrates and its side channels had never changed their course over the

¹¹ The pipeline was moved to an area outside of the property boundaries.

¹² UNESCO (1954) The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict; available online at http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html#STATE_PARTIES (accessed 18 February 2020).

centuries, which effected settlement patterns and agricultural activities. With the construction of a barrage and the control of water supplies, the areas that had been previously abandoned by farmers have been more recently re-cultivated.

A bio-diversity study was carried out to identify threats and potentials of flora and fauna found at the site. Flora and fauna face risks due to several factors, such as grazing, construction, air and water pollution, and the presence of transport. Agricultural activities and husbandry are a risk to both the archaeology and the eco-systems. According to this bio-diversity study, the ecosystems around Babylon have been deemed worthy of protection and should be included in the overall management and interpretation scheme of the site.

Maintenance and conservation programme in place

As of 2011, the SBAH approaches conservation issues differently. Reconstructions will no longer take place, but the existing fabric will only be conserved. If a more recent restoration or reconstruction work negatively impacts the historic fabric, it will be removed. If new material has to be introduced, its properties will need to be compatible with the historic fabric. One of the main concerns of conservation will address the appropriate water drainage at the site.

Since 2008, the WMF is collaborating with the SBAH in conservation efforts at the site. These works encompass:

- a detailed study and analysis of the site with concomitant documentation (drawings, photographs, 3D) of the historic fabric and its damage and building materials, and the ground water level;
- the removal of remains of the military occupation, of vegetation, and of detrimental materials (e.g. cement), and of debris;
- the installing (temporary) shoring and reinforcing structures;
- the setting up of protective structures or materials to prevent the ingress of water and the impact of erosion, and wear and tear (e.g. floorings) the filling of cracks; and
- re-channeling of rainwater on buildings.

Some of the excavated sites had not been conserved. This includes the ziggurat, the Summer palace, the Z and Ninib Temples and, the Outer Walls and the bridge pillars. The management plan will address, most importantly, the unprotected areas of the site, especially those structures that are presently exposed and made of adobe brick. For now archaeological investigation is, therefore, of less concern.

Summary and conclusion

The archaeological site of Babylon presents a number of pressing conservation issues, which have been caused by a combination of factors and events. The mud bricks are particularly sensitive to precipitation and erosion, requiring attentive conservation and regular monitoring. Protective measures need to concentrate on the water management at the site, and remedial measures need to address historic as well as modern restoration/reconstruction materials.

2. Protection

Legal status and practical issues of protection

According to the prerequisites for the inscription of a site on the World Heritage List, it needs to show that there is an appropriate legislative, institutional or regulatory system in place for its protection. The institutional protection system can be substituted with or supported by a traditional one.

Since 1935, Babylon has been registered as an archaeological site. As defined by law, these sites also must demonstrate a buffer zone. In 2005, the Republic of Iraq passed its constitution. Under this constitution, those sites that have been declared to be ‘national treasures’—such as Babylon—fall under federal jurisdiction, and are therefore managed in collaboration with the respective regions and governorates.

The Ministry of Culture, Tourism and Antiquities—specifically the State Board of Antiquities and Heritage—enforces the law No. 55 of 2002. On the provincial level, the safeguarding of the site is the responsibility of the Directorate of Antiquities and Heritage of Babil, which jointly works with the Antiquity and Heritage Police, who are located close to the property. Federal and provincial governments fund the preservation, study, and visitor facilities of the site. Also, the SBAH law no. 45 of 2000 is relevant to the protection of the site, the Investment Law No. 13 (2006), the Ministry of Environment Law No. 37 (2008), the Ministry of Planning Law No. 19 (2009), the Protection and Enhancement of the

Environment Law No. 27 (2009), and the Ministry of Tourism and Antiquities Law No. 13 (2012).¹³ In addition to the 1954 Hague Convention the Iraqi State also party to the 1970 UNESCO Convention and the World Heritage Convention (1992).

The Ministry of Finance owns all government land. Babylon is under the jurisdiction of the Iraqi Antiquities and Heritage Law, and is protected under Article 7 (No. 55 of 2002). This law regulates the conservation, protection, and management of archaeological sites, as well as the research, excavation, presentation and interpretation of archaeological heritage. It concerns development and environmental pressures, any inhabitants within the property, visitors to the site, and the disaster risk preparedness. This law stipulates fines and incarceration in case it is not respected: for agricultural and any kind of construction activities, not only within the boundaries of said properties, but also within the associated buffer area unless permitted by the SBAH. Although some of the structures on the site were privately owned, the Iraqi Antiquities and Heritage Law now applies to them, as the entire area is owned by the SBAH.

The shrine of Amran bin Ali was established with a religious endowment and falls under the supervision and ownership of the Directorate of Awaqaf. The SBAH stipulated that the shrine needed be conserved and its design maintained, whilst no further structures are to be built.

Summary and conclusion

There is no single unifying document that concerns the protection of the site, but different legislative texts need to be consulted to comprehensively address all aspects of an effective protection. Making the management even more challenging is the fact that the property is not owned by one juridical body. It is therefore paramount to define clear management principles and objectives that consider together all legislative and regulatory texts and stakeholders.

¹³ Further national regulatory tools are the Poverty Reduction Strategy (2009), the National Development Plan (2013), Integrated National Energy Strategy for 2013-2030 (2013), the National Environment Strategy and Action Plan for Iraq (2013).

3. Use

Scientific use

Many areas of the archaeological site have not yet been excavated, and the most of the endeavours have concentrated on the major structures, but to a lesser degree on residential buildings. Momentarily, though, the site faces pressing conservation issues which need to be addressed first, before new excavation work can begin. In addition, to avoid past failures of excavation campaigns that fail to account for any kind of (sustainable) protection of the archaeological remains after excavation, future works will need to demonstrate that an appropriate protection strategy will be implemented after excavation.

With the collapse of Saddam Hussein's regime, many of the documents of work carried out by the SBAH at the site were destroyed or stolen, which renders planned conservation measures more challenging. Today, a collection of data referring to the archaeological and historical information of the site is kept at the national office of the SBAH. Newer documents include reports and investigations carried out by foreign NGOs and institutions. These documents are being digitised and will be, as well as any other publications and research relating to the site, accessible to students and researchers.

Training and capacity building

Additional training courses have been organised by the SBAH concerning documentation, investigation, and conservation work at the site itself. In addition, on-site training is given to SBAH employees when foreign archaeologists come to work in Babylon.¹⁴ SBAH employees can also obtain training at international museums, institutes, and organisations with which the SBAH has established a collaboration.

Under the guidance of the SBAH, the local community is addressed to support it in finding suitable benefits from tourism and related business opportunities. Furthermore, the SBAH undertakes awareness arising activities with the aim to instill an understanding for the values associated with the site, as well as potential and present threats to them. The National Focal Point for UNESCO initiated a meeting to discuss with four NGOs in Babylon the various responsibilities of managing a World Heritage site and its benefits for local communities. Further meetings were planned to strengthen the involvement of the local communities during the process of inscribing Babylon as a World Heritage site, while also laying the foundation for successful site management.

¹⁴ Most notably is the collaboration between the SBAH and the WMF, as well as the German mission to Uruk, the Stony Brook University of New York and the Italian Institute of Archaeology

Interpretation and presentation

The overall planning policy aims to reduce the amount of modern structures on the site, improve the integrity of the site, and safeguard the places that are now home to flora and fauna. The street that runs on an east-west axis (Marduk Street) will be the focus of presentation endeavours, including installing appropriate signage and interpretation schemes, pavement, and infrastructure. Secondary visitor routes and walkways connecting to the surrounding nature are forthcoming.

The interpretation method is envisioned to be an interactive process instead of a mere presentation of facts and figures. So far, three general themes have been identified that will help design the interpretation of the site. They are: a) Babylon as site of human activity and interaction with its environment; b) Babylon's exemplary position in human history; and c) Babylon's recent history with a particular focus on its political instrumentalisation.

Signage in Arabic and English will be employed for orientation and direction. The interpretative signage at the site along the visitor paths will be as unobtrusive as possible, and will provide only a basic interpretation, whilst a more detailed interpretation will be set up at the visitor centre and the museums. The interpretation of the site will also consist of guide books and multi-media presentations.

At a later phase of the site interpretation, and when the internet has improved, digital interpretation methods will be developed, such as smart phone apps, a website, and pop-up interactive applications.

The interpretation strategy, including the three themes and interactive method, will direct also the training of site guides. These guides will be SBAH archaeologists, and at a later stage licensed guides from local communities.

Visitor Facilities

Due to the armed conflict and issues of security in Iraq, hardly any tourists can be found in Babylon. A lack of marketing strategies and the necessary tourist infrastructure are not only at Babylon, but in the entire country, leading to a low number of foreign tourists. Most of the visitors are nationals or are there for business purposes, like journalists.

It is envisioned to study appropriate paving for visitor routes. A careful study of climatic conditions, security, resources, and protective measures of the archaeological remains will be carried out to determine the feasible signage and finishes. The visitor infrastructure will need to be created along these routes. This concerns electricity, a sewage system and

fresh water supplies. More public bathrooms need to be installed on Marduk Street, at the museums, and the conference centre.

Site access

The property can be reached with private vehicles, or minibuses, but they cannot access the site itself. Previously, a train station existed in Babylon near the Marduk Gate, but this service is discontinued. An alternative station has been proposed to enable a better access to the site. Another possibility is accessing Babylon by ferry, which would connect the site with the nearby city Al-Hillah. Whether this is feasible requires further study with the relevant stakeholders.

On Marduk Street, visitors can move around on foot, bike, or be driven by an electric or motorised vehicle. Prior to the creation of businesses at the site, a comprehensive study will have to be carried out to determine their needs and resources. Some of the areas of the property appear promising for setting up particular activities, but they should be limited and preferably established in the surrounding area outside of the World Heritage site.

Summary and conclusion

The past interventions at the site with unprotected excavated areas and inappropriate conservation and reconstruction works have negatively impacted the site. Thus, permits for new excavation should be carefully considered. Due to the fact that Babylon does not (yet!) face a large number of tourists, the chance should be taken to proactively plan for an increase of tourism and to take experiences of sites managers into account who are confronted with a quick increase of tourism and its arising challenges.

4. Management

The final condition for a site to become World Heritage is an adequate management plan that determines how the OUV of a place is to be preserved. A management plan needs to consist of planning, implementation, periodic monitoring, assessment, and feedback, altogether forming a cycle of planning. The Action Plan is divided into eight separate long-term goals in the areas of conservation, research, tourism, community involvement and management. Concerning the conservation of the site specifically, several aims have been

established, including determining a conservation programme and developing a landscape design that preserves and improves the cultural significance of the site.

Prior to its inscription as a World Heritage site, a management plan had already been drawn up and supported by the then Ministry of Tourism and Antiquities in 2015. However, due to a shift in the OUV, and established priorities in conservation objectives, the management plan has been revised. Two major areas were identified that were not covered by the existing legislative frameworks.

In addition to the lack of a single unifying document, which stipulates the protection of the site, contemporary approaches to site management are not included in the legislative texts, such as sustainability, risk preparedness, managing change, monitoring, (environmental) impact assessment, financial mechanisms, site interpretation and presentation, awareness raising and as part of educational system, community participation, connection of site management with urban and regional master plans, and systematic strategies for the site promotion and its significance.

The development of the management plan for Babylon was carried out in cooperation with concerned local organisations and members of civil society. This process involved collaborative investigation and documentation work with the aim to raise awareness, as well as meetings and discussions that resulted in drawing up a mutually agreed upon policy statement and implementation strategy for site management.

Five key objectives for the management have been identified:

- local and regional development plans need to consider the protection of the site;
- measures for capacity building and training should be given to personnel working at the site to optimise their work;
- implement a sustainable management plan to effectively preserve the values of the site;
- support community participative actions in preservation and business; and
- install an overall high-quality site presentation and interpretation.

To successfully manage the site seven different management areas were stabilised, which in turn have a variety of different tasks. They are:

- legal and institutional frameworks
 - coordination of SBAH + Babil Directorate of Antiquities, national committee of UNESCO, and additional relevant governmental bodies
 - staffing
 - regulation of site use
- facilities, infrastructures and services
 - management office
 - visitor centre, museum and services
 - conservation and research centre
 - accommodation for guards
 - site traffic: cars, visitors, access roads
 - signage
 - security control
 - (visual) pollution control
 - activities of police and guards
- conservation, maintenance and monitoring
 - conservation work, approaches and guidelines
 - measures for risk preparedness
 - monitoring: methods, strategies, actions and frequency
- documentation and research
 - identifying priority of new research
 - establishing rules for new excavation (methodology and sustainable protection of excavated areas)
 - setting up of documentation centre/collection of data

- visitation and interpretation
 - establishing visitor security and control of movement of visitor and vehicles
 - defining visitor movement/inaccessible areas to visitors
 - capacity building of tour guides
 - developing interpretation at museum and at site (signage)

- public awareness and community participation
 - supporting the participation of local educators and students in site activities
 - establishing different activities at site to raise awareness amongst local community
 - advertising site through different media
 - supporting private business activities that is related to tourism at site

- investment, marketing and funding
 - developing strategies for marketing of site
 - managing financial support of government
 - developing a business plan

Stakeholders

The Ministry of Culture, Tourism and Antiquities is one of the stakeholders. It supervises the SBAH and any kind of activities regarding tourism and antiquities. The SBAH owns and manages the site. The Future of Babylon Committee was established by the SBAH to support shaping the management plan and to supervise conservation work. This working group consists of five members from different disciplines (architecture, conservation, archaeology and engineering). The Babil Governorate is responsible for Babylon, having claimed authority over some areas of the site after the fall of Saddam Hussein's regime. The Shi'a endowment is responsible for the Amran Ali Shrine, pilgrimage, and conservation work.

Different local communities and residents at the site have been consulted and involved in the design of the management plan. Of these local communities, groups of people shaped by a particular tribal system were consulted. Site visitors, another key stakeholder group, are mostly from Iraq. Their role should be understood as customers whose expectations should be met, and who should be offered a meaningful and satisfactory experience. Other visitors include pilgrims to the Amran Ali Shrine and other associated religious structures in its proximity. The Al-Hillah tourism business provides visitor services. A local youth group recently founded the Youth Dream Team, which is dedicated to maintaining the site's cleanliness.

The security guards at the site are permanently stationed at the site. Additional security is provided by the Governorate Iraqi Police, and the Antiquities and Heritage Police. The UNESCO office of Iraq supervises the Committee for the Safeguarding of the Cultural Heritage of Iraq. Of the international individual NGOs, the WMF is a considerable stakeholder, which acts as a consultant for conservation works and the management plan. The German Archaeological Institute is a federal agency of the German Ministry of Foreign Affairs, which carries out excavations and archaeological research in different areas in Iraq. It is the acting authority of the archives connected to research by the DOG. The Italian Centro Ricerche Archeologiche e Scavi di Torino (CRAST) had conducted research in Babylon concerning its topography and paleo-hydrology, which guides recent research in these fields. Researchers associated with the British Museum and specialising in cuneiform text from Babylonia and Babylon were consequential in the assessment of damage incurred due the looting at the national museum in Baghdad. The Babylon Archaeological Project was a joint endeavour of Poland and Iraq with the aim to monitor and document the places where the Coalition Forces were stationed, and to oversee repair work to modern structures at the site.

Local management structures, staffing and funding

The management of the property in Babylon is subdivided into seven units, consisting in all of 20 experts who live near the site: a) Documentation, b) Heritage, c) Investigation and Excavation, d) Legal, Administration, Financing and Storage, e) Media, f) Museum, and g) Restoration and Conservation. The heads of the individual units report to the SBAH and the Inspectorate. Of this management team, three members are selected to collaborate with the SBAH in a parallel management system that concerns itself with the overall management of the site. They are a representative of the Governor of Babylon and of the Governing Council, as well as the director of the tourism compound.

The Property Management Team is supervised by the Chairman of the SBAH, and the Property Manager collaborates in the management with local stakeholders and with relevant international parties.

Most of the SBAH personnel hold a degree in archaeology from Iraqi universities, whilst the other employees are experts in engineering or similar disciplines who all regularly participate in relevant training courses.

There are two available sources for managing and running the World Heritage site; one is federal and the other one is provincial. Local funding can be obtained when site specific activities are proposed by the Antiquities Department to the Babil Governorate. Salaries for the employees of the SBAH are paid by federal funding. It also provides for some services at the site, such as transport. Furthermore, in moments when an emergency arises, federal funding is allotted to pay for its costs. On an international level, funding can be obtained through the WMF and the Italian Institute of Archaeologists. While the present amount of available funds appears to suffice, additional funding will be required in the future to meet the needs of a World Heritage site and the adequate protection of the values as stated in the OUV.

Policies and Actions

The SBAH and the relevant government bodies established a plan for the development on the regional and the urban level. These plans pertain foremost to the protection of the site's OUV, including its boundaries and buffer zone. The Ministry of Culture, Tourism and Antiquities asked the Babil Governorate to refrain from releasing permits for the construction or land use within the buffer zone. Nonetheless, the daily rounds at the site ensure that no encroachments and illegal constructions occur.

The development of Babylon for increased tourism on the one hand, and for an effective management as a newly inscribed World Heritage site on the other hand, demand particular actions. These have been divided into three phases, or short-term, middle-term and long-term actions. For each phase specific priority tasks have been identified, which are grouped into themes: human resources, cooperation and partnerships, legal frameworks, site planning methodology, protection and conservation, management of natural and water resources, infrastructure, interpretation and presentation, and risk preparedness.

Monitoring

The site faces different challenges that need to be regularly monitored to assure the protection of the values identified in the OUV. These threats are man-made in the form of encroachments and urban pressures, as well as the result of natural causes such as the presence of water.

In the management plan, the tasks of the different responsible bodies have been identified along with the frequency that monitoring measures need to be carried out. The SBAH has established the so-called Babylon Documentation Work Group (BDWG). It takes care of regularly checking the buildings on the site: their visible cracks (monthly), the relative humidity and temperature and weather conditions (daily), measuring the level of underground water (twice/month), the damage caused by wind and rain erosion (twice /year, and after strong rain and wind) and the presence of building salts (twice/month). At the site, the group checks the environmental status (daily, with Antiquities police) and together with the SBAH whether any type of encroachment or urbanisation occurs within the property and the buffer zone (daily). A one-time study has been carried out a basic hydrological and biodiversity study. The SBAH monitors on a daily basis the amount of agricultural land use within the boundary.

The management of the site will be carried out by a highly selective team, of which some members will coordinate site monitoring. Management will also collaborate with different stakeholders such as local communities or users at the site itself. Management reports monthly and directly to the head of management, and subsequently to the National Focal Point with UNESCO and the World Heritage Department for SBAH, concluding with the chairman of the SBAH to address the current threats and damage at the site to identify appropriate remedial and preventive measures. The SBAH reports once a month to the main office in Baghdad.

Part of the site control is undertaken at the site is in the hands of the Antiquities and Heritage police unit, which was established in 2007. Each of the governorates have their own unit, which inspects the relevant cultural sites. In Babylon, however, the unit is permanently stationed there and controls the archaeological site, as well as the area outside of the property. Site control is also accomplished with a CCTV security system, which is being developed to cover the entire site.

Risk preparedness

The most significant risks are water and wind erosion. Former inappropriate conservation measures and a lack of conservation work and regular maintenance have been identified as

high risks to the property. A medium threat to the site are pressures associated with infrastructure, agricultural expansion, military activities and tourism, as well as vegetation, uncontrolled access, and changes of the hydrological system. Interestingly, climate change has been judged to be of low significance, as well as solid waste, or grazing and husbandry. The lowest threats posed are water pollution, desertification, fishing, the presence of exotic or invasive species, and the mining or the extraction of oil.

Even though natural disasters are considered to be a low threat, nonetheless, management will need to provide for its risk preparedness, specifically concerning flooding, fire, and earthquakes. Standards provided by the heritage protection organisation Blue Shield need to be taken into consideration.

It is the task of the SBAH to prepare a risk management plan in collaboration with all of the stakeholders. Part of the plan is to identify the various risks that could occur at different areas of the site and to determine the time of year when specific risks are more likely to occur.

Iraq is a member of the Hague Convention for the Protection of Cultural Heritage, and the mitigation of threats due to armed conflicts is theoretically in place. However, the events taken place in 2003–2004 clearly demonstrate that the Hague Convention itself does not suffice for the safeguarding of the site in times of war.

The site shows a low number of visitors. The reason for this is foremost the question of security in the entire country. This results in lacking adequate marketing of the archaeological site, and appropriate facilities for tourists. Tourists that do visit the site do not pose a threat to the archaeological remains, as their movement through the site is controlled with the implementation of a visitor path.

Oil pipelines have been identified as an additional threat to the site. For that reason, a group of guards are now responsible for ensuring that the oil pipes do not show any signs of leakage. In such an event, the guards would ensure that the valves at the entrance and exit point of the site are closed. It is, though, planned to move the pipelines as soon as the Governorate is able to offer the Ministry of Oil an alternative property where the pipeline can be installed.

A management plan is not a fixed plan but a work in progress. It needs to be regularly assessed and modified to address potential flaws and changes to the site or that effect the site. The management plan for Babylon is envisioned to be assessed by the SBAH on an annually basis and in collaboration with interagency coordinating committee, members of the local communities, as well as internal (UNESCO) and external experts.

Summary and conclusion

Due to the political situation in Iraq during recent times, scratching the current management plan for the site could and take into account and instill more contemporary approaches to management.

From the very beginning, it is a top priority to involve local communities in management planning, in order to create fruitful and sustainable management of the site. This echoes part of UNESCO's endeavour to strengthen site sustainability (according to the UN's 2030 Sustainable Development Goals), and specifically applies to local community involvement. Communities need to be actively involved in the management of the site in order to successfully protect the site. However, they also need to derive economic benefits from partnerships established with (World) heritage site(s). Therefore, the management plan for the site is a work in progress and is continually shaped.

Another important factor for management of heritage sites that continually undergoes change is risk preparedness. In this case, the risk is foremost the climate condition and its effect on the archaeological fabric, as well as urban development. An additional, more recent threat is unprecedented economic downturn and health risks effecting cultural heritage sites caused by the COVID-19 crisis. As international travel and tourism are significantly impacted, and due to decreasing tourism and slower economy, heritage sites are struggling to raise revenue for site protection and more. The protective measures installed at the site to monitor it (CCTV) may be an adequate enough measure. The pandemic's long-term effect on financial and human resources will be revealed only after some time. Thus, the nature of the call for an adjustment in management to address this type of threat will take time as well.

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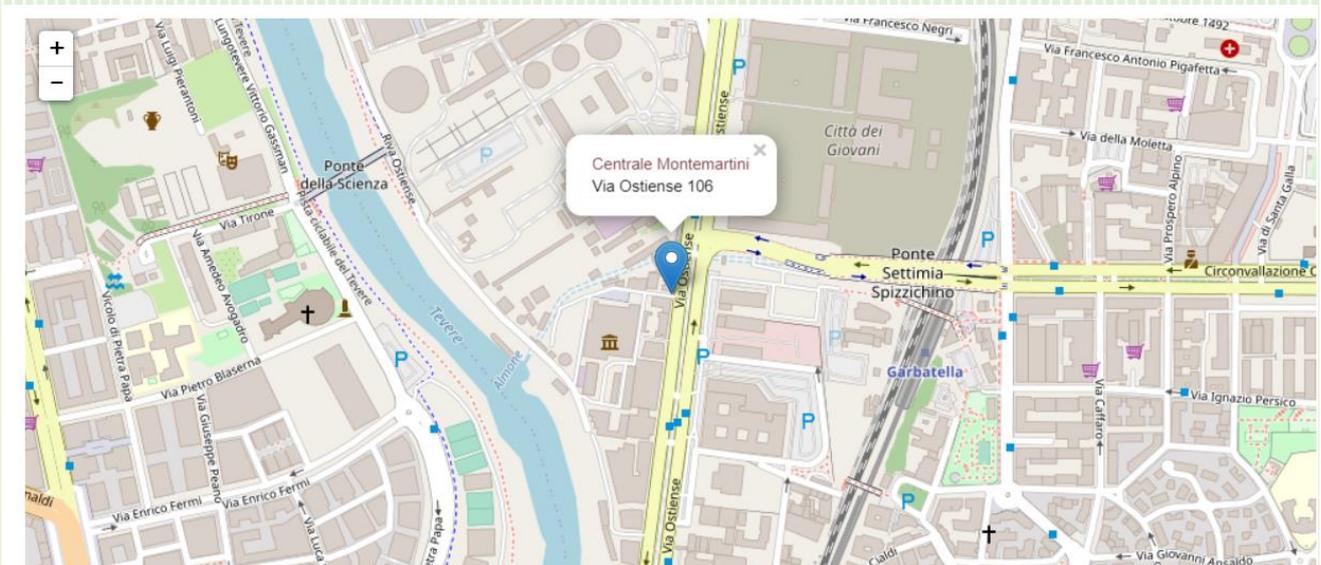
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Centrale Monte Martini and Ostiense's industrial plants

I. Characteristics of architectural monument.

I.1. General information about the monument /location, address, function, owner, area, etc./

Centrale Montemartini is an exhibition space located in Rome, close to the famous Gasometer and Cestius' Pyramide, along old Ostiense's road and Garbatella's district, on the left Tiber River. The entrance of the Museum is in Via Ostiense 106 (00154 Roma). The plant was the first public thermoelectric centre in Rome, founded in AD 1912 and abandoned in 1963. The owner of the complex is the Municipality of Rome but the centre is managed by Zétema society. The plant area cover a space of around 20.000 sq meters.





I.2. Brief history of the monument.

The former Giovanni Montemartini Thermoelectric Centre is a 20th century industrial plant transformed in a new exhibition space for the Musei Capitolini. It is today an extraordinary example of industrial archaeology. The entire plant was not only converted into a museum, but most of the old metallic machine were restored and mixed with the ancient marble statues and other archaeological finds. The new history of the site began in 1995 and two years later with the transfer of hundreds of magnificent sculptures to the new location during the restructuring works carried out across much of the Capitoline complex.

To create space in the lapidary gallery of the Palazzo dei Conservatori, the Museo Nuovo and the Braccio Nuovo, while keeping the works of art accessible to the public, a temporary exhibition was created in 1997 in the restructured rooms of the first public electricity plant in Rome. This 'temporary' exhibition was entitled "The machines and the Gods": it put side by side two diametrically opposed worlds, those of classical art and industrial archaeology. In 2005, when the works at the Capitoline Museums were completed, many sculptures remained in Montemartini headquarters, which became a permanent museum site. Today the site shows one of the most particular museums in the world thanks to the uniqueness of its exhibition: classical works from the Roman era are exhibited in Rome in its industrial plant.

In an atmospheric game of contrasts, the old machinery of electricity production became the backdrop for masterpieces of ancient sculpture and precious goods found in the excavations of the late nineteenth century and the 1930s. The display reconstructs some of the great monumental complexes and illustrates the development of the ancient city from the Republican era to the late imperial age.

The adaption of the building into a museum, the restoration of the machines and the educational sections about industrial archaeology have all been created by ACEA.

The outstanding museum space was originally thought of as a temporary solution. However, when part of the sculptural collection was returned to the Campidoglio in 2005, on the conclusion of the restructuring works, it was decided to turn the building into a permanent location for a collection of the Musei Capitolini's most recent acquisitions. Most of the finds are pieces from old archaeological excavations carried out after the Unification of Italy (1861), in particular excavations relating to the ancient Roman Horti.

The space is used for continual experiments in possible display methods, particularly those connected to scientific research on the remains; bringing together works from the same area of provenance also allows the links between the museum and the fabric of the ancient city to be continually renewed.



The museum itself is part of a wider project to redefine the Ostiense Marconi area, converting it into a cultural centre for the oldest industrial area of Rome (including, as well as the electricity plant, the Slaughter House, the Gasometer, structures from the docks, the old Mira Lanza site and the old General Markets), with the defining structure of the university campus of Roma Tre and the creation of the City of Science.

