Florence: knowledge and accessibility of the archaeological heritage

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Abstract: In Roman age, shortly after its foundation, Florence was a quite important town. After the decline of the Roman Empire, the ancient remains, as almost everywhere, were swallowed up by the evolution and growth of the city.
The rediscovery of the vestiges of the past had a significant boost in the late nineteenth century. In fact, with the demolition of the old market, of the ghetto and of several blocks around them, the remains of the ancient Roman settlement, starting from the Capitol, were brought to light.
Several other excavations have later unearthed remains scattered everywhere in the old town centre and around it. The knowledge of the archaeology of the city is still today made of individual episodes and lacks of a study, which could melt in a single framework all the acquired knowledge.
An initial approach, aiming to merge data in the context of an overall knowledge, correlating studies relating to four main axes of the city, has been recently made. The first results of this study are presented, together with the related urban silhouettes.
The main data that emerges is that almost everywhere the remains are located at a limited depth compared to today's urban level. This explains the fact that almost everywhere the findings, once documented and studied, have been reburied and then today they cannot be visible nor visited.
The ancient relics placed under the most important Florentine churches are an exception. These churches, during their transformations, were placed on a high stylobate, so it was possible to obtain below them an underground space where the archaeological sites are visible

Keywords: Firenze, Archaeology, On site museum, Accessibility.

Development of the town

In the middle part of the river Arno, an easy crossing point of the river due to the narrow bed, was a place of human settlement from prehistoric times. Other settlements overlapped in Etruscan times, until Florentia, a Roman town, was founded in the same place, on the right bank of the river. The date of the foundation is uncertain, but in any case it can be dated back to the second half of the first century BC.
The city was designed on the usual Hippodamean plan with cardo and decumanus, and the city wall remained virtually unchanged in the Middle Ages.
With urban development and in conjunction with the increasing importance of the city that took place from the Carolingian era, the walls expanded in stages. So extended also on the left bank of the river, to be finally greatly enlarged at the end of XIII century, when the last walled enclosure, embracing an area almost sixfold from the previous one, was built by Arnolfo di Cambio (Fig. 1).
The city limits remained unchanged for over five centuries, with large unbuilt areas within the walls.
In 1865, after the unification of Italy, it was decided to transfer the capital of the new Kingdom to Florence and the city underwent a major transformation, which led to a new urban design. New buildings saturated all areas within the walls, expanding even beyond this ancient perimeter. In the wake of what in other European capitals (Paris, Vienna, ...) was happening, the walls were demolished and in their place large avenues were built (MACCABRUNI & MARCHI 2015); shortly after an equally important transformation took place in the ancient heart of the city. Later, when the capital was transferred to Rome, a big urban project took place involving what from the beginning had been the core of Florence: the Old Market Square, crossroads of the Roman Cardo and Decumanus, and the surrounding area were radically transformed (DETTI 1970; FEI 1977). Under the pretext of environmental sanitation, nearly all the buildings were demolished, preserving only a few palaces. A new road layout, with wider and regular streets, was drawn and new large buildings, in nineteenth century or early twentieth century style, replaced the tiny, dense constructions of the historical center (Fig. 2).
The discovery of the ancient remains

After the extensive demolitions, a large amount of ancient remains was unearthed during the excavations to build the foundations of the new buildings. As the works involved the heart of the Roman city, the remains of the Forum and the Capitoline Temple, mosaic flooring of roman houses, sett pavings, ... were brought to light.

The main buildings of the Roman town were so identified, making it possible to describe exactly the urban topography, till then largely imaginary. The Roman origins of the city had always been claimed, going so far as to identify the most important medieval building, the Baptistery of San Giovanni, with the Roman temple of Mars. To enlarge Baptistery square, the old bishop’s palace was demolished and reconstructed some meters back; this caused the discovery of the north gate of the Roman city, track of the walls, small spa buildings and remains of urban houses with gorgeous mosaic floors.

