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Stefano De Caro and Daniela Giampaola

The "Stations of Archaeology" in the Naples Subway

Premise

Subway Lines 1 and 6 are the largest public works projects currently carried out in Naples, and have contributed enormously to alleviating, if not solving, the traffic problem in one of the most crowded European cities. In addition, as in the experience of most advanced European cities, the stations have become the centre of a wider redevelopment of the urban areas around them¹. By entrusting their design to great architects, these mere transport terminals have become unique sites with a strong architectural identity. In addition to these strong architectural values, the stations also host permanent exhibitions of contemporary artworks, becoming real "Art Stations" as part of a Mandatory Museum, which according to a recent definition, are places where travellers, even those unused to attending museums, get accustomed to seeing artworks, becoming familiar with them².

The "Art Stations" inaugurated on Line 1 between 2001 and 2003, were followed with the continuation of the subway track, by the "Archaeology Stations" (Fig. 1). The excavations carried out at the Garibaldi, Duomo, Università, Toledo, and Municipio stations have, in fact, brought these archaeological discoveries to the forefront, along with the resulting issues of conservation and enhancement of this new, emerging heritage, stimulating new and complex projects for possible public presentation on site.

Although the railway designers chose to locate the lines outside the Greek and Roman city area to minimize the impact on the layers of these periods, the downtown stations, located in the squares built in the nineteenth century along the main roads connecting Piazza Garibaldi (home to Stazione Centrale, the Central Station) to Piazza Municipio (home to the station which serves the Port of Naples), are close to the oldest settlement nucleus.

- On the guidelines for the whole metro project and its development: Cascetta 2014; Silva 2014.
- 2 Bonito Oliva 2000.
- 3 For an update on legislation and preventive archaeology experiences in Europe: Guermandi – Salas Rossenbach 2013, with complete literature on the topic; for the operations of programmed archaeology for the Naples subway: De Caro 2011; Guzzo 2011.

The legal framework

The archaeological excavations, which began in 1999, were an early example in Italy of "programmed archaeology", and together with other measures carried out in those years in other cities, were the precursors of a practice that was only formally introduced into Italian law in 2004, under art. 28 of the Code of Cultural Heritage and later under arts. 95 and 96 of the Legislative Decree 263/2006, regarding the reorganisation of the Code of Public Contracts, issued by the Ministry of Infrastructure. This latter decree was recently modified by Legislative Decree 50/2016³.

At the beginning of the excavations, we could refer to the archaeological rules included in the "Master Plan Variant of the City of Naples" established a few years previously as an agreement between the Municipality and the Archaeological Superintendence. These rules required a precautionary archaeological evaluation of all the public and private works projects in the areas of the historic city, even possibly resulting in exploratory excavations.

The archaeological context

The subway track in question is in the coastal zone between Neapolis, the new *polis* founded in the late 6th or early 5th century BC and Parthenope, the previous Greek settlement founded by the inhabitants of the city of Cumae on the hill of Pizzofalcone in the early 7th century BC. After the foundation of Neapolis, this older settlement was named Palaepolis, or old town⁴ (Fig. 2). The archaeological data relating to Parthenope is still scanty, as only a part of the necropolis and some archaic pottery have been found. On the other hand, the city layout of Neapolis is well known, as

4 For the necropolis of Parthenope: De Caro 1974; De Caro 1986; for the Greek Archaic pottery from the Chiatamone: Dall'Osso 1906. The analysis of materials has been reviewed in Giampaola – d'Agostino 2005. A new nucleus of materials, dating from the end of 8th to 5th century BC, emerged in 2011, in the square S. Maria degli Angeli, on the Pizzofalcone hill, during the excavations for the Chiaia Station of Line 6 of the subway.



1 The line 1 of the Naples subway

are its monuments, thanks to recent intense 'urban archaeology' activity which collected new and important data on the evolution of the historic centre of the city, continuously occupied from the Classical Period through Late Antiquity, Medieval and Modern Times⁵.

Until the subway excavations, knowledge of the coastal strip between Parthenope and Neapolis was based on antiquarian tradition and literary sources. Previous major ar-

5 On the topography of Neapolis and its monuments: Napoli 1959; Napoli 1967; Napoli antica 1985; Stazio 1988; Zevi 1995.

chaeological discoveries were made primarily during the major excavations for urban redevelopment undertaken by the Società del Risanamento from the late 19th to the early 20th century, after the outbreak of cholera in 1884–1885⁶. According to the practice of the time, those excavations focused on the recovery of single valuable finds: statues, architectural decorations, and inscriptions, while less attention was paid to the archaeological remains and their topograph-

6 For the urban transformation of the Risanamento: Alisio 1980.

ical context⁷. These excavations provided the basis for the first hypotheses on the location of the ancient Greek and Roman port⁸, and some monumental complexes such as the area for games in the Roman imperial age, the port in Late Antiquity, and the medieval fortifications⁹.

In any case, such claims, some of which have been confirmed by the new excavations, were not accompanied by accurate recording of localisation and depth of the remains. Neither was the state of conservation documented, nor the extent of the destruction caused by the continuity of life in the city. Therefore, at the time of the evaluation of the project of the subway line, we lacked enough scientific data to assess the impact of the stations on the archaeological layers.

The evaluation of the project

As a result of the consultation between the Archaeological Superintendence, the city administration, and the "Metropolitana di Napoli" company, which was responsible for the works, it was decided to fully include archaeological research in the programme and budget of this public works project. Due to its special relevance and character (which in any case would have involved, after investigation, the sacrifice of ancient and later structures), the project, accompanied by the data resulting from the preliminary geo-archaeological research, was submitted for approval to the Ministry for Cultural Heritage and Activities and Tourism. The Ministry gave a generally favourable judgement, confirming the necessity of exploratory investigations at the sites of the stations and ventilation rooms. A very important principle was also established, namely that the archaeological activity should be scheduled and carried out in advance, replacing the previous practice of 'Recovery Archaeology' involving a simple check of ongoing digs.

Considerations for the evaluation of the project

The first element in favour of the project was the choice, strongly recommended by the Archaeological Superintendence, to locate the subway track outside the area of ancient Naples, as defined by the Greek, Roman and Late Roman city walls. This decision to place the stations in the main

squares outside the ancient centre did not affect the functionality of the subway, and allowed a reduced impact on the conservation of the ancient Greek, Roman and Byzantine remains, which were certainly denser in the neighbourhood inside the walls. Even so, the work on the subway would have some impact on archaeological structures of diverse chronology, owing to the early expansion of the Classical city outside the walls.

A second positive element was the very deep placement of the railroad tunnels, lower than the layers of archaeological stratigraphy, thus limiting the impact to the work on the stations tunnels and ventilation rooms, which were to be dug opencast.

A third positive element was the possibility, thanks to the advanced engineering technologies used for the stations (completely new to Neapolitan archaeology), of carrying out excavations of whole stratigraphic columns deeper than the groundwater level, a condition that would otherwise have excluded any possibility of systematic investigations.

A negative element in the evaluation was the technique of isolating the station sites from groundwater with cement bulkheads built before the archaeological excavations. They represented a problematic element for the conservation of archaeological contexts, and no less important, for the possibility of considering later variations to the project. But in conclusion such possible limits were considered as compensated for by the quantity and quality of data to be recovered, which would have been otherwise impossible to achieve.

Carrying out the works

If we consider as a whole the data that emerged from the excavations and the geophysical surveys, the urban archaeological works carried out for the subway construction have generated a systematic 'protection by knowledge' of the environmental and settlement dynamics of the coastal zone of the city and the areas immediately behind it, from the time of Parthenope and Neapolis to the transformations of Late Antiquity, the Middle Ages and Modern times¹⁰.