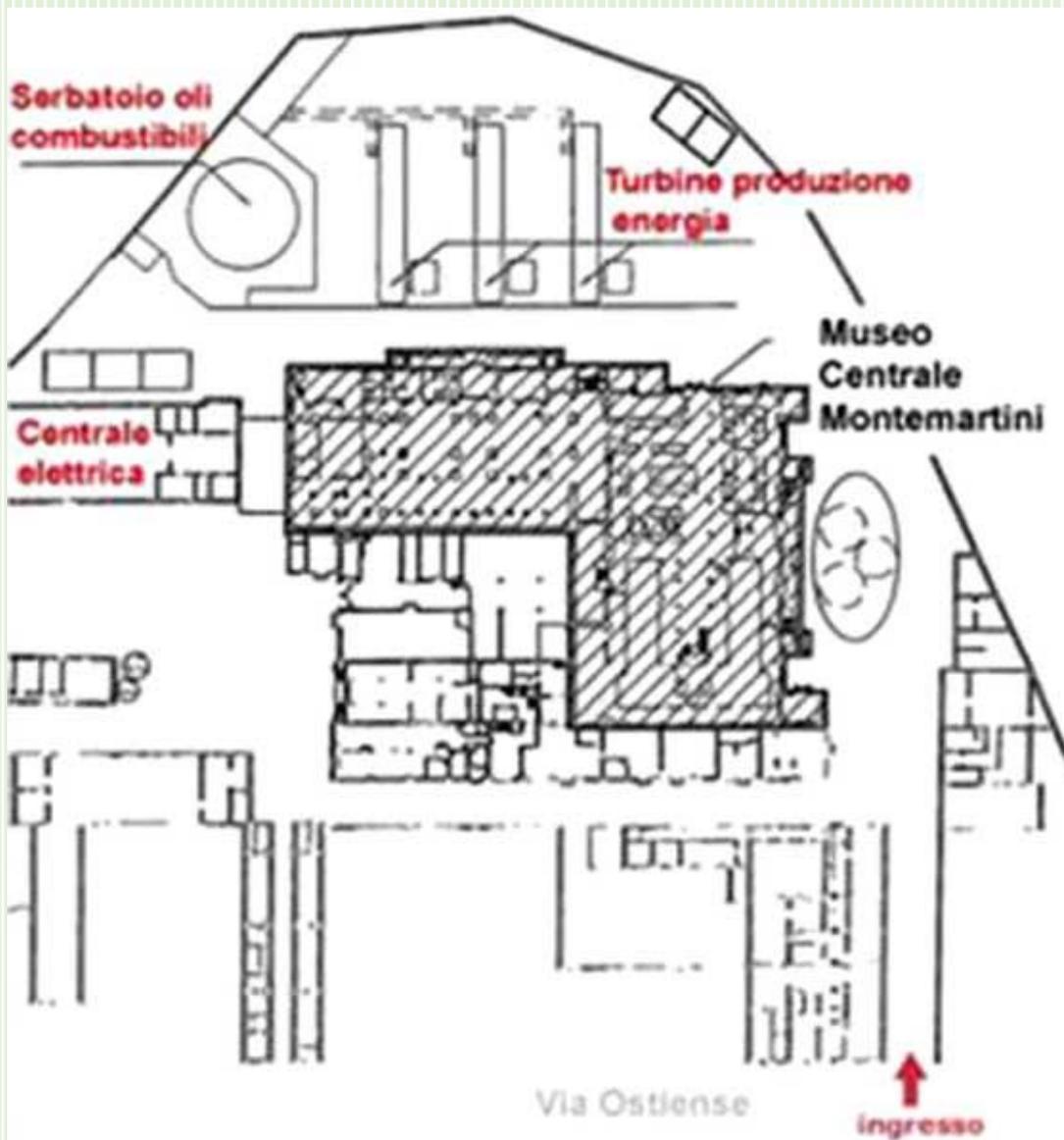


1.3. Technical and architectural characteristic of the monument.

The Monument is divided in three different floor. The exhibition system highlights the area where the finds are found and is divided into three main themes:

Republican Rome (the religious and funerary sphere, the introduction of luxury into the private sphere, portraiture), in the "Sala Colonna";

- the monumental center of Rome (area of the circus Flaminio, temple of Apollo Sosiano, Campidoglio, sacred area of Largo Argentina, Pompeo's Theater), in the "engine room";
- the gardens, the imperial residences and the domus (Esquilino's horti, horti Sallustiani, horti Spei Veteris in Porta Maggiore, mosaic of Santa Bibiana), in the "boiler room".





The set-up is characterized by the intertwining of images of classical archeology and images of industrial archeology, with the machinery of the plant forming the background of the sculptures (or the other way around, according to the observation points inside the room). Very suggestive is the impressive presence of the two gigantic and now 'silent' Diesel engines of the plant, each of which is integral to an alternator, all symbols of the

Industrial Age and overall within that century that saw the advent of most of the greatest extraordinary technologies of the modern era.

Among the statues, the two Roman copies of the famous Pothos of the hellenistic sculptor Skopas.





I.4. Assessment of the values of the monument /why is protected as a monument/

In 2009 Centrale Montemartini received the diplomas of the HERITY international quality certification for cultural heritage, delivered to the first five museums of the Municipality of Rome, and that one was classified as second after Musei Capitolini. The centre is now one of the most important and original heritage monument in Rome and is visited by 60.000 person every year.



I.5. Assessment of the integrity and authenticity

Centrale Montemartini is inserted in ICOCOMOS list of sites because in its administration is well developed the guidelines and networks for theoretical and methodological objectives and applications, which guarantee authenticity in conservation practices.

I.6. Technical condition assessment of the monument /conservation and protection needs/

The whole complex has been restored in 1995, but there is an active plan of management and restoration for the building and archaeological finds preserved inside the Museum, as for instance the monumental stairs at the entrance, restored in 2018.



I.7. Programme (existing) of protection /conservation, use, adaptation, modernisation/

The Museum has an active program of protection/conservation and renovation. Every year the Museum hosts new temporary exhibitions (in 2019, for instance was hosted an exhibitions on 'Il colore degli Etruschi').

Since November 2016, the Museum has opened a new exhibition hall which houses the 19th century wagons of the train of the pope, Pius IX. The charm and the particularity of the rooms contribute to make private events that can be hosted inside even more exclusive.



Summary and conclusions.

Centrale Montemartini is one of the most original exhibition spaces in Rome; a place where evidence of times gone by and modern remains coexist and complement each other. Rome's first public thermoelectric power plant, in operation between 1912 and the mid-sixties, was converted into a huge museum. In 1997, during the renovation of the Capitoline Museums, the plant was chosen to temporarily exhibit works from old collections; the great success of the experiment led to the exhibition becoming permanent.



II. Characteristics of the protection of the monument

1. Legal status of the monument /formal and practical protection system/

The museum is legally owned by the municipality of Roe and managed by a private society with Italian state participation. Protection system is under the rule of the Sovrintendenza Capitolina ai Beni culturali.

2. Formal requirements regarding protection of the monument /formulated by authorities or specialists/

Over the years, the Sovrintendenza has made financial and technological investments, creating numerous systems, such as alarm systems, video surveillance, passive devices, fire prevention systems, metal detectors. This system distributed throughout the territory was based on a widespread and numerous presence of personnel assigned for this purpose, with consequent significant costs. Over the past few years this type of organization has progressively been in difficulty due to the constant and inexorable decrease in employees. At the same time, the risk factors for the conservation of the heritage have increased due to the growth of tourists - not always respectful of our beauty - due to the exponential increase in the phenomenon of vandalism, as well as for traffic, abusive trade and climate

change in act, without finally considering the phenomenon of theft of works of art always present and looming.

3. Protection of values (p.l.4), authenticity and integrity (p.l.5), technical condition (p.l.6)
New security systems have been installed there has been a significant reduction in the phenomenon of thefts and a reduction in that of vandalism, on the contrary where these are not present or are in any case not adequate to the reality of the site concerned, these phenomena have increased.
4. Indications resulting from values assessment (p.l.4), authenticity and integrity assessment (p.l.5), technical condition assessment (p.l.6)
The accounts for the effectiveness of the prevention factor consisting of the visible presence of the video surveillance and alarm systems, as well as the adoption of evident measures of physical protection of cultural heritage and the related supervision by specifically assigned personnel.

1. Programme (proposal) of protection and conservation

To respond to this multiplicity of difficulties and challenges, which endanger the integrity and existence of the cultural heritage of Rome, which constitute the main attraction of the city with respect to international and national tourism, the Sovrintendenza Capitolina has launched a few year a project aimed at creating a control and monitoring center for the security systems of cultural heritage, where alarms, images coming from the cameras installed in the museum, monumental and archaeological areas, in the villas and historical parks of the city, in the buildings converge historical and artistic.

III. Characteristics of the use of the monument

1. Description of the primary functions and use
Centrale Montemartini was primarily used as a thermoelectric power plant, now is an exhibition building.
2. Programme (existing) of use, adaptation, modernization /presentation and critical evaluation/
A special team by the management society (Zètema) and by the State Research group is always active in the renewal, adaptation an modernization of the Museum.
3. Tourism, presentation, information /present state and potential/
The site is inserted in the main touristic offer of the City Museum network of Rome and in the educational program of different level of School

4. Programme (proposal) of use, adaptation, modernization/
A part from the permanent exhibition every year several space of the Museum host new programme of modernization and adaptation of the industrial structures of the complex.

IV. Characteristics of the management of the monument

1. Description of management of the monument /ownership, structure, staff, etc./
Centrale Montemartini is managed by Zètema Society. A company wholly owned by Roma Capitale, Zètema is the Capitoline instrumental company that operates in the Culture sector. They are distinguished by a mission devoted to obtaining an optimal use of the historical and artistic heritage of the city and a core business consisting in the management of cultural and tourist activities and services, as well as in the organization of events.
2. Financing /current state, need, possibilities/
Zètema Progetto Cultura srl, is an instrumental company of the Municipality of Rome, 100% owned by the Capitoline Administration. In the award of public contracts for services, supplies and works, acts in compliance with the provisions of Legislative Decree 50/2016 containing the Code of public contracts, other compatible national and regional rules, as well as its internal procurement and sponsorship regulations, drawn up in accordance with the aforementioned provisions.
3. Threats
With resolution of the Board of Directors (2015), Zètema, in order to allow the participation of all the economic operators interested and registered in the Zètema Supplier Register, the invitation letter and the documentation attached to it, at the same time as the shipment to the invited operators, they are published on the profile of the client of Zètema, in this section under the heading "procedures in economics in progress". In this way, the economic operators concerned who, at the time of the deadline for the submission of tenders, are regularly registered in the Supplier Register of Zètema and meet the requirements set out in the invitation letter, can, even if not directly invited, submit their offer within the peremptory deadline set in the invitation itself.
4. Monitoring /indicators/
The managing company is totally controlled and monitored by the Sovrintendenza Capitolina and by the administrative monitoring system of the municipality of Rome

Summary and conclusions.

Zètema, the Company that manages Centrale Montemartini deals with the administration of activities aimed at enhancing the artistic and cultural heritage within the city and nationally, also through the management of museums and libraries, the enhancement of archaeological and monumental areas, artistic fountains, theater rooms and in general the exercise of all activities instrumental to the enhancement of the artistic heritage such as exhibitions, cultural and entertainment events.

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Cultural heritage management: the Opera del Duomo in Florence

Introduction

Cultural heritage represents the historical background of a people. It is the heritage of goods and knowledge that strongly marks the culture and the identity of the communities that produced it and that generally preserve it. In 2002 UNESCO, in its catalogue of the most valuable works, developed a clear distinction between material and immaterial heritage, emphasizing that cultural heritage is not only the single work of art which has come to us through history, but also the context of any traditions transmitted by our ancestors such as language, performing arts, social practices, rites, holidays, crafts.

Implementing a good governance of cultural heritage, therefore, means dealing with the nerve centre of the social system it represents. Its correct management therefore passes through managerial skills, and therefore specific economic, managerial, organizational and legal knowledge, scientific-humanistic skills, and therefore a thorough knowledge of the main cultural and environmental issues.

The understanding of all the systems of relationship, connected to it, allows to get to influence the cultural, tourist-economic, as well as social-identity field; diametrically the ideological abuse carried out in a discriminating way with respect to the cultures that produced it can become easy reason for political tensions and conflicts, just think of the recent tensions generated by the choice of July 2020 to convert back to the mosque, the Santa Sofia building in Istanbul.

The social identity aspect

One of the first issues related to the management of cultural heritage is therefore linked to the social identity aspect. Today one of the highest examples of cultural asset management, focused on this issue, is represented by the work of the United Nations Educational Scientific and Cultural Organization, better known as UNESCO. It is interesting to point out that this body was founded in 1945 with the aim of pursuing global peace objectives set at the end of the Second World War, and that only in 1972 it came to adopt the safeguarding of cultural heritage as a key strategy for the pursuit of targets. This strategy is indicative of the great intuition that protecting the identity of a people is the first step in laying the foundations of a stable and harmonious society.

The economy and tourism

Another great focus related to cultural management concerns the economic tourism aspect. On this issue, the Italian example is currently founding a large part of its economy. In fact, it has the largest cultural heritage in the world, according to the MIBAC censuses over 4,000 museums, 6,000 archaeological areas, 85,000 ecclesiastical structures placed under protection and up to 40,000 historic houses, counting among these 49 UNESCO sites (second only in the ranking at 55 sites scattered throughout the Chinese territory). To protect the Italian architectural, archaeological and historical-artistic heritage, the MIBAC updates the 'Risk Card catalog' every year, a tool designed to allow the programming of maintenance and restoration interventions.

The relevance of the socio-economic implications that this issue invests, must therefore be combined today with the change in new needs arising from economic, market and technological innovation factors.

This activity should therefore be directed so that the villages and historical centres return to play the role of territorial polarity for the vitality and survival of large areas which in the promotion (enhancement) and maintenance (management) recognize the typical features of traditions as a value and criterion for Sustainable Development.

In fact, the cultural landscape and therefore the goods which in the monument-territory-environment relationship are connoted as cultural landscapes - is a great flywheel of productive potential capable of triggering qualitative and differentiated development processes¹⁵.

¹⁵ Rapporto della commissione scientifica BES 2014 su Paesaggio e Patrimonio Culturale

The example of the Opera del Duomo in Florence

from foundation to 1891

One of the most interesting examples of management that tradition offers us is represented by the Opera del Duomo in Florence. Established in 1296 as a factory, a lay institution formed by administrators, artists and workers. It had the role of taking care of the construction of the cathedral of Santa Maria del Fiore and its bell tower, whose design is by Giotto¹⁶.

According to reports from the Department for Civil Liberties and Immigration of the Italian Ministry of Interior:

The *Fabbricerie* are organisms of very ancient origin with a foundational nature (*fabrica ecclesiae*), or associative (*consilium fabricae*). They have the task of providing, without interference in worship services and with the proceeds deriving from the administration of the patrimony, for the maintenance and restoration of the churches to which they are responsible.

Even if regulated in the framework of the pact law, the *Fabbriche* do not have the status of ecclesiastical bodies, but of "private law entities", as was recognized by the Council of State with opinion no. 289 of September 28, 2000.

The discipline to which *Fabbriche* are subject is established by art. 72 of law 222/1985 and by articles from 35 to 41 of the Presidential Decree 33/1987.

These are *Fabbriche* of cathedral churches and those declared of significant historical and artistic interest.

Pursuant to the aforementioned Presidential Decree 33/1987, the *Fabbriche* are governed by a statute approved by decree of the Minister of the Interior after hearing the diocesan Bishop and are managed by boards of directors made up of seven members appointed for a three-year period: two by the diocesan Bishop and five by the Minister of the Interior after hearing the Bishop himself. The Minister also appoints the president, who is elected from among the members of the factory council.

There are 25 *Fabbriche* currently operating (translated by the author)¹⁷.

¹⁶ See (2004) *La natura giuridica delle Fabbricerie*, Giornata di Studi, Pisa 4 maggio 2004. Opera Primizia Pisana: Pisa.

¹⁷ See <<http://www.libertaciviliimmigrazione.dlci.interno.gov.it/it/fabbricerie>> (08/2020)

PROV	COMUNE	DENOMINAZIONE
AR	Cortona	Fabbriceria detta Opere Riunite del Duomo e della Chiesa Monumentale di S. Maria Nuova
FI	Firenze	Fabbriceria "Opera di Santa Croce"
FI	Impruneta	Fabbriceria della Chiesa Monumentale di S. Maria all'Impruneta
FI	Firenze	Fabbriceria di S. Maria del Fiore – Opera del Duomo di Firenze -
FI	Tavarnelle Val di Pesa Fraz. S. Donato al Poggio	Fabbriceria detta "Opera di S. Maria delle Grazie di Pietracupa"
FI	Firenze	Opera Mediceo Laurenziana
GE	Genova	Fabbriceria della Parrocchia di S. Maria Assunta di Carignano
MI	Milano	Veneranda Fabbrica del Duomo di Milano
NA	Napoli	Cappella del Tesoro di San Gennaro
PA	Monreale	Fabbriceria detta "Maramma di Monreale"
PA	Palermo	Fabbriceria detta Maramma di Palermo
PD	Padova	Veneranda Arca di S. Antonio in Padova
PG	Todi	Fabbriceria Sagrestia della Concattedrale di Todi
PI	Volterra	Fabbriceria della Parrocchia della Basilica Cattedrale
PI	Pisa	Opera della Primaziale Pisana
PO	Prato	Fabbriceria detta Opera del Duomo di Prato della Chiesa Cattedrale Monumentale di S. Stefano
PR	Parma	Fabbriceria della Basilica Cattedrale di Parma
PV	Pavia	Fabbriceria della Chiesa Cattedrale Monumentale di S. Stefano Martire
SI	Chiusi	Fabbriceria Opera Laicale della Cattedrale di Chiusi
SI	Pienza	Fabbriceria della Chiesa Cattedrale di Pienza
SI	Siena	Fabbriceria del Duomo di Siena denominata Opera della Metropolitana
SI	Montepulciano	Fabbriceria detta Opere Ecclesiastiche di Montepulciano
TR	Orvieto	Fabbriceria "Opera di S. Maria della Stella" ossia " Opera del Duomo di Orvieto"
UD	Venezzone	Fabbriceria del Duomo di Venezzone
VE	Venezia	Procuratoria di S. Marco

The *Fabbriceria* reflects a model of management of the public heritage characteristic of the Medieval period on a par with what happened for the construction of the factory of St. Peter's Basilica in Rome or the cathedral of Milan (to name just a few). A management model capable of producing culture but at the same time creating a sustainable local and regional economic system¹⁸.

It is essentially a model borrowed, in the Christian context, from the management structure of the territory operated by the monasteries to a secular structure operating in an 'urban' context in which the economic resources within the system are reinvested in public works. In this way, the phenomenon of poverty is counteracted by creating new jobs and allowing the economy to turn, redistributing wealth in the logic of subsidiarity between territory and city¹⁹.

The *Opera del Duomo* of Florence therefore took care of the management part relating to the construction of the monumental complex until 1436, the year of the completion of the construction of the *Duomo* and since then remained in place with the precise task of protecting, refurbishing and maintaining the cathedral and bell tower to which the baptistery of San Giovanni was formally added from 1777.

¹⁸ See Le Goff J. (2018) *Lo sterco del diavolo. Il denaro nel Medioevo*. La Terza: Bari.

¹⁹ See Salvestrini (2008).

A curiosity concerns the way of saying *a ufo*, which in Tuscan jargon is synonymous with something free (having a trip *a ufo* = traveling for free). It seems that this terminology derives directly from the acronym 'A.U.F.O.' marked on wooden logs used for the construction of the Cathedral of Florence and which literally meant *ad usum Fabricae Operis*, or even *Ad usum Florentinae Operis*, or for use in the manufacture of the work or for use by the Florentine *Opera*. The synonym of gratitude lay in the fact that the materials bearing this wording were exempt from all duties during its transport by floating along the river Arno.

In conclusion, we note that upstream of the realization of the asset itself, we can also speak of an *ante litteram* valorizing action of an intangible cultural heritage, a tradition of religious nature.

In fact, the valorisation of the intangible asset has been a prodrome of effects that flowed into the realization of the material heritage that we admire and identify today as the monumental complex of the Opera del Duomo of Florence, and all the maximum artistic expressions which in turn have found expression in its realization. So, a material heritage that derives from an intangible heritage.

The creation of the museum

The activity of the work developed from the conclusion of the construction, to 1891, as the exclusive maintenance of the works of art and all the pictorial and sculptural apparatus of the cathedral, replacing the pieces from time to time. In this period all the schools and labor specializations (stonemasons, workers, artisans and bricklayers) founded their history which provided for the maintenance of the work.

The continuous renovations of the *Fabbrica* also meant that a huge amount of works of art were replaced over the years with others to create a collection of goods additional to those integrated into the monumental complex.

The awareness of the numerous assets accumulated over the centuries led to the founding of the Museo dell'Opera del Duomo in Florence in 1891.

Today this institution, engaged between management and enhancement, represents a historical example of cultural heritage management.

The Management of the assets it holds goes through various activities²⁰, first of all the conservation implemented through the monitoring, maintenance and restoration of the individual works.

The promotion of worship and culture is not simply relegated to the evangelical action of its prelates, but is integrated with cultural initiatives such as concerts, conferences and conventions. Since 2012, the musical chapel has been established with the aim of forming a choir specialized in performing the complete repertoire of sacred music drawn from both the ancient repertoire and composed by its artists. This initiative has been enriched since 2016 by the creation of a chorus of white voices.

The activity of promoting historical and artistic culture also passes from training with educational courses for guides and students of all levels up to research with collaborative relationships with State and Catholic universities. Dissemination and communication also passes through the press office, the web and social media.

Last but not least, enhancement passes through the most classic of channels: the direct use of the asset itself managed through thematic paths and inclusive projects for accessibility.

The visit to the monumental complex is, in fact, not a simple immersion into the beauties of which it is composed, but it is proposed according to particular routes designed on the basis of specific themes.

By way of example, we report 'The Matroneo of the Baptistery of San Giovanni', 'Michelangelo: The Restoration and Work of Man', or even the most classic guided tour of the 'Visit of the monumental complex' which, according to a temporal logical sequence, begins with the visit of the Baptistery of San Giovanni to continue inside the Cathedral in the crypts of the ancient Santa Reparata (home of the original church), in the new spaces of Santa Maria del Fiore, with a visit to the bell tower and the Renaissance dome, to end in the last work carried out which is precisely 'Il Museo dell'Opera del Duomo'.

It should be noted that the museum itself, as conceived, is not a simple collection of works of art, rather its constitution completes a logical evolutionary process of the good and as such conceived and structured to accompany the understanding of the various cultural aspects that lie behind the construction of the Florentine monuments it represents.

²⁰ See Annual report 2018, Opera di Santa Maria del Fiore.

Historical, cultural and philosophical paths.

Entering from No. 8 in Piazza del Duomo, you enter those rooms that were the headquarters of Filippo Brunelleschi for the direction of the construction of the dome and Michelangelo's sculpture workshop when he sculpted the David, designed and built precisely for a buttress of the dome.

By passing the entrance hall and entering the courtyard of the Ticciati it is possible to immediately appreciate the main altar of the Baptistery inaugurated in 1732 and removed in 1912 in favor of the restoration of the medieval altar.

This choice, as the institution itself indicates:

suggests the primary mission of the Opera del Duomo founded at the end of the thirteenth century: to supervise the uninterrupted process of innovation that involved the Baptistery, Cathedral and Bell Tower in the alternation of times and styles. It also suggests the mission of this museum, opened in 1891 and renewed in 2015: to preserve and enhance the masterpieces with which, over more than a thousand years, the Church and the people of Florence have expressed their faith. The saint depicted by Ticciati, Giovanni Battista, the Precursor of Christ, is in fact the heavenly patron of the city (Translation of the author)²¹.

A long corridor accompanies, in a narrative sense, to the heart of the museum with the most illustrious names of the artists and craftsmen who have been part of the history of the Opera del Duomo engraved on the north wall. The introductory room and the gallery of sculptures immediately introduce the user to late 13th century Florence, where the abundance of marble sculptures evoke the modernity and economic power of Florence which at the time competed for wealth with the cathedrals across the Alps but also the mystagogical choice to adopt marble in reference to the evangelical warning of Christ who calls us to be living stones in the Christian life (I Peter 2,5). Continuing in history, the Sala del Paradiso leads into a symbolic space that places us back in the churchyard of the unfinished Arnolfian facade of Santa Maria del Fiore (rebuilt from a sketch by Bernardino Poccetti) and the bronze doors of Lorenzo Ghiberti's paradise. A space-time jump that allows us to appreciate the original location that the sculptural apparatus of the time must have had and a historical stratification that could no longer be read otherwise. Before entering the upper floor, some rooms expose and explain the devotional aspect of the works of art originally placed inside the Cathedral. Among the main works one can admire the penitent Magdalene of Donatello or the piety of the now seventy-year-old

²¹ See <<https://duomo.firenze.it/it/468/cortile-del-ticciati>> (08/2020).

Michelangelo as well as some reliquaries symbol of the veneration of the human body as a 'temple of the holy spirit' (1 Corinthians 6:19).

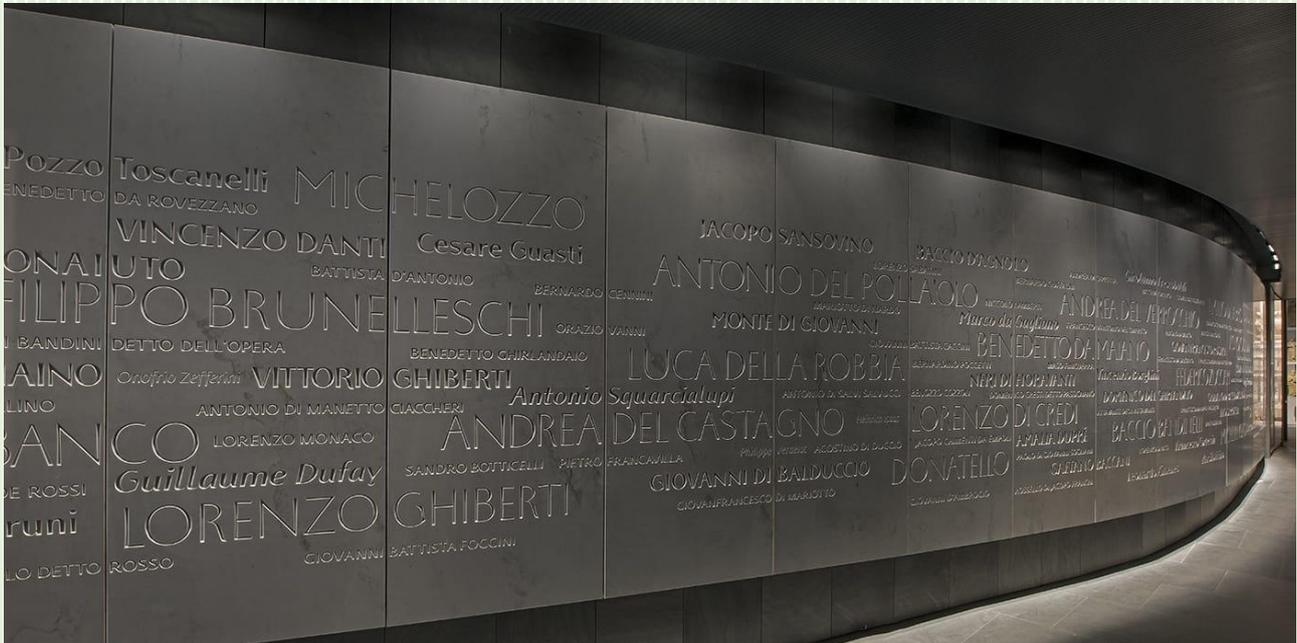


Fig.1 Corridoio dell'opera <<https://duomo.firenze.it/it/470/corridoio-dell-opera>>

Going up a level a series of rooms allow you to make thematic insights related to the different places of the complex. The visit proposes the passage on the first floor through: the gallery of the *Campanile* (bell tower), the gallery of the dome, the hall of the naves, of the *Cantorie*, of the Bandinellian choir, and the treasure room, intended as the sacristy. The upper level concludes the historical journey through a gallery of models in which the user can transform himself into judge and jury of the design proposals proposed to the Medici Grand Dukes for the construction of the new facade of the cathedral destroyed in 1587. A panoramic window on the Sala del Paradiso allows to maintain a visual control between Arnolfian's past and the future that lay ahead in the eyes of historical evaluators.