The documentation of all findings is still incomplete and for the most part they are known thanks to the series of postcards published in 1925 by Corinto Corinti (CORINTI 1925-28), the engineer commissioned to document the demolitions and excavations as they occurred, to support to the Municipal Commission of art history that between 1889 and 1895 followed the reconstruction works of the city center.

Archaeological excavations of the XXth century

In addition to the excavations made in the late nineteenth century, further groundworks were made later, increasing and thus integrating the knowledge of the ancient city. Twentieth century investigations were not as extensive, but episodic and related mostly to occasional works carried out in different parts of the city. Methodological development of archaeology made twentieth century excavations well documented and accompanied by systematic stratigraphic investigations.

From the beginning of the century, sporadic excavations in various urban areas have been made, but in occasion of the wide reconstructions around Ponte Vecchio after the destructions of World War II, the
investigation in this area took on a systematic character, discovering also the southern gate of the Roman walls. However, the major archaeological excavations of the century were inside Santa Maria del Fiore and in the Piazza della Signoria. After the flood of 1966, many excavations were carried out and the most important was undoubtedly made inside the cathedral of Santa Maria del Fiore, where the remains of the former cathedral of Santa Reparata and paved mosaic of Roman homes were brought to light (MOROZZI, TOKER & HERMANN 1974; NENCI 1996). In Piazza della Signoria, the excavations of 1974-75 and 1981-89 (Fig. 3) discovered medieval buildings, such as the church of Santa Cecilia, and Roman remains, including a large spa complex and a large fullonica (MAETZKE 1975; DE MARINIS 1996; DE MARINIS BIANCHI & SALVINI 2006).

Recent excavations in the Uffizi building and in the eastern area of Piazza del Grano, brought to light medieval remains mainly connected to different construction phases of the church of San Pier Scheraggio (SALVINI 2005).

**The urban level along the time**

As usual, the information available from various excavations allowed the urban topography to be sketched out rather well, but did not allow the reporting of all the findings into a single vertical alignment. In fact, the levels of an excavation are often referred to the near surroundings and not to a system of absolute levels, and the same can sometimes be said for the planimetrical position. In addition, if data on some excavations had been published, reports of others were still unpublished.
To be able to relate also in altimetry all available excavation data to each other, a specific study was carried out, aiming to ascertain the extent of stratus of the urban levels in different urban areas which developed over the centuries (ROCCHI COOPMANS DE YOLDI 2006). As always in multilayered sites, over time demolition, destruction, fires, floods ... cause irregular overlapping of materials, raising the site levels in a variety of ways. Sometimes the increase was small, in other cases the urban level has raised by several meters, as in Rome, or even more than fifteen meters, as in Troy.

In reality, especially for the nineteenth century excavations, reliable elevation data was not always available, so information of some excavations have not been included. In total, data on 49 sites have been examined and, when a site has been excavated many times, many separate records have been drafted (BIANCHI ET AL. 2006).

The level changes in different parts of the town have been investigated by relating the results obtained from the excavations to each other. The excavations were positioned along abstract lines, identifying four ideal sections crossing the most important urban sites (Fig. 4).

![Fig. 4 – The position of the excavations taken in account (red circles) and the four lines choosen to determine the variations of the urban level.](image)

The first section, labelled with a yellow line approximately parallel to the river Arno, crosses in NW-SE direction the old center, from the church of Santa Trinita to Santa Croce. This section intersects sites of the greatest interest: the excavations in Via Calimaruzza with the southern gate of the Roman walls, Piazza della Signoria and the Roman theatre, the excavations in Piazza del Grano, and those related to the Roman amphitheatre. The section crosses the site of the first settlements in the area of Florence, with the low hill...
near the river Arno where nowadays Piazza Signoria and the thick landfill of its eastern slopes are located. Therefore this section highlights the major changes in the urban level.

A second section orthogonal to the first, identified in the map with a green line, retraces the eastern side of the Roman walls, extending north to the Hospital of Santa Maria Nuova.

