

AQUILEIA AND ITS URBAN DEVELOPMENT IN THE LIGHT OF RECENT AND ONGOING RESEARCH

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Izleček

[Akvileja in njen urbani razvoj v luči nedavnih in še nedokončanih raziskav]

Naše védenje o urbanističnem načrtovanju Akvileje in njenem razvoju se je od objave zadnjega celovitega pregleda v zborniku *Aquileia moenibus et portu celeberrima* (2009) znatno povečalo. V zadnjem desetletju je namreč več raziskovalnih projektov na novo osvetlilo urbanistično načrtovanje, delovanje in razvoj Akvileje ter dodalo veliko novih podatkov in dokazov k splošnemu poznavanju antične kolonije in jadranskega emporija. V prispevku so predstavljeni najpomembnejši rezultati nedavnih raziskav ter prvi posodobljeni pregled urbanističnega razvoja mesta s poudarkom na naslednjih temah: mestno obzidje in urbanizem, forum in rečno пристanišče, stavbe za zabavo in rekreacijo (teater, amfiteater in cesarsko kopališče), trgovska območja in kompleksi, zasebni prostori in bivališča.

Ključne besede: Italija, X. regija, Akvileja, rimska doba, pozna antika, insule, obzidje, rečno pristanišče, javne zgradbe, bivališča

Abstract

Our knowledge regarding the urban planning of Aquileia and its development has significantly increased since the publication of the last comprehensive overview of this subject in the volume *Aquileia moenibus et portu celeberrima* in 2009. Indeed, over the previous decade, several new research projects have shone new light on the urban planning, function, and development of Aquileia, adding much new data and evidence to our overall knowledge of the ancient colony and Adriatic emporium. This paper presents the most significant results of recent investigations, providing a first updated overview of the city's urban development, focusing and commenting on the following themes: city walls and town planning, Forum and river port, entertainment and recreational buildings (theatre, amphitheatre and Imperial baths), commercial areas and complexes, private spaces and townhouses.

Keywords: Italy, Regio X, Aquileia, Roman period, Late Antiquity, insulae layout, city walls, river port, public buildings, townhouses

1 STATUS QVAESTIONIS

This paper offers a preliminary synthesis of the topographical data from various excavations conducted in Aquileia by different institutions over the last decade, focusing on the reconstruction of the urban planning of the city throughout the seven centuries of its active life. Discoveries and research projects – with a significant increase in volume since the 18th century – have led to the construction of several overall city plans, in which finds were reported and attempts made to represent the shape of the city, although typically without trying to produce a diachronic picture (see Foramitti 2011 and Foramitti, Novello 2011, for a thorough review of archive documents, dating from the late 17th to 20th centuries).

The last general archaeological map to be published was Luisa Bertacchi's in 2003, albeit based on data updated in the late 1980s (Bertacchi 2003; previously, with much less detail, Bertacchi 1980, 97–107). All known archaeological structures are reported on the present-day city plan, and some macro-phases in urban development are proposed. Since it is still the most complete map of the Roman city, it is currently used as a basis for processing and overlapping digitized maps, despite its limited accuracy – due to the “traditional” (analogue) original files employed.

The underlying data set and methods do not differ when we consider the maps published a few years later in *“Moenibus et portu celeberrima”*, the collective volume which currently represents a focal node in Aquileia studies. Nevertheless it was regarded as a significant step forward in the periodization of the urban planning of the colony, as it identifies four main phases, from the Republican era to the Constantinian era, showed in as many maps, depicting a selection of the available evidence (Tiussi 2009, Figs. 2, 5, 11, 14).

Today, alongside the earlier (and often imprecise) summaries and drawings, we have to manage an exponentially growing amount of geographical data: indeed, since the turn of the century – and mostly in the last decade – field archaeological research has intensified, no longer only conducted directly by the Superintendence (whose spot excavations have become more and more widespread, but usually of limited areal extent). We should mention the investigations carried out by the Aquileia Foundation, often as part of far-reaching enhancement interventions, and the systematic excavations undertaken by several universities: this new approach has led to a qualitative leap in the available documentation, resulting (also) in new drawings and plans, all of them now georeferenced, but mostly, as yet, at the scale of a single monument (or quarter). A greater effort was therefore required, matching and merging the results of the different teams into a tool at everybody disposal. However, this goal is far from being achieved, due to the lack of a uniform and

up-to-date georeferenced set of data, despite several standardization efforts having been made.

The system in use by the Ministry of Culture has evolved from the filing of single assets (sites, monuments, etc.) in the General Catalogue, implemented by the Central Institute for Cataloguing and Documentation (ICCD) to a complex georeferenced system (SIGECweb), in which different types of units are taken into account, corresponding to the levels of protection required. The “Aquileia project”, developed in 2017,¹ identifies areas according to the limits of constraints (Fig. 1: 1), or to the estates (e.g. State properties), but at the same time can focus on a single archaeological monument or complex (Fig. 1: 1a). The Superintendence itself had been implementing an archaeological map of Aquileia, derived from a CAD system in use since the 1990s, reporting the evidence brought to light thanks to the investigations of the Superintendence itself – but with no connection to text data or database structure; later this was partially merged into the webGIS system (RAPTOR) that has been developed in the last decade, including all the interventions (rescue and research excavations, run by any institution) in the whole region of Friuli Venezia Giulia (Fig. 1: 2). In recent years (since 2016), the Central Institute for Archaeology (ICA) of the Ministry of Culture has created the National Geportal for Archaeology,² intended to become the overall interface for georeferenced archaeological data: it already links to SIGECweb (and will so with RAPTOR) and collects the results of research campaigns by universities and other institutions, undertaken with the authorization of the Ministry (which thus includes most of those in Aquileia). The newly available platform is expected to make the viewing and processing of data easier, enhancing the already intense exchange among researchers, each focused on their area of interest; such cooperation has anyway led to interesting results, with positive impacts on our knowledge of the urban development of the site. We will try to provide examples for the main classes of data.

2 CITY WALLS

Luisa Bertacchi has already outlined the main phases of the city walls in graphical form (Bertacchi 2003, 19–26), a sequence reconsidered years later by Jacopo Bonetto (Bonetto 2009, 84, Fig. 1). Indeed, in recent years, part of the research effort on urban planning in Roman Aquileia has been focused on the theme

¹ An overall mapping of archaeological assets in Aquileia was required for the Management Plan of the UNESCO Site, and it was performed – using ICCD standards – by Ada Gabucci, on behalf of the local Superintendence.

² <https://gna.cultura.gov.it>; the data were published online in July 2023.



Fig. 1: **1** – Georeferenced archaeological areas from SIGECweb / Ministry of Culture General Catalogue: The general archaeological constraint of Aquileia 24/03/1931 (ICCD n. 0600157000-0, 2017); **1a** – Detail: *Curia-Comitium*, with evidence of the detected structures (ICCD n. 0600157068, 2017); **2** – General map of Aquileia from RAPTOR / Superintendence webgis: red – investigated area (since 2015) with archaeological evidence; green – investigated area (since 2015) without evidence.

of the city's fortifications, starting from the earliest city walls that encircled the Latin colony. The earliest walls, already attributed to the Republican phase of the city, were the subject of two new excavations in the south-eastern (so-called Cossar estates, Fig. 2: 8) and north-western (Comelli estate) sectors.

In the eastern area, the investigations carried out by the University of Padua³ have brought to light the foundation of the curtain wall and the upper level of fired bricks (Bonetto *et al.* 2023); in the western area the foundation of the wall was built using Istrian limestone, as already shown by previous excavations carried out in the past century (Bonetto *et al.* 2019–2020). It was thus possible to confirm both the topographic articulation of the circuit, already proposed in the past, and a construction date within the 2nd century BC, even if it was not possible to safely link the construction of the enclosure to the years between 181 and 169 BC, when the first colonial nucleus was established. It was, how-

ever, possible to verify the use of fired bricks of a very particular size (37–38 cm per side) which would match the *pentadora* cited by Vitruvius as usually being used by Greek workers for public works (Bonetto 2019). This type of brick is found in both continental and colonial Greek areas (Magna Graecia and Sicily).

In parallel, the study of the city gate built in the northern side of the Republican wall, and already partially investigated during the last century, was resumed. The fortuitous discovery of a complete drawing of this building, produced by Austrian archaeologists of the late nineteenth century, made it possible to completely reconstruct its plan, including a curvilinear military courtyard. Moreover, it was possible to verify that the entire system was based on Hellenistic models, using Greek measurement norms. All of this evidence has led to the hypothesis that Greek architects and workers were involved in the construction of the 2nd century wall circuit (Bonetto 2020; Bonetto 2023).

³ Cf. note 20.



← Fig. 2: Aquileia city plan with the excavated areas mentioned in the paper (drawn by J. Bonetto). **1** – *Domus* of the Wounded Beasts (Moro estate); **2** – *Domus* of the Dancing *Putti* (Cassis estate); **3** – Fluvial Port West Bank; **4** – Fluvial Port Eastern Bank (Fondo Sandrigo); **5** – *forum*; **6** – Theatre (Comelli-Moro estates); **7** – *Domus* of *Titus Macer* (Cossar Estate); **8** – Republican City Walls (Cossar estates); **9** – Great Baths; **10** – Amphitheatre and City Walls (Brunner estates); **11** – S. Felice; **12** – Markets and City Walls (Pasqualis estate).

Recent excavations have also yielded new data on the Late Antique walls in the south-eastern sector⁴ (Fig. 2: 12). The field had already been partially excavated in the 1950s by Giovanni Brusin, who identified three paved areas surrounded by arcades, interpreted as three market buildings (cf. *infra*), and two parallel fortification walls running along the northern bank of the river Natissa (Fig. 10: 1; Basso, Dobрева 2023). The inner wall was substantial (2.4–2.6 m thickness), but only the foundations are preserved, because over time it was largely stripped of its stone (Basso *et al.* 2022b, 89–93). The section of wall brought to light in our excavation area is topographically linked to many others uncovered in various parts of the city, which, around the end of the 3rd or the beginning of the 4th century, enclosed an urban area of about 80 ha (Bonetto 2009; Bonetto 2013; Tiussi, Villa 2017). All that remains of this wall are its foundations, so it has never been possible to hypothesize its height. We were therefore particularly intrigued when we discovered a collapsed sector of its southern façade (Basso *et al.* 2021, 96; Basso *et al.* 2022b, 91). This find allowed us to hypothesize that the wall was about 11 m tall (Delbarba 2021–2022) (Fig. 3). Almost 4,000 m long, it required an enormous amount of building material, probably around 85,000 m³ (Basso 2023). The costs and difficulties of such an undertaking could perhaps explain the extensive reuse of older materials (honorary inscriptions, parts of moulded cornices, columns etc.) observed along the entire perimeter. Another piece of data of great interest collected by the recent excavation is that the wall stood above the previous quay by the bank of the Natissa, using the river – which evidently at that time flowed further north than its current course – as an additional defensive element (Basso *et al.* 2022b, 91–92). The outer wall was built about 12 m south. It was much less substantial (1.5 m thickness) and its construction required extensive land consolidation (Basso *et al.* 2022a, 256–261; Basso *et al.* 2022b, 93–96; Basso *et al.* 2023). On the southern side of the wall, a series



Fig. 3: 3D Reconstruction of the two Late Antique walls (respectively of the late 3rd/early 4th centuries AD and 5th century AD), as they emerged in the south-eastern sector of the town (drawn by N. Delbarba)

of wooden piles was discovered, while on the northern side another series of wooden piles and some amphorae were brought to light. Moreover, below the wall, in an excavation carried out under very difficult working conditions due to the the great depth and the presence of a lot of rising groundwater, a bed of alder beams was brought to light, below which we found a series of vertical poles and amphorae submerged vertically in the soil (Basso *et al.* 2022a, 257–258; Basso *et al.* 2022b, 94–95; Basso *et al.* 2023). Thanks to the amphorae recovered, studied by Diana Dobрева, the outer wall was dated to the first half of the 5th century (Basso *et al.* 2021, 103; Basso *et al.* 2022b, 99–100; Basso *et al.* 2023). The wall functioned to strengthen the other, acting as a kind of outer curtain wall, recalling examples that mostly come from the eastern area of the Empire and, in particular, from Constantinople: it may have been built at the behest of Theodosius II, who at that time exercised considerable influence over the fragile rule of the very young Valentinian III (Delbarba 2021–22; Basso 2023) (Fig. 3). Brusin discovered three openings about 2–3 m wide in the excavated wall section, some 25 m apart from each other. The presence of openings in this wall, related to a system of ramps sloping in a north-south direction that were identified between the two fortification lines, suggests a system for offloading and transporting merchandise from the river to the market built immediately north (cf. *infra*), active throughout the 5th century AD (Basso *et al.* 2022a, 261–262; Basso *et al.* 2022b, 102–103) (Fig. 3).