Fig.2 Belvedere del paradiso <><https://duomo.firenze.it/it/535/belvedere-del-paradiso-foreste-del-casentino>

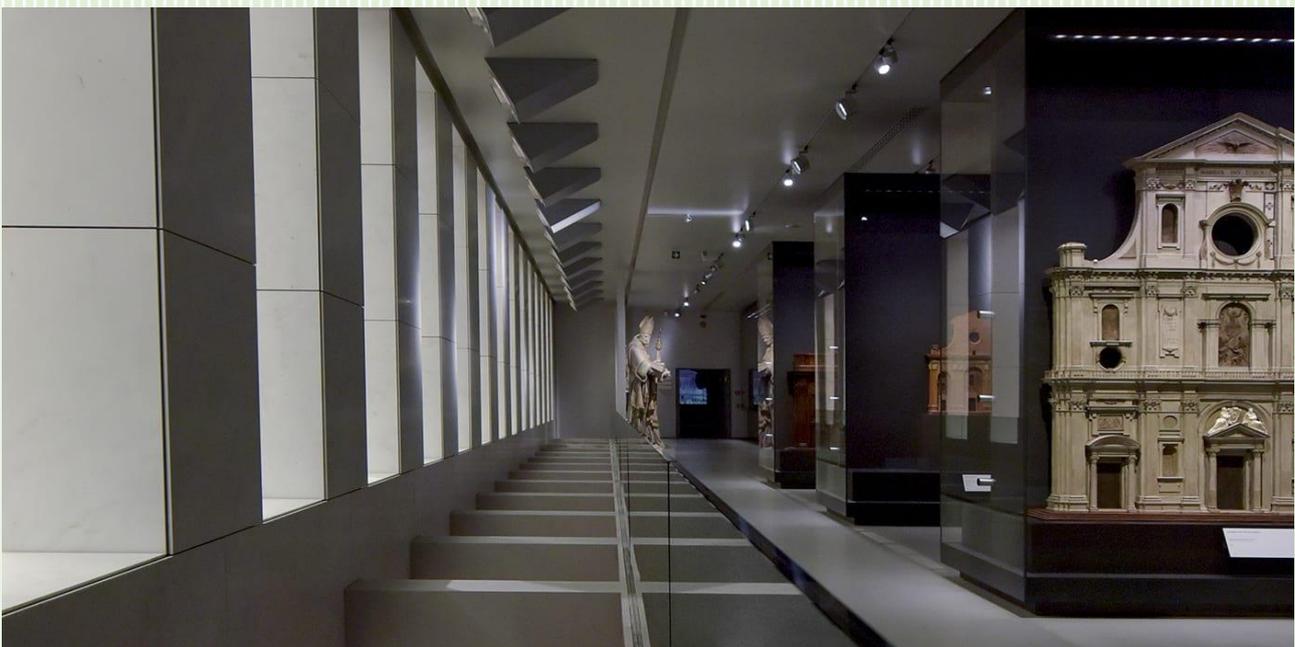


Fig. 3 Galleria dei modelli <<https://duomo.firenze.it/it/504/galleria-dei-modelli>>

The entire museum therefore proposes an immersive journey through history offering ideas and suggestions that allow the visitor to travel through time and become the protagonist of history by walking on the churchyard of the Medieval church up to enter the intellectual rooms of the Medici court facing theological themes related to Christian culture to conclude the journey on a large panoramic terrace over Florence, worthy emotional conclusion of a journey that finally rejoins the present.

Conclusions

In conclusion, on the basis of the proposed case study, we can therefore summarize some key concepts relating to the management of cultural heritage. We have seen how this activity can be distinguished by levels:

a - Protection activities: which represents the first level of management and represents all monitoring, conservation and safeguarding activities relating to the risks of deterioration / loss of the asset. Generally, this level of management is adopted when particular cultural conflicts do not agree on the governance of the good itself. The simple maintenance of the property allows to guarantee a position of political neutrality with respect to the 'socio-cultural' dynamics that orbit it. With reference to the 'tourist-economic' aspect of which we spoke in the introduction, this action does not allow to produce significant effects on the local economic system. The good, however, continues to enjoy its specific value. In the case study treated, simple monitoring falls into this particular segment of management.

Valorisation activities: this level implies that the asset in question has been subjected to specific sector studies capable of determining its intrinsic value and that its management has drawn from these studies the inputs to implement actions aimed at raising the level of awareness of the asset value. This includes the communication and dissemination actions implemented through the various information channels. In the case study, all cultural initiatives related to the enhancement of historical and artistic worship and culture (concerts, conferences, events, educational courses and research activities) also fall under this heading. In this case, the economy derives a strong advantage connected to all the activities produced and also tourism in a chained way.

Transformation activities: this level implies a particularly impactful approach both from a 'socio-cultural' and 'touristic-economic' point of view. This action, in fact, provides for an evolution of the treated asset on which a re-sanctioning of the value it represents. It is essentially the atavistic theme of reuse with the re-functionalization of the asset or the conservation in the original state of the asset.

In this direction, the cultural debate is particularly active today. In the specific case of the case study, of course, we are talking about the reuse of the ancient workshops of the factory of the cathedral that have undergone as they said an action of re-sanctifying their being: from the 'factory' of the cultural good to the 'Cicero' of the good that they saw it born. A work conceived as an artistic expression of the history that has passed through it, thus responding to new needs considered strategic in the context of the enhancement / transformation, not only of the material good it preserves but above all of the identity and immaterial good of the culture it represents.

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Historic Paper Mill in Duszniki-Zdrój **– example of modern management system** **for heritage sites**

Introduction

The paper mill complex is situated in Duszniki Zdrój, Kłodzko powiat, Lower Silesia voivodeship, Poland. It is located on the outskirts of the present-day town, in its north-eastern part, on the Bystrzyca Dusznicka river, which separates the paper mill buildings from the Kłodzka street. The paper mill objects are situated at the junction of two roads – to the north it is the Kłodzko – Kudowa-Zdrój road (national road no. 8), to the east it is the road to Zieleniec (Sprzymierzonych street), a few meters below their level.



On the southern side of the historical buildings there are contemporary buildings of the exhibition hall and a boiler room used by the museum, while the western and southern section of the museum grounds is covered by fiber plant garden. The paper mill grounds are surrounded by a modern-style fence. Further south, there are blocks of flats of the Chopin housing estate, while to the west there are buildings of the historical Duszniki Zdrój old town.



Since 1968 the paper mill complex has served as a museum. It is the seat of the Museum of Papermaking, the only museum in Poland which deals with the wide art of papermaking – its history from the times of manual crafts until industrial paper production. The museum collects, preserves and exhibits artefacts connected with the history of papermaking in Poland, and does research on the history of papermaking. As the owner, it is in charge of not only the museum collection of exhibits but also takes care of the historical, legally protected buildings of the paper mill.

The building is primarily used as a museum – i.e. exhibitions, education, popularizing and research of papermaking. Moreover, the building contains a production facility -small scale handmade papermaking (for sale, as a tourist attraction and an element of the educational function of the museum – papermaking presentations and workshops) and administrative and office function. The dryer building serves museum function – exhibitions, and as space for educational activities and workshops, storage space for museum collections, and administrative and office function. The entrance hall serves its original purpose.

I. A short history of the paper mill in Duszniki

The origins of the paper mill, confirmed by archival records, go back to the second half of the 16th century. In 1562 Ambrosius Tepper sold the mill to Nicolaus Kretschmer, a representative of a family of royal paper makers coming from Saxony. The paper mill in Duszniki existed before 1562, and this earlier stage of its existence can still be traced in the structure of its walls. Gregor Kretschmer (Nicolaus's son), who became the sole owner of the paper mill in 1588 is considered to be the first creator of the mill's prosperity and fame.



The prosperous development of the mill in the 2nd half of the 16th century coincided with the general prosperity of the town. The oldest watermark of the paper mill in Duszniki, depicting St. Peter, comes from the late 16th century. The mill was destroyed during the flood of 1601 (possibly 1603), and then rebuilt in 1605. During the reconstruction, probably the remains of the 16th-century facility were used – brick section of the ground floor of the western part of the present-day mill. Gregor Kretschmer perfected the papermaking process, achieving an exceptionally high quality of his products for the times. In recognition of his contribution to papermaking trade, he was awarded by emperor Rudolph II a crest and, subsequently, he was granted a nobility title of “von Schenckendorf”.

The sons of the paper makers family continued to develop the mill and improve the quality of the paper manufactured there. In 1623, following Gregor's death, his son Samuel bought the mill from his stepmother, and after his death in 1640 the mill was run by his wife Susanna, and then their son Samuel took over.. In 1656 Samuel's wife (also named

Susanna) became the owner. Their son Christian Wilhelm Kretschmer took over the paper mill probably in the 1660s. Christian Wilhelm was commissioned to supply paper to all municipal offices in the city of Wrocław, and in 1684 he purchased the exclusive right to buy rags in the entire area of the then Kłodzko County. After Christian's death in 1689 the paper mill was inherited by his widow Susanna Katharina (since 1691 she ran the mill together with her second husband – a Prague paper maker Anton Franz Rosenberg). The last owner of the mill from the Kretschmer family was Wilhelm (Christian Wilhelm and Susanna Katharina's son).

In 1706 the mill was acquired by Johann Anton Heller from Frydlant in the Cech Republic. The paper mill continued to be owned by the Heller family, and then by their heirs - the Ossendorfs for over one hundred years (until 1822). The Hellers extended the paper mill and modernized the paper production process. In their time, most probably between 1743 and 1747, the wooden building adjoining the mill on the eastern side was erected, which houses a drying room, where an older log-frame structure can be distinguished (which possibly served as rags laundry), which may date back to the turn of the 16th and 17th century.

Another element of the paper mill complex is the impressive entrance pavilion. The beginning of its construction is usually considered to be at the beginning of the 18th century, sometimes pointing to the year 1709 or 1769, when, following another disastrous flood, a thorough refurbishment of the buildings was carried out. In the 1st half of the 18th century further renovation and conversion works of the mill building; the western wooden volute gable, a very characteristic architectural element of the mill in Duszniki comes from around that time (most probably from the 1730s).

The 18th century was a time of the greatest prosperity of the paper mill. The owners introduced a series of modern technological solutions and state-of-the-art production machines: in 1719 – an overshot wheel, around 1737 – the so-called Hollander beater – a device for processing rags into paper pulp, and in 1753 a machine for cutting rags and smoothing out paper. A positive consequence of these novel developments was achieving a top quality of the paper produced in the mill in Duszniki.

The exceptional product was soon appreciated and in 1750 Anton Benedict Heller, who purchased the paper mill in 1737, was granted the title of the royal paper maker of Frederick II Hohenzollern. The title was also granted to his son-in-law Johann Joseph Ossendorf. At that time, the paper mill in Duszniki was considered as one of the best paper mills. It is noteworthy that in 1764 the mill in Duszniki played host to the Prussian king Frederick the Great.

In the new political and economic reality, after Silesia and Kłodzko Land were incorporated in the kingdom of Prussia, the paper mill began to face problems with supplies of rags. In 179 the mill was damaged by a flood, however, there is no information on the extent of the damage and its consequences. Shortly after the flood damage, in 1772 (or according to other sources in 1769) the management of the mill was taken over by Johann Joseph Ossendorf – a papermaker who had arrived from Bohemia and was married to Antonia Josepha, Anton Benedict Heller's daughter. Johan Ossendorf was in charge of the mill for a short period of time. Following his premature death in 1779, Antonia Josepha became the owner and carried out another renovation of the mill.

The initials of Ms Ossendorf and the year 1802 -probably the date of the completion of the renovation works – were inscribed over the entrance to the mill's ground floor on its northern side. (A. O. H. 1802). At the beginning of the 19th century, as a result of the Napoleonic wars, paper production in Duszniki came to a halt. In 1806 Antonia Josepha Ossendorf sold the mill to her son-in-law Johann Leo Königer. In 1822 Johann Leo Königer (the last owner related to the Heller family) sold the paper mill. It was acquired by Joseph Wiehr, a miller from the town of Ząbkowice. The mill was owned by the Wiehr family until 1939 (from 1842 to 1847 it was owned by Joseph's widow, next it belonged to Carl I Wiehr – 1847 – 1899 and Carl II Wiehr).



The technological advances affecting papermaking industry in the 2nd half of the 19th century, i.e. introduction of machine papermaking rendered the handmade paper production unprofitable. In 1905 production of handmade paper in Duszniki was ceased. It

forced the then owner Carl Wiehr to modernize the paper mill by installing paper and cardboard making machine, rebuilding the production hall, reconstruction of the mill race canal, and replacing the water wheel with a turbine. Those changes, however, did not bring the expected results and the mill was unable to successfully compete with large modern industrial scale paper mills. Probably in 1937 the production of paper was finished and in 1939 the mill was taken over by the municipality with the view to transforming the historical mill into a museum of technology. However, the plan of opening the museum had to be set aside due to the outbreak of the Second World War.

Basically dating back to the 17th, 18th and the beginning of the 19th century, the spatial and architectural form of the paper mill buildings (the mill, drying house and the entrance pavilion) has been largely preserved until today. The renovation works conducted in the 19th century did not significantly change the exterior shape of the buildings; they mostly affected the interior functional layout.



The dire financial situation of the then owner led to the increasing deterioration of the condition of the buildings, which considering the growing, since the beginning of the 20th century, recognition of the historical value of the paper mill, allowed to obtain funding for restoration works. In 1912 only part of the necessary works was carried out. The chimney adjoining the northern facade of the mill was pulled down. Probably in the 1930s, a wooden balcony was added to the southern side of the mill building. In the early 1940s,

a series of necessary restoration works were conducted. Despite those actions, after the Second World War the buildings were in a very bad shape.

The disused and totally derelict paper mill was, starting in the late 1950s, subject to restoration conservation and adaptation works. As a result of these efforts, the Museum of Papermaking was established in 1968, which saved the facility from destruction and opened a new chapter in the history of this valuable historical landmark.

2. Architectural features of the paper mill

The paper mill facility constitutes a complex of two adjacent buildings: the main one called the paper mill, which originally served as a living quarters and a production plant, and in whose structure one can distinguish a few construction stages dating back to the period from the 16th century to around 1800, and the drying house built around mid-18th century (connected with a suspended mill by a paorch, and connected with Kłodzka street by a wooden bridge over the Bystrzyca Kłodzka river). On the north-eastern side, the mill is adjoined by an extension, probably dating back to the 19th century.



The main building of the mill is built on the elongated rectangle plan as a two-storey building with a high ground floor section made of stone and a mostly wooden timber frame second floor section (the south-western part is made of brick). A distinguishing feature of the structure is the high-pitched gabled wooden-shingle roof with rows of vents situated across the roof, which are typical for paper mills. The northern plane of the roof is

disrupted in the middle by a by a form of a large wooden dormer covered with a gabled roof.

The two wooden gables topping off the side wall of the building are differently designed. The eastern one is triangular while the western one is impressively bounded on its sides by double-spiraled volutes and topped with a triangular tympanum, separated by a profiled wooden ledge. This voluted gable reminiscent of the baroque brick architecture gives the shape of the mill a unique character.

The northern (front) facade and western facade are emphasized by a rich architectural ornaments. These consist predominantly of bossaged ground floor walls and round-arched storey separations with rosettes and half-rosettes formed with plaster. These architectural divisions were made of two-colored plaster – light red and sandy colors. The southern façade contains exposed half-timbered structure. This façade also contains a peculiar element i.e. recessed wall latrine, mounted on profiled stone supports.





The impressive representative exterior of the paper mill is an expression of its former glory and prosperity and a proof of the significance and affluence of the families of papermakers from Duszyniki. The mill interior served primarily as a production plant, but it was also a living quarters of the owners. The main production process took part on the ground floor while the first floor was probably used for sorting rags and habitation. The attic was mainly used as drying space, except for two rooms on the first floor, which was used as living quarters. Painted ornaments on the walls and ceilings dating back to the 17th and 18th centuries have been preserved there. These are ornamental, floral, figural and architectural compositions. The mill's polychromes are regarded as unique decoration, as their occurrence in mills and other production facilities is extremely rare.



Some of the ground floor rooms have barrel vaults and groin vaults. The well-preserved portals dating back to the 16th and possibly the 17th century are precious genuine elements. At present, the building is used for handmade production of paper (in the ground floor area), whereas other rooms serve as exhibition space and offices.

An 18th-century addition to the mill, the drying house is a wooden timber-frame large compact structure with high-pitched roof whose planes are separated by rows of vents. The façades are made of wood, dark brown without any ornaments. Originally, the ground floor of the drying house was used as warehouse for raw materials, while the upper floors served as drying rooms. At present, the building serves as exhibition and education area as well as office space.

An important element of the mill complex is the entrance pavilion characterized by a unique shape and form. It is a small, two-storey on octagon-shape floor plan building covered with a dome roof. The façades of the pavilion bear ornaments identical to those on featured on the representative façades of the main building.



The paper mill in Duszniki has an architectural form typical for this kind of objects. It is a monument of technology whose spatial composition of buildings, architectural form and layout of the rooms are determined by its historical function – a place of handmade papermaking. The additional value of the paper mill complex was created by giving the mill buildings and the entrance pavilion a costume of baroque architectural décor and a rich painted ornaments of the interiors, which makes the complex stand out among the preserved mills in Europe.



3. Factors determining the protection and management needs of the paper mill

The condition of the particular buildings of the paper mill complex is good but varied. The condition of the drying house is in the best shape due to the thorough renovation works has undergone in recent years. The condition of the mill building is satisfactory while the entrance pavilion is in the relatively worst shape. Its first floor, in particular, has been affected by the detrimental effects of moisture.

The paper mill building – the general condition of the mill is good. The structural elements (foundations, ceilings, roof rafters), following the renovation and conservation works carried out in the 1990s and 2000s, are in good condition. The façades of the building are in good condition, however, plaster is missing in some places. The protective layer of paint on the timberwork of the wooden eastern façade is missing in places. The wood shingle roof, particularly its northern section is covered with moss.

In the interiors, there is a noticeably deteriorating condition of the plasters in the ground floor section (probably caused by high humidity due to the character of use). The staircase and its particular elements are in a relatively bad condition as it has not been subject to any conservation works for many years. The historical furnishings and equipment are in a good shape. The murals are in need of conservation works. In 2019 conservation works on the polychromes in Joseph's room will begin, and the works will continue in the following years.



The drying house – the condition, after recent thorough renovation works, is good as regards the structural elements (walls, ceilings, roof). The wooden shingle roof, similarly to the mill building, requires impregnation (waterproofing). The décor elements are mostly contemporary.

The entrance pavilion – the general condition is medium. It refers, in particular, to the lower, damp ground floor, which is especially exposed to high humidity. The first floor – which is the main entrance to the Museum, is in good condition.

4. System of the protection and management of paper mill – organization, financing, hazards

The paper mill in Duszniki is under legal protection of the historical monuments protection system in Poland. The complex of the historical paper mill buildings is inscribed in the immovable historical monuments register, which is the basic form of protection and includes a number of legal and formal conditions, e.g. with regard to current use, conducting renovation and conservation works, financing of such activities, and monitoring the condition of the monument and determining possible threats to its value.

Moreover, the monument as a site of outstanding value in the national scale received a prestigious title of the Landmark of History. To date, this status, granted by the President of the Republic of Poland, has been given to 105 historical monuments and ensembles, selected through the process of detailed analysis of the historical value (historical, artistic or scientific) from among over 70 000 historical sites and objects in Poland under legal protection by inclusion into the Registry of Objects of Cultural Heritage. Such form of protection confirms the highest significance of the object for the cultural heritage of Poland. Recognizing the object as a Landmark of History in Poland is a “starting point” for the bid for inscription on the UNESCO World Heritage List.

The specified legal and formal conditions are a guarantee of the object’s good state of preservation and its value. Such property as the paper mill complex in Duszniki-Zdrój, which is under protection pursuant to the Act on the Protection of Historical Monuments and granting the status of the Landmark of History, is subject to special care from public administration bodies in order to maintain its historical value, conduct research and conservation works on the highest level, and has a greater potential for obtaining funds from various public institutions – both central government, local administration of different levels, and EU.

The owner of the object, which possesses the right of perpetual usufruct (public land lease) of the land plots specified in the Land Registers: KW 59716, KW 66481 and KW 77093 held by the District Court in Kłodzko, is the Museum of Papermaking in Duszniki Zdrój. The legally responsible managing authority is the Museum of Papermaking in Duszniki-Zdrój – an Cultural Institution of the Self-government of Lower Silesian Voivodeship. As an organizational unit acting pursuant to the provisions of the Act of 21 November 1996 on museums, it realizes the objectives provided for in the act, based on the statute which defines, among other things, sources of financing. Dr. hab. Maciej Szymczyk – the Director of the Museum is in charge of the ongoing supervision and budget of the facility.

The Museum of Papermaking in Duszniki-Zdrój as the Cultural Institution of the Self-government of Lower Silesian Voivodeship, is primarily from the funds of the self-government of Lower Silesian Voivodeship. The main source of financing of the Museum is a designated subsidy from the budget of Lower Silesian Voivodeship for a self-government institution of culture for to finance current operations and activities specified in its statute, including maintenance and renovation of the objects.

The main sources of financing refurbishment, renovation, adaptation and protection works in the historical paper mill complex in recent years come from the EU-funded projects implemented by The Museum of Papermaking and funds gained from the programs of the Ministry of Culture and National Heritage (MCNH).

The organizational structure of the Museum of Papermaking in Duszniki-Zdrój contains the following departments: Department of Papermaking, Department of Duszniki-Zdrój History, Department of Museum Education, Department of Laid Paper Production. The staff includes 31 employees (as of 2018). Besides the Management and the Chief Accountant, the staff includes specialist employees (in the fields of history, history of art, cultural studies, museum studies, economics), paper makers, administration and office workers, museum carers, sales assistants.

Such structure of employment guarantees correct performance of various tasks – not only within the scope of the basic museum functions but also educational functions, promotional ones connected with presentation of the site and development of tourism, as well as obtaining funds and handmade production of laid paper. The qualifications, knowledge and competences of the persons responsible for museum management and the specialists ensure safe maintenance and use of the historical object, its development and conducting further research.

For 50 years the paper mill has served museum function. The museum of Papermaking runs multi-aspect operations connected with presentation, opening to the public and

education. The primary form of use is the museum and exhibition function. The museum collects, preserves and displays exhibits connected with the history of papermaking in Poland and studies the history of papermaking. The museum also runs educational and popularization activities. It is an important culture-forming unit for the town, region and country and a popular tourist destination.

Moreover, in the mill building, there is a co-existing papermaking function – a small scale handmade production of laid paper (for sale and as tourist attraction and an element of educational role of the museum – papermaking workshops).

The paper mill as a Landmark of History – a historical object of the highest status in the hierarchy of historical objects in Poland and the Museum of Papermaking – a well-functioning institution of culture – the only museum of this kind in Poland has a great potential and possibilities in terms of sharing, creating rich cultural offer and development of tourism. The Museum of Papermaking runs multi-aspect operations connected with presentation, sharing and education. Currently, the main problem faced by the management of the site, and connected with its availability and a barrier for further development of tourism based on the property is the limited capacity of the object.

Activities in these areas, which are considered vital for the socio-economic development, are undertaken, with varying degree of success by numerous entities. However, of particular importance is engagement of the local government of the town of Duszniki-Zdrój, with a participation of all the local government bodies, institutions, organizations, associations and local residents.

Intensive growth of tourism in the case of a relatively small object such as a paper mill is an important factor which may adversely affect safe use of the monument and preservation of its value. The increase in the number of visitors and the resulting intensive use of the buildings generates a host of hazards. These include: increased air humidity in the interiors, an increased fire risk, increased risk of physical damage to the architectural elements, furnishings and equipment, increased possibility of vandalism and theft of the museum items. The current intensive use of the mill building may pose a potential risk for the structural integrity of the ceilings. Also, the land development pressure in the vicinity of the complex and growth of tourist infrastructure may constitute a hazard for the mill.

In the case of the buildings of the paper mill complex in Duszniki, which are predominantly made of wood – a relatively vulnerable material, a considerable hazards are posed by environmental factors such as: air pollution or harmful atmospheric phenomena – rain, snow or sun light. The main sources of air pollution in the area of the paper mill are: road transport, local coal heating systems, influx of pollution from nearer and further sources, constituting external background.

The current environment protection program for Duszniki-Zdrój identifies the exhaust gas emissions along the national road no. 8 (which runs in the close proximity of the paper mill) as the most important sources of air pollution. An additionally risk is the fact that the road is used for transporting hazardous materials.

Financial situation – the present level of financing of the Museum by the Self-government of Lower Silesian voivodeship is stable and sufficient for the current functioning and maintaining of the historical buildings and their surroundings in the best possible condition, albeit too low for the museum's development. Larger investment projects or renovation and conservation works are performed using external sources of financing (including EU funds), which, as the experience of the museum managers shows, are not always readily available and provided in emergency situations.

Museum staff and structure of employment in the museum – the present number of employees and their competences ensure its correct functioning, but it is insufficient for the implementation of the development plans. (e.g. with respect to increasing tourist flows and research work).

Local laws and strategic documents of local governments of different level – there is lack of spatial planning safeguards regarding the surroundings of the property; lack of joint actions of the local government for protection, promotion and development of the museum that would reflect the strategic planning of the municipality and would be complementary with the goals of the Museum of Papermaking.

These are potential risks entailing a wide range of different factors e.g. economic, social, political, demographic factors, etc. Of great importance is the policy of the local government in shaping and protecting the cultural space of the town, programming urban town development, running education policy, development of tourism or issues connected with local economy and entrepreneurship. The most important risks which are connected with the actions of the local government (or lack thereof) are:

- lack of a local spatial development plan for the areas adjoining the paper mill complex and disregarding in the town spatial planning the protection of vistas and view corridors on the paper mill complex;
- potential risk of land development and investment pressure;
- failure to implement tasks set in the revitalization plan; further decapitalization of buildings in the vicinity of the paper mill (particularly with regard to Kłodzka street);
- focusing the development of tourism in town on spa and winter sports tourism, neglecting the tourism of cultural heritage;

- potential conflicts between the municipality and the Museum of Papermaking, connected, for example, with the development of tourism or tourist infrastructure.

Conclusions

In the summary of the description of the characteristics of the system of protection and management, it must be concluded that the historical paper mill complex managed by the Museum of Papermaking in Duszniki-Zdrój meets all the conditions to become an important candidature in the formulated serial submission to inscribe the historical European paper mills on the UNESCO World Heritage List. The site meets three key criteria decisive for the stability and efficiency of the management system: it has appropriate legal framework, organizational framework and resources (human, financial and intellectual).

It must be emphasized that:

- the property distinguishes itself with its outstanding values in each of the aspects assessed above and meets the requirement of authenticity and integrity with respect to the majority of the defined and analyzed attributes;
- the property has a stable system of protection and management – both at the national and local level and with respect to the owner and management; the system ensures: preserving the values, safety with regard to maintaining good technical condition, appropriate use, presentation and development of the property;
- the property is in good condition;
- the property is not endangered (the risks and hazards indicated in the survey are only potential);
- the manager of the property takes good care of its presentation, promotion and sustainable development.

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Sustainable Management of Cultural Landscapes

Case Studies ²²

The following case studies refer to specific chapters of the relative didactic material on Sustainable Management of Cultural Landscapes.