The third section (blue line), parallel to the first but moved further north, crosses the old town in the area that was the Old Market. This allowed us to relate to each other for the first time the sites of major excavations of the late nineteenth century, made during the demolition of the old center. The section is then prolonged to the eastern suburbs investigated in recent excavations.

The last section (red line) connects the recent excavations near the Fortezza da Basso, in approximately NS direction, running in the central area along what had been the Roman decumanus, with the excavations on the left bank of the Arno river (Fig. 5). Along this line, the excavations were consecutively analysed. These included the ones of the Basilica of San Lorenzo, the excavations in the area of the Cathedral and the Baptistery, where twentieth century excavations overlapped with nineteenth century ones and the data of the whole area of the ancient center destroyed in the nineteenth century, and the section ends up in the early Christian site of Santa Felicita.

Fig. 5 – The excavation sites along the red line.
In all excavations the levels existing at various periods were identified, starting from what was identified as the level of the virgin soil. So it was possible to identify the following levels: pre-Roman, Roman between the first century BC (foundation of the colony) and the first century A.D., Roman from the second century A.D. to the first half of the fourth century AD, late Roman (from second half of the IVth to the VIth century), early medieval (VIIth VIIIth century), medieval (IXth – XIIIth century), late medieval (end of XIIIth - XIVth century), Renaissance (XVth-XVIth), and finally modern period.

For each urban section, graphs have been drawn, in which the levels of late medieval and Roman eras were connected to each other and compared with the current level, (Fig. 6). Thus we were able has been possible to highlight the urban level rise over time, verifying its amount, which in most cases was found to be not so relevant, less than 2 meters, with the notable exception of Piazza del Grano area where the elevation is double. However, this is the original site of a depression, to the south of today's Piazza della Signoria hill, where the Roman Theatre was build, but also place of accumulation of debris from Roman times.

The archaeological findings and their accessibility

Briefly, in Florence the raising of the urban level is limited so, in most cases, it is impossible to get on site a museum on masonry remains: the available height below the current street level does not allow there to be accessible underground spaces.

A space able to be visited can be obtained only by eliminating the current urban pavement, removing all soil and debris superimposed over time, and leaving an open trench (as in most cases) or covering with emerging structures (as in Brussels at Bruxella 1238 near the Stock Exchange or in Rimini at the Roman Domus of the Surgeon), otherwise the remains can only be studied and then reinterred. This is what has
happened in most cases in Florence; only in a few cases have different solutions been made at least partially, to make known and accessible architectural remains.

**Roman walls in Via del Proconsolo**

Excavations made on several occasions between 1987 and 2004 in Via del Proconsolo (SALVINI 2006), which follows the eastern Roman city wall, together with pre-Roman remains, unearthed masonries of the wall and of two towers of the Roman enclosure. The remains of a first tower were found at the bottom of a demolished nineteenth-century building, then replaced by a new one.

Now we cannot visit the remains, given the limited difference in level between the street and the remains (less than a meter from the top of the wall and two meters from the virgin earth). But the ground floor of the shop partly has been paved with glass, which allows us to see them both from inside and from the street. Subsequent excavations made when repaving the street have unearthed the remains of a fullonica and of a second tower. Again, the limited vertical drop has not allowed the construction of an underground space for visitors, so the presence of the remains of the tower was reported on the street pavement inlaid into the stones two thin brass circles. On site, a panel shows the layout of all the remains, explaining their consistency and dating (Fig. 7).
Excavations in Piazza Signoria and the Roman Theatre

Piazza della Signoria is the site of the most extensive archaeological investigations of the twentieth century, carried on in several excavations: in 1974-75, from 1981 to 1989, and in 1996-97. Exhaustive information on the development of the site of the first settlements in the area was so acquired, as surveys brought to light finds of different periods, starting from the eighth century BC. In the Republican era, the first stage of Florentia, the area was occupied by residential buildings, demolished during the Empire to create, in the area, a large central portico, an industrial complex, the large fullonica and its warehouses, and public buildings such Latrine and large Thermae, identifying all its rooms (praefurnium, frigidarium, taepidarium, calidarium).