A further stretch (length: approx. 10 m; width ca. 2.5 m) of the (inner) Late Antique city wall was uncovered in the Brunner estates⁵ (Fig. 2: 10), where it ran almost tangent to the Amphitheatre: the archaeological work made it possible to better define the stratigraphic sequence of the area surrounding the building, which

⁴ The excavation, started in 2018 and still in progress, is being carried out by the University of Verona under the direction of Patrizia Basso, with the assistance of Diana Dobрева. Work was conducted with the authorization of the Ministry of Culture, under the supervision of the local Superintendence and in close collaboration with the Fondazione Aquileia, which also funded the research.

⁵ A rescue excavation, due to the reconstruction of the modern enclosing wall of the garden, was run in 2020 by SAP s.r.l. on behalf of the Superintendence, under the direction of Paola Ventura. The report has not been published yet.

had been partially destroyed before the construction – in the first half of the 4th century AD – of an embankment, intended to support the city's fortifications.

3 INSULAE LAYOUT

A substantial upgrade in our knowledge of the plan and internal organization of the *insulae* of Aquileia comes from the excavations in the Moro estate, located between via delle Vigne Vecchie and via Giulia Augusta (Fig. 2: 1). In the course of the excavations, carried out for the first time in the 1960s under the direction of Luisa Bertacchi and continued since early 2000 by the University of Padova,⁶ a palimpsest of different housing contexts (*Insula* of the Wounded Beasts) was investigated, covering a long time span ranging from the Late Republican, or more probably High Imperial period, to Late Antiquity (Salvadori *et al.* 2020; Bridi *et al.* 2020). The archaeological evidence provided data to develop an in-depth study of the general plan and layout of this quarter of the ancient city during the High Imperial period, when the houses were most likely built (Dilaria *et al.* 2021; Previato *et al.* 2023). The so-called *Insula* of the Wounded Beasts was split into two parts by a continuous median NNW-SSE wall, oriented 21° W of N, dividing the quarter into two equally sized parallel sectors. The resulting western and eastern sectors appeared to be internally partitioned into a series of 20 ft (5.92 m) symmetrically distributed land parcels (Fig. 4: 1). Following a quite common practice in Aquileia, the edges of each parcel are clearly detectable on the ground, as they were systematically delineated by parallel ESE-WNW walls, constituting the load-bearing walls of the houses of the quarter, or by their robber trenches (Fig. 4: 2). Each housing unit was constituted by the union of two or more of these 20 ft parcels. By the sides of the roads, the edges of the *insula* were dedicated to walkways, having a width ranging between 9 and 10 ft (approx. 2.6–3.0 m), flanked by shops and *tabernae* or by the entrances of the houses. On certain occasions, the houses could have been separated by semi-public walkways: the presence of an extremely robbed *ambitus*, which seems to be placed over the partition axis between the X and XI western parcels of the *insula*, was exposed during the most recent campaigns.

Finally, the overall extent of the *insula* was reconstructed on the basis of the positioning of the roads flanking the ancient quarter; three of them, the southern *decumanus* (3rd *decumanus* north of the *forum*), the western *cardo* (*cardo maximus*) and eastern *cardo* (1st *cardo* east of the *forum*), are well known thanks to past research and

recent excavation (Dilaria *et al.* 2021, 309–310).⁷ More ambiguous is the exact location of the northern perimeter of the *insula*, corresponding to the northern *decumanus* (4th *decumanus* north of the *forum*). Allowing for a certain degree of error, on the basis of these topographical data the resulting *insula* might have had overall dimensions of 335 x 480 ft (99.4 x 142.1 m) or 335 x 460 ft (99.4 x 136.2 m) as we do not have any piece of evidence for placing the northern *decumanus*. If the second were the case, in its overall dimensions, the *Insula* of Wounded Beasts would be close to the model proposed by M. Medri (340 x 460 ft for the northern *insulae* of Aquileia),⁸ even if the internal organization is different.

A small sector of the *insula* to the north of the *Domus* of the Wounded Beasts (on the opposite side of present-day via delle Vigne Vecchie) was also investigated in 2017, bringing to light the earliest phase of a *domus*: its drain layers foundation (a system widely used in Aquileia from the beginning of the 1st century BC) offered a hint suggesting that this northern quarter was included from the very beginning in the urban plan, although mostly private dwellings occupied it later (Ventura, Degrassi 2022, 404–405; cf. Dilaria *et al.* 2021, 311–312).⁹

Other interesting new data have emerged regarding the internal division of urban space thanks to investigations carried out in the area of the Cossar estates, at the south-eastern edge of the city (Fig. 2: 7; Ghiotto 2013; Previato *et al.* 2023). Here, a long project of extensive archaeological investigation was able to establish that, in this area of the city, the formation of blocks with private buildings (in this case the *Domus* of *Titus Macer*) and the urbanization interventions (road layout) took place between the end of the 2nd century BC and the beginning of the 1st century BC, creating an urban layout that was preserved until Late Antiquity (Bonetto *et al.* 2023; Ghiotto, Madrigali 2023).

→ Fig. 4: 1 – Reconstruction of the parcellation model of the *Insula* of the Wounded Beasts with distribution and dimension of internal spaces (edited from Dilaria *et al.* 2021); 2 – Reconstruction of the walkways and load-bearing walls (or spoliation trenches) brought to light after extensive excavation activities in the *insula*, in relation to the hypothetical parcellation model (edited from Dilaria *et al.* 2021).

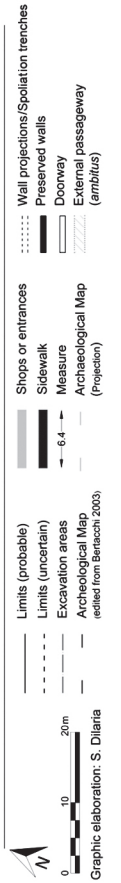
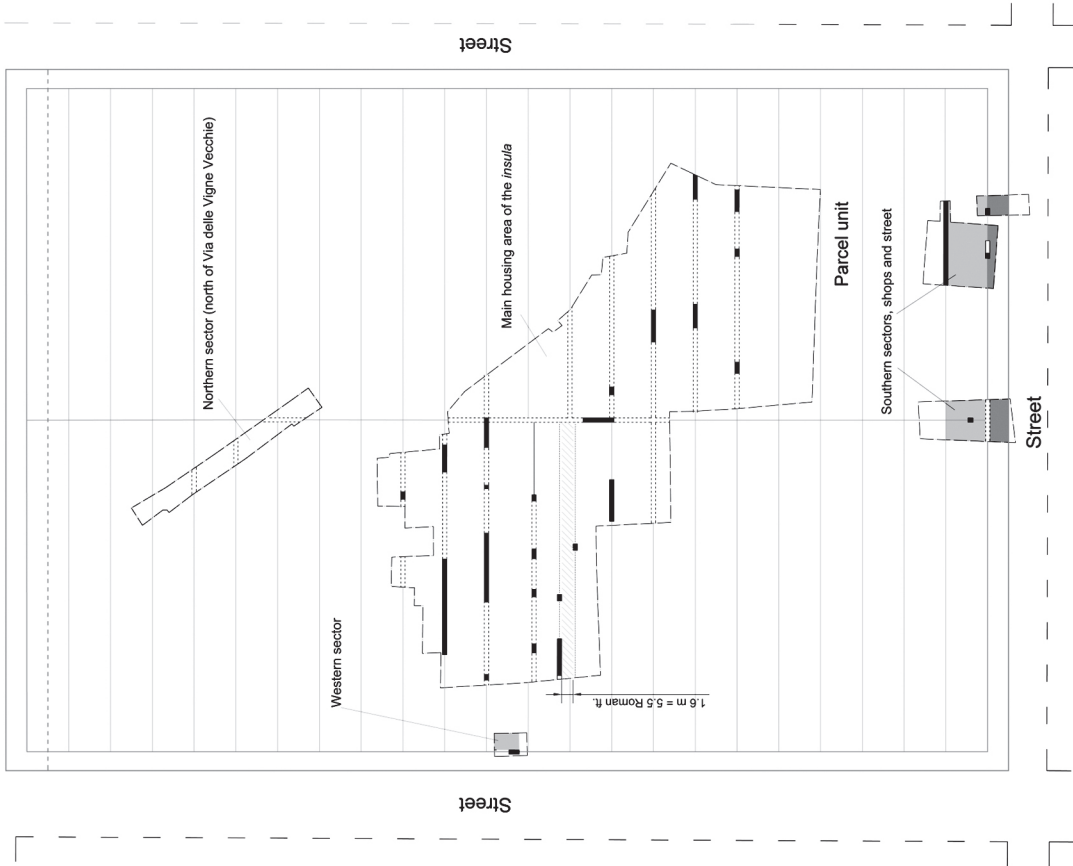
⁷ The western *cardo* / *cardo maximus* was unsuccessfully searched for by means of sampling in 2010, during the construction of the bicycle lane (ARXÈ s.n.c., on behalf of the Superintendence, under the direction of Luigi Fozzati). Its eastern border, including the footpath (but not the complete width) was finally detected in 2020, thanks to the excavation of a trench for an electric connection (archaeological assistance: Chiara Magrini, under the direction of Paola Ventura).

⁸ Medri 2000, 313–314.

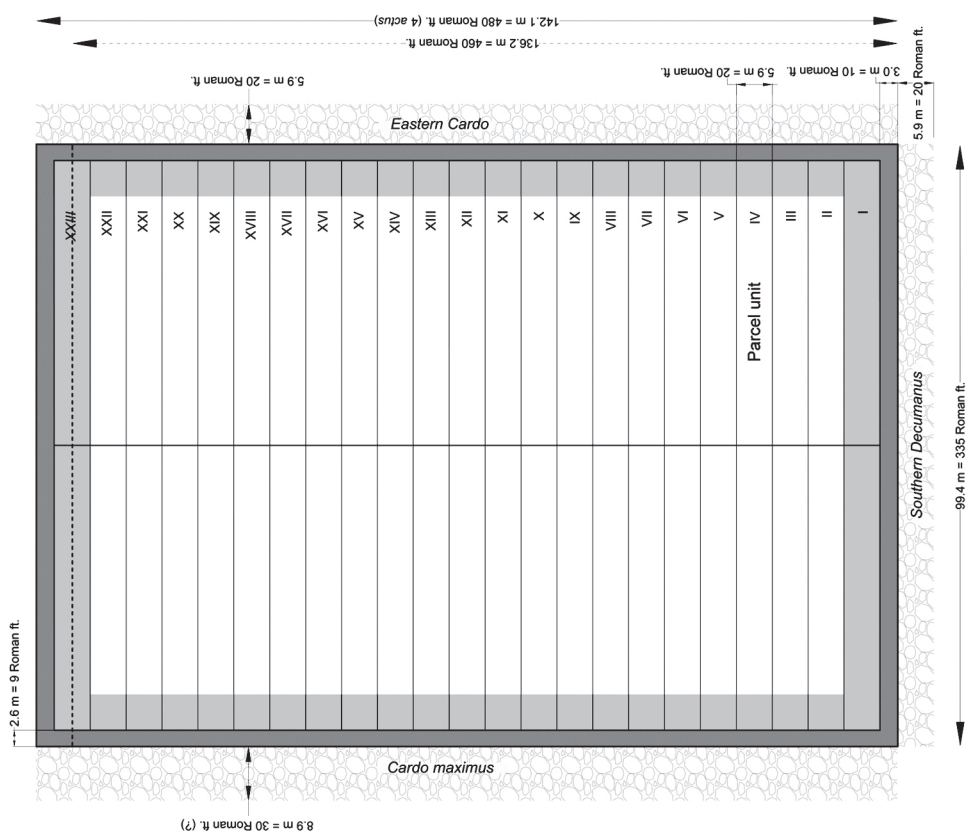
⁹ An excavation was conducted in 2017 by Archeotest s.r.l., on behalf of the Superintendence, under the direction of Paola Ventura.