Obviously, the large size of the station yards and the need to contain the time of the archaeological interventions resulted in some operational problems in the organisation and implementation of the work. Two particular challenges

- 7 For an important summary of the archaeological discoveries during the Risanamento's works, with previous literature: Johannowsky 1960.
- 8 Capasso 1984, 174–186; Gabrici 1913; Napoli 1959, 121–135; Napoli 1967, 380–383.
- 9 Capasso 1984, 5-34; the theme of the fortifications circuit in Clas-
- sical age and of their transformations in Late Antiquity and Early Middle Ages is treated in Giampaola 2004.
- 10 For a literature review of the many scientific contributions devoted to the excavations of the different stations, the monumental complexes which emerged, and some comments on the finds: Guzzo 2010.



2 Plan of Neapolis and Parthenope

were the management of the enormous amount of materials and documentation produced by the excavations, and the need to quickly develop strategies for the protection and presentation of the exposed ruins.

Preservation and enhancement

The findings have raised complex issues of environmental protection and valorisation which have been addressed, case by case, by the competent bodies of the Ministry of Cultural Heritage and Activities and Tourism at local, regional, and national levels. In the case of Line 1, these issues mainly concerned Duomo, Toledo, and Municipio stations. In Piazza Municipio, the construction of an interchange between Lines 1 and 6, with a substantial enlargement of the station which was absent in the first project draft, has generated additional critical issues.

11 For a general evaluation of the stations projects and of the archaeological problems: Pane 2013; Carughi 2013; Carughi – Giampaola 2014.

Due to the difficulty of modifying the station plans and the serious structural and operational constraints inherent in this type of infrastructure project, the evaluation of the protection and conservation methods of the excavated remains has led to the removal of some ancient structures, the maintenance of some in situ, and the dismantling of some for later relocation. Even given the tight constraints already mentioned, through adaptations and variations of the initial designs, new solutions have been prepared, aimed at improving the integration between the excavated remains, the stations, and the surrounding urban fabric, addressing the difficult dialogue between the living city and its rediscovered structures.

The work is now almost concluded. Garibaldi, Università, and Toledo stations have been opened. The station at Piazza Municipio for Line 1 has been inaugurated, while works are still in progress for the twin station of Line 6 and the pedestrian connection to the port area. The completion of Duomo station is also still pending.

We will now look more closely at the archaeological results of the projects in the areas where they have particular relevance: Toledo, Duomo, and Municipio¹¹.

The "Museum Stations": Toledo and Duomo

Some stations, through the accommodation of the excavated remains, have become a means of knowledge and enjoyment of the settlement history of the city: sections of a "city museum" spread over the territory. Toledo and Duomo stations were therefore provided with exhibition space devoted to the most significant elements of a period in the site's history. Despite having data from many periods, it was decided to give priority in the presentation to the most important monumental remains and integrate them with modern architectural structures. One particularly interesting aspect of this work was that, being related to a stratigraphic continuum, it forced the technicians of the Ministry to overcome the boundaries between the administrative competences of the different ministerial departments in the matter of protection. The Archaeological Superintendence was responsible for the excavation activity for all periods, but limited in their decision-making on conservation issues to the remains dating up to 476 AD (the fall of the Western Roman Empire). Those remains from later periods fall within the jurisdiction of the Superintendence for the Architectural and Environmental Heritage. In 2015 a new law merged all the responsibility for protection into one unified Superintendence.

Toledo station

Toledo station, designed by Oscar Tusquetz Blanca, is located in the 16th-century neighbourhood of via Toledo and under via Diaz¹². This station is quite far from the coastal strip, at a higher altitude, and with a very deep aquifer. These conditions facilitated the excavations and allowed simpler valorisation solutions.

Archaeological data

The excavations revealed archaeological remains from prehistoric times to the Modern Age, including ploughed soils dating from the Neolithic and Eneolithic ages¹³, elements of a bath from the Roman period¹⁴, a stretch of the Aragonese city wall, and parts of a city block dating from the 16th century at the time when Naples was the capital city of the Spanish empire in Italy.

The monumental relevance of the remains and the particular evidence that the city walls have for the urban image of the city led to a decision to conserve a portion of the Aragonese walls through a solution compatible with the structural and functional needs of the station. The archaeological excavations had uncovered a section of the walls built by King Frederick of Aragon in the last years of the 15th century, known only through historic sources before the subway excavations (Fig. 3)15. The remains include a section of the defensive wall, a bastion for cannon (bombardiera) and the external moat, containing a prehistoric stratigraphy. Already in the first quarter of the 16th century, the moat was filled by natural layers of silt which began to cover the front of the wall. Everything was eventually obliterated by the road construction started by the Viceroy of Naples, Don Pedro de Toledo, in approximately 1544 to serve the new cuartos, the Spanish garrison barracks built on the slopes of the hill of San Martino, surrounded by a new wider fortification. The excavation also revealed the poorly preserved remains of the 16th-century blocks which, after undergoing many renovations, were demolished during the 1920s to allow the construction of the Carità neighbourhood.

The valorisation project

The project for the valorisation of the Aragonese city wall was carried out in the mezzanine of the station and was based on the following solutions.

Part of the curtain wall was preserved in situ, while the section of the bastion was dismantled and replaced at its original location and altitude (Fig. 4). The floor of the



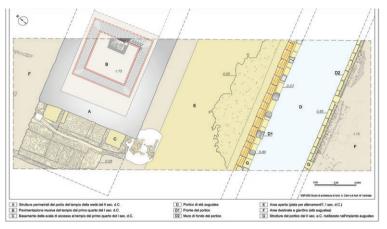
3 Toledo Station: the Aragonese town wall (late 5th century)



4 Toledo Station: the mezzanine with the Aragonese town wall

station mezzanine was placed at the level of the base of the Aragonese structures, thus documenting the physical relationship between the 'modern city' and the 'historic city' emerging from underground.

- 12 For the presentation of the architectural project: Tusquetz Blanca 2014.
- 13 Giampaola Boenzi 2013.
- 14 On the painted decoration of the thermal building: Bragantini et al.
- 15 For the events of the construction of the western sector of the Aragonese wall (with previous literature): Rusciano 2002, 99–104.



5 Duomo Station: plan of the sanctuary (early 1st century AD)

The archaeological presence was inserted in a quality architectural context, and was well integrated with the installation of a contemporary mosaic by William Kentridge, focused on the theme of the millennial-old history of the city and its inhabitants.

The station's roof slab coincides with the current side-walks of Toledo and Diaz streets, which have been part of a new pedestrian and street furniture project. Skylights have been installed, from which passers-by in the square can look down into the station and see the ancient remains. The relationship of the remains to the design enhances the monumental relevance of the city walls, its topographical significance, and above all its being a 'sign' of the urban landscape transformation.

The presentation of the monumental remains: the interpretation apparatus

To illustrate the nature and history of the preserved monument, a simple, traditional solution was chosen, suggested by the reduced available space in relation to the flows of passengers, as well as the architecture of the station and the large installation by Kentridge. Along the side of the Aragonese curtain wall, a large panel with short texts entitled "Urban Archaeology at the Station" was inserted. This panel contains a summary of the research results and a description of the fortification and its history. The presentation includes images and plans of the excavation, historical maps

of the neighbourhood, and reproductions of paintings and sculptures depicting the protagonists involved in the historical events connected with the excavation, King Frederick of Aragon and the Viceroy Don Pedro de Toledo. The aim of this intervention was to integrate the archaeological artefacts within the larger narrative of the city history, using a simple message, compatible with the particular audience of thousands of hurried subway users. Although an effective solution from the point of view of content, we are not entirely satisfied with the presentation, in particular because the large panel almost seems like an additional element to the "staging" of the station, and not part of it.

Duomo station: archaeological data

In Duomo station (which is still unfinished) in Piazza Nicola Amore, the Roman imperial phase of the sanctuary was favoured; this was connected with the 1st-century AD institution called the "Italic, Roman, Augustan, Isolympic" Games¹⁶. These were athletic competitions, but also literary and musical events, established in honour of Emperor Augustus, imitating the famous Games of Olympia¹⁷ and declared equal to them in dignity (hence: 'isolympic'). Their foundation was a crucial event in the history of Naples, and one which determined the character of the city for some centuries. While at the time it was just a small town, it was considered a kind of classical, cultivated Greek polis, home to poets and philosophical schools¹⁸. The Games sanctuary was built on the coastal strip just outside the walls of the Greek period, and occupied the area of a previous complex, probably already public and sacred, built in the 4th century BC.