The early Christian church of Santa Cecilia was built on the present western side of the Piazza from the fourth to the sixth century A.D., later it was demolished and then rebuilt during the pre-Romanesque period. The remains of the Roman buildings went through phases of partial re-use from the early Middle Ages until nobiliary towers, often surrounded by buildings of the guido, were built. The level rise is almost 3 meters, but the top of the main walls are very close to the current level of the pavement. This imposed then backfilling the excavated areas.

Quite different is the story of the Roman Theatre (MINTO 1937; MAETZKE 1941), whose presence has been known since the Renaissance when making the foundations of the eastward expansion of Palazzo Vecchio the walls of the burella, the radial corridors on which the semicircular auditorium rested, were found. The main excavations were made in conjunction with the expansion of nineteenth-century Palazzo Gondi and with the construction of the sewer under the road in 1875. Corinti worked out the known data and proposed a reconstruction of the building, substantially confirmed by occasional excavations of 1936 and 1994, and after systematic excavations carried out since 1997. After this campaign, public access and partial visits to theatre remains under Palazzo Vecchio were made possible (Fig. 8).

Archaeological findings in the main Florentine churches

The most important Florentine churches were built between the thirteenth and fourteenth century and they replaced much smaller existing churches, which were situated in the same area. The building site was usually organized in such a way to allow the use of at least a part of the old church to ensure the continuity of worship, favoring the acquisition of funding. It was always difficult to assess the duration of the construction period of such complex buildings, at least decades and sometimes even centuries; so, when the
complete demolition of the existing church was decided, at least part of the new one was available for use; this temporary complex coexistence required special construction site strategies. The dismantling of the old buildings did not involve their complete deletion because the new churches were built at a higher level, thus preserving the ancient remains that in some cases, as in the Cathedral of Santa Maria del Fiore and the Basilica of Santa Croce, have been found by archaeological excavations carried out in the sixties and seventies of the past century (GIORGI & MATRACCHI 2006).

**Santa Maria Novella**

Under the sacristy and part of the western nave of the Dominican church of Santa Maria Novella, some walls of the XIth century former church of Santa Maria in Novalibus are visible. The church was oriented at right angles to the present basilica, with the apse towards west and the façade facing the center of the city. After the settlement of the Dominicans in 1223, the transformation of Santa Maria in Novalibus started, continued over time up to the construction of the Dominican basilica, whose foundation stone was laid in 1279. In fact, by reusing some structures of the eleventh century church, the Dominicans got a crypt not centered with the body of the new basilica, which had the nave floor much higher than that of the existing church (FIAMMINGHI 2004).

![Fig. 9 – Plan of Santa Maria Novella with the remains of the original church (yellow), partly used to base the structures of the new church.](image)

The present north wall of the crypt, linked to the construction of the great pillars, is a wall erected when the location of the southern wall of the transept was decided. The original wall of the first Dominican church
could be identified in a wall discovered north of the crypt just under the transept in the excavations of 1985. While masonries above the new floor levels were so demolished; more extended portions of the old walls were included into the walls of the new basilica, and their traces which can be recognized in the sacristy attic. The archaeological strata of the crypt are good evidence of medieval building site practices and the relationship between both the existing church and new one; unfortunately today the access to that room is difficult and visits are reserved only to scholars.

Santa Croce
The excavations in the Basilica of Santa Croce, carried out between 1967 and 1970, amid the second and fifth nave span from the front, are barely documented, apart from a poor documentation consisting in photographs and incomplete drawings of the findings. The examination and the survey of the unearthed structures showed us a tau church with three chapels on each side of the apse (GIORGI & MATRACCHI 2011). In the south, between transept and nave, two corners of a cloister and remnants of convent buildings, one of which could be recognized as a chapter house, were discovered. Therefore the complex, a church flanked by a convent, was identifiable as the second Santa Croce of 1252 (Fig. 10). With regards to the church, it has been possible to outline the overall organization of the transept, but only partly of the nave because there is no evidence of the position of the façade.