⁶ Since 2007, the area has been investigated by the University of Padova, under the on-field direction of Monica Salvadori, with the authorization of the Ministry of Culture and with the financial support of Arcus spa (until 2016) and Fondazione Aquileia (since 2015).

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4 RIVER PORT

Moving to the river port (Fig. 2: 3), new research has been undertaken along the western wall of the storehouses and the republican city wall by Fondazione Aquileia.¹⁰ First of all, it was necessary to verify the relationships between these two structures and, in particular, to date the storehouse wall (Fig. 5: 1). When the city wall still stood but had evidently lost its function, some buildings were constructed against it, as shown by the earlier excavations of G. Brusin (Brusin 1934, 42, 69). The lower level included a room with *opus spicatum* floor; the upper level is constituted by at least two rooms, the first with a white mosaic floor, the second floored with terracotta *tesserae* in which at least three pseudo-*emblemata* were inserted: a small panel with a phallus is still preserved. The width of these buildings is probably the same (5 m) and it seems they looked onto an open space towards the east: it is possible that they belonged to the commercial complex before the western wall of the storehouse was built. The dating is between the end of the 1st century BC and the 1st century AD. Many fragments of Aegean cooking ware were found above the *opus spicatum* floor and beneath the white mosaic: thus the latter must date from the last decades of the 1st century AD onwards (cf. Riccato 2020, 147–160). The huge storehouse (more than 300 m long, 12 m wide) represents the outcome of the complete reconstruction and reconfiguration of the port space. The buildings erected against the city walls were demolished and the western wall of the storehouse cut through the previous floors. The foundations have been brought to light: the oak formwork is well preserved and dates back to the period between the end of the 1st century AD and the third quarter of the 2nd century AD, according to calibrated ¹⁴C dating (probability 95.4%) (Fig. 5: 2). This chronology is later than the traditional Julio-Claudian era (Bertacchi 1980, 125; more generically Brusin 1934, 41–42: 1st century AD) and more similar to the one established during the excavations of the École Française along the eastern wall of the storehouse (Maggi, Urban 2001, 253: Flavian period; see also *infra* for the eastern river bank), even if the first decades of the 2nd century cannot be excluded. The storehouse in this phase probably already had a series of interior supporting pillars.

Since 2010, Ca' Foscari University of Venice has been conducting interdisciplinary archaeological investigations along the eastern bank of the Aquileia river

port; the excavated area (so-called Sandrigo estate)¹¹ is located opposite the above mentioned monumental complex that characterizes the western river bank (Fig. 2: 4) and was discovered in the 1930s by Brusin (Brusin 1934; *Id.* 1939). Recent archaeological research has been complemented by a series of archaeological, environmental (Kaniewski *et al.* 2022) and GPR (Ground Penetrating Radar) investigations in the area surrounding the Sandrigo estate. The final goal of the project is to fully investigate the development, use and demise of the eastern bank of the Roman river port in its environmental context. Although research is still in progress, it has been possible to verify the width of the original riverbed, measuring 48 m (Fig. 5: 3–4), while archaeological evidence confirms that the harbour channel was already functioning in the second half of the 1st century BC: by that time, the layout of the navigable water channel that bordered Aquileia on its eastern side had been completed. The channel was the result of an artificial regularization of a fluvial course that Pliny reports to have resulted from the confluence of the “*Natiso cum Turro*”. Subsequently, the eastern riverbank underwent substantial building work with the construction of a shore reinforcement wall (of stone blocks), preserved for 3 m, 60 cm in height and with a width of approx. 80 cm (Fig. 5: 3).

The difficulty of the excavation, which required the constant use of water pumps, made it impossible to verify the presence of wooden foundation piles, which, however, had been encountered during the excavations conducted in the 1930s by Brusin, to the north of the Sandrigo estate (Brusin 1934, 25–26). Some ceramic fragments incorporated in the core of the structure (e.g., Dressel 6B type amphorae similar in morphology to the early Imperial production of Loran, as well as Rhodian amphorae with apical handles), set a *terminus post quem* for the construction of the upper level of this structure in the Claudian era. Excavations carried out in 2021 made it possible to investigate the structure down to its foundation levels and to date its construction between the end of

¹⁰ Excavations were conducted in 2017–2018, with the authorization of the Ministry of Culture, by Fondazione Aquileia with the collaboration of Ente Regionale del Patrimonio culturale, under the direction of Cristiano Tiussi with Rita Auriemma. Collaborators: Paola Maggi, Ella Zulini, Luca Villa; Archeotest: Dario Gaddi, Valentina Degrassi, Louis Torelli.

¹¹ Archaeological investigations in the area of the Sandrigo estate have been carried out since 2010 by Ca' Foscari University Venice, upon an agreement with the archaeological Superintendence (Luigi Fozzati); from 2017 onwards, excavation and research activity have been conducted with the authorization of the Ministry of Culture, under the supervision of the local Superintendence, in collaboration with Fondazione Aquileia, under the scientific direction of Daniela Cottica and field work supervision of A. Cipolatto. Research has been co-funded by the University of Venice. On-site investigations and laboratory analyses have been conducted in collaboration with the University of Pisa and Cerege – Aix-Marseille (geoarchaeological and GPR investigations), Université Toulouse Jean Jaurès (¹⁴C and pollen analysis), CAA Giorgio Nicoli, S. Giovanni in Persiceto (archaeobotanical and palynological analyses), University of Bologna (microfossil analysis).

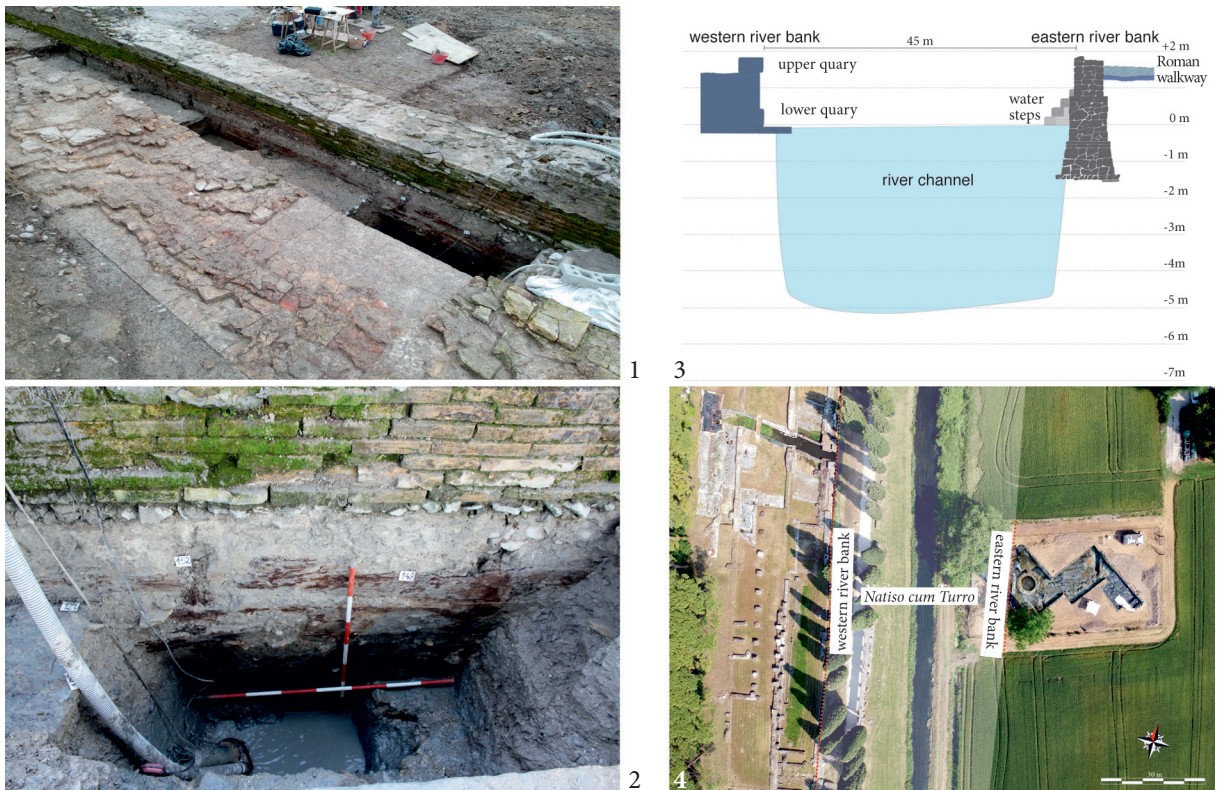


Fig. 5: Aquileia river port. 1 – The Republican city walls on the left and the western wall of the storehouse on the right (photo Archeotest). 2 – The formwork and the foundations of the western wall of the storehouse (photo Archeotest); 3 – Simplified section of the monumental fluvial channel with its eastern and western banks (by A. Cipolato); 4 – River port in Aquileia, an overview of the area with indication of the width of the palaeo-riverbed (from Cottica, Cipolato 2023).

the 1st and the beginning of the 2nd century AD. The stone bank was equipped with a system of water steps/stairways that allowed the osmotic interaction between the river, the eastern bank, the nearby warehouses and the peri-urban neighborhoods behind it. Altogether six water stairways are now known along the eastern bank of the river port: one has been investigated in the Sandrigo estate (cf. Fig. 5: 3), three others had already been identified by Brusini further north and there are two in the southern section of the eastern bank (cf. Cottica, Ventura 2019, 15, Fig. 2).

Recent investigations (still ongoing) have revealed the presence of buildings aligned along the eastern river port, which may be interpreted as storehouses.

Important changes in the organization of this periurban area of Aquileia emerge in the Late Antique period, when the structures present in the area of the Sandrigo estate went out of use and were demolished: land was raised with artificial infill and a system of vats for the maceration of hemp was put in place (Cottica, Cipolato 2020; Cottica *et al.* 2018). This change in space use and function was a consequence of the abandonment and demolition of the warehouses and other buildings (excavations are in progress) present in this area (Tiussi 2004; *id.* 2009) and large amounts of broken amphorae

were employed in the reclamation layers (cf. Cottica, Cipolato 2019).

Indeed, from the 3rd century AD onwards, Aquileia underwent some changes in the management of the system of natural and artificial water channels that formed its river port: the case of the demise and silting of the artificial channel known as Canale Anfora is well-known (Maggi *et al.* 2017; Bonetto *et al.* 2020). Overall changes in the river port system were triggered by a combination of natural and non-natural events, such as the accumulation of silt and man-made waste in the water channels, and perhaps the diversion of the river reported by Ammianus Marcellinus, when he describes the final phase of the siege of 361 AD (cf. Bonetto 2009; Maselli Scotti *et al.* 1999). Therefore, in the case of the river port a combination of different events led to an increasing reduction in the depth of the water channel, reduced to a marshy channel by the early 6th century AD. The silting of the riverbed has been well documented by core drillings conducted by Ca' Foscari University in the port between 2020 and 2021, and corroborated by the radiocarbon dating and stratigraphic investigation conducted in the riverbed between 2010 and 2011 (Kaniewski *et al.* 2022; Cottica, Cipolato 2023, Fig. 3). The latter revealed that part of

the riverbed was obliterated by a large amount of debris and anthropic discharges, mainly composed of building material and ceramics (but also animal bones and wood), dating between the 4th and the end of the 5th century/early 6th century AD. In the Sandrigo estate, by the early 6th century AD, the water stairway and the eastern bank were out of use and the adjacent storehouses and buildings had been demolished down to foundation levels and exploited for reusable building material. A lime kiln was built against the riverbank and above the former water stairway (Cottica, Ventura 2019, 28, Fig. 16).

These events fit well with the general context of reorganization of the urban layout and redistribution of functional spaces testified to by, amongst other data, the construction of the two late city walls (cf. *supra* section 2 in this contribution), which cut off the eastern periurban sectors of Aquileia and obliterated the western quay of the river port (also occupying part of the riverbed, by then partially silted cf. Bonetto 2009). The lime kiln mentioned above was active in the first half of the 6th century and was then demolished to allow a further change of function for this area: the land was artificially raised and they built (approximately in the second half of the 6th/early 7th century AD) a new system of vats for the maceration of hemp (Cottica *et al.* 2018; Cottica, Cipolato 2020), testifying to the persistence of activities in this area from the 1st century BC to the 6th and 7th century AD.