The local connection with the practice of games at a still earlier age was confirmed in the excavations by the discovery of a porch built during the mid-2nd century BC, identified as part of a gymnasium, and conserved for a long period through a number of transformations in all recognized phases. It looked out over a large area of compacted ground corresponding very probably to the external ring where athletes trained. The porch and track still existed in the Augustan age, when a temple was erected near them in which the sacred building for the imperial worship, the *Caesareum* recalled by an inscription found at Olympia¹⁹, can be recognized (Fig. 5).

¹⁶ On the urban interventions promoted by the Viceroy Don Pedro de Toledo: Pane 1975.

¹⁷ Merkelbach 1974; Miranda De Martino 2007; Miranda De Martino 2014.

¹⁸ Giampaola 2014.

¹⁹ Bragantini et al. 2007; for a recent study of the monumental complex of imperial age: Cavalieri Manasse et al.

In this phase, the temple consisted of a small room on the podium, paved with mosaics. Its architectural decoration can be dated to the 1st Julio-Claudian age. In the age of Domitian, the porch was largely renovated and received a new decoration of marble slabs, which were discovered collapsed on the floor (Fig. 6). They lined the rear wall, and the Greek inscriptions engraved on them recorded the lists of the winners of the various specialties of the Isolympics. Retrieved in about 800 fragments, they are object of a complex restoration.

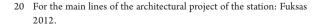
The temple building was rebuilt in the Antonine age (Fig. 7). The plan was lengthened, the podium walls rebuilt, and the first architectural decoration replaced. At the same time, it was surrounded by a corridor bordered by brickwork bases, perhaps for statues or votive offerings.

The valorisation project for the archaeological remains and the interference with the urban context

In order to preserve and valorise the monumental remains of the complex, a variant of the station design was developed in 2005 – 2006 by the architect Massimiliano Fuksas²⁰. It was done at the request of the Ministry for Cultural Heritage and Activities and Tourism, and managed by the works commissioners.

Since the location, size and dimensions of the ancient structures conflicted with the technical parameters of the station and did not allow for an in situ conservation of the complex, the variant had first to provide for the dismantling of the podium of the temple and its annexes, an operation which was carried out under the supervision of the Istituto Superiore per la Conservazione e il Restauro (ISCR), former Istituto Centrale di Restauro (ICR). It will be followed by the completion of the excavation and dismantling of the monument in the area of the station mezzanine, and then its reassembly at a lower level, but still according to its original direction.

This solution nevertheless poses complex problems for conservation, archaeological research, and presentation. In regard to conservation, for example, there are issues related to microclimate and security. Problems of presentation include the identification of the best viewpoints for a correct perception. After a long interval, in 2012, during the

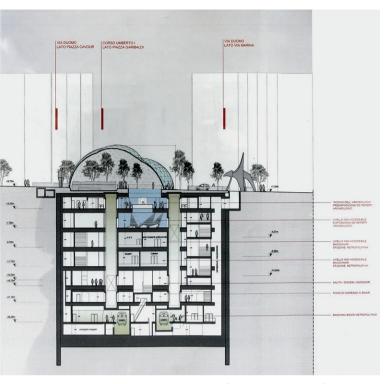




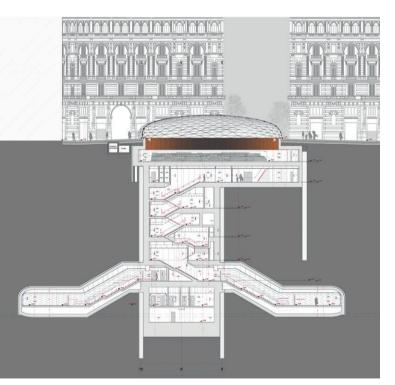
6 Duomo Station: the collapse of slabs (Domitianean age)



7 Duomo Station: the roman temple (mid of 2nd century AD)



8 Duomo Station: the variant of 2011/2012. Section of the station



9 Duomo Station: the variant of 2012/2013. Section of the station

construction of the station shaft, the City Council ordered a variant, assigned to the same architect, requesting a reduced project in timing and costs. According to this new project, without any further excavation of the missing parts, the temple was to be reassembled only with the parts already excavated. Furthermore, it was to be relocated under a high glass canopy at the current level of the square (Fig. 8). This solution was not approved by the Ministry, as it was incompatible with the proper protection of the monument. Following additional in-depth and complex analysis, a new project was put forward that recognized that the complete excavation, relocation and reassembly of the temple was a condition of substantial cognitive protection for the construction of the station. Confirming the technical impossibility of reassembling the temple at its original level, the new variant relocates it at a higher level than the mezzanine, about 4 m below the surface of Piazza Nicola Amore (Fig. 9). It will be seen through an open oval cut covered by glass, with a smaller volume than the previous solution, in order to reduce interference with the surrounding architecture.

Although better than the previous concept, this new project still leaves many problems open. In regard to the archaeological layout, the relocation of the temple, removed from its original context, in a condition similar to a museum exhibition hall within the underground station, requires a careful definition of the space around the ancient remains. The quality of the setting of the space should contribute to a difficult-to-achieve reinstatement of the ancient environment, based on the scientific elaboration of excavation data. Implementation should also include multimedia tools. Particular emphasis should be given to both the presentation of the architectural decoration - in the original or in cast - and the partial reconstruction of the temple elevation, for which it is necessary to wait for the completion of the excavation. Major attention should be given also to the Isolympic Games inscriptions, as they are the most important documents relating to the function of the ancient site. After deciding whether to display the originals or casts, the most appropriate tools should be used for the interpretation and presentation of these difficult Greek texts.

Particularly complex is the evaluation of this project as a new addition to the "historic urban landscape" of this site, well defined in its simple character. In planning and aesthetics, Piazza Nicola Amore is a typical urban space of late 19th century, defined by the geometrical and symmetrical organisation of urban spaces and the close relationship between architecture and decoration.

Obviously this problem did not arise in the earlier version of 2005 – 2006, because the relocation of the temple under the road level did not interfere with the layout of the square. In the first solution proposed in 2011–2012, the in-



10 Duomo Station: the variant of 2012/2013. Rendering of the layout of the square

complete temple podium seemed to be given the function of street furniture and traffic island for the 18th-century piazza, while its glass canopy, over 10 m high, would have blocked the perspective axis of Corso Umberto and altered the symmetrical design of Piazza Nicola Amore. In the most recent design, the relocation of the temple partially under the road paving allows for a more simple solution and less architectural invasiveness, given the significant decrease in size of the glass bubble. It does not, however, eliminate the asymmetrical footprint on the geometry of the urban layout (Fig. 10). It is, therefore, at the moment, a better solution, notwithstanding the difficulties that remain in the protection of the urban landscape, and in the balance between archaeological values and the station's technical requirements.

Municipio Park station

Piazza Municipio is one of the most significant urban areas of Naples. It was the seat of royal power in the Angevin fortress-palace of Castel Nuovo (the New Castle), and then of the Bourbon government. Today it is the centre of the municipal administration, near the maritime station. In its current configuration, the square is primarily the result of

changes to the area outside the castle, which after the unification of Italy, was isolated through the demolition of the outer fortifications from the period of the Spanish Empire and of the buildings abutting those fortifications. The current layout of the square was then finalized between World War II and the 1960s.

In this case, the huge space occupied by the interchange node between Lines 1 and 6 (approximately 23,000 $\mbox{m}^2)$ required a much larger scale excavation, with its significant conservation and valorisation problems.

The results of the investigation, given the size, complexity, and quality of stratification for each historical period, have generated a kind of station/archaeological park, where the ancient remains are embedded inside the underground level of the station, preserved in situ or relocated after disassembly.