Large portions of opus signinum paving still survive in the church and in the monastery rooms; on the fragmentary walls of the church, as on the nave sidewall and on the walls of the apse and of a chapel, fragments of plaster, sometimes painted with frescoes, are present. To make these discoveries visible,
reinforced concrete walls were built on the remains of the old church walls, creating below the current church an underground structure, about 2.35 m high. Further remains, located far from transept and cloister of the second Santa Croce, have been detected; they are to be referred to the first Franciscan settlement in 1228. The relationship between the current and the previous basilica settlements of 1228 and 1252 also in this case confirmed the choice of enlarging the pre-existing complex up to the point of demolishing almost completely all traces of it. The major change was put into effect building the current much larger church of Santa Croce and with the floor level higher by 2.60 m than before; on the contrary, in the great changes of the thirteenth and fourteenth centuries, monastic spaces were always kept almost at the same level. Currently the way into the archaeological remains of the first and second Santa Croce is located in the second bay of the present church, where between the northern pillars stairs to access the underground sites were built. However, also these spaces cannot be visited, except for study reasons.

**Santa Maria del Fiore**

The longitudinal section of the Baptistery and of Santa Maria del Fiore (Fig. 11), also extended to underground parts, compares the levels of Santa Reparata, underlying the cathedral, with those in the cemetery between cathedral and baptistery and with various fragments of mosaic floors of the Roman era underlying the Baptistery (Fig. 12).

The archaeological areas under the Baptistery and of Santa Reparata have a substantial correspondence to the Roman level, situated a few centimeters below the mosaic floor of the ancient cathedral.

![Fig. 11 – Longitudinal section of the Baptistery and of Santa Maria del Fiore with the archaeological levels.](image-url)
With the excavations of 1965-1974, the remains of Santa Reparata were brought to light down to the level of the mosaic floor of the first cathedral dating back to the fourth-fifth century A.D., deleting almost completely the later floors placed at higher elevations. Some pillars of the three naves of the ancient cathedral were found in excavations, unearthing stands and masonry of plinth foundation (Fig. 13). The tombs of Santa Reparata walls, in the southern side enriched by a fine finish on brick front panel, are equally noteworthy. The sides with the tombs and the two pier rows of Santa Reparata continued to the façade, nowadays located in the parvis of the present cathedral and only recently identified by GPR investigations (Fig. 14).