Further evidence of the changes that the Roman river underwent has been recently retrieved in the southern portion of the present-day eastern bank of the channel (Fig. 2: 11).¹² Its partial collapse brought to light at least one inhumation burial and the remains of an artisanal area, providing proof that the south-eastern curve of the Natissa has moved towards the east since Roman times – we can relate the modern course to the construction of the railway from Cervignano to Grado, when the structures of two pottery kilns were detected in the same area.¹³ Indeed, the original course in this spot is correctly traced in most recent general reconstructions of the harbour system of Aquileia (a synthesis in Cottica, Ventura 2019, 11–14), but its detailed outline is far from being definitively ascertained by means of archaeological samples on the ground.

5 FORUM

Within the archaeological area of the *forum*, some excavations have been undertaken below the floor levels

¹² A rescue excavation was carried out in 2022 by NEA Archeologia, on behalf of the Superintendence, under the direction of Paola Ventura. The report has not been published yet.

¹³ MAN Aquileia, Archivio storico, pianta della linea ferroviaria Cervignano-Belvedere scala 1:1000 (1895). We thank Flaviana Oriolo and Paola Maggi for the information.

of the Imperial period¹⁴ (Fig. 2: 5). The excavations along the northern wall of the civilian *basilica* have brought to light the foundations (Fig. 6: 1) and the remains of a wooden formwork: it seems to date back to the 2nd–1st century BC, according to a calibrated ¹⁴C date from a formwork fragment (121–62 BC; probability 92,5%). Perhaps a second foundation re-used the remains of the earlier one and supported the limestone blocks of the wall, which are preserved only along the south-eastern corner of the *forum* portico. These new data could support the hypothesis of an early Augustan or even late Republican chronology for the first phase of the civic *basilica*: the inscription of C. Aratrius (CIL V, 2157, now in Este), in which the building of one or more parts of the *basilica* are mentioned, dates back to the first years of the reign of Augustus. The north wall of the *basilica* cuts off an earlier north-south sandstone structure (0.50 m wide), which is similar to another two found in previous excavations (Tiussi 2011, 170). As, no relevant information for a second building phase has been found, the traditional chronology in the Severian period remains, based on the architectural decoration linked to its south-western part. It is, however, very interesting that an entrance to the *basilica*, 3.00 m wide, has been recognized near the south-eastern corner of the portico: the brick and stone foundations are the remains of a staircase that led to the floor level of the *basilica*. A limestone block with architectural decoration is still in place. Behind the columns of the eastern portico, the series of shops with terracotta *tesserae* floors has been partially investigated: it was confirmed that their floors were realized with terracotta *tesserae*, sometimes in two overlapping layers (*taberna* 2) or with the insertion of pseudo-*emblema* (*taberna* 7). The recent investigations did not find consistent remains of previous floors or walking surfaces but only thin mortar levels with stone splinters (Fig. 6: 2). However, a large spoil pit belonging to a rectangular stone structure, related to those levels, was identified. It was probably demolished when the new pavement was laid at the beginning of the Imperial era.

6 THEATRE

Since 2015, the University of Padova has been researching in the area of the Roman theatre of Aquileia (Comelli-Moro estates: Fig. 2: 6) (Ghiotto *et al.* 2018; Ghiotto *et al.* 2020; Ghiotto *et al.* 2021; Dilaria *et al.* 2023).¹⁵ It is the latest of the main public buildings of

¹⁴ A big restoration project is currently underway, led by the Fondazione Aquileia and under the scientific direction of the local Superintendence (Paola Ventura). Excavations by ARXE s.n.c, in the field under Luciana Mandruzzato and Giulio Simeoni.

¹⁵ The investigations, directed by Andrea Raffaele Ghiotto (University of Padova, Department of Cultural Heritage),



Fig. 6: Forum. 1 – The south-eastern corner of the *forum* and the entrance to the *basilica* (red) (photo ARχE); 2 – Mortar levels with stone splinters under the Imperial limestone slabs of the eastern portico (photo ARχE).

the Northern Adriatic city to be reliably identified, after some important hypotheses regarding its location had previously been put forward by archaeologist Luisa Bertacchi (Bertacchi 1995; Ghiotto 2019). Following a series of preliminary geophysical surveys, the archaeological excavation soon ascertained the existence of the theatre and its exact topographical location, not far from the city *forum*, immediately outside the Republican walls.

are carried out with the authorization of the Ministry of Culture, under the supervision of the local Superintendence, and in partnership with the Fondazione Aquileia.

The excavation campaigns of the following years made it possible to define the plan and dimensions of the building (Fig. 7), which reaches the considerable width of approximately 95 m (320 Roman feet). From a dimensional point of view, it is therefore on the order of size of the largest Roman theatres in *Venetia et Histria*.

The overall layout of the building, its architectural decoration, the preliminary study of the finds, and recent ¹⁴C analyses of preserved organic remains from foundational layers suggest that the theatre was built in the second half of the 1st century BC or, at the latest, within the first two decades of the following century, most likely

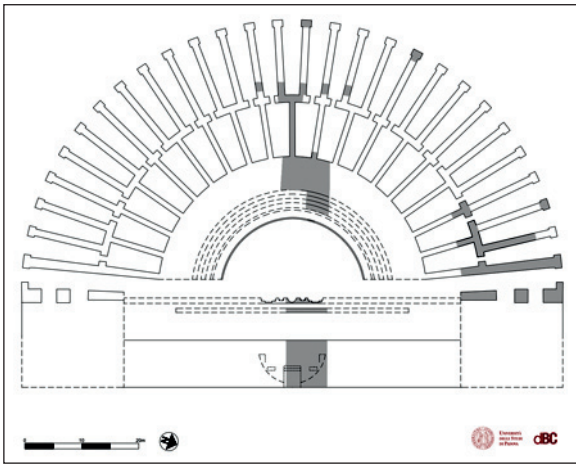


Fig. 7: Theatre, preliminary reconstructive plan with indication of the excavated sectors in dark grey (Ghiotto et al. 2021).

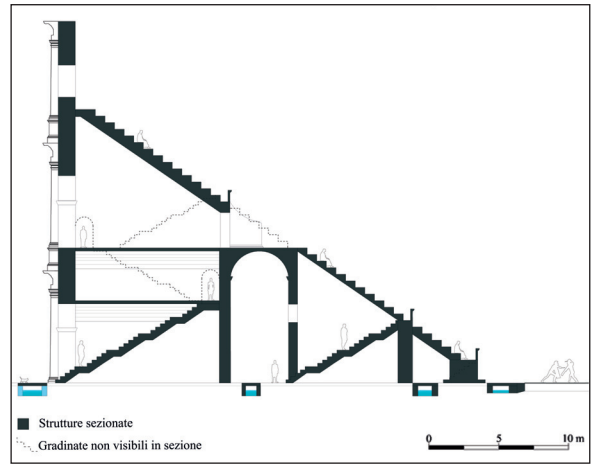


Fig. 8: Amphitheatre, hypothetical section of the building (drawn by F. Soriano).

during the Augustan era. This was therefore the first of the big buildings that formed the so-called ‘entertainment district’ of Aquileia, in the western urban sector outside the Republican walls (Basso 2004; Ghiotto 2018). The construction of the theatre was followed by that of the amphitheatre around the middle of the 1st century AD and, much later, by that of the circus and the ‘Great Baths’ in the Tetrarchic-Constantinian era.

The two main entrances to the theatre (*aditus maximi*) were accessible from the ‘*decumanus* of Aratria Galla’ to the north and from a parallel road to the south. A large open area to the west of the building facilitated the flow of spectators and was possibly used for commercial activities.

There were various interventions to renovate the architectural decoration of the monumental *scaenae frons* wall, to renovate the front of the *pulpitum* and to rebuild the orchestra floor. Also of interest is the reuse in the Late Antique phase of the outer vaulted substructures under the *cavea* to allow for metalworking craft activities (Borsato 2022). Later, the building was included within the zigzag walls of the Byzantine period.

7 AMPHITHEATRE

A section from the arena to the facade of the amphitheatre was excavated in 2015–2017,¹⁶ after the excavations conducted in the 18th to 20th centuries (Fig. 2: 10) (Basso 2018, 21–56). The excavation area is limited (approx. 310 m²) compared to the overall dimensions of the building (approx. 13,000 m²) and, furthermore,

¹⁶ The excavation was carried out by the University of Verona under the direction of Patrizia Basso, with the authorization of the Ministry of Culture, under the supervision of the local Superintendence.

the investigation was very complex due to the depth of the Roman levels (located at 3 m below modern ground level), the abundant rising groundwater and the very compromised state of the masonry, due to the frequent spoliation it had undergone over the centuries. However, the data collected clarified the measurements of the building’s axes (148 x 112 m), confirming that it was one of the great amphitheatres of Roman Italy, and its construction typology, self-supporting and “creuse”, according to Golvin’s definition (Golvin 1988, tav. II), without an external gallery (Basso 2018, 218–219). The general plan of the building can be reconstructed with reasonable certainty, but the elevations are still rather speculative, as is the assumed number of 21,000 seats, which is only a general reference measurement (Fig. 8). One of the best-preserved structures of the amphitheatre (as well as of the entire Roman Aquileia) is a sector of the elliptical wall: it is in fact preserved in elevation for 1.70 m, showing a construction technique with regular rows of stone interspersed with recurring bricks (Grazioli 2018, 93). Interesting new data recorded by our excavation concern the complex water drainage system of the building, consisting of a whole series of elliptical and radial conduits in brick and stone (Grazioli 2018, 76–84). In addition, it is worth mentioning the absolute novelty of what our investigations brought to light regarding the particularly robust foundations of the amphitheatre, attesting to the presence of highly skilled workers on the site. Two cores, drilled to a depth of 5 m, allowed us to highlight that the building was first constructed by casting a “homogeneous platform” foundation in lime, sand and gravel and then by constructing a series of “simple linear” foundations on top of it, which formed, so to speak, the framework of the elliptical and radial substructures of the *cavea*, distributing the load across the ground (Basso 2018, 219–224).

As far as the dating is concerned, the wall and some layers rich in fragments of a black/white mosaic floor, brick fragments and lime, which came to light under the arena, would seem to prove the pre-existence in the area of settlement structures, demolished to make way for the amphitheatre (Grazioli 2018, 94–95). The materials found in these layers point to a date in the middle of the 1st century AD, constituting an important *terminus post quem* for the construction of the building (Zentilini, Scalzeri 2018, 119–120). Other indications also converge on a time immediately after the middle of the century, such as the architectural typology of the amphitheatre, as well as the dating by ¹⁴C of a charcoal fragment collected in the building site levels. Considering the overall urban framework of Aquileia, the dating seems to be further restricted to the Claudian era (Basso 2018, 241–242).

Thanks to the coins and materials collected in the abandonment levels, the end of the building's use has been dated to around the second half of the 4th century AD. From the mid-5th century onwards, some of the spaces between the radial walls, which were still partly preserved in the elevation, were used to build modest dwellings, as attested by floors and hearths. These floors underwent a series of reconstructions until the middle of the 7th century, when these structures were abandoned (Soriano 2018, 101–110).

8 BATHS

In the Tetrarchic-Constantinian era a slight rise between the theatre and the amphitheatre was chosen for a new, large, thermal building, the so-called 'Great Baths', where the University of Udine has been researching since 2002¹⁷ (Rubinich 2020, 71–75) (Fig. 2: 9). Their construction completed the urban restructuring of Aquileia, which had begun at the beginning of the Tetrarchic era with the westward expansion of the city walls, intended to include the "entertainment and wellness district", formed by theatre, amphitheatre, *thermae* and, further to the north, *circus* (Tiussi, Villa 2017).

While scientific dating of a single wooden pole belonging to the building's deep sub-foundation suggests a date between 285 and 313 AD for construction work – possibly indicating that work was ongoing during the

Tetrarchic era – it is not possible to rule out completion during the reign of Constantine, suggested by epigraphic and historical sources including its naming as *Thermae Felices Constantinianae*. In any case, all data indicate that the baths must have been finished somewhere in the first quarter of the 4th century AD (M. Cadario in Rubinich *et al.* 2024).