Cultural Landscape Management Case Studies:

- 1.1. Management Categories, Definition, Framework and Processes Case Study, Mont Perdu, France-Spain**
- 2.1. Case Study on Confronting Management Challenges, Serra de Tramuntana, Spain**

²² This chapter has been authored by the UNINET Cultural Heritage research group of the University of Ioannina: Alexandros Peteinarelis, Nikolas Patsavos and Angelos Papageorgiou.

Management Categories, Definition, Framework and Processes.

Case Study, Mont Perdu, France-Spain

Pyrénées - Mont Perdu - Ref: 773bis –

Retrieved from: <https://whc.unesco.org/en/list/773/>

France: Midi-Pyrénées Region, Hautes-Pyrénées Département; 1999 Extension: Commune of Gèdre

Spain: Autonomous Community of Aragón, Province of Huesca, Communes of Torla, Fanlo, Tella-Sin, Puértolas, Bielsa, and Broto

Date of Inscription: 1997

Extension: 1999

WHCL category: (ii) organically evolved landscape - continuing landscape

IUCN category : II: National Park

Criteria: (iii)(iv)(v)(vii)(viii)

Property: 30,639 ha



Description: This outstanding mountain landscape, which spans the contemporary national borders of France and Spain, is centred around the peak of Mount Perdu, a calcareous massif that rises to 3,352 m.

The site, with a total area of 30,639 ha, includes two of Europe's largest and deepest canyons on the Spanish side and three major cirque walls on the more abrupt northern slopes with France, classic presentations of

these geological landforms.

The site is also a pastoral landscape reflecting an agricultural way of life that was once widespread in the upland regions of Europe but now survives only in this part of the Pyrénées. Thus it provides exceptional insights into past European society through its landscape of villages, farms, fields, upland pastures and mountain roads.

Outstanding Universal Value

Criterion (iii): The pastures and meadows of the Pyrénées – Mont Perdu, with their villages and trails that

link them, are a remarkable witness of a very rare transhumance system in Europe, still practised by seven communities that mainly live adjacent to the property.

Criterion (iv): The high valleys and the calcareous summits of the Pyrénées – Mont Perdu are an outstanding example of a landscape shaped by a pastoral transhumance system that was developed in the Middle Ages and still exists today.

Criterion (v): The model of the habitat of the Pyrénées – Mont Perdu with its villages, fields and meadows, as the basis of a seasonal migration of men and animals to the high pastures during the summer season, is an outstanding example of a type of transhumance that was once widespread in the mountainous regions of Europe, but which today is rare.

Criterion (vii): The property is an exceptional landscape with meadows, lakes, caves, mountains and forests. In addition, the region is of great interest for science and conservation, possessing a panoply of geological, panoramic, faunistic and floristic elements that make it one of the most important Alpine protected areas in Europe.

Criterion (viii): The calcareous massif of Mont Perdu presents a series of classic geological landforms such as the deeply-incised canyons and spectacular cirques. The region is distinguished by its location at the tectonic collision point between the Iberian and west European plates. The property presents an exceptional geological unity, forming a calcareous massif with Mont Perdu at its centre. The resulting landscape is considerably different on the northern slopes (France) and the southern slopes (Spain).

Integrity:

1. Pyrénées are part of the European continent inhabited by humans for thousands of years and within which very few regions still retain their natural integrity.
2. Development has not affected the geology of the site, nor its topography, while the transformation of the biological environment has remained harmonious.
3. A great part of the region, in particular the Spanish side, has undergone little change.
4. On the French slopes pastoral and forestry activities still remain.
5. Transhumance continues in the region with frequent movements of the herds from one side of the Franco-Spanish border to the other.
6. Numerous development projects (railway lines, high-tension power lines, ski slopes)

have been rejected over the decades, and hunting was prohibited in the Spanish national parks in 1918 and in 1967 in France.

Authenticity: The authenticity of the property is overall very high in terms of two very closely linked attributes: its use and its appearance. If the use is more significant in terms of “cultural landscape”, the physical aspect is capital in distinguishing the particular region of the Pyrénées. The landscape has retained its authenticity in a remarkable manner:

1. The dominant natural elements (geology, altitude and climate) and the regular grazing practise limit the flora so that the mountainous landscape is completely denuded of trees and bushes, particularly above an altitude of 2,000m.
2. The breeders continue to ensure an extensive pastoralism in perfect accord with the traditional life style of the central Pyrénées.
3. The site constitutes a precious testimony to former mountain society, through its landscapes and villages, farms, fields, high mountain pastures and trails.
4. The agro-pastoral landscape of today reflects the history of the site.
5. The quality of the property remains unaltered since its inscription.

Protection and management requirements

Governance and Policies:

1. On the Spanish side, the “Plan Rector de Uso y de Gestión” or Management Plan for the Ordesa y Monte Perdido National Park is updated periodically, as is the “Plan Director of the Red de Parques Nacionales” (Master Plan for the National Parks Network).
2. The Spanish part of the site corresponds approximately to two-thirds of the World Heritage site, and coincides with the boundaries of the Parque Nacional de Ordesa y Monte Perdido that was created in 1918 and extended in 1982, as well as its buffer zone, providing the highest degree of conservation possible for both natural and human heritage.
3. The Parque Nacional de Ordesa y Monte Perdido is included in the Natura 2000 Network, comprising networks of Protection Areas for Birds and Sites of Community Interest.
4. It is a Biosphere Reserve Site and Geoparc holder of a European diploma delivered by the European Council and attributed without interruption since 1988.
5. It is part of the network of Natural Areas of Aragon and the Network of Spanish National Parks.

6. There are eight pastoral roads or vías pecuarias protected as heritage by national and regional laws.
7. Plans for the conservation of two threatened species are implemented (*Gypaetus barbatus* and *Cypripedium calceolus*).
8. Park staff are responsible for different tasks such as patrolling, information, maintenance, clearing and administrative management.
9. The property is also covered by a complex of zones of the Natura 2000 Network, which has as its objective biodiversity conservation conciliating the demands of natural habitats and species with economic, social and cultural activities being carried out in the territories. For example, the Natura 2000 site “Estaubé, Gavarnie, Troumouse, Barroude” allows for concerted and assumed management by all the stakeholders concerned in the natural areas.
10. On the French side the site is also the subject of various regulations that govern the territory concerned (known in France as the 2 May 1930 Law on listed sites, and today codified in the Environment Code).

Monitoring of the property is based on various scientific studies:

1. Implementation of research projects linked to national parks.
2. Creation of a special research unit for environmental surveillance of the different habitats of the National Park.
3. Quality control through surveys addressed to both visitors and local inhabitants.
4. Establishment of a cultural heritage inventory, like the mallatas (traditional shepherd huts).

Challenges:

1. The strengthening of transboundary cooperation.
2. The misuse of some areas of the site.
3. Tourism practices.
4. Improvement of transport systems.
5. The low level of awareness raising and education on the values of the site, and support for the traditional life style.

Economic tools and funding:

I. To assist the local population and improve its level of living standards, grants are accorded annually by the government of the Aragon Region and the Spanish State to sustainable development projects conducted by individuals, local groups, family enterprises, municipalities or NGOs.

II. Pastoralism and its cultural values are supported through important financial assistance from the French and Spanish States as well as European funds:

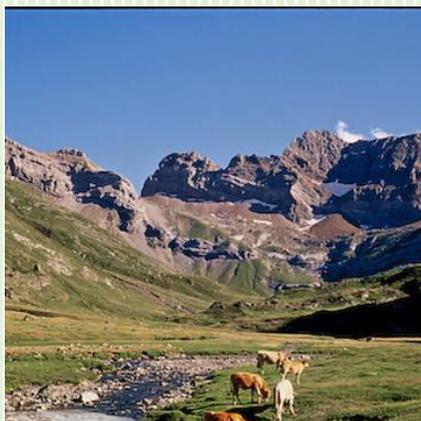
1. Support for work (rehabilitation of pastoral huts, paths, cattle grids, watering places).

2. Direct aid and grants to breeders practising transhumance.

3. Breeding is further encouraged through the use of helicopters by the French and Spanish administrations to enable transport (salt, construction material, first aid equipment) to places of difficult access.

III. Although the survival of transhumance is dictated by international meat market prices and by grants originating from the common agricultural policy, the two States support and will continue to support the transhumant breeding sector in the Pyrénées – Mont Perdu site.

Gallery



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<https://whc.unesco.org/en/list/773/gallery/>

Case Study on Confronting Management Challenges. Serra de Tramuntana, Spain

Cultural Landscape of the Serra de Tramuntana - Ref: 1371

Retrieved from: <https://whc.unesco.org/en/list/1371/>

Spain: A mountain range parallel to the north-western coast of the island of Mallorca.

Date of Inscription: 2011

WHCL category: (ii) organically evolved landscape - continuing landscape

Criteria: (ii)(iv)(v)

Property: 30,745 ha

Buffer zone: 78,617 ha



Description: The Cultural Landscape of the Serra de Tramuntana located on a sheer-sided mountain range parallel to the north-western coast of the island of Mallorca. Millennia of agriculture in an environment with scarce resources has transformed the terrain and displays an articulated network of devices for the management of water revolving around farming units of feudal origins. The landscape is marked by agricultural terraces and inter-connected water works - including water mills - as well as dry stone constructions and farms.

Outstanding Universal Value

Criterion (ii): The landscape of the Serra de Tramuntana eminently exemplifies the interchange between the Muslim and Christian cultures, which is representative of the

Mediterranean area, in the combination of the Arabic water harvesting and management technology with the agricultural know-how and the territorial control system introduced by the Christian conquerors, who took over the island of Mallorca in 13th century AD. By this cultural interaction, a terraced agricultural landscape was created, featured by an articulated waterworks network, orchards, vegetable gardens and olive groves, which were earlier organised around small farm holdings, and later in large estates (posesiones) and which nowadays make up the physical and functional features of the Serra de Tramuntana.

Criterion (iv): The cultural landscape of the Serra de Tramuntana represents a spectacular, peculiar example of a terraced, farmed landscape which combines an interconnected and highly specialised system of waterworks for collecting and storing water, featuring qanats, that are underground channels to harvest and transport water, canals, ditches, storage basins, with a system of terraces supported by dry-stone walls so as to make possible the cultivation of vegetables as well as fruit and olive trees in the terraced plots and including a sophisticated drainage system to avoid soil erosion.

Criterion (v): The settlement pattern of the Tramuntana area bears significant witness to human adaptation to difficult environmental conditions, which has ingeniously made a region with scarce resources, both in term of land and water, suitable for farming and living. The feudal land subdivision system, applied to extreme orographic conditions, combined with the sophisticated waterworks technology of Arabic origins has resulted in complex farming units. Their land distribution and use pattern, comprising rocky areas on the tops of mountains, strips of woodland, slopes with terraces, extensive grazing land, fields for reaping, vineyards or fruit crops on flatter land, ensured over time the full exploitation of the existing resources. The Tramuntana area thus pays testimony to the continuous evolution of human settlement in a rugged and steep area of the island.

Integrity:

1. The property is characterized by a high level of uniformity, in which the defining elements - the terraced land arrangements, the olive groves, the spatial organization in rural estates and the water supply network – retain their visual integrity to a considerable extent.
2. The functional and socio-economical integrity, however, is today fragile due to the progressive increase of tourism and the possibly related development pressures.
3. The entire Tramuntana district, witness to the same historical and development processes, acts as the buffer zone of the property.
4. Today, the property does not seem to suffer from immediate development pressure, although the highly populated buffer zone may pose threats to the nominated property and these should be carefully monitored over time.

Authenticity:

- 1.** The property bears credible witness to the historical, cultural and socio- economical processes that have taken place in the Tramuntana area, gradually modifying the landscape to make it productive, and have shaped its actual aspect, although these traditional dynamic processes are declining in favour of tourism activities.
- 2.** The setting still exhibits a strong continuity with past layouts and the aesthetic qualities of this landscape have been appreciated by well-known artists and intellectuals who have contributed to amplify its evocative value.
- 3.** Traditional skills for the building and repair of the dry-stone structures have been consciously maintained through the establishment of a school of dry-stone masonry, to counter the changes brought by social and economic change.

Protection and management requirements

Governance and Policies:

- 1.** The property has been declared a “Picturesque Setting” and formally protected via a decree since 1972 (Decree 984/1972).
- 2.** Following the approval of the Spanish Historic Heritage Act (1985) and of the Balearic Historic Heritage Act (1998), the property has been further protected by designating a number of “Items of Cultural Interest” (Bien de Interes Cultural, BIC) according to the national and regional legislations.
- 3.** The Balearic Act (1991) governing natural spaces and urban planning regulations provides for the identification of areas to be protected for their ecological, geological and landscape values.
- 4.** The pivotal instrument for spatial planning is the Mallorca Spatial Plan (2004), which acknowledges the cultural and natural values of the Tramuntana Area and regulates the human settlement and land-use, taking into account heritage features, values and vocations of different areas, existing activities and the protection of the environment.
- 5.** Further plans related to specific areas in force are, i.e., the Plan for the Regulation of the Tramuntana Area’s Natural Resources (2007) and the Special Plans for the Protection of the Historic Site of Archduke Ludwig Salvator’s Estate (2002), of the Dry-Stone Route (2008), of Artà-Lluc Route (2008), of the Historic Artistic Architectural, Ecological and Scenic Value of the Municipality of Deià, of the Villages of Lluc, Escorca and of the Historic Centre of Pollença.

Monitoring of the property:

Clarifications of responsibilities in monitoring are advisable

Challenges:

1. Sustain the agricultural activities within the property and its buffer zone.
2. Control the impact of the development of tourism activity.
3. Tourism practices.
4. Strengthen traditional agricultural activities.
5. Ensuring the sustainability of this landscape.
6. Water management systems and devices
7. Monitoring

Gallery



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<https://whc.unesco.org/en/list/1371/gallery/>

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University of Bologna

Church of Santa Croce²³ Ravenna (IT)



Figure 1 -View of the complex of Santa Croce. (source: courtesy of Melandri)

Brief description:

The complex of Santa Croce, located in the historic centre of Ravenna, is characterized by the coexistence of the early 17th century church, the remains of the 5th century church and the ruins of a Roman domus whose mosaics are preserved on site. The basilica of Santa Croce was erected in the first half of the 5th century by will of the roman empress Galla Placidia and was once a unique building with the more known Mausoleum of Galla Placidia. Over the centuries the Latin cross church underwent many elevations and reconstructions. The basilica was almost entirely rebuilt in the 15th-century and what we see today is the 17th-century façade, the 15th-century apse that rises on the site where the nave and the transept originally crossed, and the bell tower dating back to the 18th century.

²³ The best practice description has been authored by Eleonora Melandri, Andrea Ugolini, Hanna Åberg, Angela Santangelo and Simona Tondelli.

I. Characteristics of architectural monument.

I.1 General information about the monument/location, address, function, owner, area, etc./

The archaeological area of Santa Croce, covering an area of almost 1.600 sqm, is located in the historical center of Ravenna (Emilia Romagna, Italy, see Figure 1) in via Galla Placidia. The complex is in close proximity to two of the major late-antique monuments of the city, the Mausoleum of Galla Placidia and the Basilica of San Vitale, as shown in Figure 2.

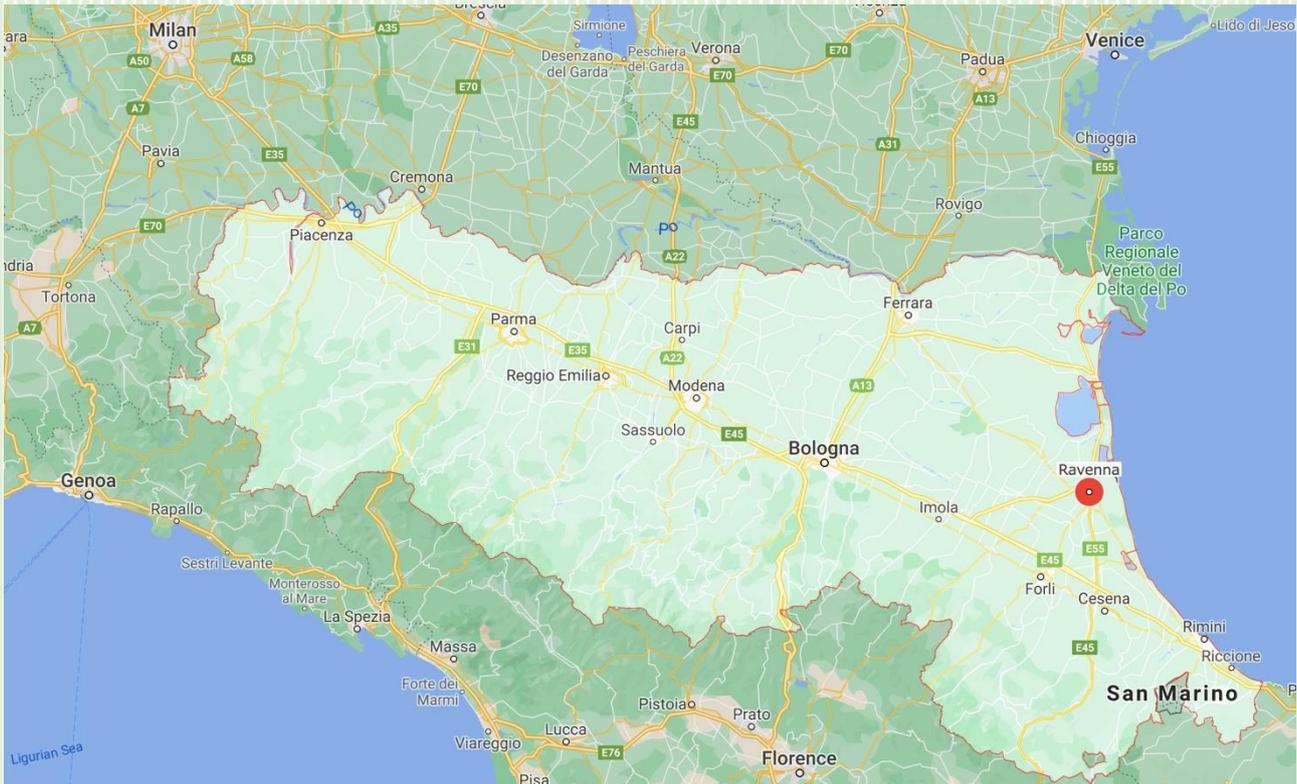


Figure 2 - Location of Ravenna, Emilia-Romagna, Italy.

This first monument was originally connected to the Church of Santa Croce and dates back to 450 a.C. At the beginning of the 17th century, the church was in a severely degraded state and there were repeated pleas from the owners to demolish it in order to use the material. The connection among the church and the mausoleum was then demolished to allow the construction of via Galla Placidia, dividing the complex into two different buildings. The recovered building materials were then used to embellish the close Benedictine monastery, shown in Figure 2 with no.1, that was built in the 10th century. Founded in 1898, the Soprintendenza of Archeologia Belle Arti e Paesaggio of Ravenna, Forlì-Cesena and Rimini, the local safeguarding authority of Cultural Heritage, established its offices in the former monastery in 1909. Nowadays, the building is also seat of the National Museum of Ravenna with collections of archaeological finds, fabrics, ivories, icons, weapons, coins, ceramics. The Soprintendenza is also the manager of the archaeological

area and the Church of Santa Croce, as well as of the others cultural heritage assets of the cities.

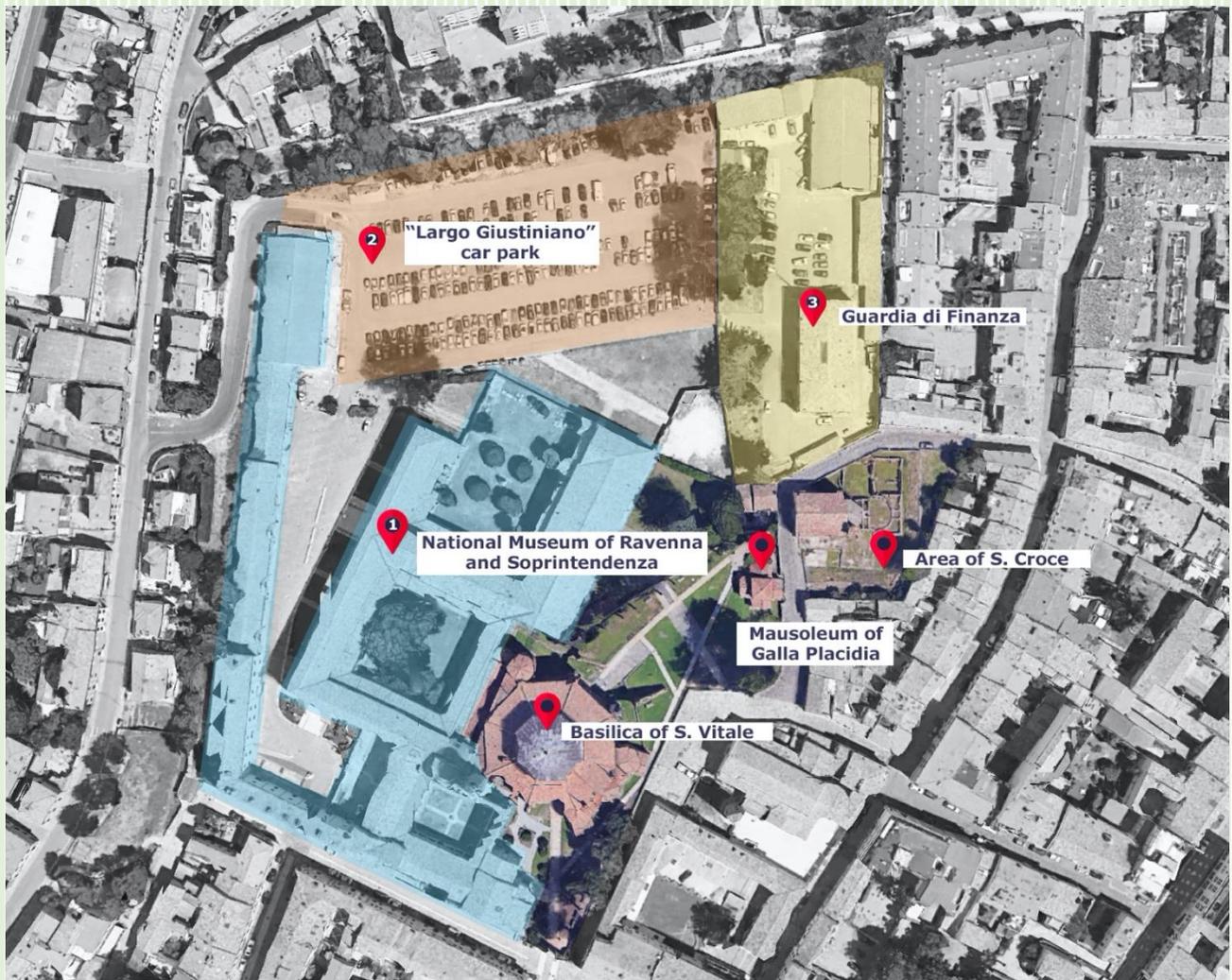


Figure 3 - Aerial view of the complex of S. Croce and monumental area of S. Vitale and surrounding area.

North of the former Benedictine monastery, northwest of the Santa Croce complex, is the Largo Giustiniano car park, as shown in Figure 2 by n.2. The area on which the car park is located is delimited on the north side by the remains of the walls of the ancient city of Ravenna. In Roman times, this was the wealthy residential part of Ravenna, as testified by several artifacts and remains uncovered during surveys and excavations. In the lower layers of soil below the car park there are probably remains of the imperial palace of the Byzantine Ravenna era.

Lastly, via Galla Placidia connects from via San Vitale the church of Santa Maria Maggiore to the area of Santa Croce and the current quarter of the Guardia di Finanza (see Figure 2 no.3), one of the Italian police forces with general competence in economic and financial matters. Below this area once stood the north *sacellum* of the complex of Santa Croce

dedicated to Saint Zachariah, which was identical to the south one, the Mausoleum of Galla Placidia.

1.2 Brief history of the monument.

The area in which Santa Croce is located was one of the most built of the city in the Roman times. In the 3rd century a.C., when Ravenna was not yet the capital of the Western Roman Empire, the district appeared as a dense residential precinct named *Regio Domus Augustae*. The excavations undertaken in the district revealed numerous findings which confirm the richness of the *domus* of this quarter, including the one unearthed below Santa Croce.

At the turn of the 3rd and 4th century Ravenna, as many cities of the Padania region, Ravenna lived a period of political and institutional crisis, also due to the several barbarian invasions. More and more buildings were destroyed by these incursions and slowly abandoned. Fire marks in the mosaic floors of the *domus* under the Church of Santa Croce suggest that it was also abandoned after one of these attacks.

In the 5th century, Ravenna became capital of the Western Roman Empire upon request from King Honorius. The former capital was *Mediolanum* (Milan), north of the Empire territories, which was close to the Alpes and consequently more difficult to defend. On the other hand, Ravenna was in a more favourable location, more central and on the Mediterranean, providing more protection from the sea, easy control of the Po Valley and connections with the East. This period marked a new beginning for Ravenna through rapid development and prosperity with the consequent necessity of new public, private and religious monuments.

The Church entitled to Santa Croce was built between the 424 and the 432 a.C. by order of the Empress Galla Placidia. Erected mainly as sign of Christian devotion, the presence of precious marbles, mosaics and stuccoes additionally suggest that the construction of the church was part of a project to glorify the Honorian-Placidian dynasty. The original plan identifies a brick building featuring a single Latin cross nave, consisting of a basilica hall, a rectilinear apse and two perpendicular arms. A narthex in front of the original entrance front completes the structures of the first building phase. As showed in Figure 4, the church, despite being built on the remains of the *domus*, did not follow the same orientation but followed a West/East orientation.



Figure 4 - Plan of the documented remains of the Roman domus. With grey lines, the plan of the current configuration of the complex. (source: Verdier, 2016, p. 21)

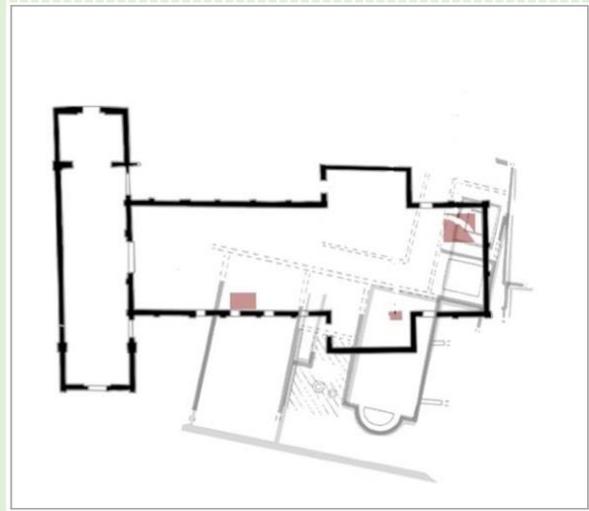


Figure 5 - Plan of the first configuration of the Church. In pink, the still visible remains of the mosaics belonging to this phase. With grey lines, the plan of the domus, showing how the two buildings did not follow the same orientation. (source: Verdier, 2016, p.23)

Immediately after (432-450 a.C.), as shown in figure 5, the perpendicular arms of the church were lengthened, and two external mosaic-floored side porches were added to the central hall. Moreover, two twin sacellum were added at both ends of the narthex. The south sacellum, now known as the Mausoleum of Galla Placidia, is inscribed into the UNESCO World Heritage List since 1996 as one of the early Christian monuments of Ravenna. The small building, with a Latin cross plan, appears from outside as a sober brick wall structure. A dome rises up at the intersection of the four arms, hidden by a square turreted tiburium. The inside of the Mausoleum is covered with yellow marble in the lower part, while the upper part is entirely decorated with wonderful mosaics covering the walls, arches, lunettes and dome, which can be seen in Figure 5. On the other hand, no remains of the north sacellum, which was dedicated to Saint Zacharias, are currently visible. This phase and final configuration of the late-antique church corresponds to its maximum splendour, due to both its dimensions and also to the presence of the mosaic decorations.