Archaeological data

Excavations have shown that the Piazza Municipio area was originally part of a large coastal inlet, extending from Castel Nuovo to Piazza Bovio. Here, the city's port was located, as has been certainly recognized, at least since



11 Municipio Station: the dredging of the hellenistic harbor



12 Municipio Station: the roman wrecks and the pier

the 3^{rd} century BC^{21} . To date, the palaeomorphology and organisation of the harbour basin is still uncertain for the period before the 3^{rd} century BC, when major dredging



²² On the buildings on the coastline prospecting the port inlet revealed by the excavations of the Line 6 station: Giampaola 2014.



13 Municipio Station: the quay of the imperial harbor (early $1^{\rm st}$ century AD)

was carried out on the seabed (about 3750 m²), designed to counteract silting and to make landing more efficient (Fig. 11). Dating from the same period is the oldest arrangement of the coastline with terraced structures and a ramp down to the sea, perhaps for hauling or landing small boats. The excavation revealed a sequence of seabeds dredging from the Roman Republican era to the imperial period, the remains of seven wrecks of boats (Fig. 12), and a wooden pier. An important maritime infrastructure, an outer wharf protecting the mouth of the basin, dates back to the Augustan age, while its inner part contains a massive quay, behind which a road was built (Fig. 13). Most likely this was the *via per cryptam* built by Emperor Augustus on the coastal strip to facilitate the connection between Neapolis and the Phlegraen Fields. Thermal buildings²² were opened on the street at the beginning of the 1st century AD and in the 2^{nd} second century.

In the early 5th century AD, probably due to the interruption or the poor maintenance of the drainage system for the water flowing from the nearby hills (and possibly to more general environmental problems), the inlet silted and the coastline advanced, causing the displacement of the late Antique and Byzantine port eastward, near today's Piazza Bovio. In the same period, the buildings of imperial age appear to have been abandoned or restructured for new functions²³.

²³ For the transformation phases of the Neapolitan coastal area in Late Antiquity and Early Medieval periods: Giampaola 2004; Carsana et al. 2005; Giampaola 2010; Giampaola – Carsana 2016.



14 Municipio Station: Palazzo del Balzo (second half of the 14th century)



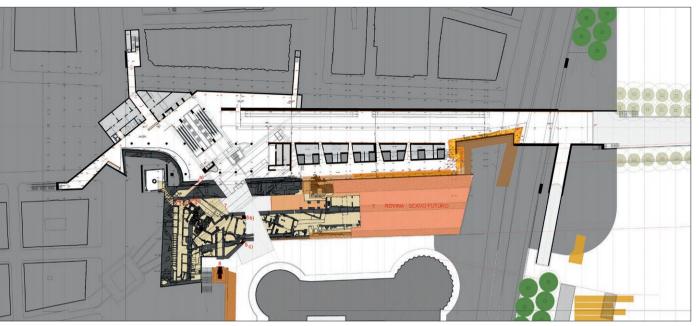
15 Municipio Station: the external defensive system of Castel Nuovo (early 16th century)

It was only at the end of the $13^{\rm th}$ century that the area came to have a new urban vitality²⁴ as a result of the construction of Castel Nuovo by King Charles I of Anjou. On the northern side of the castle arose a residential neighbourhood, dating from the late $13^{\rm th}$ to the end of the $14^{\rm th}$ century, evidenced also by the documentary material. This neighbourhood was revealed by the excavations beyond the current moat of Castel Nuovo. Its most relevant nucleus is represented by a residence with frescoed rooms which, on the basis of the coat-

of-arms, was assigned to the Del Balzo family 25 (Fig. 14). The late-medieval phase of the palace was destroyed at the beginning of the $15^{\rm th}$ century, and then completely buried, during the radical reconstruction of Castel Nuovo, behind a new external wall built by Alfonso V of Aragon. Of this phase the current archaeological research has brought to light the bulwark, a tower, and the access ramp to the gate of the Aragonese citadel, an element that has always been visible in the square.

²⁴ On the Castelnuovo: Filangieri di Candida 1964; Santoro 1982, 66 – 72; Di Mauro 1990.

²⁵ Leone de Castris 2010.



16 Municipio Station: plan of the project. The lower level

At the beginning of the 16th century, with the arrival of the new Spanish viceroys, the area was again restructured with a new impressive defensive work, the construction of the so-called bastion wall around Castel Nuovo (Fig. 15). The excavations brought to light sections of the northern and western curtain walls, with the so-called Incoronata and Molo (pier) towers, and the external moat. These impressive ruins are the surviving elements of the external fortified system of the castle that characterized the image of this part of the city for many centuries until the unification of Italy²⁶.

The project of valorisation of the archaeological remains and the relationship with the urban context

The project for the Piazza Municipio station was entrusted to the architects Alvaro Siza and Eduardo Souto De Muro²⁷, who conceived it on an urban scale (Fig. 16). It is structured on the upper level as a square based on the axis between the Municipio palace and the harbour. For its paving, they proposed a pattern with a kind of telescope underscored by two rows of trees and a slot. This creates a strip of natural light

at the mezzanine level of the underground station including the long transit corridor that passes under Acton street and comes inside the port area.

On the edge of the square towards the castle, the remnants of the various historical periods resulting from the investigations will be visible together from the top of the fortification, including those remains being currently discovered in the station shaft of Line 6.

The station mezzanine will be connected to the castle through a new opening in the defensive wall and in the wall of the internal moat. The 16th-century fortification with the *Incoronata* and *Molo* towers, once the outer limit between the castle and the city, will be the outer wall of the station. It is proposed that this element be part of the contemporary architectural solution without including new volumes, using the existing location and the underground level.

This approach, consistent in terms of architecture, has had some consequences for the protection of the remains. In several cases the size of the construction site has imposed a series of sensitive choices between the safeguard of the material evidence and the needs of the new intervention. Thus the need, for structural reasons, to connect the roof of the station of Line 1 to the curtain wall and the towers, already partly demolished after the unification of Italy, forced the

²⁶ On the Castelnuovo external fortifications of Aragonese and Viceregal age: Maglio 2009; Longobardi 2009; Colletta 2010; on the excavations of these fortifications in the Municipio station: Giampaola – Carsana 2009, 36 – 40.

²⁷ For the project of the station: Siza – Souto de Muro 2012.



17 Municipio Station: the mezzanine with the Incoronata Tower

project team to cut some of the upper part of the walls and insert reinforced concrete structures. In the same way, the need to seal the foot of the ancient walls caused the lower rows of external stones to be disassembled and part of the core to be sacrificed, in order to insert a layer of insulating materials under the concrete floor of the station. This complex work, including the relocation of these same rows and the restoration of the monument, was carried out first by recording in advance every single segment of the historical structure, and then by using advanced conservation techniques. This work was carried out thanks to the integrated work of a team of archaeologists, architects, restorers and various craftsmen.

The wide area of the station shaft of Line 6 closer to the castle created other problems which required the team to design project variants to enable the valorisation of the remains brought to light through the excavations carried out at all its levels. The conservation of the Aragonese bulwark and part of the Angevin structures is provided for, and more significantly, following their dismantling, the relocation in situ of the Roman structures and of those of the aforementioned Del Balzo house. In this way the station will include a real archaeological park, and consequently will have an impact on the historic urban landscape - both the Castle and the surrounding cityscape - caused by the conservation requirements. As one example, the shelters for the protection of the Angevin frescoes in the Del Balzo house will have a visible impact. Once again, it is important that the technical and architectural requirements of the new work should match and find a balance with previous cultural values, both architectural and archaeological.

No less relevant and urgent is the question of the management and maintenance of the new park, which must take into account a close cooperation between the State administration and local government.

On 23 May 2015, the Line 1 Station was inaugurated, with the great *Incoronata* Tower in its mezzanine (Fig. 17). As it is just a limited sector of the broader plan, we still cannot fully appreciate the valorisation efforts, of which this newly opened section constitutes a significant test. The final effect of the work is a large and austere space, with a smooth and diffused lighting system which does not emphasize individual spots, in order to underscore the transformation of the whole great ancient structure into an element of new architecture.