The archaeological excavations carried out by the University of Udine build on those of the previous century, conducted by the local Superintendence but only partially published and often poorly documented. The stratigraphic excavations and the georeferencing of previous discoveries, together with new results, have contributed not only to our knowledge of the thermal building but also to the understanding of the Late Antique town planning of the south-western part of Aquileia (Rubinich 2022, 356–358).

The thermal building had huge proportions (around 20,000 m²), oversized for the needs of Aquileia, and, with the quality of its construction technique (Dilaria *et al.* 2022) and the opulence of its decorations, mosaic pavements and marble coverings, it reveals the aim of the Imperial patron to use it for propaganda (Cadario 2023). The Great Baths (Fig. 9) underwent two main renovations, one between the end of the 4th and the beginning of the 5th century and another in the middle of the 5th century (Rubinich, Braidotti 2022), by which time they are the only public building in use in the south-western area of the city. Around the 6th century, the Great Baths lost their thermal functions and various families occupied their rooms and halls, living inside the ruins and taking from them glass, metal and marble coverings from walls and floors to rework them (Rubinich, Braidotti 2022, 293). Between the 7th and 8th centuries, vaults and roofs began to collapse, forcing the early medieval inhabitants to leave; the Baths therefore became a large quarry of building materials until at least the 13th century, when even the remaining walls were despoiled down to the foundations.

The considerable extension of the building, the depth of the excavation for its sub-foundations and the need to ensure adequate space for the heating systems and for water supply/drainage below the floor level radically altered the previous urban organization of this area, erasing all the pre-existing structures. Before the Tetrarchic period, the area of the Great Baths was located outside the city walls, which perhaps had already been demolished. We have no idea of the organization of this 'suburban' space. The remains of *domus* in urban and periurban districts to the east, north- and south-east, documented above all by fragmentary mosaic pavements, date back to the Augustan era and the beginning of the 4th century (Ghedini *et al.* 2017, 257–377, nn. 89–113). The recent excavations by the University of Verona at the amphitheatre have also revealed traces of previous dwellings dating back to the first half of the 1st

¹⁷ The investigations by Udine University (Department of Human Studies and Cultural Heritage), now directed by Matteo Cadario and, between 2016 and 2019, by Marina Rubinich, are carried out with the authorization of the Ministry of Culture, under the supervision of the local Superintendence, and in partnership with the Fondazione Aquileia. Previously (2002–2014), the University of Udine conducted its annual archaeological campaigns thanks to an agreement with the Archaeological Superintendence (Franca Maselli Scotti, then Luigi Fozzati).

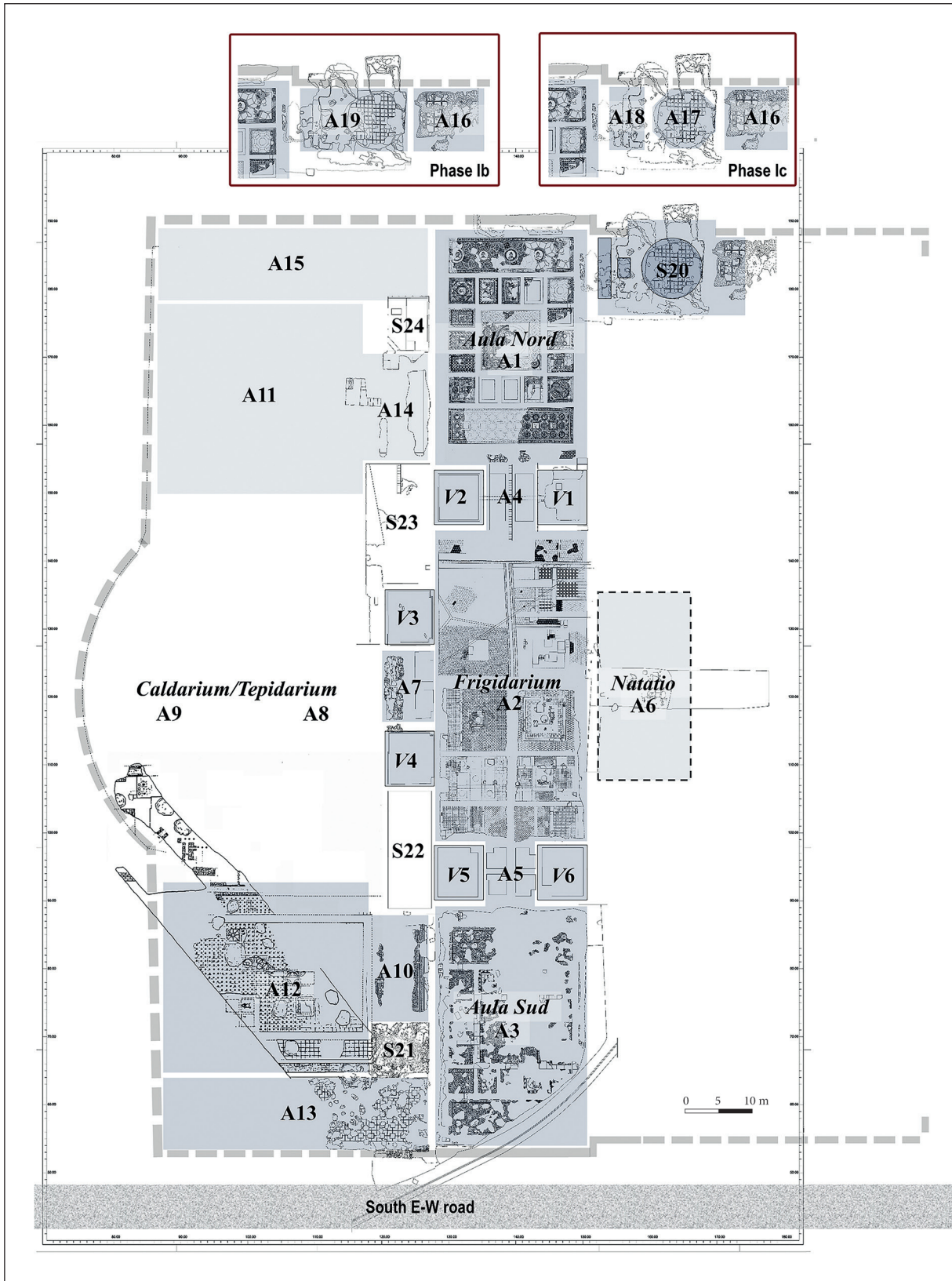


Fig. 9: Great Baths, hypothetical reconstruction of their layout applied to the real map of the excavated remains (Phase Ia, first quarter of the 4th century); in the upper boxes: Phase Ib (late 4th-early 5th century) and Ic (5th century) of the north-eastern sector (drawn by M. Rubinich).

century AD (Grazioli 2018, 84–86). Therefore, it is possible that there were scattered houses also in the area of the future Baths; however, there are no indications of a preceding thermal building coeval with the theatre and the amphitheatre.

The Great Baths overlooked, to the south, an E-W road that left the city through the so-called ‘Porta dell’Arena’ and then continued towards the Terzo River and the sea. The remarkable quantities of wood needed to heat the thermal complex had to enter through this gate, quickly reaching the service facilities in the western part of the building. We do not know the route of the southern road before the construction of the *thermae*, but its alignment with the so-called ‘Sepolcreto’ (which is also taken from that of the ‘Porta dell’Arena’, coeval with the Baths) would seem highly likely (Rubinich 2022, 360–366).

The road that bordered the *Thermae felices* to the north probably ran at least 20 m from the northern perimeter wall of the building, closer to the theatre and aligned with the paved sections brought to light by Giovanni Brusin in the 1930s immediately west of the *cardo maximus* (Rubinich 2022, 367, with previous bibliography). However, its relationship with the Late Antique city walls is not clear.

Excavations and geophysical surveys by the University of Padua to the west of the theatre have identified an open space (Ghiotto 2018, 259), which might also have extended to part of the area where the Great Baths were built, but we still have no certain data on which to base hypotheses. Instead, we can conclude that the enormous size of the *Thermae Constantinianae* continued to influence the development of the urban road network of medieval and modern Aquileia, even after the memory of the *Thermae Constantinianae* was completely lost. For example, the route of via XXIV Maggio before the 1960s, when the wall of the so-called ‘Braidà Murada’ was definitively demolished, followed the south-eastern corner of the Roman building. It is thus possible to prove the survival of the Late Antique roads, which continued to be used throughout the Middle Ages to get around the build-up of rubble after the collapse of vaults and roofs. In addition, the lane that leads to the archaeological area follows the route of the N-S road bordering on the eastern side of the Baths (Rubinich 2020, 84–85).

9 MARKET AREA

Immediately north of the Late Antique walls in the south-eastern sector of the town (cf. *supra* section 2) (Fig. 2: 12), excavations conducted by the University of Verona¹⁸ revealed a large commercial complex, consisting of three or four buildings, already partly identified by Brusin (Basso, Dobrevá 2023) (Fig. 10: 1). One

particularly important find uncovered by our excavation is a previously undocumented building (Basso *et al.* 2022, 265–267) (Fig. 10: 2), corresponding to the geophysical anomalies identified in 2018 by a magnetometry and GPR survey of the entire area (Verdonck *et al.* 2020; Forte *et al.* 2021). The building was paved with Aurisina stone and, in some cases, with recycled architectural elements. A portico emerged on both sides of the paved area, attested by six quadrangular pillars or reused columns. Excavating this building, we identified a brick channel discharging water outside the complex, towards the Natissa (Basso *et al.* 2022, 267). Brusin brought to light another similar channel connected to the easternmost building and a photograph of Brusin’s excavations in the 1950s, at the eastern border of the field, shows that, in that portion of the wall, there was a further channel that passed through it (Basso, Dobrevá 2023). This would confirm the close architectural and chronological relationship between the squares and the internal wall (cf. *supra* section 2). We have not yet identified the eastern, western, and southern perimeter walls of the complex, so, as far as the market is concerned, there is still a lot of work to be done in future excavations. However, the data collected so far attest that the complex was unitary, built on a very thick artificial fill, to raise the level of a previous phase in response to a rise of the water table. Materials collected in this level are currently being studied by Diana Dobrevá but seem to suggest that the building dates to between the end of the 3rd and the beginning of the 4th centuries AD (Basso 2023). The different market buildings were specialized in the sale of different products: the easternmost for “messy” goods that required water, like fish and meat, as demonstrated by the animal bones found inside the small well located at the centre of the square (Bandera 2023); the two others for cereals, judging from the piles of carbonised kernels found in the abandonment phase layers (Basso *et al.* 2022, 265).

Closely connected to the market, in the same period, a great *horreum* (66 x 88 m) was built, modelled on those of Milan built by Emperor Maximian. It consists of two large rectangular halls divided into naves by pillars and separated by an unroofed central area (Tiussi 2004, 299–300; Ventura 2013, 95; Tiussi, Villa 2017, 101) (Fig. 10: 3). The discovery of cereals on the floor level testifies to the main use of the complex as a granary, probably intended to supply the army that had to be stationed there because of the threats on Italy’s eastern borders (Mandrizzato, Maselli Scotti 1994; Tiussi 2009, 77; Basso *et al.* 2022, 271). North of the *horreum* the first Christian basilica was built in the second decade of the 4th century by Bishop Theodore (Cuscito, Lehmann 2010; Villa 2012–2013; Novello *et al.* 2013; Lusuardi Siena, Baratto 2013, 186–192). The construction of these sacred and commercial structures shifts the urban centre

¹⁸ Cf. note 5.