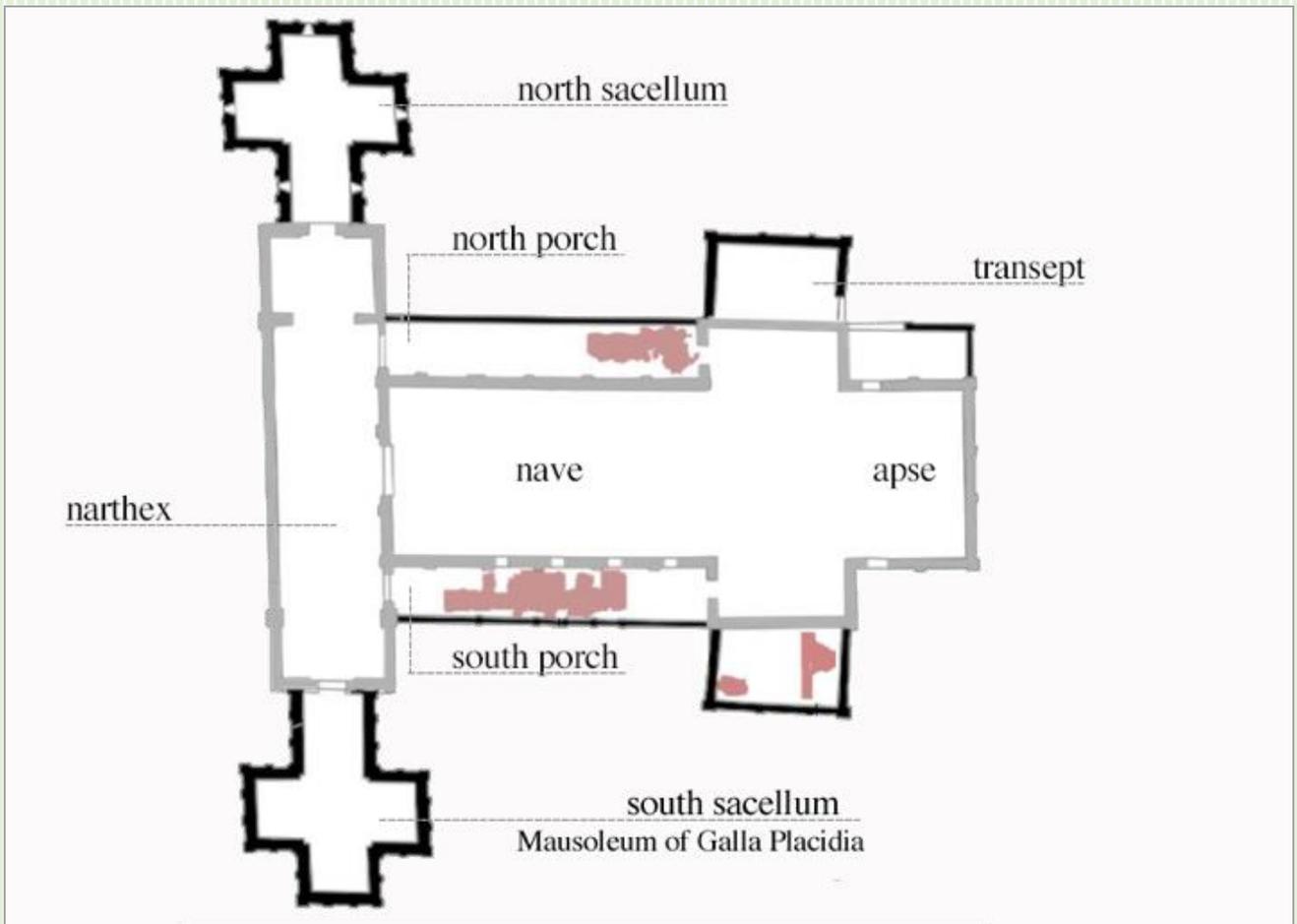


Figure 6 - Plan of the second configuration of the church (5th century) where the lateral porches and sacellum were added. (source:Verdier, 2016, p.25. Edited by the author)

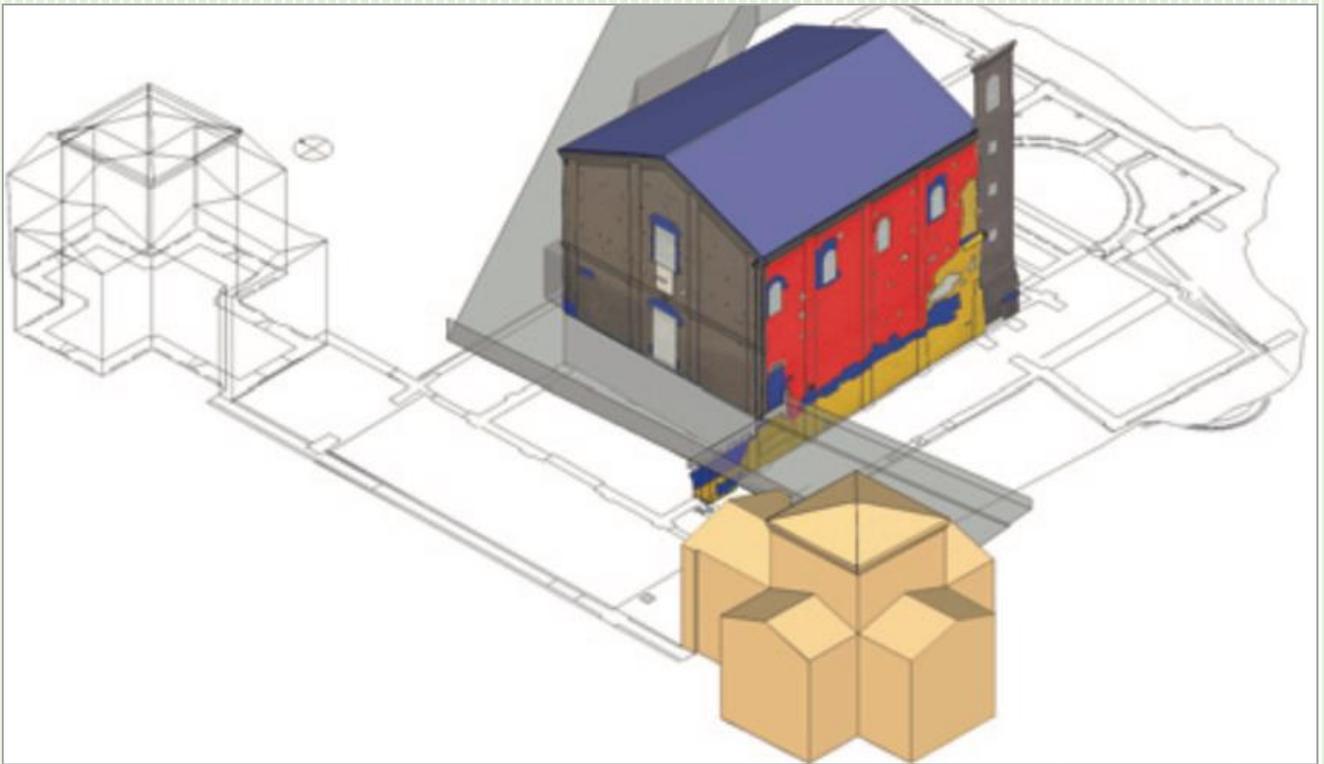


Figure 7 - Representation of the Placidian complex as it was originally. (source: David, 2013)

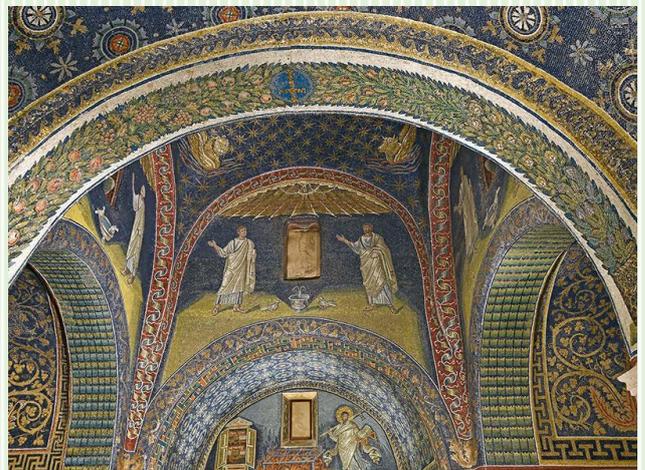
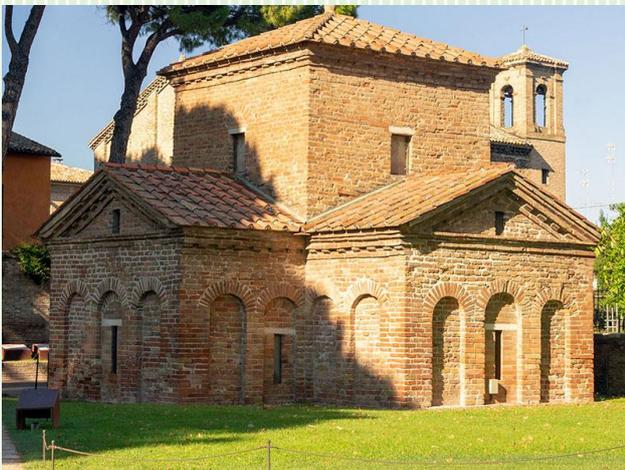


Figure 8 - The Mausoleum of Galla Placidia from outside and the mosaics that decorate the interiors (source: <https://www.ravennamosaici.it/mausoleo-di-galla-placidia/>)

At the turn of the 6th and 7th century, the area along the two side porches and surrounding the worship building was allocated for burials. Although no longer visible, this destination is documented by the surveys and analysis undertaken by the archaeologists. The well found inside the basilica room also belongs to the same phase. Immediately after, a renewal of the interior decors, floors and ornamentals takes place.

The first major changes architecturally occurred in the first Medieval age, when in 1169 Santa Croce becomes property of the Monastery of San Vitale and important modifications to the antique structures of

the building were undertaken. Further than the demolition of the lateral porches, the original northern and southern Placidian walls are demolished to the ground level and reused as foundations for the new structures. In addition, an oratory crypt was added under the nave and new marble floor is realized. However, these radical modifications do not alter the church cruciform configuration.

The last and most significant interventions on the church were undertaken between the 16th and 17th century, when the need of a road led to the demolition of a part of the complex. Hereby, the north *sacellum*, opposite to the Mausoleum, was demolished together with the narthex. Consequently, in 1602 the new façade was built on the currently known via Galla Placidia. Ten years later, following the demolition of the east end and the rectilinear apse, a much smaller church than the late-antique Basilica with a semi-circular apse and a small bell tower was built. The church has no longer the original cruciform plan but becomes almost square ending in a semi-circle. The floor of Santa Croce is raised with the use of ordinary quadrangular terracotta tiles and windows are opened in the walls. Externally, the surrounding space around the building has no longer the funerary cemetery function it had in the previous phase, but it is used as a vegetable garden by the monastery. This use was maintained until 1970, when the archaeological excavations began.

Tiburium: covering of a dome, polygonal or cylindrical, typical of Romanesque architecture.

Oratory crypt: space (or set of spaces) generally underground or semi-underground located below the presbytery area of a sacred building, where the remains or memories of martyrs and saints are preserved or used as actual churches.

Sacellum: in Byzantine and early Christian architecture, the term *sacellum* refers to a small church or chapel where particular relics or objects of worship are conserved.

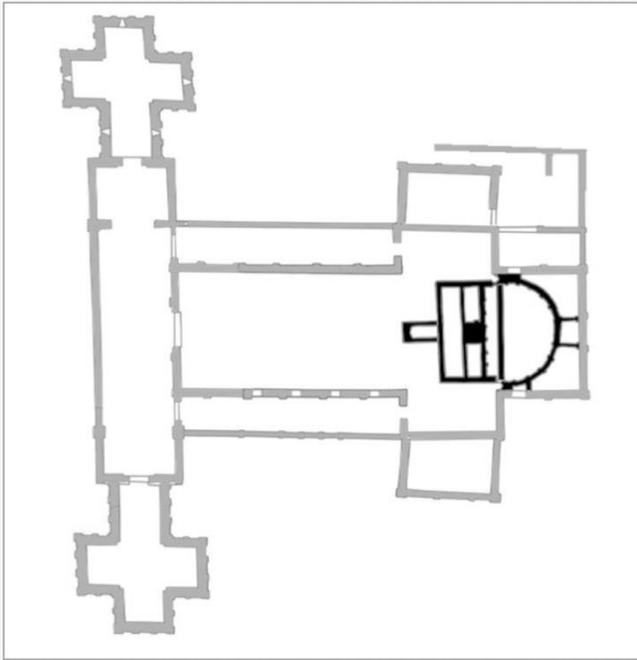


Figure 10 - Plan of the church in the first Medieval age when the oratory crypt was built under the nave. (source: Verdier, 2016, p. 27)

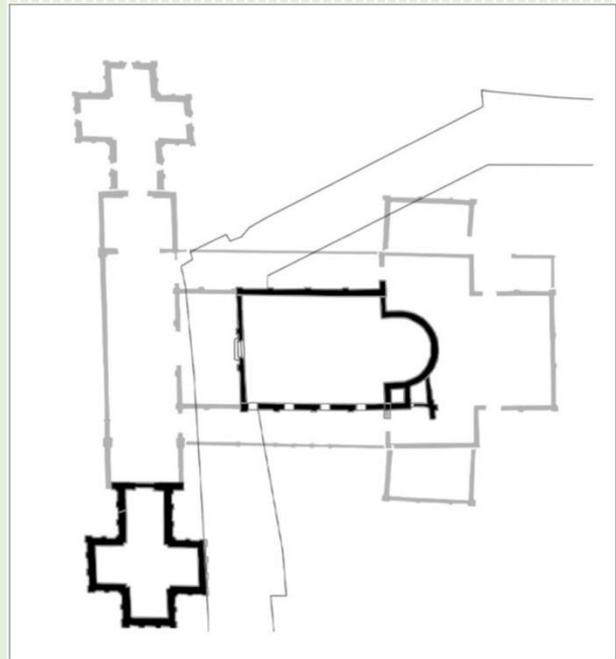


Figure 9 - Plan of the church after the demolition of the narthex to build via Galla Placidia. In grey, overlaid plan of the previous phases of the building. (source: Verdier, 2016, p. 29)

Starting in 1782, the well-renown archaeologist Francesco Beltrami conducted several surveys on the site which detected the cruciform plan. In 1865, another archaeologist named Filippo Lanciani excavated the area of the narthex and discovered the connection between the church and the Mausoleum of Galla Placidia. Between 1925 and 1927, subsequent investigations in the apsidal area (under the apse) carried out by the archaeologist Filippo di Pietro brought sections of mosaic flooring from the Roman age to light. In the area of the current quarter of the Guardia di Finanza (see in Figure 2 the yellow area) the remains of the hypothetical sacellum opposite to the Mausoleum of Galla Placidia were identified.

The most significant excavation and restoration activities began in 1967. After several surveys, a large excavation area was

Narthex: an architectural element typical of Byzantine and early Christian basilicas. The narthex is usually set against the outside of the façade or, less common, between the naves and the façade of the church, usually the same width as the building. This is an area reserved for catechumens and penitents.

Cruciform plan: buildings, more commonly churches, with the shapes of a cross formed by the intersection the nave and the transepts.

Apse: architectural element typical of buildings of worship. The apse is the final part of the nave or of the two arms of the transept where the altar and choir are usually located. The plan of this element is semi-circular or polygonal and is covered by a vault called apsidal basin, which is usually in the shape of a semi cupola.

opened behind and to the sides of the present building - the area currently below ground level - to investigate and bring to light the structures of the late-antique church. Non-stratigraphic excavations unearthed the structures of the rectilinear apse, the perpendicular arms, the lateral porches, the Medieval crypt and the annexes. Fragments of *opus sectile* and mosaic floors from the various phases of the church were identified, as well as the remains of marble slabs from the wall decoration. Thanks to the archaeological excavation it was observed that the foundations of the arms rest on wooden piling. In addition, the activities allowed to identify the different elevations of the floor levels and the stratigraphic relationships between the late antique structures and the medieval structures of the crypt and the perimeter walls. Lastly, the excavations uncovered a great number of archaeological finds, including marble and stuccoes that were part of the decorative apparatus of the Placidian church.

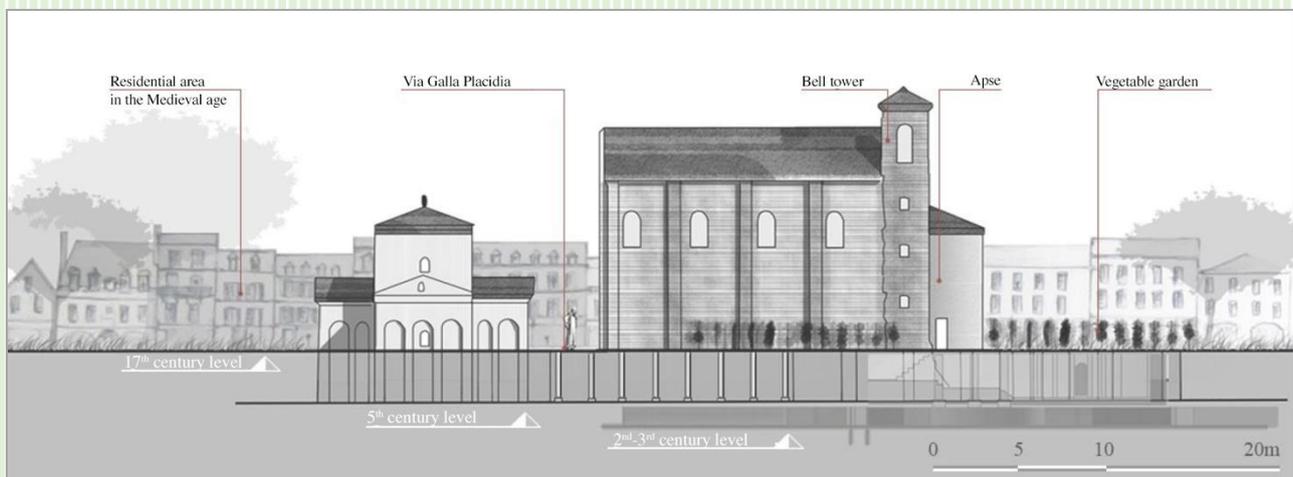


Figure 11 - South elevation of the Church of S. Croce in its last configuration in the Medieval age. Layers of the previous phases are showed. (source: Verdier, 2016, p. 29. Edited by the author)

The archaeological activity was followed by a conspicuous series of restoration interventions. This entailed the consolidation of the church wall structures to repair and stabilize areas where cracks were detected. The mosaics of the lateral porches were also interested by restoration activities. At the time, both the south and north lateral porches still preserved the marble floors that were, though, endangered, since being outdoor, by weather and humidity from the soil. In order to safeguard the integrity of the mosaics they were carefully removed from their location. As can be seen in Figure 6, the mosaics of the south porch were relocated on a new concrete slab which provides greater stability to the small tiles. The mosaic of the north porch was instead relocated on a mobile support which is now exhibited at the National Museum of Ravenna.

In 1984, the implementation of a tank for the collection of groundwater and a pumping system was installed. At the same time, all the wall remains of the first phases of the complex, in the archaeological area, were covered with some courses of modern bricks to

guarantee their compactness and to protect the old masonry from extreme weather events. The last significant restoration in the outside area saw the realization of inclined banks between the current walking surface and that of the archaeological area. The last significant archaeological restoration took place in the early 1990s, when an internal part of the current church was investigated, retrieving fundamental data on the evolution of the building, on a stratigraphic basis. In the 2000s, scientific studies were performed using modern techniques aimed at reconsidering and verifying the existing archaeological information and obtaining new data from the stratigraphic reading of the existing wall elevations.



Figure 13 - Excavation activities for the implementation of the water system. (source:Verdier, 2016, p. 49)



Figure 12 - Relocation of the mosaic floors belonging to the lateral porches of the Basilica. (source:Verdier, 2016, p. 49)

1.3 Technical and architectural characteristic of the monument.

The stratigraphic analysis on the Church of Santa Croce, visible in figure 7, revealed six typologies of masonries and mortar joints that are attributable to the four main building phases of the complex: the first one related to the Placidian phase (425-450 a.C.), the second belonging to the Romanesque period (middle of the 12th century) followed by the Medieval age phase (beginning of 15th century) and lastly, the modern evolutions of the 20th century. The South elevation allows the identification of all the different type of masonries.

The load-bearing masonry of the church is traceable back to the Placidian phase and still visible in the lower area of the South wall. These vertical structures are made of recovered bricks of different sizes, ranging from 15 to 30 cm with thicknesses between 4 and 16 cm, connected with a natural hydraulic lime mortar. The same bricks are attributable to the second documented masonry typology, still traced back to the oldest parts of the building

in which the joints were. However, this area was renewed in the later interventions of 1970 with a cement mortar. The same mortar is visible in a third type of masonry, attributable to the restoration phase, which differs from the previous ones also in the shape and dimensions of the bricks (15-30 cm in length, 4-16 cm in thickness).

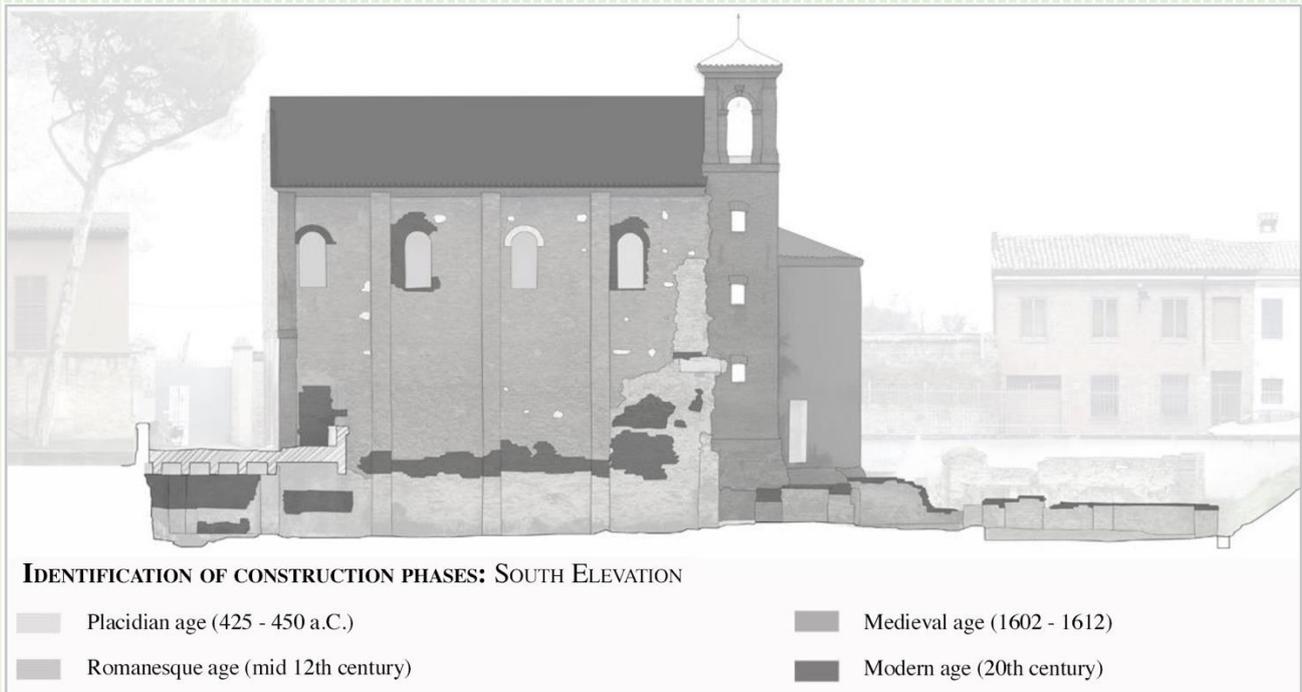


Figure 14 – Graphical representation of the stratigraphic analysis on the structures and related historical phase (source: Verdier, 2016, pag. 55. Edited by the author).

The structures relatable to the Medieval age are identifiable in the façade wall, the bell tower and the apse. The load-bearing masonry of the bell tower shows semi-regular rows of bricks of various sizes and shapes, 15 to 30 cm long and 4 to 12 cm thick, bonded with natural hydraulic lime mortar from the 16th century. The lower part of the bell tower displays a different typology of masonry, with thicker bricks (8-10 cm) arranged at 45 degrees to the laying surface, connected with the same mortar.

Finally, it should be noted that all the upper part of the original wall structures of the archaeological area was made during a renovation in the 20th century. Figure 13 shows the capping of the archaeological remains with the dark grey on the right of the image, where the ancient structures are represented. This intervention was done with iron bricks, particularly recognizable for their regular geometry and uniformity of colour. The addition protects the ancient walls from extreme weather conditions.

Remains of mosaic floors from different time periods have been uncovered at Santa Croce. Three categories of fragments of the Placidian floors belonging to the lateral porches are preserved and visible in the south side of the church. One of these identifies the use of brick-based *cocciopesto* in the restoration of 1985 to reintegrate some mosaic gaps on the basis of an orange-red colour composition. In the same years, activities to form a foundation platform for the paving were performed. Currently, under the mosaic floor there are two layers of *cocciopesto* bedding mortar, fine elements 2 cm thick on top, and coarse elements 3 cm thick underneath. Lastly, there is a further 8 cm thick reinforced concrete foundation. The second typology of mosaic floor, shown in figure 4, is an *opus sectile* realized with white, black and red *tesserae* of Verona marble. Lastly, another type of *opus sectile* floor is visible, realized with blocks of black and white stone materials, triangular or hexagonal in shape, fitted together. For the paving of stone materials, again in the

Tesserae: a small block of stone, tile, glass or other material used in the construction of a mosaic. (from Oxford Languages dictionary)

Cocciopesto: lime mortar or plaster used in antiquity for walls or pavements made of fragments of earthenware, crushed pottery or brick

Opus sectile: ancient artistic technique that uses cut marble to create inlaid floors and wall decorations.

interventions to form a platform for the mosaic floors in the 1980s, two layers of *cocciopesto* bedding mortar were added, each 4 cm thick, with fine elements above and thicker below. Moreover, remains of white and black marble *tesserae* which belonged to the *domus* floor decorative apparatus are visible.

In 1972, the medieval wooden roof is completely replaced by a new one made out of the same material. During the renovation of the roof structure, a reinforced concrete top kerb was put in place to reinforce the vertical structures, and the apse was consolidated with a reinforced plastering. In 1975, further restoration and consolidation activities involving the consolidation at the bottom of the bell tower were undertaken. A year later, funds are secured to continue excavation work in the archaeological area and to restore the wall fabric of the façade. During the same restoration, counterforts inside the church are also implemented to contain the ground.

1.4 Assessment of the values of the monument /why is protected as a monument/

The complex is acknowledged as a valuable cultural heritage site and is therefore protected by Italian national legislation for the safeguarding of Cultural Heritage (Codice dei Beni Culturali, D.Lgs.42/2004 art.10-13). Thereby, the Church of Santa Croce is formally recognised for its historical, cultural and artistic relevance and value. Furthermore, two of the eight UNESCO World Heritage sites of Ravenna, the Basilica of S. Vitale and the

Mausoleum of Galla Placidia, are located near the complex, placing Santa Croce within the buffer zone surrounding these monuments. In addition, as mentioned before, the area around the complex was in the Roman times the rich residential area of Ravenna and since several artifacts and archaeological remains were uncovered, the site is also included in the map of the city's archaeological potential.

The site clearly demonstrates the different ages and domains the city of Ravenna has experienced. Besides being in an area of high archaeological relevance in relation to the Roman age, it also encompasses remains of the area of the city in its greatest splendour during the Placidian period (424 - 450 a.C) as capital of the Western Roman Empire.