The station is also associated with a work of contemporary art, through the inclusion of a video-fresco by the Israeli artist Michal Rovner, evoking the city landscape with its gulf dominated by Vesuvius and the flow of history through the moving crowd.

The sea that washes Naples: a new mosaic piece for Naples City Museum

The general project of the Municipio station includes the construction of a small exhibition gallery (still in progress as we write). It is bounded by the 16th-century bastion wall and was intended by the designers to showcase the findings

coming from the excavations. The exhibition criteria are still far from being defined, however, and in particular there is a question as to whether it is better to select significant objects from each historical period or to exhibit only those objects representing a specific theme, such as the castle outworks, whose presence strongly characterizes the station.

Whatever decision is taken, the choices can only start from a rethinking of the solutions so far applied to the more general problem of museums illustrating the city's history, an unavoidable cultural necessity for any community eager to define its own historical identity. These solutions have so far been mostly episodic, developed from time to time by different institutions, often in response to a need to relocate historical collections or house new materials acquired through excavations and urban transformations. This was the beginning of the San Martino Museum, founded in 1866 to exhibit paintings of the Neapolitan city landscape and historical subjects, as well as other 'memories of the homeland'. This collection later increased through the acquisition of ancient, medieval and modern materials resulting from the demolitions carried out during the late 19th century Risanamento²⁸. Other examples include various museums within the grouping of the Polo Museale Napoletano, and some of the museums attached to places of worship such as the Diocesan Museum and the Naples Treasury (Museo del Tesoro di San Gennaro).

More recently, interrupting a long silence in museum exhibitions on the history of the city, we ourselves made some new trials. We were able to do so as a result of the new approach of 'urban archaeology' and an interesting political moment in the city attentive to cultural issues. These experiments were connected with the archaeological research and restoration of some important monuments, such as the Santa Chiara and San Lorenzo convents²⁹. The basic concept was the organisation of a City Museum conceived as a network of permanent interpretation centres integrating the presentation of the actual monuments with that of archaeological materials, historical documents, artworks, archival documents, and records of the associated intangible values, all in a continuum without imposing limits based on chronology or discipline. The bulk of the archaeological materials, coming from excavations carried out before the end of the 1990s and preserved at the National Archaeological Museum, received a new systematic exposition in a section devoted to Neapolis 30 in the context of a section aimed at illustrating the ancient cultures in the Bay of Naples, starting from the Mycenaeans of Vivara and Pithekoussai, and including Cumae, the Samnite occupation, and the Roman cities and villa settlements.

The huge amount of new data and materials discovered by the subway excavations, placed today 'temporarily' in the storerooms of Chiaiano-Piscinola provided by the municipal government, represents a great challenge. Some of these materials have been used for interesting exhibitions³¹ in the National Archaeological Museum to illustrate various specific aspects of Naples' ancient history, such as the Isolympic Games, the ancient port, and the remains of a Severian honorary arch from Piazza Bovio. It is nevertheless clear that the National Museum might not accept and exhibit all the materials from the subway excavations, as neither the dominant archaeological nor classical footprint could fit the complexity of chronological relationships, themes, and material diversity that today is required by a museum of urban history as an effective representation of the urban continuum that excavations and research have so well demonstrated.

We have previously pointed out that some stations, through the presentation of the ancient remains, are becoming a new means of acquiring knowledge of Neapolitan history. This is certainly true, but leaves largely unsolved the problem of the many artefacts recovered, of which only some can be exhibited. A new opportunity to address this issue from a larger and more permanent museological perspective is now being developed through the museum gallery designed as part of Municipio Station. On the one hand, this represents a real opportunity to enhance the relationship between the underground excavations and the castle core. On the other side, the donjon of the castle itself, having undergone major archaeological excavation and restoration³², yielded Roman and Angevin remains already presented to the public (from the same periods found in the station). Furthermore, the castle itself has long been home to some collections from museums and cultural institutions.

The decision taken some years ago by the City Council, owner of the monument, to turn the whole castle into an exclusive cultural destination, giving up any residual ad-

²⁸ Spinazzola 1902; Causa 1967; Spinosa et al. 2002.

²⁹ For the museums of S. Chiara and S. Lorenzo Maggiore: Alabiso et al. 1995; San Lorenzo Maggiore 2005.

³⁰ For a quick guide to the topographic section devoted to Ancient Naples in the National Archaeological Museum of Naples: Giampaola – Longobardi 2000.

³¹ In 2005, the exhibition "Stazione Neapolis. I cantieri dell'archeologia" in 2011, "La città e il mare. Piazza Bovio. Tra Romani e Bizantini". For this latter: Giampaola 2010.

³² For the excavations during the restoration works of Castelnuovo: Leone de Castris et al. 1998. For a presentation of the phases of Angevin age recognized in the investigations: Carsana – Giampaola 2011, 189 –191.

ministrative functions, makes it possible today to extend the museum function from the Municipio Station gallery inside the castle, as a new substantial tessera of the mosaic that makes up the City Museum network.

Given its location and research history, it could be devoted to the relationship between Naples and the sea, using the data recovered on the coast of the city from the mouth of the Sebeto River to Posillipo. Of course a project of this scale would require for its design and realisation a broad collaboration between institutions, museums, and scholars

from different disciplines, as well as a strong political consensus to ensure its creation and management. The result would certainly be of great cultural interest, being related to a great Mediterranean city that had the second-largest population in Europe after Paris, and whose breadth of history has been deservedly recognized through its inscription on the UNESCO World Heritage List. It would furthermore have a strong potential for tourism, probably having a large national and international audience that would undoubtedly be using the subway stations and the port.

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Zusammenfassungen

(aus dem Englischen von Josephine Cordero Sapien)

Rahmi Asal – Zeynep Sevim Kızıltan, Die U-Bahn von Istanbul – Verkehrsprojekt(e) und archäologische Ausgrabungen

Schlagworte: Istanbul – Bosporustunnel – Ausgrabungen – Yenikapı – Schiffwracks

Zusammenfassung

Die Erweiterung und Modernisierung des Istanbuler U-Bahn-Netzes war ein lang geplantes Projekt, dessen Umsetzung 2004 begonnen wurde. Dazu gehörten die Untertunnelung des Bosporus sowie der Bau von vier neuen U-Bahn-Linien. Zum Abschluss des Projekts sollen insgesamt 600 neue Streckenkilometer fertiggestellt sein. Die U-Bahn-Station Yenikapı wurde als Hauptverkehrsknotenpunkt ausgebaut. Parallel zu den Bauarbeiten führte man umfangreiche archäologische Untersuchungen durch, die Funde vom Neolithikum bis zur Zeit des Osmanischen Reiches zu Tage brachten. Bemerkenswert sind unter anderem 37 Schiffswracks, wovon vier Boote mit ihrer Ladung gesunken waren. Einige Metrostationen wurden mit der Präsentation von Funden beziehungsweise Repliken der Funde als museale Bahnhöfe gestaltet. In der Nähe der Station Yenikapı ist ein Museum zur Präsentation aller Funde aus diesem Gebiet geplant.

George I. Alexopoulos, *Die Metrostation "Aigaleo"* in Athen – ein Beispiel für Antiken in espaces autres der flüchtigen Wahrnehmung

Schlagworte: U-Bahnhof – Heterotopie – Antiken – Erinnerung

Zusammenfassung

Bei umfangreichen Ausgrabungen im Stadtzentrum von Athen während des U-Bahn-Baus zwischen 1992 und 2003 wurden große Mengen unterschiedlicher Daten in einer Reihe großer und kleinerer Parzellen entlang der vorgeschlagenen Trassen entdeckt. Die Heilige Straße (Iepά Oδός) verband die antike Stadt und ihren Friedhof mit dem Heiligtum in Eleusis. Diese besondere topographische Situation beschwor das Narrativ einer Landschaft, die Gründungsmythen entstehen ließ.