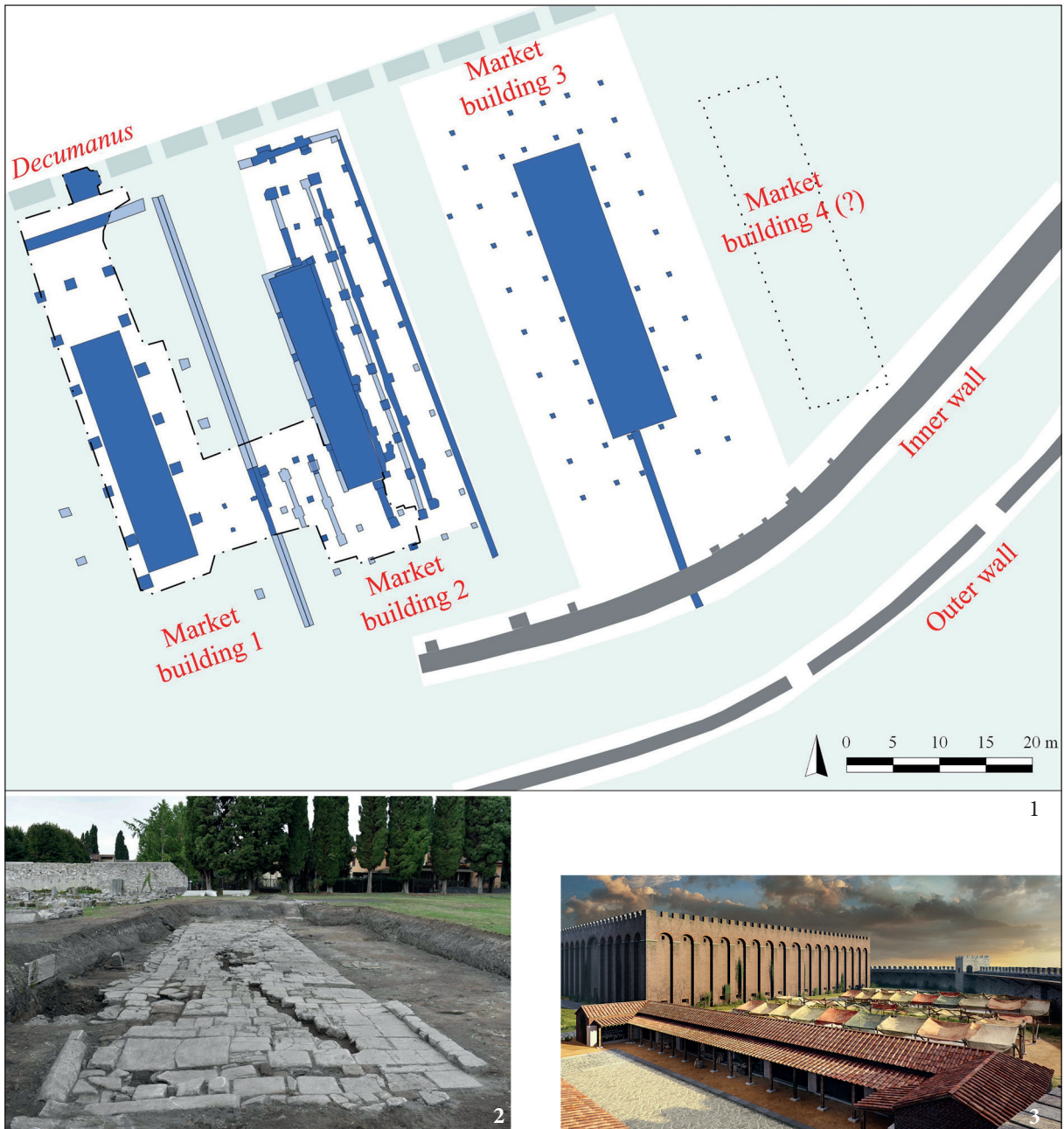


Fig. 10: 1 – The Late Antique market, consisting of three or four buildings, partly already identified by Brusin (Basso *et al.* 2021b, fig. 25); 2 – a previously undocumented building (n. 1 in image 1) (Basso *et al.* 2021b, fig. 22); 3 – 3D reconstruction of the market, *horreum* and city wall (by Nudesign, courtesy of Fondazione Aquileia).

of gravity away from the *forum*, the heart of Aquileia in the Republican and Imperial periods, to this south-eastern part of the city.

Throughout the 5th century, and therefore even after the siege by Attila, the market maintained its economic vitality. In fact, the material evidence from that period shows that Aquileia was fully integrated into the Mediterranean trade network (Basso *et al.* 2022b, 108–112; Dobрева, Zago 2022). Many coins were found, as is typical in a commercial area, and

most date to the 4th and 5th centuries. But what was exceptional was the discovery of a gold solidus of Leo I, the first to be found in Aquileia. This find attests to the circulation of precious metal coins on site in the second half of the 5th century and is an extremely important piece of evidence for the use of the market until the first decades of the 6th century AD, when it was abandoned after a fire (Basso *et al.* 2021, 109; Basso *et al.* 2022a, 269).

10 *DOMUS*

Finally, research on private buildings in Aquileia has seen considerable progress thanks to research conducted by the University of Padua in the area of the Cossar estates,¹⁹ in the south-eastern corner of the urban space of the Republican period. Investigations carried out between 2009 and 2015 have brought to light a long sequence of private structures (Fig. 2: 7). Of extraordinary interest is the construction, around 90 BC, of a first *Domus of Titus Macer* built with an *atrium*-plan typical of the central-Italic world. The house was accessible by a gravel pavement through the *fauces* that led to the centre of the house, marked by an *impluvium* and a well. The *tablinum* opens onto it in an axial position. This building was enlarged at the beginning of the 1st century AD through the creation of a large garden surrounded by a covered cryptoporticus and by living and presentation rooms (Fig. 11: 1). The house thus came to occupy almost the entire width of an *insula*, connecting to the shops that opened onto a second urban road (Bonetto *et al.* 2023).

Since 2005 the University of Trieste has been conducting an archaeological excavation²⁰ in Aquileia in the area between the *forum* and the river port (Fontana 2020) (Fig. 2: 2). Investigations have uncovered a large Late Antique *domus*, 4th century AD, known as the *Domus of Dancing Putti*, from the name given to a mosaic with *Erotes* inside flower garlands found in one of the rooms. One of the most interesting aspects is the position of the house within Late Antique Aquileia. The excavated area lies in an important quarter of the ancient city, in the second *insula* on the north-eastern side of the *forum*, more precisely between the *forum* and the river port, an area which seems to have undergone a progressive ‘downgrading’ during the 4th century AD. At present, our research shows how the structure of this Late Antique home appears to encompass the whole *insula*, and how the whole decorative apparatus suggests the *domus* belonged to owners of a very high social or wealth class (Fig. 11: 2). It would be reductive to consider the house an exception, some kind of unusual phenomenon compared to the shifting of the ‘lively’ centre of the city to its south-western area, especially since the first level of this

luxury *domus* stood *ex novo* over a layer of clay that was put in place in the second quarter of the 4th century AD. This is unanimously believed by archaeologists to be the period in which the creation of a new urban centre took place around the basilica complex.

The group of wealthy houses in this area is thought to have been occupied by prominent persons of the Christian faith who had invested in the episcopal project, just like the *circus* area and the imperial palace probably formed a further focus of attraction for the *domus* of the ruling class of the time (Fontana 2017). The same kind of changes are present in other cities in Northern Italy, like *Augusta Taurinorum*, *Mediolanum*, *Brixia* and *Ravenna*, which in Late Antiquity experienced a period of strong economic growth; in these cities, just like in Aquileia, the distribution of the new seats of power, both lay and ecclesiastical, prompted the development of adjacent prestigious residential areas.

If this explains the presence of high-level houses in the southern and western areas of Aquileia, as for the case of the *domus* in the Cossar estates and the CAL estates, it is reasonable to think that a similar explanation underlies a very high-level *domus* complex such as the one situated next to the *forum* along via Gemina. Indeed, at the beginning of the 4th century, Aquileia experienced a period of renewed political and economic prominence, which drew officials and senatorial families; the *forum* was decorated and became a common public memorial place. The area around the *forum*, its functions restored, may have been a landmark, a sort of “third” pole, for the local ruling class, which, as is widely documented in the 4th century, associated success in politics to their *paideia*. The present field investigations have not yet traced the external perimeter of the *domus*, which probably covered the area of the whole *insula*: the proximity of the present excavations, showing Giovanni Brusin’s finds (Fig. 2: 2) makes the existence of a single very large house quite probable (Murgia 2020).

11 CONCLUDING REMARKS

The series of interventions conducted in various sectors of Aquileia’s urban space presented above have made it possible to acquire data of particular importance in reconstructing the urban history of Roman Aquileia. This has been possible thanks to the intensification of research, which has almost always employed refined and reliable methods of analysis that made it possible to modify and enhance much of the knowledge acquired during the excavations of the last century. The collection and processing of data take on greater significance if they are unified and managed according to common criteria, with digital tools and aims shared among all those working in the field in Aquileia. To date, this objective cannot be said to have been fully achieved, but

¹⁹ The excavation at the Cossar estates was carried out between 2009 and 2015 through a collaboration agreement with the Archaeological Superintendence and in partnership with the Fondazione Aquileia, under the authorization of the Ministry of Culture. The excavations were directed by Jacopo Bonetto and Andrea Raffaele Ghiotto.

²⁰ Excavation and research activity, started in 2005 and still in progress, has been conducted by the Department of Humanities with the authorization of the Ministry of Culture, under the supervision of the local Superintendence, in collaboration with Fondazione Aquileia, under the scientific direction of Federica Fontana.



1



2

← Fig. 11: 1 – The *Domus* of *Titus Macer* in the mid-Imperial era (Bonetto *et al.* 2023); 2 – Position of the *Domus* of *Dancing Putti* in the ancient urban area and its location within the *insula* with the position of the latest excavations: the green area in the image shows the so-called peristyle, probably paved with limestone slabs, which was overlooked by various luxurious rooms and constituted the northern boundary of the core of the house; the pink area is the base of a mosaic that was discovered by Giovanni Brusin in the 1930s and is presently conserved in the museum of Aquileia; it is thus possible to ascertain that the plan of the house continued northwards towards the *decumanus* that closed the *insula* (drawn by M. Braini).

the present contribution represents early results of the concerted effort in this direction.

On this basis, a brief summary of the main phases of urban development, from the foundation of the colony in 181 BC to the Late Antique period, can be proposed, integrating what is already known in the literature with the results of ongoing research.

As far as the Republican period is concerned, there is clear difficulty in recognising traces of infrastructural works and public or private buildings on the ground relating to the decades following the founding episode of 181 BC. In contrast to the abundance of historical and epigraphic sources and a few valuable artefacts datable to the 2nd century BC, there are currently few stratigraphic contexts relating to the frequentation of the settlement in the first decades of the existence of the new urban reality.

Investigations of the city walls did not reveal any traces of the very first defensive perimeter on the ground. This was the symbol of the new colonial foundation, but it appears to have taken stable masonry form only after the second colonial deduction of 169 BC, perhaps in the following decades. The most novel aspect in this monumental context consists of the intervention of Greek-Hellenistic craftsmen in the definition of the architecture of the enclosure (gates and towers) and the construction methods (fired brick), consistent with the wider Cisalpine panorama that has recently been reconstructed. The first indications of the use of the forum as the main place of reference for the political institutions and commercial life of the Aquileian community also date back to this period.

Only from the beginning of the 1st century BC does the information derived from archaeological excavations increase significantly. This information is derived from several interventions in the city and exhibits a particular solidity and reliability. In other words, we can state that before the end of the 2nd century BC there do not seem to be any archaeologically evident works of architecture or regularisation of urban space. It therefore remains unclear what the urban layout was for many decades following the foundation in 181 BC.

Research conducted in various intramural areas (most recently the *Insula* of the Wounded Beasts) has shown that the urban layout of Aquileia consisted of a fairly regular division into blocks sharing the same orientation; many of these, destined for residential use, are divided into regular plots obtained by means of the longitudinal bisection of the block and the creation of a mesh of similarly sized living spaces. Such planning is often thought to characterise the early phases of the city, but it is probable, as mentioned above, that it is more recent or that it was not applied simultaneously across the entire urban area. In fact, recent investigations in the area of the Cossar estates have revealed that the first subdivision of the land by means of *glareatae stratae* and residential plots in this sector of the city does not seem to precede the beginning of the 1st century BC, when it was put into practice along with the introduction of fully Roman models for domestic structures, as evidenced by the atrium layout of the *Domus* of *Titus Macer*.

Already widely known, but well documented by more recent research, is the intense phase of monumentalisation referable to the early Imperial period. Among the urban phenomena already known is the renovation of the monumental sector of the forum, which not only changed its roster of public buildings with the construction of the basilica, but also increasingly became a space for the celebration of local institutions and imperial power.

Another phenomenon that has emerged from earlier and recent investigations for this period is the expansion of the urban perimeter beyond the republican walls, dictated on the one hand by economic and demographic growth, and on the other by the beginning of a long period of peace that made defensive works superfluous. To the south-west of the forum, beyond the old walls, the new monumental complex of the theatre was constructed during the Augustan period. This was the first of the great buildings that occupied the new western urban sector known as the ‘entertainment district’, and it was followed by the amphitheatre around the middle of the 1st century AD.