The archaeological area and church of Santa Croce is included in the official Catalogue of Italian Cultural Heritage, which is under the responsibility of the Italian Ministry of Cultural Heritage and Activities (Ministero dei Beni e delle Attività Culturali - MiBAC). The direct safeguarding activities are guaranteed by the local Soprintendenza of Ravenna, Forlì-Cesena, Rimini, manager of the area.



Figure 15 - Detail of the remains of the mosaic floors in opus sectile of the south porch. The location of the remains are shown in Figure 5. (source: courtesy of Melandri)



Figure 16 - Plan of the complex of S. Croce. Bottom left, plan of the Mausoleum of Galla Placidia, once a unique building with the Church of S. Croce. (source:Verdier, 2016)

1.5 Assessment of the integrity and authenticity

The authenticity of cultural heritage is guaranteed when its cultural values are truthfully and credibly expressed through a variety of attributes (form/design, materials/substance, use/function, traditions/techniques, location/environment) that convey the original meaning and value of the good. The attributes are specific and unrepeatable for each asset and are those that guarantee its unique character and that must be safeguarded. Authenticity may be compromised if some of these attributes are altered by reconstructions or modifications that compromise their meaning, as might happen in the case of reconstructions not based on documented historical data.

In the case of the church of Santa Croce, the authenticity is guaranteed by the still visible planovolumetric configuration which makes it recognizable as an ancient place of cult, as well as by the morphology of the archaeological remains which display the different phases of the complex. This allows the visitor to understand the complexity of the Placidian building in terms of transformations over time. Further, the visible presence of the structures and configuration of the Roman *domus* from the earliest period documents the historical evolution occurred in the city in terms of cultures and domains. While the use/function has changed many times from the original through the ages and the church is

currently unused and closed to public, the preserved form/design and the almost unmodified materials and location ensures the recognisability of the different phases, guaranteeing the cultural and historical integrity of the complex.

For what concerns the integrity of the archaeological site, intended as wholeness and intactness of the cultural heritage, the remains of the mosaic floors, the presence of the original masonries and the structures allow to understand the phases and the evolution of the Placidian complex. This integrity is guaranteed by the restoration work carried out since the last century. The maintenance activities undertaken on the mosaic floors and on the wall structures, along with the careful management of the relationship between the ruins and the vegetation mitigated the deterioration processes. Great attention was always given to the regimentation of water in relation to the subsidence phenomena that affects the whole Ravenna area and in particular to the maintenance of the drainage system and the effects this has on the site and its structures. This targeted care allows to preserve and prolong the material integrity and authenticity as well as the values transmitted to future generations.

I.6 Technical condition assessment of the monument /conservation and protection needs/

The main risk factors of the area are related to hydrogeological risks. Seismic risk, however, cannot be excluded, it is present albeit marginally. The occurrence of an anomalous seismic event, given the precariousness of some of the structures, could cause the loss of part of the heritage.

The excavations in the area resulted in giving the site a basin configuration, consequently posing the archaeological remains are more than two meters below the ground. The archaeological remains, outdoor and without protection structures, result constantly exposed to various water-related risks (related in particular to rainwater and stagnant water, water retained by loose soil and plants, inefficiency of water collection and disposal systems). Currently, water presence and flooding in the area are prevented thanks to two water pumps. The pumping network that was installed during the 70s interventions, conveys groundwater to the city sewerage system. In some cases, flooding events and groundwater presence under the site caused the detachment of some mosaic *tesserae* and the loss of finishing material (a phenomenon known as *fontanazzo*), situation occurring not only in Santa Croce but occasionally also in other monuments of the city.

Furthermore, as mentioned before, the complex is affected by the major risk factor of the subsidence phenomena, due to the intrinsic characteristic of Ravenna and involving all the surrounding areas. Natural subsidence causes the progressive sinking of the soils as cause, among others, of the proximity of the aquifer to the ground. This entails a high

hydrogeological nature risk, both in Santa Croce and in other cultural heritage areas of the city, consequently posing the archaeological sites under flooding risk.

The exposure to climatic and anthropogenic factors caused some degradation phenomena affecting partially bricks and natural stone surface but mostly the mortar joints connecting the elements. The lower part of the walls is affected by weeds and most of the surfaces show the presence of adhering and coherent biological attack. Analogous degradation morphologies are detectable on the mosaic and marble floor remains. In some cases, biological colonization and weeds grow between the marble *tesserae* and the mortar causes the detachment from the support, making the floor mosaics less adherent to the background.

Currently, no early warning system is installed in the area. These systems are activated when an anomalous situation is detected in order to prevent extreme events in the area. The lack of these networks enhances the risk of flooding events and delaying the response activities in case of harmful situations. This consequently increases the risk of loss or damage to the ancient structures.

1.7 Programme (existing) of protection /conservation, use, adaptation, modernisation/

Currently there are no comprehensive management plans for the area. The Soprintendenza has developed a green maintenance plan that deals with the general maintenance of the vegetation on the site. In fact, the uncontrolled growth of the plant structure in the archaeological area could lead to damage to the preserved objects.

The occurrence of some anomalous flooding events in the area (2016 and 2019) led to the replacement of one of the pumps from the 1980s in favour of more technologically advanced ones. In parallel, a management plan for the manually controlled pumps was also implemented, in order to periodically assess their efficiency and adequacy to the site. The water pumping system active in the area must in fact be constantly monitored, not only to prevent the presence of water within the site, but also to verify that the activity of the pumps does not alter the composition of the soil consequently affecting the structures.

Recently, the Interdepartmental Centre for Research and Innovation - Building and Construction of the University of Bologna (CIRI-EC) is conducting a comprehensive study and monitoring campaign to deepen knowledge of the area. In particular, these investigations will be useful to define more accurately the materials and construction techniques, as well as the factors of degradation affecting the site through hydraulic, geomatic and geotechnical surveys. The interdisciplinary study campaign will serve as basis for the definition of a preventive and programmatic conservation plan and the

development of an HBIM (Heritage – Building Information Modelling) model that will also be defined in parallel with the activities conducted within the H2020 Shelter project.



Figure 17 -View of the 17th century bell tower and apse. The remains of the lateral arms structures and the mosaics in opus sectile attributable to the previous cruciform configuration are still visible. (source: courtesy of Melandri)



Figure 18 - view of the archaeological area of Santa Croce. The area has a basin configuration which enhances the risk of flooding. In order to prevent the occurrence of these harmful situations the Soprintendenza installed a water pump network. (source: courtesy of Melandri)

I.8. Summary and conclusions.

The area of Santa Croce is located in the city center of Ravenna, Emilia-Romagna, Italy.

The first traces of a building in the area of Santa Croce are related to a Roman domus, dating back to the 3rd century. At the beginning of the 5th century, when Ravenna is capital of the West Roman Empire, the Empress Galla Placidia orders the construction of a Church entitled to Santa Croce. What we see today is the result of several transformation, demolitions and extensions, until the 17th century, which marks the last configuration of the building. Since 1970, the area is investigated and excavated by the archaeologist which discovered all the historical phases of the site.

Currently, the site features the outdoor archaeological area where the remains of the Roman domus and Placidian church mosaics and walls are still visible. The Church, now empty, displays the 17th century façade and bell tower.

Its formal and material integrity allows us to say that the complex of Santa Croce keeps intact all its historical and artistic values and authenticity: this is therefore a significant example of the different ages and domains that Ravenna lived in ancient times. The complex is therefore protected and archived among the assets of the Italian Cultural Heritage, which is under the responsibility of the Italian Ministry of Cultural Heritage.

The area does not have an active maintenance plan, and all the ordinary activities for its management are performed by the Soprintendenza, local authority for the Cultural Heritage. The funds for these activities are provided by the owners of the assets: the Archidiocese (ecclesiastical institution) for the Church and the Ravenna Municipality for the archaeological area.

2. Characteristics of the protection of the monument

2.1. Legal status of the monument /formal and practical protection system/

The area of S. Croce, as mentioned before, is protected by the Italian national legislation and is therefore inscribed in the National and Regional Cultural Heritage databases. In particular, the complex description is available in the Emilia Romagna GIS system through which a detailed informative sheet can be downloaded. The sheets included in the system provide location, historical and cultural information, binding policies (if applicable) and also legislative measures of each asset. For the specific case of Santa Croce the following information are available on the regional database:

Identification	Complex of S. Croce
Complex type	Complex site
Assets	Church (XV century), Bell tower (XVIII century)
Main building category	Worship building
Main building type	Church

Table 1 - General information on the complex available in the regional database. (source: <https://www.patrimonioculturale-er.it/webgis/>)

The complex is also included in the National listing system of the project *Carta del Rischio* (Risk Chart), identified by code n. 48179. The platform, developed by the national Central Institute for Restoration, integrates different national GIS systems. It provides the bodies in charge of the protection and conservation of cultural heritage, through cartographic visualization, not only information relating to the identification of the asset but also information related to natural risks on the territory and therefore affecting the heritage located in a specific geographical area. The system allows the simultaneous visualization of different layers in matters of safeguarding and bonding policies, territorial natural hazards and cultural heritage characterization.

2.2. Formal requirements regarding protection of the monument /formulated by authorities or specialists/

In the formal documents qualifying the complex as being of high cultural value, there are no indications/prescriptions for the conservation and restoration of the building and the archaeological remains. The only references related to this are those referring to the national legislation for the management and safeguarding of Italian heritage, called *Codice dei Beni Culturali* (Code for Cultural Heritage). The archaeological complex has long been studied by specialists from different disciplines such as archaeologists, art and architectural historians and restorers. Indications on the quality of the heritage are mentioned in the catalogue informative cards and project reports of the restoration works that have taken place since the 1970s which are collected in the historical archives of the city.

2.3. Protection of values (p.I.4), authenticity and integrity (p.I.5), technical condition (p.I.6)

The main instrument to guarantee the protection of site values remains the declaration of constraint mentioned above. This in turn refers to the current protection legislation, the Cultural Heritage Code.

The protection of the historical, artistic and testimonial values is guaranteed by the current legibility of the archaeological remains and the building thanks also to the conservation and restoration activities that protected their authenticity and, in part, their integrity. In line with this, some of the mosaic decorations have been removed from their original location and are instead kept at the National Museum of the City of Ravenna. The restoration work carried out on the Church and the archaeological ruins since the 1970s preserved the original construction techniques and materials, making limited use of modern techniques and using traditional methods such as the *cuci-scuci* (stitch-unstitch) using recycled bricks, or reconstructing the wall capping with recycled bricks. In compliance with the international restoration Venice Charter, modern techniques in historical sites are limited and concern the relocation of the mosaics in concrete supports, some plating of the apse basin, the insertion of slabs and kerbs in the roof, and the insertion of some consolidation works in the foundations.

Cuci-scuci (“stitch-unstitch”) a masonry restoration technique that makes it possible to restore the structural continuity of a brick wall. The replacement of deteriorated parts in small sections makes it possible to intervene on the structures without compromising the load-bearing function of the wall during the work.

2.4. Programme (proposal) of protection and conservation

Currently there are no preventive and programmatic programmes for the archaeological remains and the church. There is a maintenance plan for the vegetation structure which consists of periodic seasonal mowing to prevent the loss of the asset. There are also planned inspections for the drainage systems, following recent events.

Under the framework of the H2020 funded SHELTER project, the new planned maintenance/conservation plan will include inspections by means of visual and instrumental periodical monitoring at an average frequency of six months; classification of architectural artefacts (church: external walls, internal walls of the walls of the area and apsidal basin, roof, remains of flooring) archaeological (high walls, remains of mosaic flooring) with a description of the state of conservation, the parameters of diffusion extent and urgency. The expected outcome is an actual conservation plan containing a report indicating the

needed necessary activities for the safety of the asset and its maintenance with precise time indications.



Figure 19 - view of the archaeological remains of the circular apse of the Basilica belonging to the Placidian phase. In the background, the Mausoleum of Galla Placidia. (source: courtesy of Melandri)

2.5. Summary and conclusions.

The area of Santa Croce is protected by the Code of Cultural Heritage and Landscape (Legislative Decree 42/2004 et seq.). The complex details are available in the GIS systems provided by the local and regional Cultural Heritage authorities and also in Carta del Rischio, the national system where also the natural risks affecting the territory can be visualized.

The transformations of the site during the centuries are still visible and well recognizable. The restoration works, performed with appropriate techniques did not jeopardise the authenticity of the assets besides guaranteeing the integrity of the heritage.

No programmatic and maintenance plans are currently available for the area. The activities of the University of Bologna under the framework of a H2020 funded European project (SHELTER) aim at filling this gap.

3. Characteristics of the use of the monument

3.1. Description of the primary functions and use

During its lifetime, the Church of Santa Croce hosted different functions, mainly related to the ones of a religious building. At the beginning of the 17th century the church was no longer in use and in decay state. Letters from the archives testify that the church was used as carpentry in the '70s. This further caused serious damages to the building structures due to the continuous vibrations of construction tools. Following this, the church was used as exhibition hall for a few years. Nowadays, after the archaeological surveys the church was left as an active excavation site. The building is empty and has no specific function.

3.2. Programme (existing) of use, adaptation, modernization /presentation and critical evaluation/

Currently, the complex of Santa Croce is closed to the public. The archaeological area is only open to the public for guided tours on special occasions. Visitors need to follow a tailored path within the perimeter of the excavation and are not allowed to go down for a closer look at the remains. Among the aims of the analysis activities and of the H2020 SHELTER project, there is the implementation of the current visiting reopening the external area to the public.

The church remained inaccessible after the latest archaeological excavations. Currently, the ground floor inside the church is located almost 2 meters below ground level. The lack

of an appropriate secure path does not allow entrance of the public. A museum inside the church was suggested to make use of the indoor space. However, there are no immediate plans for implementation of the museum at the moment and the inside of the church remains empty.

3.3. Tourism, presentation, information /present state and potential/

Despite the fact that the site is currently closed to the public it is well known at local level. In fact, as shown in figure 4, the complex of Santa Croce was once a unique building with the Mausoleum of Galla Placidia, monument included in the World Heritage List. The guides mention the history of the Mausoleum, once a secondary building in relation to the Church, and visitors can see the area from the gates. The complex is included in the cultural itineraries of the city of Ravenna and the cultural tourism web pages of the city²⁴.

3.4. Summary and conclusions.

During the centuries the Church hosted several functions, but its original configuration of a worship building is still easily recognisable. Now both the Church and the archaeological area are closed to the visits of public, and are only visible from via Galla Placidia outside the gates. Few times a year the Soprintendenza organises guided visits in the archaeological area but not in the Church, which is not structurally safe to host visitors.

Nevertheless, the complex is well known at local level. Information are available in the tourism websites and the site is included in the cultural itineraries of the city.

²⁴ Turismo Ravenna, <https://www.turismo.ra.it/cultura-e-storia/chiesa-santa-croce/>.
Lions Club Ravenna Host, <https://www.edificistoriciravenna.it/santa-croce/>

4. Characteristics of the management of the monument

4.1. Description of management of the monument *ownership, structure, staff, etc./*

For what concerns the management of the complex, the situation is not straightforward as there are three responsible stakeholders with various viewpoints.

The Church of Santa Croce is owned by the Archdiocese of Ravenna-Cervia, ecclesiastical institution, as are the two nearby already-mentioned early Christian monuments inscribed in the World Heritage List. The Archdiocese is not only the owner of the church but also handles its management and maintenance operations through its Cultural Heritage office.



Figure 20 - Monitoring campaign in the archaeological area by researchers of the University of Bologna. (source: courtesy of Melandri)

On the other hand, the external archaeological area is property of the Ravenna Municipality, but its management is handled by the Soprintendenza, the local Institution for Cultural Heritage. In particular, an architect and an archaeologist from the Soprintendenza are responsible for the area. This includes following all the activities in the area, from the daily maintenance to the organization of the guided visits.

4.2. Financing /current state, need, possibilities/

Following the management and ownership situation described above, the ordinary works for the maintenance of the church are financed by the Archdiocese of Ravenna with funds provided by the national office for the cultural heritage for ecclesiastical and religious buildings, whose finances are provided by the 8x1000 donations of the Italian Catholic Church. With these funds, dioceses can apply for financing for the restoration of ecclesiastical assets of worship.

As far as the archaeological complex is concerned, funds for maintenance come from the budget of the Superintendency of Ravenna while the restoration work come mainly from the region of er and only occasionally from the ministry, since the property is not owned by the Ministry of Cultural Heritage and Activities.

4.3. Threats

The coexistence of the flooding hazard due to the outdated pumping system, the subsidence phenomena affecting the area and its surroundings. The precarity of the structures of the church due to low recent maintenance activities make Santa Croce a complex that must be continuously monitored and maintained. The lack of emergency plan to immediately intervene in case of emergency enhance the risk of loss of heritage in case of slow responses. Further than the intrinsic threats of the area, the situation is very dependent on the cooperation between the owners and the manager of the area which need to strictly cooperate to safeguard the complex.

An interdisciplinary study by the University of Bologna on the complex of Santa Croce just begun. The study will address all three hazards in the area, with the aim of developing a monitoring, management and emergency plan specific for the area. The intention is for this plan to replicable for the other monuments of the city. Lastly, the hope is of being able to reopen this complex to the public in the future.

4.4. Monitoring /indicators/

There is a monitoring system of the nearby complex of San Vitale that relates the structural stability of the church with the trend of groundwater thanks to a 3D model and a series of sensors.

There are no monitoring systems in the area of Santa Croce.

4.5. Summary and conclusions

There are three institutions involved in the area: the Archidiocese and the Ravenna municipality, owners respectively of the church and the archaeological area, and the Soprintendenza, manager of the site. All the three authorities provide the fundings for all the ordinary maintenance activities and restoration works.

The area faces three main hazards: floods, subsidence and earthquake. Flood risk is kept under controlled by the pumping networks system installed in the area. Subsidence, a phenomenon affecting all the Ravenna and surrounding area, causes the progressive sinking of subsoil. Monitoring networks in the territory are installed to detect the trends of the soil movement. Lastly, despite the area being in seismic level zone 3, earthquake is to be considered because of the lack of stability of the Church structure, which make it vulnerable even in case of a small event.

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Annex I. Glossary words

Narthex: an architectural element typical of Byzantine and early Christian basilicas. The narthex is usually set against the outside of the façade or, less common, between the naves and the façade of the church, usually the same width as the building. This is an area reserved for catechumens and penitents. (see Figure 6)

Sacellum: in Byzantine and early Christian architecture, the term sacellum refers to a small church or chapel where particular relics or objects of worship are conserved. (see Figure 6)

Domus: typology of private residence typical of Roman times. These residential buildings were located within the urban area and were the homes of the wealthy. Almost always single-storey and made of brick or concrete, they were decorated with mosaic floors and lacunar or stucco-decorated ceilings.

Oratory crypt: space (or set of spaces) generally underground or semi-underground located below the presbytery area of a sacred building, where the remains or memories of martyrs and saints are preserved or used as actual churches.

Cruciform plan: buildings, more commonly churches, with the shapes of a cross formed by the intersection of the nave and the transepts.

Apse: architectural element typical of buildings of worship. The apse is the final part of the nave or of the two arms of the transept where the altar and choir are usually located. The plan of this element is semi-circular or polygonal and is covered by a vault called apsidal basin, which is usually in the shape of a semi cupola. (see Figure 6)

Opus sectile: ancient artistic technique that uses cut marble to create inlaid floors and wall decorations. (see Figure 17)

Cocciopesto: lime mortar or plaster used in antiquity for walls or pavements made of fragments of earthenware, crushed pottery or brick.

Tesserae: a small block of stone, tile, glass or other material used in the construction of a mosaic. (from Oxford Languages dictionary)

Cuci-scuci (“stitch-unstitch”): a masonry restoration technique that makes it possible to restore the structural continuity of a brick wall. The replacement of deteriorated parts in small sections makes it possible to intervene on the structures without compromising the load-bearing function of the wall during the work.

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ICOMOS – POLAND

Protection and management plan of the Warsaw Fortress cultural park in Poland



The second stage (2007-2008) concerned the scientific analysis of the collected materials in terms of the creation of island complexes within the planned cultural park.

The initial concept of the boundaries of the planned cultural park of the fortification complex of the 19th-century Warsaw Fortress was prepared in two variants depending on the ownership conditions:

1. Variant of the cultural park as a form of legal protection in the system of coherent management. Optimum concept for the preservation of the fortification system of the Warsaw Fortress (version of the long-term policy - requiring many years of transformations)
2. Variant of the cultural park as a form of development. The concept specifying the basic elements that should constitute the core of a cultural park (minimum version - indicating areas whose current legal and ownership situation allows for taking up procedures aimed at protection, especially management in the form of a cultural park without the participation of private persons).

The starting point for delineating the boundaries of the planned cultural park were the areas arising in the period 1832-1910, in which it was decided to start the construction and liquidation of the fortress, first in the form of a bastion - the Citadel of Alexandrovska, and then the ring fortress. In addition, the areas of the fortress were connected with the existing urban tissue and in their structure used the existing buildings and areas previously belonging to the army or for the needs of the army. A similar phenomenon of increased urbanization took place after the decision to liquidate the fortress, the facilities of which were destroyed, but also adapted by the city and the army. The barracks and warehouses complexes were expanded, often supplemented with new functions. With time, the training grounds - similarly to the foregrounds or the hinterland of forts - turned into park or forest complexes.

It was the undeveloped areas that used to lie within the esplanade and fortress strips that were used in the concept of building buffer connections (buffer zone of the cultural park) - containing areas of little historical value, but of great importance for the park's system connections. The natural links were also determined, which are the remains of the natural obstacles and construction limitations of the fortress esplanade.

The preferred optimal concept of the boundaries of the planned cultural park received a positive opinion from all stakeholders and assurances of the support of the initiative from the above-mentioned municipal central and district units.

PART I. General information

Introduction

The Warsaw Fortress, a large-scale fortified facility located within urban landscape of the capital city, has been subject to significant alterations and partial destruction over the last 100 years. The attempts to protect the facility from further demise consisted merely in some treatment of single structures, with no connection to its entire functional system. The system comprised: masonry and earth structures (forts, strong points), accessibility infrastructure (roads: radiating roadways, ring roads and access routes, bridges, railway tracks and siding tracks, viaducts), logistic support (barracks, warehouses, hospitals, cemeteries, etc.), water system (water ditches, canals) and system of fortress greenery with camouflage, screening, obstacle enhancement or utility functions, which now determine the ecological value of the fortifications.



Fig. 2. Aerial photos of selected forts of the inner and outer ring, showing urbanization pressures around the monuments and their landscape character (in: K. Pałubska, 2009)

The *Spatial Development Trends and Conditions Study for the Capital City of Warsaw* was passed on 10 Oct. 2006 (City Council Resolution No. LXXXII/2746/2006) was a formal instrument which opened the way for a systemic protection of the Warsaw Fortress in form of a cultural park. Commissioned by the Office of Warsaw Historic Sights Conservator, the paper's author prepared an outline design, the aim of which was to define the potential solutions for systemic preservation of the dispersed components of the fortress.

Extensive analysis enabled identification of the most vital problems faced by the administrators of the city fortresses and the authorities of Warsaw at large: eminently complex ownership issues, chaotic and frantic development along with manifold historical concerns. These problems bear consequences such as damage to the legibility of the system and its successive absorption by development of new structures.

An attempt aiming at identification of all the components of the fortress allowed for defining groups of constructions within the urban tissue, where the functional and spatial interrelations are still present or they can be reconstructed. This may enable, in spite of the broken fortress rings, to preserve and display the interconnections which once played a major role in proper functioning of large military objects of this type.

Identification of the system

The fortresses' system consisted of masonry and earth structures, accessibility infrastructure (roads, bridges, railway tracks), barracks and logistic support (barracks, warehouses, hospitals, cemeteries, etc.) facilities, water system as well as a system of fortress greenery with camouflage, screening, obstacle enhancement or utility functions. Having identified 60 structures within the Warsaw Fortress, two different options for interpretation of the systemic protection (stipulated in the Study) and management of the Warsaw Fortress system in form of a cultural park were indicated; these variants were determined mainly by the form of present ownership.

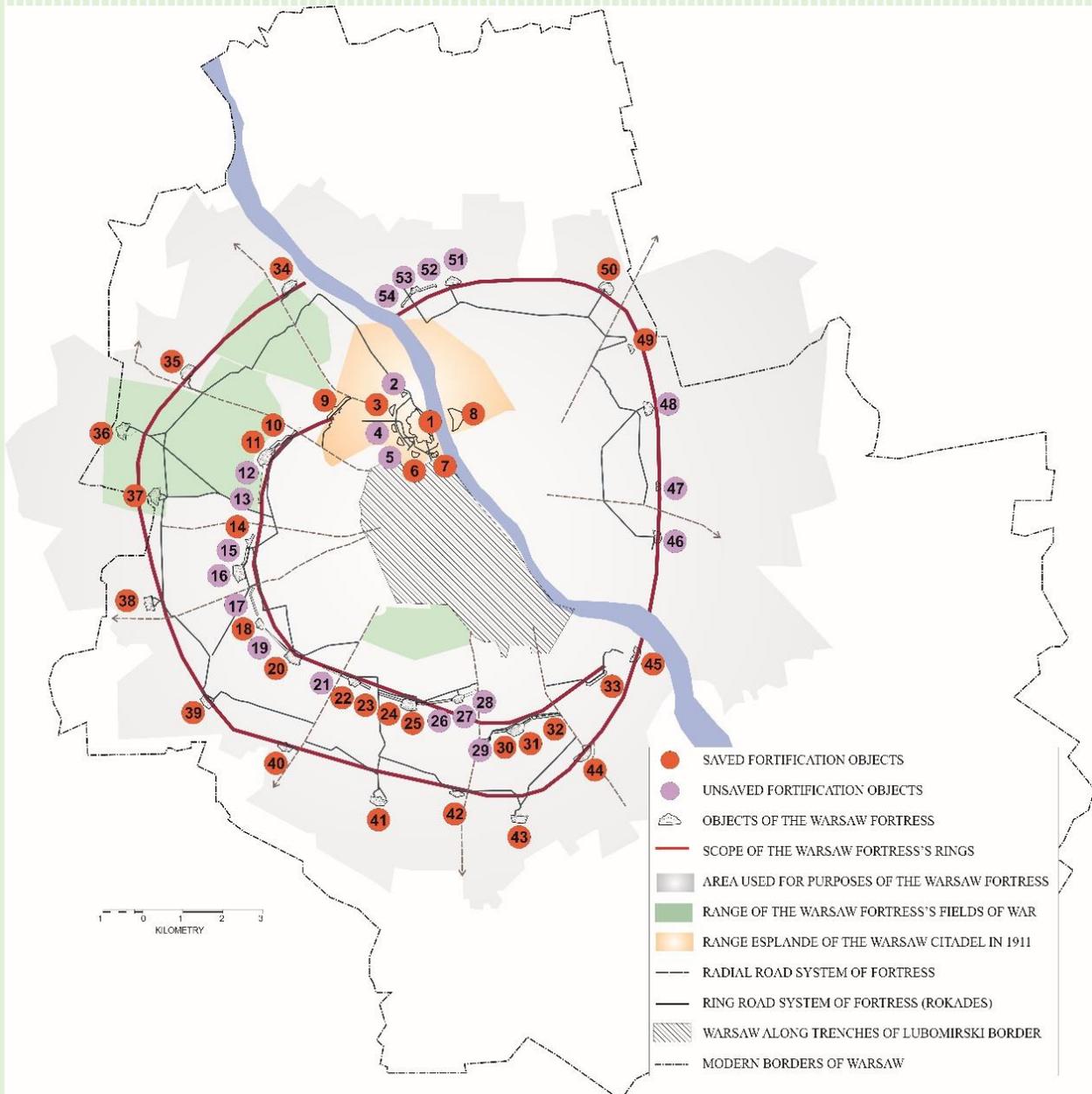


Fig. 3. Diagram of the Warsaw Fortress - showing the structure of preserved defensive works, war fields and defensive esplanade - areas excluded from development in the 19th century (in: K. Pałubka, 2009)

External conditions

Preserved natural areas, used in the past as natural obstacles in the Warsaw Fortress, and currently connecting individual complexes of the Cultural Park, may constitute the basis for the creation of recreational areas, both within the complexes themselves and between them. Hence, it is necessary to include the most valuable natural areas connecting fortress facilities within the boundaries of the Cultural Park.