Kurz nachdem die Ausgrabungen abgeschlossen waren, sah man eine Ausstellung der Funde in der Station von Aigaleo vor. Von Anfang an stand eine knifflige Frage im Raum: Was kann zufälligen Besuchern (Pendlern) innerhalb der kurzen Zeit, die sie in der U-Bahn-Station verbringen, mitgeteilt werden? U-Bahn-Stationen sind Orte der schnellen Wahrnehmung, aber sie sind auch Heterotopien – Nicht-Orte, die man nicht aufsucht, sondern an denen man vorbeigeht. Eine archäologische Ausstellung in einem solchen Umfeld zu platzieren, stellte nicht sofort ersichtliche Herausforderungen dar. Eine davon bestand darin, zu vermeiden, dass die Historizität des Ortes ausgelöscht wird, eine andere darin, die Realitäten von Ausgrabungsarbeiten beim U-Bahn-Bau nicht zu verheimlichen.

Die Reaktionen der Öffentlichkeit jedoch waren überraschend und aufschlussreich.

Nadezhda Kirova-Yovcheva, Die U-Bahn in Sofia (Bulgarien) – Ein Schritt auf dem Weg zum Welterbe Schlagworte: Serdica – U-Bahn – römische Stadt – Basiliken – Wohnhäuser

Zusammenfassung

Der Beitrag verfolgt die jüngsten archäologischen Ausgrabungen im Zentrum von Sofia im Zusammenhang mit dem Bau der ersten und zweiten U-Bahn-Linie in der Stadt. Dabei wurden die Überreste mehrerer Stadtquartiere mit Häusern, Werkstätten, Basiliken, Straßen und das Wasserversorgungssystem vom 1. bis zum 19. Jahrhundert innerhalb der römischen Festungsstadt Serdica und des mittelalterlichen Sredets/Sofia ausgegraben. Das Projekt im Umfang von 20 Millionen Euro für das antike Areal Serdicas wurde aus dem EU-Programm für regionale Entwicklung finanziert und im Jahr 2015 abgeschlossen. Alle archäologischen Zeugnisse wurden konserviert, restauriert und präsentiert. Entstanden ist dadurch eine vertikale, optische und funktionale Verbindung zwischen dem oberirdischen Platz, den archäologischen Ebenen, der U-Bahn und den U-Bahn-Eingängen.

Stefano De Caro – Daniela Giampaola, The "Stations of Archaeology" in the Naples Subway

Schlagworte: Neapel – antiker Küstenverlauf – stazioni dell'arte e dell'archaeologia – Aufwertung der Altstadt – moderne Kunst

Zusammenfassung

Der Beitrag handelt vom Bau der U-Bahn-Linien 1 und 6 in Neapel, dem größten öffentlichen Bauvorhaben, das die Stadt in den letzten zwanzig Jahren realisiert hat. Die unterirdisch verlaufenden Metrolinien haben spürbar dazu beigetragen, die Verkehrsprobleme in einer Stadt mit hoher Bevölkerungsdichte zu lindern. Die U-Bahn-Linien erleichtern den Zugang zum historischen Stadtzentrum, die Stationen sind gewissermaßen Eingänge zu wichtigen Bereichen des Stadtgefüges und gleichzeitig zu bedeutenden Denkmalensembles, so dass sie eine grundlegende Aufwertung der Stadtquartiere bewirken, die sie beherbergen.

Mit der Planung der Stationen wurden bekannte Architekten betraut. Gleichzeitig beherbergen die Bahnhöfe Ausstellungen zeitgenössischer Kunstwerke. Sie sind also im wahrsten Sinne des Wortes "stazioni dell'arte". Zusätzlich zu diesem Aspekt sind sie auch "stazioni dell'archeologia": Die in den Bereichen der U-Bahnhöfe durchgeführten archäologischen Untersuchungen haben zu außergewöhnlichen Entdeckungen in Bezug auf den Küstenstreifen der Stadt geführt. Neapel war bereits in prähistorischer Zeit durch eine dichte Besiedlung geprägt. Das historische Zentrum beherbergte gleich zwei von griechischen Kolonisten gegründete Siedlungen. Beide bestanden bis in römische Zeit und bildeten das Zentrum, aus dem sich die spätantike, mittelalterliche und moderne Stadt entwickelte. Die Ausgrabungen haben bis in die Tiefe die Schichten aller historischen Perioden erfasst. Dieser Bodeneingriff für den öffentlichen Nahverkehr hat auf diese Weise einen hohen kulturellen Wert entwickelt und zu einem neuen Stadtbewusstsein geführt.

In dem Beitrag werden die wichtigsten U-Bahn-Stationen vorgestellt: "Duomo", "Municipio" und "Toledo".

Alfred Schäfer, Ortsfeste Bodendenkmäler an der Nord-Süd Stadtbahn Köln

Schlagworte: römische Stadtmauer – antiker Rundtempel – Severinstorburg – Via Culturalis – Römisch-Germanisches Museum der Stadt Köln

Zusammenfassung

Das wechselseitige Verhältnis von Stadtraum und historischer Stadterinnerung wird im vorliegenden Beitrag anhand von drei archäologischen Schauplätzen beleuchtet, die während des Baus der Nord-Süd Stadtbahn Köln erforscht worden sind. Am Ort ihrer Auffindung bewahrte archäologische Bodendenkmäler eignen sich im besonderen Maße, die lange Geschichte eines Ortes erfahrbar zu machen. Die Monumente müssen keine stummen Zeugnisse der Vergangenheit darstellen. Ortsfeste archäologische Bodendenkmäler können gerade in der Auseinandersetzung mit dem modernen Stadtraum als Schlaglichter der Stadtgeschichte

begriffen werden. Die Monumente fordern durch ihre materielle Präsenz regelrecht zur Auseinandersetzung des Betrachters mit seinem eigenen Standort heraus.

Ingo Pähler, Wehrhahn-Linie und Kö-Bogen: Baumaßnahmen in einem Bodendenkmal in der Düsseldorfer Innenstadt

Schlagworte: Tiefbaumaßnahme – Spannungsfeld Bauen und Archäologie – Interessenausgleich – archäologischer Koordinator – Risikobegrenzung

Zusammenfassung

In den Jahren 2007 bis 2016 wurden in der Düsseldorfer Innenstadt die Tiefbaumaßnahmen Werhahn-Linie und Kö-Bogen durchgeführt. Sie stellen positive Beispiele dafür dar, wie in einem Interessenskonflikt zwischen dem Schutz der Bodendenkmäler und der Sicherstellung des innerstädtischen Verkehres durch frühzeitige Einbindung aller beteiligten Partner und einen aufgeschlossenen, interessierten und vertrauensvollen Umgang ein für alle akzeptabler Konsens gefunden werden kann. Als besonders erfolgversprechend haben sich der Abschluss einer verbindlichen, auf Ausgleich bedachten schriftlichen Vereinbarung und die Einsetzung eines archäologischen Koordinators herausgestellt. Vor dem Hintergrund, dass sowohl Denkmalschutz wie auch Verkehrsmanagement öffentlich-rechtliche Aufgaben sind, müsste Kooperation die Regel und nicht die Ausnahme sein.