This period also brings the expansion of the port system that was already active along the navigable course of the *Natiso cum Turro*. The reconstruction of the large storehouses and a series of structural interventions on both banks of the river date back to the end of this century. During the first centuries of the Empire, it was the trading system that ensured the steady development of this Northern Adriatic city, strategically located between the Mediterranean and the transalpine regions.

After the Severan phase, to which we can date a number of architectural changes (e.g. in the *forum* and the theatre), we see, during the 3rd century AD, the first signs of the difficulties that the city would experience throughout Late Antiquity. The episode of the siege

by Maximinus the Thracian in 238 AD, for which the ancient defences had to be temporarily restored, is a well-known example.

In the following century, however, it was deemed opportune to fortify the city with a new curtain wall, much wider than the original one, which was to enclose a city that had by then become a metropolis of the ancient world. The new investigations have made it possible to confirm and better document the layout of the new curtain wall at the dawn of the 4th century AD. It enclosed the great Aquileia of the Tetrarchs and then of Constantine, a city that covered an area roughly double that of the original.

In addition to the still-elusive imperial palace and the mint, the construction of two large public buildings within the 'entertainment district' is emblematic of this phase: the circus and the Great Baths, which the most recent research dates to the years between the 3rd and 4th centuries AD. These are two buildings of recreational nature that are, however, charged with political and ideological meanings in the propaganda of the imperial power, traces of which can also be seen in the restructuring of the *forum*. The latest research also shows the economic importance of this century for Aquileia through the evidence of the southern market squares and the large *horreum*, also located in the southern sector of the city.

Domestic construction flourished during this phase, as demonstrated by, for instance, the *Domus* of the Dancing *Putti*, extensively investigated in recent decades. However, there is no lack of signs of impending crisis. At the time of the siege launched by Julian in 361 AD, the river was, to a large extent, deliberately silted up, according to literary sources, leading to the beginning of a progressive collapse of the port system.

The 4th century AD is also the century in which impressive Christian buildings began to appear, in particular the construction of the great episcopal city complex in the southern urban sector. Nearby, within the new Late Antique walls, the district of the large southern markets developed, which were then enclosed within a further curtain wall in the first half of the 5th century AD.

The Roman city suffered, as is widely known, a very serious setback during Attila's devastating siege, but did not cease to exist altogether. This is demonstrated by recent research, which even in the second half of the 5th century AD, shows a series of activities in the ancient *domus*. Traces of a certain continuity of life are seen in various parts of the settlement, albeit with a decidedly lower standard of living compared to the splendour of earlier centuries. Even the *Natiso cum Turro*, which for centuries had formed the backbone of Aquileia's trade, appears significantly reduced, being just a small marshy ditch by the beginning of the 6th century AD.

To sum up: a more detailed narrative of the long history of the colony has become possible in the last two decades thanks to a series of interventions by various research groups. The collaboration of various Universities, the Superintendence for Friuli Venezia Giulia and the newly founded Aquileia Foundation has allowed for a consolidation of the insights gleaned from interventions on the ground and a progressive growth of the available data, which form the basis for making the north Adriatic city a model of synergy between research, protection and development of heritage tourism.

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- BANDERA, S., 2023, Le analisi dei reperti faunistici. – In: Basso, Dobreva 2023, 281–288.
- BASSO, P. 2004, Topografia degli spazi ludici di Aquileia. – In: Cuscito, Verzár-Bass 2004, 317–337.
- BASSO, P. 2018, *L'anfiteatro di Aquileia. Ricerche d'archivio e nuove indagini di scavo*. – Scavi di Aquileia 5.
- BASSO, P. 2023, New archaeological perspective on Late Antique Aquileia. – In: A. Launaro (ed.), *Roman Urbanism in Italy. Recent Discoveries and New Directions*, 213–234, London.
- BASSO, P., D. DOBREVA (eds.) 2020, Aquileia: first results from the market excavation and the late antiquity town walls (part one). – *Fasti Online Documents & Research* 482. (<https://www.fastionline.org/docs/FOLDER-it-2020-482.pdf>; last access 24 December 2023)
- BASSO, P., D. DOBREVA 2023, *Aquileia. Le mura e il mercato tardoantichi. Lo scavo negli archivi*. – Roma.
- BASSO *et al.* 2021 = BASSO, P., D. DOBREVA, M. BOSCO, F. SORIANO, A. ZEMIGNANI 2021, Gli scavi nel fondo Pasqualis. I risultati delle indagini 2018. – *Quaderni Friulani di Archeologia* 31, 91–117.
- BASSO *et al.* 2022a = BASSO, P., D. DOBREVA, M. BOSCO, F. SORIANO, A. ZEMIGNANI 2022, Trasformazioni e rinnovamenti urbanistici ad Aquileia nel V secolo d.C. – In: Buora *et al.* 2022, 253–275.
- BASSO *et al.* 2022b = BASSO, P., D. DOBREVA, S. LASERRA 2022, Aquileia: le mura tardoantiche nel settore meridionale della città fra indagini d'archivio e dati di scavo. – *Atlante Tematico di Topografia Antica* 32, 87–112.
- BASSO *et al.* 2023 = BASSO, P., D. DOBREVA, N. MARTINELLI 2023, Fondazioni in legno e anfore: il caso delle mura tardoantiche di Aquileia. – In: C. Previato, J. Bonetto (eds.), *Terra, legno e materiali deperibili nell'architettura antica*, Atti del Convegno, Padova [2021], 29–45.
- BERTACCHI, L. 1980, Architettura e mosaico. – In: *Da Aquileia a Venezia: una mediazione tra l'Europa e l'Oriente dal II secolo a.C. al VI secolo d.C.*, 95–334, Milano.
- BERTACCHI, L. 1995, Il teatro romano di Aquileia. – In: G. Cavalieri Manasse, E. Roffia (eds.), *Splendida civitas nostra*, Studi archeologici in onore di Antonio Frova, Studi e ricerche sulla Gallia Cisalpina 8, 119–135.
- BERTACCHI, L. 2003, *Nuova pianta archeologica di Aquileia*. – Udine.
- BONETTO, J. 2009, Le mura. – In: Ghedini *et al.* 2009, 87–90.
- BONETTO, J. 2013, Le difese di Aquileia nel IV secolo. – In: Tiussi *et al.* 2013, 72–74.
- BONETTO, J. 2019, Maestranze greche e laterizio cotto: alle origini dell'architettura della Cisalpina. – In: J. Bonetto, E. Bukowiecki, R. Volpe (eds.), *Alle origini del laterizio romano. Nascita e diffusione del mattone cotto nel Mediterraneo tra IV e I sec. a.C.*, Atti del II Convegno internazionale Laterizio, Padova, 26–28 aprile 2016, 317–334, Roma.
- BONETTO, J. 2020, Costruttori e costruzioni greche nella Cisalpina di età ellenistica: il caso di Aquileia. – In: A. Coppola (ed.), *I Greci in Occidente. Aggiornamenti, revisioni, nuove prospettive*, Atti del Convegno internazionale, Padova, 17–18 ottobre 2019, *Hesperia, Studi sulla grecità in occidente* 37, nuova serie periodica 2, 225–242.
- BONETTO, J. 2023, Entrando ad Aquileia: la porta settentrionale e l'architettura ellenistica nella Cisalpina repubblicana. – *Atlante Tematico di Topografia Antica* 33, 259–283.
- BONETTO *et al.* 2019–2020 = BONETTO, J., A.R. GHIOTTO, C. PREVIATO 2019–2020, Le mura repubblicane di Aquileia: nuove indagini archeologiche lungo il lato occidentale della cinta urbana. – *Aquileia Nostra* 90–91, 35–47.
- BONETTO *et al.* 2020 = BONETTO, J., G. FURLAN, A.R. GHIOTTO, I. MISSAGLIA 2020, Il canale Anfora e il centro urbano di Aquileia: osservazioni cronologiche alla luce di nuovi dati. – *Journal of Ancient Topography* 30, 175–202.
- BONETTO *et al.* 2023 = BONETTO, J., G. FURLAN, C. PREVIATO 2023, *Aquileia. Fondi Cossar, 2. La domus di Tito Macro e le mura, Tomo 1. L'età repubblicana e imperiale*. – Scavi di Aquileia 2.
- BORSATO, A. 2022, Il riuso artigianale dei vani sostruttivi del teatro romano di Aquileia. – In: Buora *et al.* 2022, 393–409.
- BRIDI *et al.* 2020 = BRIDI, E., S. DILARIA, V. MANTOVANI, M. PACIONI, M. SALVADORI, L. SCALCO 2020, Indagare i quartieri settentrionali di Aquileia: l'Insula della Casa delle Bestie ferite. – *Quaderni Friulani di Archeologia* 30, 47–69.
- BRUSIN, G. 1934, *Gli scavi di Aquileia*. – Udine.
- BRUSIN, G. 1939, Scavi dell'Associazione. Scolina del porto romano. – *Aquileia Nostra* 10, 73–76–.
- BUORA *et al.* 2022 = BUORA, M., S. MAGNANI, L. VILLA (eds.) 2022, *Italia settentrionale e regioni dell'arco alpino tra V e VI secolo d.C.* – Atti del convegno, 15–17 aprile 2021. Storia e archeologia 1.
- CADARIO, M. 2023, *Agon gymnicus* alle terme: i mosaici con immagini atletiche dalle Grandi Terme di Aquileia. – In: C. Angelelli, C. Cecalupo, F. Olevano, E. Zulini (eds.), *Atti del XXVIII Colloquio Aiscom*, Udine, 2–4 marzo 2022, 5–15, Roma.
- COTTICA, D., A. CIPOLATO 2019, Aquileia porto fluviale - sponda orientale: nuovi dati e riflessioni sui depositi di anfore da allume. – *HEROM* 8, 13–41.