The intense but not thought-out process of development of new city districts observed in recent years means that the Warsaw Fortress complexes are now under the pressure of

chaotic, progressive urbanization. This process poses a serious threat to the preserved cultural and natural values of the Complexes belonging to the Warsaw Fortress system, as well as to the recreational potential of these areas. Therefore, there is a clear need to protect these areas, and in special cases to include them within the boundaries of the Cultural Park.

Legal issues and ownership patterns

In order to establish the current ownership pattern of the land occupied by the fortress, a query was done in land and cadastral registrars of 11 districts of Warsaw. Approximately 1.000 plots of land were identified. At the time of intensive development and investment which Warsaw sees today, the ownership issues, land registry details and division of plots are under constant modification, some of the properties still lacking definite legal status. Considerable proportion of the land in question is owned by not only one, but several or even few dozens of varied entities with different legal situation. Publicly accessible sights, which currently happen to be green areas and the former fortress roads are the city-owned land. The remainder of roads, limited accessibility (railway and military) and forested areas as well as the land transferred to the Military Property Agency or Military Housing Agency belong to the State Treasury. Still a significant amount of the land remains in private hands – they mostly involve the areas closer to the city center and located amidst private secondary development.



Fig. 4. Complicated legal and ownership structure of Fort V - Italy. The monument is located in 3 districts and divided into a dozen private, municipal and state owners (in: K. Pałubska, K. Melaniuk, 2009)

Legal analysis allowed to define the protection and conservation measures that may be undertaken in relation to the Warsaw Fortress, with consideration of the conservation recommendations stipulated in the Study. The analysis showed that the fortress structures are at present legally protected solely on the basis of the regulations provided by the Act

on Historical Sights Conservation and Maintenance of 23 July 2003 and the entry into historical sights registry. So far single forts or armatures of accompanying facilities have mostly been listed in the said registry. There are now circa 24 fortress structures, barracks facilities and logistic support facilities entered into the registry.

Part II. Diagnosis - analyses and studies of the existing state

Cultural values

Documentation and records of the fortress facilities are incomplete, chaotic and carried out randomly for individual facilities and with different quality of workmanship - it requires standardization according to one scheme; e.g. "white cards".

Almost half of the buildings of the Warsaw Fortress have been destroyed over the century in a way that made it difficult to identify them in the field and to cover them with conservation - these were mainly smaller structures (embankments, points of resistance, the process concerned mainly structures on the right bank. The continuity of the fortress rings was broken in the area of: Bemowo (area of Babice Airport), Wola and Odolany (industrial and railway areas), Wierzbno and the entire right-bank part of the city.

The groups of the preserved elements of the Warsaw Fortress occur in the north-central part of the city (Fortress Core Complex), in the south-central part of the city (Ujazdowski Barracks Complex), in the western belt (Powązkowski and Radiowo Complex) and in the vicinity of Nowa Praga (Nowopraski and Artillery Workshop Complex).

Most of the preserved objects with identified historic values are not entered in the register of monuments, and thus are not legally protected and do not have detailed conservation documentation. 24 representative objects (15 complexes) for the fortifications of the Warsaw Fortress were selected.

In the case of systemic thinking, not only in the spatial but also temporal plane, the number of layers within the boundaries of the Cultural Park complexes is a valuable element showing the changes in techniques, schools and the possibilities of a given era in the field of military (and not an element distorting the nineteenth century layout of the fortress) and a testimony to the directions of development spacious city.

Conservation analysis and assessment was based on the method developed by Jan Zachwatowicz and adapted to the landscape character of the defensive facilities of the Warsaw Fortress. The method involves specification of the historical, scientific and aesthetic values of a structure but it was extended by providing definition of the natural (not ecological) merits of the sight. The conservation assessment resulted in shortlisting a

collection of 23 representative structures – prioritized components of the cultural park, including one structure of each type among best preserved fortress facilities, each characterized by significant historical, scientific or aesthetic value.

Natural and landscape values

Only 20% of the fortification works have a clear layout of the spatial composition with a preserved viewing exhibition, which makes them the basic areas of the Cultural Park. A similar compartment consists of objects with disturbed exposures, which for half of them can be restored by clearing openings and viewing axes in the dense greenery of the surrounding open areas. Almost 50% of the objects have been transformed to a degree that makes it impossible to read the historical composition of the defensive work.

Large-area complexes occur along the most important natural elements of Warsaw (the Vistula Valley, the Warsaw Escarpment and the areas of the former Kampinos Forest). As many as 6 complexes of the Cultural Park have identified unique natural values confirmed by legal form of nature protection.



Fig. 5. A water moat with trees on the embankment in Fort P-Parysow - currently a municipal recreation area (author: K. Pałubska)

A valuable element of the ruderal post-fortress vegetation are the preserved compositional arrangements of 19th-century plantings serving the following purposes: covering, obstructing, masking and ornamental in the structures of the Warsaw Fortress. On the other hand, new plantings introduced without respecting the principle of green composition of the former nineteenth-century fortification school additionally distort the spatial arrangement of the facilities.

While these areas remained closed, an additional aspect valuable in the context of urban greenery appeared. Abandoned objects have become a habitat for many valuable species of fauna and flora - a resource that is still unidentified.

Almost 50% of the analysed complexes indicate significant attractiveness for recreational purposes due to the presence of water systems, old trees and habitat conditions conducive to the construction of green areas.

Ownership conditions

The area within the cultural park is dominated by complexes owned by the State Treasury (as post-fortified areas still used by the military or central government offices) or by a mosaic of many forms of ownership.

The state of land ownership should not be treated as a determinant of the spatial boundaries of the park. The area of the Cultural Park in the conditions of a large city may be subject to the principles of a free market policy to the benefit of the quality of adaptation treatments. The boundaries set for the park should define a joint protection and promotion program as well as consistent possibilities for the development of facilities. The recommendations contained in the park protection program and the provisions of local plans are intended to guide current and future investors by pointing to barriers, but also by providing new preferential investment opportunities (loans, allowances, subsidies, joint advertising and social promotion). The city authorities probably cannot afford to maintain such a large area, especially since the privatization process has long become an element of the policy towards post-military areas (the Military Property Agency and the Military Housing Agency established for this purpose).

Way of development

The diversified form of ownership determines the variety of ways of use within the complexes and ideas for further directions of transformation - a phenomenon that is a manifestation of strong processes of space commercialization within the city limits of Warsaw.

All elements of the development of a cultural park: area, linear, should have their own coherent master development program, which would aim to distinguish the unity of the entire establishment of the Warsaw Fortress from other facilities and communication routes. The task of the cultural park will therefore be to integrate various spatial units with the aim of harmonious spatial development of the city.

The development of the area of the Warsaw Citadel is a priority goal for the city authorities - to create a symbol and showcase of Warsaw.



Fig. 6. Subjected to strong investment pressure Fort IV (Chrzanów) has been deteriorating, bear-dare no concept of commercial development did not gain a conservation services (author: K. Pałubska)

Spatial planning decisions

The condition of covering the areas within the boundaries of the Cultural Park with local land use plans is insufficient for the efficient and effective implementation of the assumptions of the city's spatial policy.

At the same time, the small coverage of the area of the Cultural Park by the binding local spatial development plan opens up considerable possibilities of relatively easy translation of the guidelines of the cultural park protection plan into the provisions of the local development plan.

The provisions of the existing local plans often contradict the idea of protecting the natural and cultural values of the Cultural Park, therefore it is necessary to carefully revise them, ultimately leading to formal and legal works aimed at changing the existing local plans.

A particularly important problem from the point of view of the proper functioning of the Cultural Park as a system of dispersed teams is the often occurring lack of continuation of planning assumptions (even within individual complexes). This phenomenon results from the way of determining the boundaries of individual local plans that do not coincide with the boundaries of the Cultural Park, with the simultaneous lack of references to the essential elements and structures of the Warsaw Fortress located in the areas of different plans.

Communication system

Fortress bargain and access roads, which have retained their historical course, can be the basis for creating recreational connections between individual complexes, in particular bicycle routes, as well as tourist routes using, for example, public transport.

The preserved roads with a historical course, through the use of a coherent system of visual information, can also form the basis for an action promoting the idea of the Cultural Park.

Social surveys

The conscious management of active protection of fortifications through the development of public green areas, indicated in planning documents, has been confirmed by the needs and opinions of residents and users.

The survey research resulted in paying particular attention to the role of well-organized and managed recreation and leisure areas with cultural values in the awareness and comfort of life of residents, whose coherent, well-functioning system throughout the city can be created based on the facilities of the Warsaw Fortress.

The role of green areas and related recreational areas in public opinion polls, as well as the need to organize, arrange and maintain them, mean that active management should be considered the most appropriate form of protection, which is not associated with stagnation, but a multidimensional activity focusing stakeholders on adaptation and including individual fortress facilities in the Cultural Park system.

Without properly informing the public about the ongoing works on establishing the Cultural Park and the related consequences related to shaping the space, one should expect numerous points of resistance, protests and manifestations of dissatisfaction.

It is necessary to conduct a constant information campaign on the natural and cultural values of the Warsaw Fortress, as well as the broadly understood opening and elimination of restrictions on access to individual complexes.

Surveys, being one of the tools of public consultation, are an invaluable source of information in all kinds of study analyses and design activities related to urban areas and spaces. In the case of the initiative to create the Cultural Park Complex of the 19th-century Fortifications of the Warsaw Fortress, the results of the research and the conclusions drawn from them constitute both the basis for supporting the postulates assumed among experts and, on the contrary, a contribution to re-examining, and sometimes even reshuffling, the adopted planning assumptions.

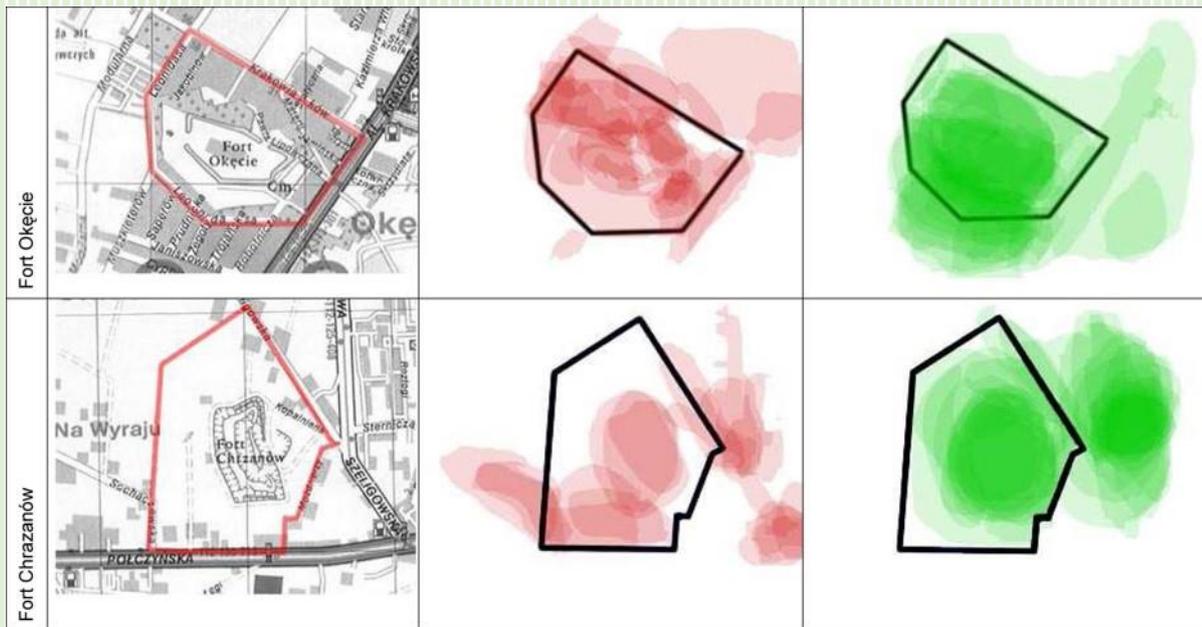


Fig. 7. Mental maps made as part of social research among the inhabitants of selected fortifications (in: K. Pałubska ed., 2009)

Comparative assessment

Comparative assessment of the key criteria for the conservation, legal and ownership as well as investment potential analyses allowed to select a group of structures which:

- should be incorporated into the cultural park (structures unique on the city's scale or representative for the "Russian school")
- may be incorporated into the cultural park (structures of average conservation value but serving as a link illustrating the systemic character of the ring fortress)
- are not recommended for incorporation into the cultural park (due to their low conservation value, functions not compatible with the park's programme, large distance to other elements of the system).

The assessment allowed to define the following for the two options:

OPTION I: (cultural park as a form of area development – ownership of the city of Warsaw and State Treasury)

27 structures which should be incorporated into the cultural park

9 structures which may be incorporated into the cultural park

6 structures which are not recommended for incorporation

OPTION 2: (cultural park as a form of legal protection and management – regardless of the ownership form)

33 structures which should be incorporated into the cultural park

17 structures which may be incorporated into the cultural park

8 structures which are not recommended for incorporation

Part III. Forecast - change scenarios. Principles of protection, management and development

The concept of protection and management - the main idea

Systematic thinking about the entire project requires thinking about the entire city as a tissue that changes its face over the centuries. The Warsaw Fortress was not built in undeveloped areas, such as the fortresses in Modlin or Srebrna Góra. As a city fortress, it has similar problems as Kraków, Poznań and Toruń. These problems are primarily a complicated ownership situation, chaotic investment development, historical layers distorting the perception of the facility as a whole, requiring an integrated development program based on the protection of existing assets.

For the purposes of the study, after the analyses of cultural, natural and landscape values as well as additional analyzes determining the investment accessibility of the Warsaw Fortress facilities, 20 complexes were selected, bringing together the preserved fortification works and areas of the fortress's backstage within the proposed Cultural Park Complex of Fortifications of the 19th-century Warsaw Fortress. In addition, buffer zones of the Cultural Park (buffer zone) have been designated - areas of lower cultural value, but of great importance for the park's system connections. These are most often areas where the fortress elements have been preserved or not at all, but the layout of streets, buildings or trees is still legible as a whole and requires emphasizing these connections. As buffer zones, it is also possible to treat linear systems of the former baroque fort roads, which in heavily built-up areas are often the only link between individual objects.

The reconstruction of the functioning of the fortress ring system through the routes of recreational areas, bicycle and educational routes is a continuation of Tadeusz Tołwiński's outstanding pre-war planning concept for building a wedge-shaped system of green areas, connected by circular promenades, the outline of which still functions in the spatial policy

of the city. It is worth noting that the concept of T. Tołwiński from 1916, published in 1933, was based on the post-military areas of the Warsaw Fortress, liquidated in 1911. The ease of implementation of the theoretical plans was due to the construction restrictions imposed on the areas of military fields and ring fortress belts. The currently partially preserved wedge-shaped ecological system of Warsaw has its origins within the boundaries of the 19th-century fortress and, as a system, is subject to comprehensive environmental protection, which is a priority for the city's spatial policy.

Justification for the selection of the variant of the concept of a cultural park based on the conclusions of the conducted analyses

Two options for interpretation of the provisions stipulated in the Study were suggested.

OPTION 1: Cultural park interpreted as a form of extensive development of the Warsaw Fortress. In this option, only the land belonging to the city and State Treasury which still has potential for direct institution of a functional programme is taken into account. It is an island type model, in which it would not be possible to illustrate the interrelations between individual components of the ring fortress unless the tourist routes are designed to run along the former fortress roadways. This option also allows to exercise conservator's protection over the structures and establish a common, coherent development programme for some of them without instigating any disputes (in theory, no negotiations with private investors are necessary).

In case of Option 1, where 14 groups and 11 individual structures are concerned:

1 of the groups cannot proceed with development without prior negotiation with private owners,

3 of the fortresses' structures cannot proceed with development without prior negotiation with private owners,

5 structures cannot proceed with development without prior negotiation with private owners, unless the development concerns the surrounding of the structures solely.

OPTION 2: Cultural park interpreted as a form of comprehensive legal programme, where the natural and cultural qualities of the fortress are protected in the manner characteristic of an entry into historical sights registry, but covering a considerably larger structure than usual. This option assumes extending legal protection over these of the Warsaw Fortress' areas which have been identified as having high historical value, regardless of the form of current ownership. The designation, use and potential for adaptation of these areas for the purposes of the cultural park are nonetheless taken into consideration.

In case of Option 2, where 14 groups and 11 individual structures are concerned, the following qualify for protection:

33 structures (i.e. 14 groups) which are considered indispensable in the park due to their outstanding historical value

17 structures which may be incorporated into the cultural park as elements emphasizing the fortress' systemic character.

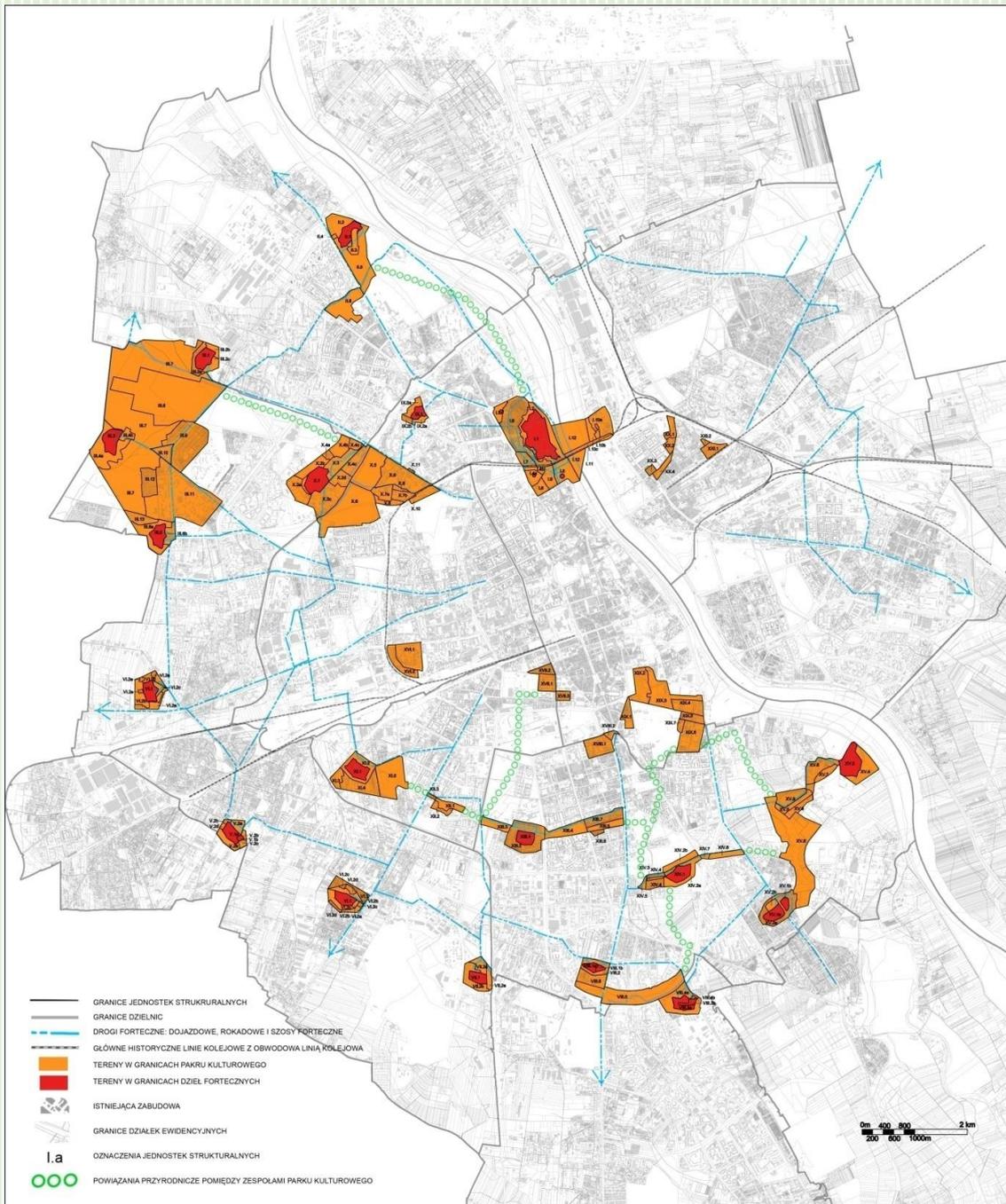


Fig. 8. Project of the 19th-century fortifications of the Warsaw Fortress cultural park - 2010, with selected complexes, roads and a system of natural connections indicated for protection. (in: K. Pałubka, K. Melaniuk, 2009)

Apart from that, 6 buffer zones (or protection zones) were delineated for the cultural park – areas of lesser historical value but significant in the light of systemic interrelations in the park. They usually consist of areas where the fortress facilities have decayed or have been entirely wiped out, but the street pattern, tree lines and building location is still legible in the overall context and allows to highlight the said interrelations. The former linear arrangements of the fortress access roads, which in densely built areas often remain as the only link between the individual components of the system, could also serve as the buffer zones.

The outline design also emphasizes the importance of the historical ecological system (green wedges and rings) of Warsaw, which was predominantly based on post-military facilities belonging to the state. Ecologically valuable areas of the cultural park were defined in the design as ecological zones (or green protection zones) and consist of the fragments of the green wedges system presented by Tolwinski (Tolwinski, 1937). The historical value of these areas is relatively poor when compared to their natural qualities (despite their significance in view of comprehensive protection of the entire system) and hence may be disregarded as far as their buffer zone function is concerned due to the fact that their integrity should be ensured under general zoning provisions and nature conservation regulations. These areas may, however, be taken into consideration when the educational paths and cycling routes are designed.

Scenarios for the development of protection, management of monuments and cultural landscape in line with the idea of sustainable development

STAGE ONE - PREPARATORY AND ORGANIZATIONAL WORK

During this period, entries in the register of monuments should be made more precise, the Cultural Park Protection Plan should be adopted and a unit managing the park within the city hall structures should be created. Then, carry out the first conservation works and cut down invasive greenery, and start trying to obtain funds under the projects. Take over the management of the communal areas of the fortress and the responsibility for the organization of tourism and further transformation policy.

STAGE TWO - MUNICIPAL UNIT (contracts with tenants, renegotiation of existing lease agreements)

Work with a large support of external financing in the next several to several years. Carrying out most of the maintenance work in municipal areas. Beginning to build a system of connections between the teams - educational routes on a city scale.

STAGE THREE — PRIVATE COMPANY, COMMUNAL CHARACTER

Involving private partners and intensifying the economic use of the fortress facilities. Adaptation of unused structures - introducing private capital into highly specialized investments. Establishing cooperation with similar facilities in order to create a network - a route of modern fortification architecture.

Part IV. Guidelines and arrangements for the protection, available and management of the cultural park

Principles of zoning the park area and conducting various policies for its protection and development, with particular emphasis on the proposed variants

In order to define the principles of spatial development of the areas of the Cultural Park and to work out different policies for the protection and management of its areas, which is related to the diverse state of spatial development of this area, it is assumed that spatial units will be created. The boundaries of units will constitute areas within which there should be various forms of their protection, access and management.

The area of the Cultural Park has been divided into spatially separated areas called in the study complexes. The teams correspond to the groups of preserved objects, devices and historic elements related to the functioning of the Warsaw Fortress. The boundaries of the complexes, separated by islands in the urban tissue, also form the boundaries of the Culture Park. Within the individual teams, structural units were separated, determined on the basis of earlier analyses of cultural and natural values, the manner of development and use, taking into account possible transformations resulting from planning documents. Moreover, with the boundaries of structural units, efforts were made to emphasize the preserved historical boundaries of fortress plots, taking into account contemporary ownership divisions.

Works within their historical boundaries have often been transformed permanently, thus permanently distorting their perception - that is why in the description of the units there is a general term "setting" as the border most shifted and subject to urbanization processes.

In the case of the communication network, the boundaries of the units were determined along the border of the axis of the modern road or including the entire belt in the case of preserved fort roads with elements of the composition of the greenery of the fortress.

Guidelines for the protection of cultural and natural values and shaping the cultural landscape in the structure of units and complexes of the Warsaw Fortress

Determining the rules of acceptable activities is the result of the performed valorisation of the preserved team. The degree of detail of the guidelines depends on the scale of the area studied. Previous studies on defence architecture have developed 4 levels of detail in the formulation of "from detail to general" guidelines based on the division proposed by Janusz Bogdanowski:

I level - defensive device (Carnot wall, caponier, traditor)

Level II - defensive element (moat, artillery rampart, foreground)

Level III - defensive work (citadel, fort, inter-fortress rampart)

IV level - complex of defensive works (ring fortress).

The determination of areas with different principles of protection and permissible interference can be presented in a model record taking into account six types of protection zones, allowing for the possibility of interference to a different degree.

The arrangements for conservation protection zones regarding the protection and preservation of historic values, important when making decisions on the development of individual fortifications and post-fortifications, include primarily:

- identifying the leading conservation measures,
- determining the possibility of introducing parahistoric and, exceptionally, ahistoric supplements with the determination of architectural parameters,
- principles of shaping didactic functions,
- rules of sightseeing exposure,
- principles of communication service,
- orders, prohibitions, permits and limitations in the development of the facility and its surroundings,
- elimination of functions that have a negative and destructive effect on historic substances.

Among the leading conservation activities, the most important is protection, understood as a triple protection of: forms, substances and surroundings. The basis for conservation

activities on the preserved fortifications should be the maintenance of the educational function and making the monument available to the public. The teaching function is considered to be the transfer of knowledge about scientific, historical and artistic values in historic buildings. Strengthening the message of didactic content can be achieved by disseminating knowledge about cultural and natural values with the help of traditional forms of graphic and descriptive information, historical models, reconstruction of equipment using mannequins in historical costumes to the latest audio visual techniques. The exposition of the didactic zone also requires the elimination of invasive greenery, deforming the fortification, carried out on the basis of specialized dendrological tests.

Exposure requires two-way protection as a passive and active phenomenon. Passive exposure is the observation of a work in a closed urban or open rural landscape understood as the physiognomy of the environment. The active exhibition is an observation from the work to the surrounding landscape. A work displayed against the background of a devastated landscape becomes a denial of its own value. Taking into account the scale of the exposure, close, far and panoramic views can be analysed.

The proper external exhibition of fortifications should be related to ensuring the public accessibility of the external zone. In urban conditions, a pedestrian passage around the facility, allowing an insight into the exposed fortifications, may complement the didactic route offer with information boards on visible defensive elements, constituting an incentive to visit the facility. The realization of such lines complicates and even prevents modern ownership divisions, if the fencing of the plots reaches up to the slope of the moat. Detailed functional and spatial solutions are required in particular by potential sightseeing routes and the possibility of making monuments available to the disabled.

The designated boundaries of the conservation zones are adjusted individually to the spatial arrangement of individual complexes, assuming that not all zones have to be present.

Zone A - areas and fortification works of representative historic value for the Warsaw Fortress system. In addition, the areas and fortification works of the Warsaw Fortress preserved in their original outline with preserved historical structures and a clear original spatial layout (includes the areas of the Warsaw Fortress entered in the register of monuments or recommended for entry).