Martin Vollmer-König, Ausgraben und erinnern – Das archäologische Erbe beim U-Bahn-Bau in Düsseldorf

Schlagworte: Bodendenkmalschutz – Archäologie – 3-D-Laserscan – ArcheoPoint – Großprojekt

Zusammenfassung

Der Neubau der U-Bahn-Strecke Wehrhahn-Linie und die Stadtumbaumaßnahme Kö-Bogen in Düsseldorf betrafen die archäologische Hinterlassenschaft der neuzeitlichen Befestigungsanlagen der Landeshauptstadt. In den Jahren 2007 bis 2015 wurde sie daher auf einer Fläche von rund 200.000 m² archäologisch untersucht, dokumentiert und geborgen. Erwartungsgemäß fanden sich massive Bauteile, verfüllte Gräben und Kulturschichten sowie Zehntausende von Funden, die Erkenntnisse zur historischen Entwicklung der Stadt, ihrer Befestigung und dem Wandel ihrer Topografie ermöglichen. Dabei gehörte die 3-D-Laserscan-Erfassung von Baubefunden als denkmalpflegerische Maßnahme zum Umgang mit komplexen Baubefunden, die der Planung weichen mussten, um zumindest ihr 'virtuelles Weiterleben' zu sichern. Zudem wurden massive Teile von Festungswer-

ken transloziert, die heute den didaktischen Mittelpunkt eines archäologischen Schauraums (ArcheoPoint) bilden, der als Kompensation für die Schädigung des Bodendenkmals in der Erweiterung des U-Bahnhofs Heinrich-Heine-Allee eingerichtet wurde. Angesichts der Dominanz der Moderne im oberirdischen Stadtbild trägt er dazu bei, das Bewusstsein für die Existenz und Bedeutung des archäologischen Erbes im Untergrund der Landeshauptstadt zu stärken.

Bruno Vennes, Der U-Bahnhof als Ausstellungsort – ein Widerspruch? Das Beispiel Heussallee in Bonn

Schlagworte: Beleuchtungskonzept – Erhöhung der Verweildauer – Rücksichtnahme auf präsentierte Exponate

Zusammenfassung

Die besondere Herausforderung der U-Bahn-Galerie an der Heussallee bestand darin, dass Sie eine unterirdische Querung einer wichtigen städtischen Schnellstraße (B9) und gleichzeitig den Eingangsbereich zum Haus der Geschichte darstellt. Durch Aufnahme der im Museum verwendeten Materialien und die Installation von Exponatvitrinen in der Passage gelang es, das Museum in den U-Bahnhof weiterzuführen. Ein geschickt gewähltes Beleuchtungskonzept führt dazu, dass die geringe Deckenhöhe nicht als erdrückend wahrgenommen wird. Durch die Rücksichtnahme auf die präsentierten Exponate wirken diese wie selbstverständlich in den Bau integriert. Die Passanten fühlen sich durch dieses Konzept und die ästhetische Gestaltung des Baus zu einem kurzen Verweilen an diesem Ort des Massenverkehrs eingeladen.

Oliver Collignon, Möglichkeiten der Sicherung und Präsentation der Reste des mittelalterlichen Rathauses in Berlin-Mitte

Schlagworte: Rotes Rathaus – Relikte des gotischen Rathauses – "Tuchhalle" – archäologisches Fenster – begehbarer unterirdischer Ausstellungsraum

Zusammenfassung

Beim Bau der Metrostation Rotes Rathaus in Berlin trat der seltene Fall ein, dass der gute Erhaltungszustand der archäologischen Überreste, auf die man im Verlauf der Bauarbeiten gestoßen war, und ihre Bedeutung für die kommunale Entwicklung zu einer umfangreichen Umplanung des Verkehrsbauwerks führten. Diese Entwicklung wird hier aus der Sicht des planenden und ausführenden Büros Collignon-Architektur geschildert.

Zwar war bekannt, dass sich unter dem heutigen Roten Rathaus die Überreste des mittelalterlichen Vorgängerbaus befanden, doch war in der ursprünglichen Planung vorgesehen, die hier prognostizierten Relikte zu dokumentieren und anschließend abzuräumen. Allerdings erfolgte während der Arbeiten ein Umdenken, und man entschloss sich, dieses wichtige Zeugnis der Berliner Stadtgeschichte für die Zukunft zu sichern. Um dies zu ermöglichen, wurde der Entwurf des U-Bahnhofs überarbeitet und abgehändert, so dass die wertvollen Funde zum Teil in situ erhalten bleiben konnten. Wo dies nicht möglich war, wurden die Funde transloziert. Hinzukommen soll ein archäologisches Fenster, eine Öffnung in der Außenwand des U-Bahnhofs. Diese Öffnung bildet den Zugang zu einer 'Glasbox', die gleichsam in den dahinter beginnenden Ausstellungsraum der gotischen 'Tuchhalle' hineingeschoben ist und so eine breite Wahrnehmung dieser bedeutenden historischen Stätte ermöglicht.

Matthias Wemhoff, Der Bau der U-Bahn-Linie 5 in Berlin und das mittelalterliche Rathaus der Stadt

Schlagworte: Berliner Rathaus/Rotes Rathaus – Archäologische Fenster – Mittelalter in Berlin – Ausgrabung US

Zusammenfassung

Der Bau der US zwischen Alexanderplatz und Brandenburger Tor hat umfangreiche Ausgrabungen in der Stadtmitte von Berlin angestoßen. Dabei wurden die gut erhaltenen Strukturen der unteren Ebene des mittelalterlichen Rathauses freigelegt, die lange Nutzungsgeschichte des Gebäudes erhellt und die Vorgängergebäude entdeckt.

1865 hatte eine Kommission beschlossen, dass das Rathaus vorsichtig abzureißen ist und die Keller sorgfältig zu verfüllen sind, damit diese für zukünftige Forschungen erhalten bleiben. Dies erklärt den guten Erhaltungszustand der 24 Pfeiler und der Außenwände.

Erst die Ausgrabung des Rathauses hat zur Diskussion über seine Erhaltung geführt. Schließlich konnte die Planung des U-Bahnhofs verändert und ein großer Teil so gesichert werden.

Zukünftig soll das archäologische Fenster "Mittelalterliches Rathaus" vom U-Bahnhof aus einsehbar und vom Keller des Roten Rathauses aus zugänglich sein. Dort können dann auch die Funde der Ausgrabungen, zu denen u. a. der spektakuläre Berliner Skulpturenfund gehört, gezeigt werden.

Abstracts

(aus dem Deutschen von Michael Scuffil)

Rahmi Asal – Zeynep Sevim Kızıltan, Istanbul's Subway – Transport Project(s) and Archaeological Dias

Keywords: Istanbul – Bosphorus Tunnel – digs – Yenikapı – shipwrecks

Abstract

The expansion and modernization of Istanbul's metro network was a project that had been in planning for a long time before works finally began in 2004. Part of the project involved tunnelling under the Bosphorus Strait and constructing four new subway lines. By the end of the project a total of 600 additional network kilometres were to be completed. The Yenikapı subway station was enlarged to become the central transport hub. Alongside the construction works extensive archaeological investigations were conducted that revealed finds ranging from the Neolithic era to the period of the Ottoman Empire. One remarkable discovery was that of 37 shipwrecks; four of these ships had sunk with their cargo. Several metro stations were made part museum, with presentations of finds or replicas of the finds. A museum that will exhibit all the discoveries from this area is in planning near Yenikapı Station.

George I. Alexopoulos, The metro station 'Aigaleo' in Athens – an example of antiquities in the espaces autres of fleeting perception

Keywords: metro station – heterotopia – antiquities – memory

Abstract

Extensive excavations from 1992 to 2003 conducted in the centre of Athens for the metropolitan subway, uncovered large quantities of disparate data, in a number of large and smaller plots along the proposed train lines. The Sacred Way (Iepá Oδός) linked the ancient city and its cemetery with the Eleusinian sanctuary and the setting dictated the narrative for a landscape of founding myths. Not long after excavation was completed, an exhibition of archaeological finds was proposed in the station of Aigaleo. From the start there lingered a demoralizing question: What, if anything at all, can be communicated to unintended visitors (commuters) within the brief time they spend in the Subway station?

Whilst metro stations are places of fast perception, they are in fact *heterotopias*, where one does actually not go to, but passes by. Placing an archaeological exhibition within such a setting presented challenges such as avoiding the effacement of historic time and silencing the troubling realities of metro excavations. Whilst these challenges were not immediately apparent, the response of the public was nevertheless surprising and revealing.