- COTTICA, D., A. CIPOLATO 2020, Il processo di lavorazione della canapa nel mondo romano: Novità archeologiche e approcci transdisciplinari. – In: M. Bustamante-Álvarez, E.H. Sánchez López, J. Jiménez Ávila (eds.), *Purpureae Vestes VII: Redefining Ancient Textile Handcraft. Structures, Tools And Production Processes*, 36–3–374, Granada.
- COTTICA, D., A. CIPOLATO 2023, Le indagini in corso presso la sponda fluviale del porto di Aquileia. – In: R. La Rocca (ed.), *Atti del VI convegno nazionale di archeologia subacquea*, 421–427, Palermo.
- COTTICA, D., P. VENTURA 2019, Spunti per uno studio dell' interazione tra uomo e fiume in antico: il caso della sponda orientale del *Natiso cum Turro* ad Aquileia. – In: M. Auer (ed.), *Roman Settlements along the Drava River*, *Ager Aguntinus* 3, 11–34.
- COTTICA et al. 2018 = COTTICA, D., M. MARCHE-SINI, S. MARVELLI 2018, Novità archeologiche sull' uso dell' acqua ad Aquileia (e nel mondo romano): le vasche per la macerazione della canapa sulla sponda orientale del *Natiso cum Turro*. – In: G. Cuscito (ed.) *Cura Aquarum. Adduzione e distribuzione dell' acqua nell' Antichità*, *Antichità Altoadriatiche* 88, 419–431.
- CUSCITO, G., T. LEHMANN (eds.) 2010, *La basilica di Aquileia: storia, archeologia e arte / Der Dom von Aquileia. Geschichte, Archäologie und Kunst*. – *Antichità Altoadriatiche* 69/1.
- CUSCITO, G., M. VERZAR-BASS (eds.) 2004, *Aquileia dalle origini alla costituzione del Ducato longobardo. Topografia, urbanistica, edilizia pubblica*. – *Antichità Altoadriatiche* 59.
- DELBARBA, N. 2021–2022, *Le mura tardoantiche di Aquileia: l' area dei fondi Pasqualis. Dallo studio alla ricostruzione*. – Unpublished MA thesis, University of Ferrara, Verona, Trento, Modena.
- DILARIA et al. 2021 = DILARIA, S., L. SCALCO, M. SALVADORI, F. PERUZZO, P. VENTURA, M. BRAINI 2021, Aquileia, quartieri settentrionali. Nuovi dati per la ricostruzione dell' organizzazione urbanistica e dell' assetto interno dell' *insula* delle Bestie ferite. – *Archeologia Classica* 72, n.s. II, 11, 297–331.
- DILARIA et al. 2022 = DILARIA, S., M. SECCO, M. RUBINICH, J. BONETTO, G. ARTIOLI 2022, High-performing mortar-based materials from the late imperial baths of Aquileia: An outstanding example of Roman building tradition in Northern Italy. – *Geoarchaeology* 37, 637–657. DOI: <https://doi.org/10.1002/gea.21908>
- DILARIA et al. 2023 = DILARIA, S., M. SECCO, A.R. GHIOTTO, G. FURLAN, T. GIOVANARDI, F. ZORZI, J. BONETTO 2023, Early exploitation of Neapolitan pozzolan (*pulvis puteolana*) in the Roman theatre of Aquileia, Northern Italy. – *Scientific Reports* 13, 4110. DOI: <https://doi.org/10.1038/s41598-023-30692-y>
- DOBREVA, D., S. ZAGO 2022, Aquileia e l' alto Adriatico nell' età della transizione. Aspetti di continuità e cambiamento commerciale alla luce dei contesti ceramici tardoantichi e altomedievali. – In: Buora et al. 2022, 307–36–8.
- FONTANA, F. 2017, Il quadro topografico. – In: Fontana F. (ed.), *Aquileia, l' insula tra Foro e porto fluviale. Lo scavo dell' Università degli Studi di Trieste 1. La strada*, Scavi ad Aquileia 3, 13–25.
- FONTANA, F. 2020, Un' *insula* a stratigrafia complessa: la Casa “dei putti danzanti” ad Aquileia (via Gemina) alla luce delle ultime campagne di scavo. – *Fasti Online Documents & Research* 476. (<https://www.fastionline.org/docs/FOLDER-it-2020-476.pdf>; last access 24 December 2023)
- FORAMITTI V. 2011, Studi, scavi, musei. – In: Fozzati, Benedetti 2011, 162–181.
- FORAMITTI, V., M. NOVELLO 2011, Note sulla storia della città. – In: Fozzati, Benedetti 2011, 142–161.
- FORTE et al. 2021 = FORTE, E., A. MOCNIK, P. BASSO, G. CASAGRANDE, D. MARTINUCCI, S. PILLON, M. POSSAMAI, R. ZAMBRINI 2021, Optimised Extraction of Archaeological Features from Full 3–D GPR Data. – *Applied Sciences* 11, 8517. DOI: <https://doi.org/10.3390/app11188517>.
- FOZZATI, L., A. BENEDETTI (eds.) 2011, *Per Aquileia. Realtà e programmazione di una grande area archeologica*. – Venezia.
- GHEDINI et al. 2009 = GHEDINI, F., M., BUENO, M. NOVELLO (eds.) 2009, *Moenibus et portu celebrima. Aquileia: storia di una città*. – Roma.
- GHEDINI et al. 2017 = GHEDINI, F., M. BUENO, M. NOVELLO, F. RINALDI (eds.) 2017, *I pavimenti romani di Aquileia. Contesti, tecniche, repertorio decorativo*. – Antenor Quaderni 37.
- GHIOTTO, A.R. 2013, Nuovi dati e nuove ipotesi sulla pianificazione urbana di Aquileia. – *Rivista di Archeologia* 37, 99–114.
- GHIOTTO, A.R. 2018, Considerazioni sul teatro e sul “quartiere degli spettacoli”. – In: Basso 2018, 253–260.
- GHIOTTO, A.R. 2019, Il teatro romano di Aquileia: la riscoperta di un edificio perduto. – In: G. Cuscito (ed.), *Aquileia. Una fortuna lunga più di duemila anni*, *Antichità Altoadriatiche* 91, 183–199.
- GHIOTTO, A.R., E. MADRIGALI 2023, *Aquileia. Fondi Cossar, 2. La domus di Tito Macro e le mura. Tomo 2. L' età tardoantica e le fasi successive. L' intervento di valorizzazione*. – Scavi di Aquileia 2.
- GHIOTTO et al. 2018 = GHIOTTO, A.R., S. BERTO, R. DEIANA, G. FIORATTO, G. FURLAN 2018, Il teatro romano di Aquileia: l' individuazione dell' edificio e lo scavo della cavea. – *Fasti Online Documents & Research* 404. (<https://www.fastionline.org/docs/FOLDER-it-2020-476.pdf>)

- org/docs/FOLDER-it-2018-404.pdf; last access 24 December 2023)
- GHIOTTO *et al.* 2020 = GHIOTTO, A.R., S. BERTO, G. FIORATTO, V. ZANUS FORTES 2020, Lo scavo del teatro romano di Aquileia: ricerche in corso. – *Quaderni Friulani di Archeologia* 30, 27–46.
- GHIOTTO *et al.* 2021 = GHIOTTO, A.R., G. FIORATTO, G. FURLAN 2021, Il teatro romano di Aquileia: lo scavo dell' *aditus maximus* settentrionale e dell' edificio scenico. – *Fasti Online Documents & Research* 495. (<https://www.fastionline.org/docs/FOLDER-it-2021-495.pdf>; last access 24 December 2023)
- GOLVIN, J. C. 1988, *L' amphithéâtre romain. Essai sur la théorisation de sa forme et de ses fonctions*. – Paris.
- GRAZIOLI, V. 2018, L' anfiteatro: i dati di scavo. – In: Basso 2018, 69–102.
- KANIEWSKI *et al.* 2022 = KANIEWSKI, D., N. MARINER, G. SARTI, D. BERTONI, M. MARCHE-SINI, V. ROSSI, A. LENA, A. BIVOLARU, M. POURKEMAN, M. VACCHI, R. CHEDDADI, T. OTTO, F. LUCE, D. COTTICA, C. MORHANGE 2022, Northern Adriatic environmental changes since 500 AD reconstructed at Aquileia (Italy). – *Quaternary Science Reviews*, 287, 107565. DOI: <https://doi.org/10.1016/j.quascirev.2022.107565>
- LUSUARDI SIENA, S., C. BARATTO 2013, Sguardo sull' edilizia religiosa e civile nella *Venetia et Histria* in età tardoantica. – In: P. Basso, G. Cavalieri Manasse (eds.) *Storia dell' architettura del Veneto. L' età romana e tardoantica*, 166–217, Venezia.
- MAGGI P., M. URBAN 2001, La zona settentrionale del porto fluviale di Aquileia: lo scavo dell' École Française de Rome e dell' Università di Trieste. – In: C. Zaccaria (ed.), *Strutture portuali e rotte marittime nell' Adriatico di età romana*, *Antichità Altoadriatiche* 46, 245–259.
- MAGGI *et al.* 2017 = MAGGI, P., F. MASELLI SCOTTI, S. PESAVENTO MATTIOLI, E. ZULINI (eds.) 2017, *Materiali per Aquileia. Lo scavo di Canale Anfora (2004–2005)*. – Scavi di Aquileia 4.
- MANDRUZZATO, L., F. MASELLI SCOTTI 1994, Notiziario archeologico. Aquileia. *Horrea*. – *Aquileia Nostra* 65, 354–358.
- MASELLI SCOTTI *et al.* 1999 = MASELLI SCOTTI F., P. PARONUZZI, N. PUGLIESE 1999, Sondaggi geognostici per la prospezione geoarcheologica del territorio di Aquileia: il progetto SARA. – In: C. Zaccaria (ed.), *Archeologia senza scavo. Nuovi metodi di indagine per la conoscenza del territorio antico*, *Antichità Altoadriatiche* 45, 79–97.
- MEDRI, M. 2000, Scavo in due *insulae* dei quartieri nord di Aquileia. Campagne 1995–2000. Rapporto preliminare. – *Aquileia Nostra* 71, 257–334.
- MURGIA, E. 2020, L' area dei fondi Cassis ad Aquileia nella documentazione d' archivio. – *Fasti Online Documents & Research* 477. (<https://www.fastionline.org/docs/FOLDER-it-2020-477.pdf>; last access 24 December 2023)
- NOVELLO *et al.* 2013 = NOVELLO, M., M. SALVADORI, C. TIUSSI, L. VILLA 2013, Il primo nucleo episcopale di Aquileia: struttura e decorazione. – In: Tiussi *et al.* 2013, 143–153.
- PREVIATO *et al.* 2023 = PREVIATO, C., A.R., GHIOTTO, S., DILARIA 2023, *Insulae* in Northern Italy and the Case Study of Aquileia. – In: S. Straumann, P.-A. Schwarz, *Insulae in Context*, *Forschungen in August* 57, August, 141–158.
- RICCATO, V. 2020, *Aquileia. Fondi Cossar*, 3.2. *La ceramica da cucina: produzioni italiane e orientali*. – Scavi di Aquileia 2.
- RUBINICH, M. 2020, Le Grandi Terme di Aquileia: passato, presente e futuro di un edificio pubblico tardoantico. – *Quaderni Friulani di Archeologia* 30, 71–90.
- RUBINICH, M. 2022, Alcune considerazioni sulle 'Grandi Terme' e l' urbanistica di Aquileia. – In: M. Lavarone, S. Magnani, F. Prenc (eds.), *MB. Maurizio Buora. La sua storia. Il suo Friuli*, *Archeologia di frontiera* 12, 355–377.
- RUBINICH, M., E. BRAIDOTTI 2022, Le Grandi Terme costantiniane di Aquileia tra V e VI secolo: la fine di un edificio pubblico e l' inizio di nuovi modi di abitare. – In: Buora *et al.* 2022, 277–305.
- RUBINICH *et al.* 2024 = RUBINICH, M., J. BONETTO, M. CADARIO, S. DILARIA, N. MARTINELLI 2024, Le 'Grandi Terme' di Aquileia: nuovi dati dai sondaggi geognostici sui metodi costruttivi e sulla cronologia di costruzione. – *Orizzonti* 25, 21–45.
- SALVADORI *et al.* 2020 = SALVADORI, M., V. MANTOVANI, L. SCALCO, E. BRIDI, S. DILARIA 2020, *Abitare ad Aquileia in età romana: l' insula delle Bestie ferite*. – Udine.
- SORIANO, F. 2018, Dopo l' anfiteatro: i dati di scavo. – In: Basso 2018, 103–114.
- TIUSSI, C. 2004, Il sistema di distribuzione di Aquileia: mercati e magazzini. – In: Cuscito, Verzár-Bass 2004, 257–316.
- TIUSSI, C. 2009, L' impianto urbano. – In: Ghedini *et al.* 2009, 61–81.
- TIUSSI, C. 2011, Il foro di Aquileia: acquisizioni recenti e problematiche aperte. – In: S. Maggi (ed.), *I complessi forensi della Cisalpina romana: nuovi dati*, *Atti del Convegno di Studi (Pavia 12-13 marzo 2009)*, *Flos Italiae* 10, 167–184.
- TIUSSI, C., VILLA, L. 2017, Aquileia in età tetrarchica e costantiniana. Trasformazioni urbanistiche e monumentali nel settore occidentale. – *Aquileia Nostra* 88, 91–147.
- TIUSSI *et al.* 2013 = TIUSSI, C., L. VILLA, M. NOVELLO (eds.) 2013, *Costantino e Teodoro. Aquileia nel IV secolo*. – Milano.

VENTURA, P. 2013, Mercati - *horrea*. – In: Tiussi et al. 2013, 94–96–.

VENTURA, P., V. DEGRASSI 2022, Aquileia e l' Adriatico fra II e I secolo a.C.: lo stato delle conoscenze e i contesti guida. – In: R. Perna, R. Carmenati, M. Giuliadori (eds.), *Roma e il mondo adriatico. Dalla ricerca archeologica alla pianificazione del territorio II/1*, Atti del Convegno Internazionale, Macerata, 18-20 maggio 2017, 399–418.

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VERDONCK et al. 2020 = VERDONCK, L., W. DE NEEF, A. HOFFELINCK, F. VERMEULEN 2020, The geophysical survey carried out by a team of the Department of Archaeology of Ghent University (Belgium). – In: Basso, Dobrevà 2020, 17–19.

VILLA, L. 2012–2013, Il complesso teodoriano. Una rilettura delle testimonianze archeologiche. – *Aquileia Nostra* 83–84, 119–154.

ZENTILINI E., M. SCALZERI 2018, Ceramica, vetri, metalli e materiali in osso. – In: Basso 2018, 117–136.

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