It is established:

- protection rules appropriate to the provisions for areas entered in the register of monuments continuous conservation supervision while carrying out works on the facility (it is postulated that areas not entered in the register of monuments should be entered in the register of monuments);

- full protection of buildings (dimensions, shape of solids, characteristic architectural features), area or fortification work: layout (route and shape of the network of streets and squares, divisions of historical plots), shape of earth elements and masonry objects and the surroundings (foreground);
- conservation and restoration of the existing historic substance in the areas included in the original boundaries, restoration of the profiles and contours of the ground forms of the work in order to make them legible and emphasize the connections with historical communication routes;
- adaptation of historical buildings and devices to new didactic functions, as well as functions related to culture, recreation and tourist traffic services;
- providing a scenic exhibition of monuments and spatial shaping of entrances and exits in a manner referring to the historical communication system,
- elimination of greenery threatening the historic substance and limiting the legibility of the historical structure of buildings
- elimination of the division of the area with fencing, with the simultaneous prohibition of introducing new fencing;
- liquidation of contemporary buildings and elements colliding with the original composition, historic and exhibition values of the object or area;

It is allowed to:

- equipping the zone with small architecture elements ensuring order maintenance, service and safety of users as well as information about the cultural values of the facility, consistent for a given area or work; locating new buildings and devices in justified cases, as part of prehistoric supplementation in places of unpreserved elements, devices, buildings and earth forms, provided that they are intended for the needs of services related to the operation of the didactic zone, shaping the dimensions in relation to the nature of the complex, e.g. finishing materials, greenery (opinion required by the competent conservator of monuments after getting acquainted with the detailed conservation project);
- secondary selection of greenery preceded by dendrological research with the preservation and protection of natural habitats of fauna and flora;
- shaping new plantings of greenery based on archival materials, maintaining the principles of the original composition of the work and supplementing the arrangements of historic plantings.

It is forbidden to:

- locating new buildings and devices not related to the didactic function, and related to culture, recreation and tourist traffic;
- limiting the landscape exposure of a historic building.

Zone B - areas and fortification works of the Warsaw Fortress with specific and / or specific historic values, in which the historical structures and their original spatial arrangement are fully or partially preserved. And the areas of historical layers preserved in their original outline with preserved historical structures and a clear original spatial layout (includes areas not directly related to the functioning of the fortress - entered in the register of monuments or recommended for entry).

It is established:

- protection of significant historic values, including buildings (dimensions, shape of solids, characteristic architectural features), an area or a fortification work: layout (the course and shape of a network of streets and squares, divisions of historical plots), the shape of earth elements and masonry objects and the surroundings (foregrounds),
- conservation of the existing historic substance in the areas included in the historical boundaries,
- adaptations of historical objects and devices to new didactic functions, as well as functions related to culture, recreation and tourist traffic;
- protection of the sightseeing exhibition of monuments and the spatial shaping of entrances and exits in a manner referring to the historical communication system;
- elimination of greenery that threatens the historic substance and limits the legibility of the historical structure of buildings;
- liquidation of contemporary buildings and elements colliding with the original composition, historic and exhibition values of the object or area.

It is allowed to:

- restoration of the existing historic substance in the areas included in the original boundaries, restoration of the profiles and contours of the earth's forms in order to

make them legible and emphasize the connections with historical communication routes

- modernization of buildings to modern functions with the possibility of introducing forms subordinated to didactic functions;
- equipping the zone with elements of small architecture ensuring maintenance of order, service and safety of users as well as information about the cultural values of the facility, consistent for a given area or work;
- locating new buildings and devices in justified cases, as part of prehistoric supplementation in places of unpreserved elements, devices, buildings and earth forms, provided that they are intended for the needs of services related to the operation of the didactic zone, shaping the dimensions in relation to the nature of the complex, e.g. finishing materials, greenery (an opinion of the competent conservator of monuments is required after getting acquainted with the detailed conservation project);
- shaping a new course of the communication system subordinated to didactic and adaptation purposes, provided that it is not possible to recreate the historical course,
- elimination of the division of the area with fencing;
- secondary selection of greenery preceded by dendrological research with the preservation and protection of natural habitats of fauna and flora;
- shaping new plantings of greenery based on archival materials, maintaining the principles of the original composition of the work and supplementing the arrangements of historic plantings.

It is forbidden to:

- locating new buildings and devices not related to the teaching function.

Zone C - areas and fortification works with specific historic values, in which historical structures are preserved residual, in scattered arrangements (the original spatial arrangement with traces of the historical arrangement. And areas of historical layers of specific historic values, in which historical structures and their original spatial arrangement are fully or partially preserved.

It is established:

- protection of selected historic values,
- conservation of the existing historic substance
- elimination of greenery that threatens the historic substance and limits the legibility of the historical structure of buildings;
- liquidation of contemporary buildings and elements colliding with the original composition, historic and exhibition values of the object or area.

It is allowed to:

- adaptations of objects and devices to modernly useful functions and clarification (reintegration) of the historical spatial system through the use of parahistoric supplements,
- introducing an ahistorical supplement with strictly defined architectural parameters - as long as it does not limit the legibility of historical buildings,
- shaping a new course of the communication system subordinated to adaptation purposes, provided that it is not possible to recreate the historical course,
- equipping with the necessary street furniture and construction equipment;
- identification and protection of historical greenery relics with the possibility of introducing alien ornamental species for the original planting composition.

Zone D - areas within the historical boundaries (within the historical boundaries of the fortress plot or the backyard complex) of the Warsaw Fortress, where the historical structures and spatial arrangement have not been preserved.

It is established:

- identification and protection of relics of objects and devices as well as historical greenery - including the spatial composition in the contemporary system,
- development or adaptation of the area to modern functions, rehabilitation of degraded areas.

It is allowed to:

- reconstruction of the original spatial layout through the use of parahistoric supplements (reintegration of the system),
- introducing ahistorical additions with strictly defined architectural parameters that do not collide in terms of landscape and functionality with the historic structures preserved in the surroundings;

Zone E - covering the external area (areas beyond the historical boundaries of the buildings and works of the Warsaw Fortress), the development and transformation of which may be related to the protection of the preserved fortress areas, their exposure or accessibility.

It is established:

- identification and protection of valuable cultural elements - including the spatial composition in the contemporary system,
- protection of viewing perspectives, far and near exposure, active and passive,
- development or adaptation of the area to modern functions, rehabilitation of degraded areas.

It is allowed to:

- emphasizing the original spatial layout of the historic area by using new buildings along the historical border, based on panoramic analyses and panoramas,
- introducing ahistorical additions with strictly defined architectural parameters that do not collide in terms of landscape and functionality with the historic structures preserved in the surroundings and their exposition;

Zone K - encompassing natural areas, historically related directly (not preserved post-military undeveloped areas, e.g. war fields, military gardens, the Esplanade of the Citadel) and indirectly with the functioning of the fortress (natural obstacles and masks, e.g. reservoirs and water courses, swamps, forest complexes -park). Covering the current, preserved natural connections between defensive objects.

It is established:

- identification and protection of valuable natural and cultural elements,
- protection against development of open areas, viewing points and axes, ecological connections;

It is allowed to:

- locating buildings accompanying the functions of green areas.

The basis for programming new functions, in relation to the model division into protection zones, should be the adjustment of the investment intensity to the limitations resulting from the protection of cultural values of individual zones. In practice, this may mean the exclusion of a part of the team from commercial activities or its significant limitation due to the obligatory didactic functions, assuming that some of the income generated in other zones will be allocated to the maintenance of non-profitable didactic sectors.

The model of development of fortifications requires consideration of conservation guidelines and program needs of varying degrees of detail. Taking into account the four levels of formulating guidelines, the study was limited to level IV - a set of defence works, important in formulating conclusions on a planning scale. The formulation of conservation guidelines was based on the methods and research for levels III and II. The selection of conservation protection zones and the analysis of investment accessibility suggests a proper way of development. In the first place, the areas of the highest suitability for investment purposes should be secured.

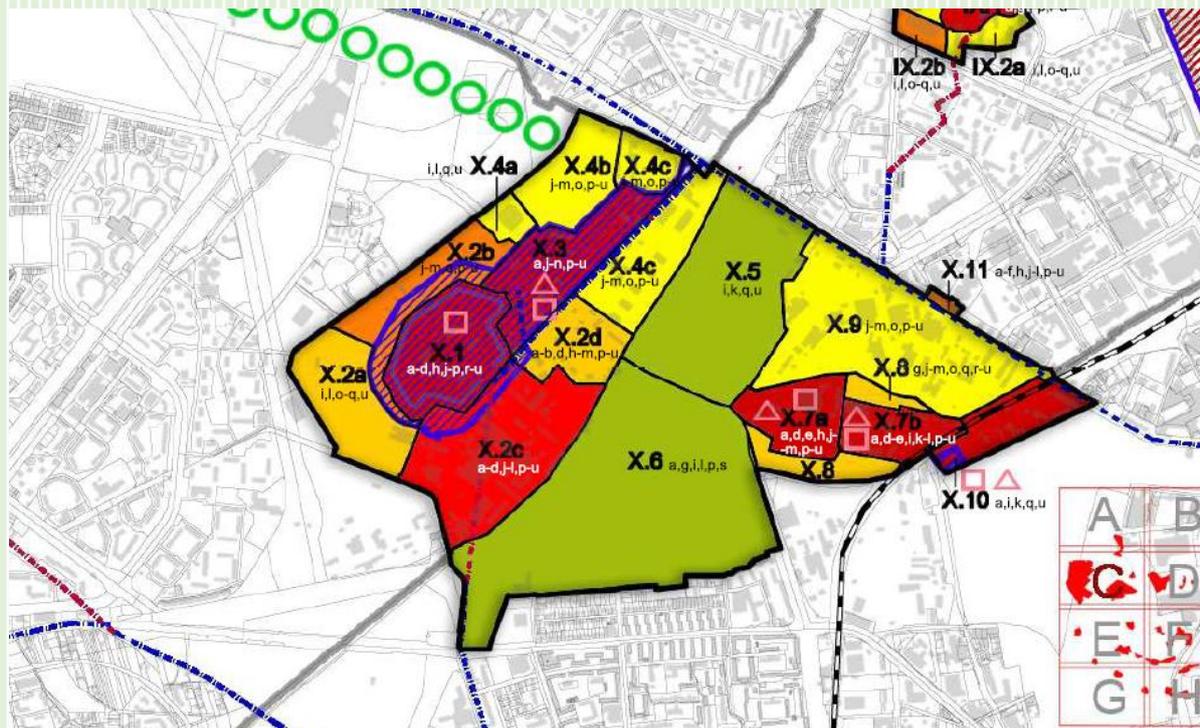


Fig. 9. Powązki Complex - one of the cultural park complexes, consisting of Fort P-Parysów, barracks buildings and remains of the Powązki Military Field from the 19th century - division into conservation protection zones and detailed arrangements for the local development plan (in: K. Pałubska, K. Melaniuk, 2009)

Part V. Implementation of the cultural park

Forms and rules of managing a cultural park

By a resolution of the City Council of St. In the case of the creation of a Cultural Park, an "organizational unit to manage the park" should be created in the capital city of Warsaw. The Park Management may at the initial stage constitute a municipal organizational unit.

The purpose of the Park Management Board should be the implementation of the tasks of the City of St. Warsaw, related to the protection of monuments and the care of monuments.

The basic tool for the implementation of the above-mentioned objectives should be the Park management program, specifying detailed tasks in this area.

An inseparable element of park management is the organization of its financing system, linked in the first period with the budget of the Capital City of Warsaw. Of Warsaw. In the longer term, it is necessary to expect a gradual development of the cultural park financing system and its enrichment with new forms, e.g. establishing a foundation, operating with the use of donations and subsidies, and creating the possibility of conducting various forms of economic activity, supporting the functioning of the park.

The principles of resolving conflicts and reducing risks

The implementation of the adopted objectives of the Cultural Park may encounter various obstacles and require resolving emerging conflicts between the interests of various users of space, between their private or group interests, and the public interest. One of the basic forms of resolving conflict situations and reducing threats related to spatial management is the development of appropriate solutions during the preparation of local plans, taking into account the currently used methods of participation in this process, and probably extended as part of the work on the amendment of relevant regulations.

One of the most appropriate formulas of social participation is the intersectoral partnership for the development of the region. Its positive features, resulting from the very positive nature of the partnership phenomenon, are primarily:

- development of the highest forms of social activity, i.e. participation, co-determination and civic responsibility,
- growing knowledge about real relationships between the civic, public and business sectors,
- synergy of benefits resulting from partnership, etc., aimed at achieving mutual benefits.,
- multiplying the opportunities for sustainable development and improving the quality of life of local communities,
- appreciating partnership in the management system as a supported basis for applying for European Union funding
- benefits from open forms of discussing important development problems and disseminating the principle of consensus when working out constructive solutions.

Principles of promoting the cultural park and its plan

The essential elements of promoting the Park protection plan should be its wide availability on the website and in the tabs of the Office of the M. St. Warsaw, District Offices in and development of various information and promotion publications targeted at various social groups and nationalities. This will contribute to an increase in tourist traffic, resulting in an increase in the level of expenditures possible to increase on conservation and revitalization activities, as well as providing other elements of the area for development.

Organization of initiatives supporting the mechanisms of identification of residents with the area of the created Park with the features of a specialized tourism product. Organizing battle staging, music and thematic events, etc. It is recommended and advisable to develop the principles of healthy competition between users of individual teams, as well as cooperation between individual entities operating in the Park, using its values for sustainable development. Model examples of such activities could be the subject of specific and original forms of recognition and promotion

Principles of monitoring the implementation of the cultural park plan

Properly conducted monitoring of the functioning of the Park is the observation of the progress in the implementation of the arrangements adopted in its protection plan. The following aspects, observed in annual and multi-annual monitoring cycles, should be adopted as the basic objectives of the assessment of the effectiveness of the implementation of these arrangements:

- achieved conservation goals,
- achieved social goals,
- achieved economic goals.

Monitoring of the above-mentioned aspects should be included in the Park management program and should take into account:

- ways to introduce diverse and concentrated financial activities,
- objective changes in the landscape of the Park and in the economic and social conditions of its functioning,
- achieving greater effectiveness of activities,
- actions to better understand the problems of park management in its surroundings.
- raising the level of knowledge about the Park among residents and tourists,
- the existence of the Park in the local, regional and national network of tourist attractions.

The management of the Park should constantly collect data related to the functioning of the Cultural Park. They should include, first of all, information related to the protection and maintenance of its values as well as data on the implementation and achievement of

the objectives set out in the protection plan. These data, properly collected and analysed, should be periodically assessed by the citystate of Warsaw. The above activities may lead to the development of projects of possible, justified changes to the Park protection plan, agreed before their formal adoption by the Provincial Conservator of Monuments.

Conclusions

Warsaw, due to its brisk urban development over the last century, has spread out far beyond the borderlines once defined by its outer ring of fortresses. The so-called 'green masks' preserved in another example of city fortifications, the Torun Fortress, enabled to reconstruct this structure. Warsaw's green areas are a reflection of these found in Torun – they are now disjointed and scattered, but have maintained the overall character of the original design and the pre-war idea of green wedges linked by circles which are still identifiable and have some impact on the urban development policy of the city.

The manner in which earth defence facilities are utilized today is indicative of the apparent absence of interesting concepts for their management and results in gradual degradation of the preserved components. There are numerous obstacles in dealing with this kind of structures, including vague legal situation as to the ownership, incomplete historical documentation, or simple incompatibility of the present functions with the demands of a developing capital city resulting in a conflict between the structure's educational properties – propagating the knowledge about the region's traditions and history and warfare of the past - and the modern life of the city. Introduction of leisure related functions and hence incorporating components of the fortress into the city's recreational system would certainly add to diversity of the fortifications' current role. It is important for the programme to enable for the structure to be used and enjoyed by the broadest possible range of age groups and throughout as large a part of the year as feasible.

There is a number of interesting instances where fortifications were developed into open-air museums, theme parks, fun fairs, educational or exhibition centres. One impressive example of such undertaking is the Dutch open-air museum and park of *Archeon* – which features the region's Ancient and Middle Ages history over the area of 60 ha. As far as Poland is concerned, the educational and leisure *Centrum Hewelianum* in Gdansk located in the Grodzisko Fort is an interesting case. Apart from offering the possibility to familiarise oneself with the history of fortifications, the center promulgates knowledge in a system of workshops such as the Earth or Energy Workshops, and extends care over the local wildlife while enabling some insight into the nature at hand.

The cultural park administration should promote the fortress by organizing events celebrating the regional history or related to military architecture (fairs, staging battles). The priority should be the management programme for the Warsaw Citadel, which is one

of the city's icons. The design concept for the core of the fortress should be selected by way of an international competition, and the undertaking itself should be supported by an extensive media campaign, thus providing promotion for the entire park. The competition could also help to establish a system of unified elements, street furniture, landscape design, etc. to integrate the whole fortress, ensuring cohesiveness and appropriate quality of the arrangement. Individual, coherent and superior character of the management programme could bring the unity of the Warsaw Fortress into light, contrasting it with other recreational paths and historic sights. This could be achieved through the use of characteristic materials, details, landscaping, architectural elements, system of signage. An interesting idea which might attract the visitors to some specific highlights of the sightseeing route is to provide a system of models, illumination, as well as activities involving the senses of hearing or smell.

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Life Beyond Tourism

-Travel to Dialogue: an example of innovative approach to heritage management

An innovative approach to the theme of heritage management is the one developed within the activities of the Romualdo Del Bianco Foundation, a private foundation based in Florence which, since 1989, has been dedicated to dialogue among cultures, and that carried out, during its more than 30 years of activity, a research called *Life Beyond Tourism – Travel to Dialogue*. This was developed with the support and collaboration of the Foundation's network of experts and institutions²⁵. Life Beyond Tourism has been presented in many international scientific occasions among which two sessions of the *World Heritage Committee* with dedicated parallel events: in 2018 in Manama, Bahrain, and in 2019 in Baku, Azerbaijan. In 2018 the Foundation created the *Life Beyond Tourism - Travel to Dialogue Movement*, for the communication, protection and enhancement of the cultural expressions of places, which provides a set of practical tools dedicated to local communities, to develop the awareness of their cultural value. Among these tools, the fundamentals are a glossary, a certification system, a training offer, in presence and in e-learning, an economic model with new ethics, scientific events and publications²⁶. As Laenen reports, the activity of the Movement is particularly innovative in an attempt to respond to places management:

“Life Beyond Tourism Movement creates basic conditions for the development of a society, where all cultures and subcultures share responsibilities to develop a convened concept of man and society. In the framework of a peaceful coexistence cultural differences may be the origin of problems for such planning. Indeed not racism, that can be controlled by

²⁵ Over 500 institutions in 111 countries in the 5 continents. Among these are also UNESCO, ICOMOS, ICCROM, UNWTO.
www.fondazione-delbianco.org

²⁶ The Life Beyond Tourism research bibliography includes over 40 publications. These are available at the Palazzo Coppini library, on the Academia.edu profile of Paolo Del Bianco, President of the Foundation, and in download for members, on the portal www.lifebeyondtourism.org.

legislation, but cultural differences with heritage as a strong identifying core-issue, are in many cases a bone of contention and an impediment for such “sym”-biosis.

There is no legislation that manages cohabitation of different cultures. Apart from the International Court of Justice in De Hague that deals with violations of international law, international pacts, declarations, charters and recommendations such as the Universal Declaration of Human Rights (1946), the International Covenant on Economic, Social and Cultural rights (1966), UNESCO’s Conventions (2005), the Council of Europe’s Faro Convention (2005) and others offer policy frameworks for a change of attitude towards society, towards ourselves and towards the “others”. However, for an effective culture of mutual understanding and respect and for the right attitude and behaviour, a grassroots approach by a social “Movement” may be more effective. The Life Beyond Tourism Foundation’s Movement responds to such profile and is one of the worldwide most important actors with a strong potential to make it happen.” (Laenen, 2020)

The cultural expressions of a place are fundamental in the composition of the mosaic of realities that make its identity specific and multifaceted. Cultural expressions are all those realities and activities that characterize and express the culture of a place. Knowing them promotes the appreciation of diversity and facilitates dialogue among cultures. The Movement works to protect the cultural identity of places by enhancing local cultural expressions.

“The Life Beyond Tourism movement is the only organisation, to my knowledge, to have placed intercultural dialogue at the centre of tourism before COVID-19 struck. The Life Beyond Tourism model is not only intended to foster peace and protect and enhance world heritage, but also to provide support to communities associated with heritage sites and local cultural expressions of heritage (Life Beyond Tourism, 2020).” (Hodges, 2020)

The project was born in 2007 and has always had within it the ingredients of land management, but since 2016 the theme has been addressed in the text that has become a milestone in its literature: *Sites for Dialogue*²⁷ (Fondazione Romualdo Del Bianco, 2016). In the book the elements and possibilities that heritage can generate to foster intercultural dialogue are identified. In fact, heritage is a reason for travel for a large part of travellers who move every year and, if oriented by the local administration, its use represents an important opportunity for dialogue. Think of the most visited historic centres and the masses of visitors that they host every day and every year. This multiculturalism represents an opportunity for dialogue that must be planned at the management level. To give an example, going to a Heritage Site, for example the historic centre of Florence, in the square of the Cathedral Santa Maria del Fiore, a multitude of cultures, together, at the same time, visit the site, and each person is voluntarily spending its own time and money to do it. This is an exceptional condition for meeting different people, for creating dialogue

²⁷ The text translated into three languages (Italian, English and Russian), had a considerable diffusion on an international scale and was presented to the highest authorities in the field of international heritage.

among the different cultures present on site and dialogue generates tolerance and respect, essential elements for peoples' peaceful coexistence.



Figure 1. The multiculturalism present in a normal day in front of the Uffizi Gallery in Florence, photograph Corinna Del Bianco

This opportunity, however, can only be seized if local administrations, as well as the entire tourism supply chain, are ready to offer products that contain the possibility of dialogue within them. Therefore, if properly inserted within their management plans, the Sites can become 'schools of dialogue among cultures', where the traveller is an important actor in the process of mutual understanding and exercise in tolerance and respect. The 'schools of dialogue' also make possible a circular synergy among the UNESCO 1972 Convention, 2003 Convention and 2005 Convention. In short, the 1972 Convention, with the conservation of heritage, promotes travel and encounter among cultures, generating a knowledge of both the tangible and intangible assets of a culture, promoting an exercise to the respect of cultural diversity that allows a contribution to peace. Finally, peace is an essential condition for the conservation of the heritage that otherwise, in a situation of war, cannot be guaranteed. Thus, we have what in 2016 the President of the Foundation, Paolo Del Bianco, defined the "Circular synergy of the UNESCO Conventions 1972, 2003 and 2005" (Del Bianco, 2016).

Subsequently, in 2019, the *Appeal World Heritage for Building Peace*²⁸ (Board Members of the Romualdo Del Bianco Foundation, 2019) was born from the Foundation and the Life Beyond Tourism – Travel to Dialogue Movement, which highlights the opportunities for peace given by heritage through travel and emphasizing the importance of its application.

In images 8 and 9, part of the *Fragile Florence*²⁹ photographic project, the same view of the Uffizi square in Florence was shot in two different moments: the photograph on the left

²⁸ The appeal was presented to the Foundation's 21st General Assembly of International Experts and following the 43rd World Heritage Committee held in July 2019 in Baku, Azerbaijan.

²⁹ The complete *Fragile Florence* photographic project is fully visible at www.corinnadelbianco.com/fragileflorence.

was taken in November 2018, on a day with ‘normal’ tourists’ flux, while the photograph on the right was taken on March 6, 2020, at the beginning of the COVID-19 pandemic, when borders were still open and Italy was not yet in lockdown. These two images represent how tourism is a fragile reality, which is mainly based on the perception of a sense of security, peace and tranquillity. The project turns its gaze to various realities of the urban organism that are in conditions of particular fragility, including public spaces, monuments and museums and commercial realities.



Figure 2, 3. On the left a ‘normal’ day (November 2018) in front of the Uffizi Gallery, on the right the effects of the Covid-19 disease before the Italian lockdown (March 6, 2020). Photographs part of the project *Fragile Florence* by Corinna Del Bianco

The actors

In this process, the *Learning Communities* are of fundamental importance, i.e. all those who are involved in the travel chain, directly or indirectly, and who feel the opportunity and responsibility to create opportunities for intercultural dialogue from the travel to encourage the construction of a process of peace. The definition of *Learning Communities* is found in the Life Beyond Tourism Glossary:

“Introduced by the Fondazione Romualdo Del Bianco in 2016, the Learning Communities are those institutions, administrations, professionals and individuals involved in the development of territories for intercultural dialogue.” (Del Bianco, 2018)

The instruments

The dialogue, which must be an important objective of a site’s management plan, to be included in the travel chain, must be applied to commercial products. However, being an intangible element, the Foundation with its International Institute Life Beyond Tourism³⁰

³⁰ www.istitutointernazionalelbt.org

created tools for its implementation and, above all, for its certification in order to guarantee a transparent process and qualified products. The *Certification for the Dialogue among Cultures - Life Beyond Tourism DTC-LBT: 2018* (Fondazione Romualdo Del Bianco, 2018) is a tool that, accompanied by training courses, allows all the local players to analyze the potential of their product and work and to set themselves objectives of improvement, with an ethical, social and thus not only an economic return, and to be able to verify them. The Life Beyond Tourism - Travel to Dialogue Movement makes available to its members a training offer available both in presence and in e-learning. This is formulated in particular for university students who deal with heritage and city management and for trainers, professors and local administrations who want to activate the methods proposed by the Life Beyond Tourism – Travel to Dialogue Movement within their training and management plan.

The meeting moments of the Foundation

As previously mentioned, Life Beyond Tourism's research and the tools for its application are elaborated and discussed by international experts who meet every year in Florence in the Forum, organized by the Movement and entitled *Building Peace through Heritage - World Forum to Change through Dialogue*, in which the themes of heritage, travel and architectural conservation are integrated, in the debate for dialogue among cultures, by the environmental theme which represents an element of fundamental importance for the management of heritage and tourism³¹. In the *Life Beyond Tourism – Travel to Dialogue* perspective to combine theory and practice, the event presents the territorial focuses, with the presentation of best practices on development and land management³², it brings together the presentations of the academic world with those of cultural expressions to which is dedicated the international showcase³³, for example companies not belonging to the world of research, academia and institutions, but with knowledge rooted in the know-how (artisans, artists, small museums and cultural activities, etc.). With *Life Beyond Tourism – Travel to Dialogue*, the Romualdo Del Bianco Foundation creates the possibility of generating encounters and dialogue in the travel destination and for this the management plan is a fundamental tool for setting goals and measuring them on the regional scale.

³¹ More information on the forum at the link <https://www.lifebeyondtourism.org/it/events/world-forum-to-change-through-dialogue/>

³² This section of the event called *Focus to Change* saw, in 2020, as first case study that of the Municipality of Prato, a city in the Tuscany region in Italy with a deep-rooted tradition in the textile industry. The city, located a few km from famous Florence, is working hard for its sustainable development, in particular with two projects presented within the Forum: the *Prato Urban Jungle* urban forestry project, with Stefano Boeri Architetti and Stefano Mancuso, co-financed by the European Regional Development Fund and with the innovative *Recò* festival on the circular economy, a theme on which the city has historically been at the forefront in its textile district.

³³ The *international showcase* is that moment of the event that, since the birth of the Life Beyond Tourism - Travel to Dialogue Movement, brings the cultural expressions of the territories to tell each other, presenting their product, knowledge and history.

Conclusions

In conclusion, cities must be aware of their contemporary culture and of all their forms of heritage, whether natural or cultural, tangible or intangible. This awareness allows politics to structure a vision rooted in context and which respects and enhances its cultural identity, thus protecting it. The bodies and institutions involved in heritage have developed exceptional site management and financing tools for their correct management and conservation. Therefore, a complete management plan can allow a development of the site that takes into account the cultural, social, environmental and economic aspects of the territory, to avoid examples of mismanagement of resources, including tourism which also brings problems of *overtourism* from on one side and abandonment of the historic centers by local communities on the other. Allowing a site to depend primarily on a single economic resource, such as tourism, is a very risky choice as it can lead to the abandonment and emptying of the city, thus lowering its resilience and ability to react creatively to difficult situations. Tourism, if understood as travel, can be a great resource, on an international scale, for the protection of heritage, allowing the exercise of dialogue among cultures, increasing people's ability to be tolerant and to respect cultural diversity. This is what was expressed by the Romualdo Del Bianco Foundation which, since 2007, has been conducting the *Life Beyond Tourism – Travel to Dialogue* research, for the enhancement of the cultural identities of the territories, through the protection, enhancement and communication of their cultural expressions.

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