Nadezhda Kirova-Yovcheva, The Sofia Metro (Bulgaria) – A Step Towards Becoming a World Heritage Site

Keywords: Serdica – metro – Roman city – basilicas – houses

Abstract

The contribution follows the most recent archaeological excavations in the centre of Sofia in connection with the construction of the city's first and second metro lines. As part of the project the remains were uncovered of several quarters containing houses, workshops, basilicas, streets and the water supply network from the 1st to the 19th centuries within the Roman fortified city of Serdica and medieval Sredets/Sofia. The excavation of ancient Serdica cost 20 million euros and was paid for from the EU Regional Development Fund. It was completed in 2015. All archaeological evidence was conserved, restored and put on display. This has resulted in a vertical, visual and functional integration between the site above ground, the archaeological levels, the metro itself and the metro entrances.

Stefano De Caro – Daniela Giampaola, The "Stations of Archaeology" in the Naples Subway

Keywords: Naples – ancient coastline – stazioni dell'arte e dell'archaeologia – improving the old town – modern art

Abstract

This contribution looks at the construction of the metro lines 1 and 6 in Naples, the largest public construction project to have been implemented in the city in the past twenty years. The underground metro lines have helped noticeably to reduce the traffic problems in a city with a high population density. The metro lines make it easier to access the

historic city centre, the stations are essentially entrances to important parts of the urban fabric and to significant monument ensembles. As a result they bring about a fundamental improvement of the quarters they service.

Well-known architects were commissioned with planning the stations. At the same time the stations house exhibitions of contemporary art. This makes them quite literally "stazioni dell'arte". In addition to this feature they are also "stazioni dell'archeologia": the archaeological investigations conducted in the areas of the underground stations have led to unusual discoveries regarding the city's coastline. Naples was already densely populated during prehistoric times. The historic centre was home to two settlements founded by Greek colonists. Both continued to exist into the Roman period and formed the centre from which the city of Late Antiquity, the Middle Ages and modern times developed. The excavations have captured all historical periods, having dug down through all the layers. This geological upheaval for the purpose of establishing an urban transport network therefore developed a high cultural value, leading to a new sense of self for the city.

This contribution presents the most important metro stations: Duomo, Municipio and Toledo.

Alfred Schäfer, Fixed archaeological monuments along Cologne's Nord-Süd Stadtbahn light rail line Keywords: roman city wall – ancient round temple – Severin Gate – Via Culturalis – Romano-Germanic Museum Cologne

Abstract

The bi-directional relationship between city space and its historical memory is addressed in the present contribution by means of three archaeological sites that were explored during the construction of Cologne's Nord-Süd Stadtbahn light rail line. Archaeological discoveries that are kept at the site where they were found are especially suited to bringing the long history of a place to life. The monuments do not have to be silent witnesses of the past. Fixed archaeological monuments can be viewed as highlighting the city's history, particularly in confrontation with the modern city space. Because of their material presence the monuments positively challenge viewers to confront their own location.

Ingo Pähler, Wehrhahn metro line and the Kö-Bogen project: construction measures at an archaeological site in Düsseldorf's city centre

Keywords: underground works – area of tension: construction and archaeology – balancing interests – archaeological co-ordinator – risk limitation

Abstract

Between 2007 and 2016 underground engineering works were carried out in Düsseldorf's city centre as part of the Wehrhahn metro line and Kö-Bogen projects. They are positive examples of how a consensus that is acceptable to everyone can be found when there is a conflict of interest between protecting the archaeological heritage and solving urban transportation problems: all groups and individuals involved must be included early on and the issues must be addressed in an open, interested and trusting manner. Signing a binding written agreement that aimed at balance, and appointing an archaeological co-ordinator were two strategies that proved particularly promising. Keeping in mind that protecting the archaeological heritage of a site and managing a city's transport networks are both tasks that fall under public law, co-operation should be the rule, not the exception.

Martin Vollmer-König, Excavating and remembering – The archaeological heritage and the Düsseldorf metro

Keywords: protecting archaeological sites – archaeology – 3D laser scanning – ArcheoPoint – major project

Abstract

The construction of the Wehrhahn metro line and the Kö-Bogen urban redevelopment project in Düsseldorf affected the archaeological legacy of the state capital, namely its post-medieval fortifications. Between 2007 and 2015 an area of around 200,000 m² therefore underwent archaeological examination, documentation and recovery. As was expected, massive building components, filled-in ditches and occupation layers were uncovered and tens of thousands of objects found, all of which have allowed insights into the city's historical development, its fortification and its topographical changes. Part of the work involved 3D laser scanning of building components, as a conservation measure for those complex discoveries that had to make way to the new developments, so that at least their continued 'virtual' existence could be ensured. Furthermore, fortification structures were moved; they have been made the didactic centre of an archaeological showroom (ArcheoPoint) that was opened as compensation for the damage done to the archaeological site as part of the expansion of the Heinrich-Heine-Allee underground station.

In light of the dominance of modern structures above ground in the city, this showroom contributes to strengthening the public's awareness for the existence and significance of the archaeological heritage in the state capital. Bruno Vennes, The Subway Station as an Exhibition Venue – A Contradiction? The Heussallee in Bonn

Keywords: lighting concept – increasing dwell time – respect for displayed exhibits

Abstract

The particular challenge of the subway gallery – part of the Haus der Geschichte museum of modern German history – at the Heussallee station was that the venue is also the location of an underground crossing of an important urban expressway (B9) and at the same time the entrance to the Haus der Geschichte. By adopting the materials used in the museum and installing display cabinets in the passage it was possible to expand the museum into the subway station. A cleverly designed lighting concept means that the low ceiling height is not perceived as oppressive. By respecting the exhibits on display they come across as simply 'belonging' to the building. This concept and the aesthetic design of the building make passengers want to spend a little bit of time in this mass transit location.

Oliver Collignon, *Options for Securing and Presenting the Remains of the Medieval Town Hall in Berlin-Mitte*

Keywords: Rotes Rathaus – relics of the Gothic town hall – 'Tuchhalle' – archaeological window – accessible underground exhibition space

Summary

During the construction works for the Rotes Rathaus metro station in Berlin a rare eventuality occurred: the good state of preservation of the archaeological remains discovered during the course of the construction works and their significance for the municipal development meant that extensive changes were made to the transport project plans. This development is described here from the view of the planning and executing office CollignonArchitektur.

Although it was known that the remains of the medieval predecessor building were located under the current Rotes Rathaus (the local town hall), the original plans envisaged that the predicted relics should be documented and subsequently cleared away. However, a change of plan occurred during the work. It was decided that this important piece of evidence of Berlin's history should be safeguarded for the future. In order to achieve this, the subway station design was revised and modified so that some of the valuable discoveries could remain in situ. Where this was not possible, the discoveries were moved. There are plans to create an archaeological window, an opening in the exterior wall of the subway station. This opening will be the entrance to a 'glass box' that is inserted into the exhibition room of the Gothic 'Tuchhalle' behind it. This will increase awareness of this significant historical site.

Matthias Wemhoff, The Construction of Subway Line 5 in Berlin and the Medieval Town Hall in the City

Keywords: Berlin Town Hall/Rotes Rathaus – archaeological window – Berlin in the Middle Ages – excavation U5

Abstract

The construction of the U5 line between Alexanderplatz and the Brandenburg Gate triggered extensive excavations in Berlin's city centre. The well-preserved structures of the lower layer of the medieval town hall were uncovered in the process. This also illuminated the building's long usage history and revealed the precursor buildings.

A commission had decided in 1865 that the town hall should be carefully demolished down and the cellars meticulously filled so that they would remain intact for future study. This explains the good state of repair of the 24 pillars and exterior walls.

It was the excavation of the town hall that triggered the discussion about its preservation. It was ultimately possible to alter the plans for the subway station, which meant that a large part of the remains could be secured.

In the future the archaeological window to the town hall is to be installed in the subway station and made accessible from the cellar of the Rotes Rathaus. Visitors will also be able to see the finds resulting from of the excavations, which include the spectacular Berlin sculpture find – sculptures that had been regarded as lost after being confiscated by the Nazi regime.