The Baptistery was built in front of the cathedral of Santa Reparata, at a far higher level: the Baptistery floor is located some 125 cm higher than the mosaic floor of the church. This situation remained unchanged until the last decade of the thirteenth century when the renewal of the cathedral was established, enshrining the decision by the solemn blessing of the cornerstone in 1296. The way in which Santa Reparata sidewalls are inserted into the façade foundations of Santa Maria del Fiore, is evidence of a first project that intended to
deeply transform the ancient cathedral. The façade of the new church would be located at a greater distance from the Baptistery, and the floor level raised until exceeding that of the Baptistery itself; therefore, a great transformation of the body of the basilica would take place. This renovation project of Santa Reparata was later abandoned and it was decided to set the façade of the current cathedral much wider than the one of Santa Reparata; It was at this point that the old cathedral was undeniably abandoned. However, the coexistence of the old cathedral and the new building was long and this shows the unceasing importance attributed to Santa Reparata. The relationship within the existing church and building site was in this case far more problematic than in Santa Maria Novella and Santa Croce, where new churches began from transepts to involve at a later time the original Franciscan and Dominican churches. In the case of the Santa Maria del Fiore, from the beginning works involved the nave of Santa Reparata, which was cut almost in half. Such a drastic intervention was perhaps also due to the different conditions in which the work had here to be carried on: the immediate involvement of the ancient cathedral in the work was made less problematic by the presence of the same baptistery, which could absorb at least part of the liturgical activities. Actually, in Santa Reparata the raising of the floor made unusable any side altar, while apse and crypt could keep their functions. Later, when the foundations of the talentian pillars were laid (1357), a greater impact on the surviving parts of the ancient cathedral occurred. Having fixed the span size, the first two pillars from the façade were founded in the aisles of Santa Reparata: the southern pillar foundation lapped the south sidewall, the northern was fitted to a corner of an existing pillar, because evidently it had to be still preserved. The foundations of the following two pillars leant against the chapels flanking the apse of Santa Reparata, and were shaped with due caution to avoid damage to the adjacent crypt. After more than half a century from the start of works, all possible means to preserve the remains of Santa Reparata were adopted, and even if totally involved in the construction site, the church was still probably officiated. The frescoes unearthed in the small apse south of the crypt are dated to the fifth decade of the fourteenth century and testify that worship was still continued in the ancient cathedral. While continuing to maintain and even enrich what remained of Santa Reparata, gradually its demolition continued, as stated by the reused ashlars with fresco fragments found in the foundations of the half-pillars on the inner façade. Until 1365, when the construction of the vaults started, the apse was perhaps spared yet, and the crypt below survived first as a shrine to the tomb of St. Zenobius (until 1439) and later as an ossuary.
Santa Reparata was gradually backfilled, so avoiding the complete wall demolition. Thanks to the considerable difference in height between the floor of Santa Maria del Fiore and the underneath mosaic floor of Santa Reparata, in this case it has been possible to make the complex room revealed by excavations accessible (Fig. 15). Despite the wealth of the archaeological heritage of Florence, spread as seen in several areas of the city, this is the only archaeological site regularly visited. Other areas of excavation that could be visited pose many more limitations, since they have cramped access ways, maybe from manholes, and access may be restricted to very small groups, like the southern door of the Roman walls or the early Christian cemetery under Santa Felicita. Therefore, the fact is that these are inaccessible archaeological sites.
Conclusions

In comparison with the richness of the crypt of Santa Reparata, the lack of opening to the public of the archaeological spaces underlying the basilicas of Santa Croce and Santa Maria Novella is justified both by the relatively low importance of the surviving remnants, in marked contrast to the enormous value of the overlying churches, real museums of art and architecture, and to the small size of these hardly accessible areas. This makes the decision of the Florentine municipality to reserve to scholars the visit understandable. Equally, the refusal to make the Florentine archaeological areas visitable is easily understood. In general, the urban archaeology poses the problem of the relationship between the living organism of the city and making visible and usable the findings, which inevitably involves the formal and functional alteration of a consolidated urban framework (STACCIOLI 1996; VAUDETTI, MINUCCIANI & CANEPA 2013). In areas apparently less binding than the historical centre of Florence ancient vestiges have been made visitable, with more or less happy outcomes. In Zaragoza the Roman theatre, brought to light in 1973, is now visible and protected by a metal lattice covered by translucent material; so with this work the current twentieth century building environment of the town has been improved.

In Cosenza a different result was obtained. The metal-glass structure covering the area of piazza Toscano, located in the historical centre, contrasts and overimposes the ruins in shape and wrong use of the material. However here, an altered urban void created by wartime bombing, a higher quality of the project could have enhanced the value not only of the ruins but also of the context (PALMERIO & DI MUZIO 2007). In Florence, the archaeological sites of Piazza Signoria and Piazza Duomo are huge and this made the accessibility design to the remains problematic. The inevitable creation of buildings over the ruins and emerging from road level, in addition to the enormous difficulties in creating an architecture able to deal with the surrounding monumental buildings, would create barriers and diaphragms changing irreversibly the urban context, with a profound alteration which would lead to the de facto cancellation of the two historic Piazzas.
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Imprint:
Vienna 2016
http://www.chnt.at/proceedings-chnt-20/
ISBN 978-3-200-04698-6
Editor/Publisher: Museen der Stadt Wien – Stadtarchäologie
Editorial Team: Wolfgang Börner, Susanne Uhlirz
The editor’s office is not responsible for the linguistic correctness of the manuscripts.
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