Sous la direction de

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Guerre et paix dans le Proche-Orient médiéval (xe-xve siècle)

INSTITUT FRANÇAIS D'ARCHÉOLOGIE ORIENTALE

TEXTES ARABES ET ÉTUDES ISLAMIQUES 54 – 2019

Institut français du Proche-Orient

المعهد الفرنسي للشرق الأدنى

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ISBN 978-2-7247-0643-7 ISSN 0257-4136

Mise en page : Christine Mina
Couverture : Ismaïl Siddiq

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architectures de guerre : fortifications et techniques

Cristina Tonghini *

The Fortification Works of Nūr al-Dīn at the Citadel of Šayzar

The history of fortifications in Bilād al-Šām still lacks some important chapters as far as the Islamic period is concerned, especially in relation to the formative phases that pre-date the Ayyubid period. If the 13th century in the Near East can be regarded as the moment when Muslim military architecture was at the peak of its achievements, in the light of the evidence available today it seems really difficult to understand how it developed and what its sources of inspiration were. Although the written sources often refer to the building of fortifications in the area as early as the 10th century, material evidence related to these early phases has only very rarely been identified, so it is quite difficult to understand the formation of a tradition of military architecture in this region in the Middle Islamic period, and to identify the various stages that led to the developments characterizing the mature phase of the Ayyubid period. In parallel, important issues such as those related to the role of exchange with other traditions in fortification building (Armenian, Byzantine, Crusader, for example) remain unfocused.[1]

Very well known examples of fortification works that relate to the pre-Ayyubid period can be found in other areas, the most frequently quoted examples being the gates of Cairo[2] and the fortification of Diyār Bakr,[3] both dated to the 11th century. However, their physical distance from the area under consideration here cannot be neglected at this stage of the research, and certainly more examples from Bilād al-Šām itself are essential to the pursuit of this research topic.

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1. For an overview of the problem, see Voisin, 2004.
2. Creswell, 1952 and Creswell, 1978, pp. 161–217.
3. For an up-to-date overview, see Yovitchitch, 2011, pp. 105–109.

In recent decades, a number of new archaeological and architectural research projects have made it possible to readdress a number of questions concerning the development of military architecture in the area, and provided new evidence in this respect.[4] More specifically, the investigations carried out at the citadel of Shayzar in the last decade have for the first time enabled us to establish a dated sequence for the building of this fortification from the 10th to the 14th century.[5] This paper will focus on the evidence that can be attributed to the period of Nūr al-Dīn and will summarise the characteristics of the fortification works at the citadel of Šayzar in this period.

1. The Citadel of Šayzar: An Overview of the Occupation Sequence

1.1. *The Field Methodology*

The citadel of Šayzar occupies a narrow, 500-meter-long plateau that reaches a maximum width of 55 m. A number of structures are still visible above ground, in varying states of ruin and often covered in part by debris from collapses. The remains of the mediaeval fortification are better conserved along the perimeter of the plateau, especially on the eastern side, and at the northern and southern ends of the plateau itself (fig. 1). In the first decade, field work concentrated on the fortified structures conserved above ground; these were analysed according to the methodological approach embodied in the Archaeology of Standing Structures. Occasional limited archaeological excavations were carried out, providing contextual data that were useful in establishing absolute dating.[6]

4. Faucherre, Mesqui, Prouteau, 2004; Kennedy, 2006; Piana, 2008; Yovitchich, 2011.

5. Shayzar Project: study of the fortified settlement in Bilad al-Sham was set up in the year 2002 in the framework of an agreement between the Directorate General of Antiquities and Museums of the Arab Republic of Syria (DGAM) and Ca' Foscari University, Venice; the Italian project was directed by C. Tonghini. It has been accorded economic support by several institutions: Ca' Foscari University, Venice (2002); Fondation Max van Berchem, Geneva (2002–2004); Fondation Ousmane Mounif Aidi: Culture, Communication et Développement, Paris (2004–present); Ministero degli Affari Esteri, Italy (2002–present). Since 2004, the project has been expanded to include a programme of consolidation and conservation work designed to protect and promote the site; the work has been financed by: the Directorate General of Antiquities and Museums, Syria (2004–present); Fondation Ousmane Mounif Aidi: Culture, Communication et Développement, Paris (2004–present); Ministero degli Affari Esteri, Italy (2004–present); World Monuments Fund® Robert W. Wilson Challenge to Conserve Our Heritage (2007–2009). For the results, see Tonghini, 2012.

6. Tonghini, 2012, pp. 28–32; Montevecchi, 2012a.

The archaeological analysis of the remains has made it possible to devise a stratigraphic sequence of the building phases, anchored in large part to a reliable relative chronology which describes the evolution of the fortification of Šayzar in time. The elaboration of the relative sequence is based essentially on stratigraphic data, or by reference to the building typology established for the site when the stratigraphic relations were interrupted. Some points in the relative sequence can be dated in terms of absolute chronology. These absolute dating elements derive from the written evidence of historical sources and inscriptions integrated with the data from stratigraphic analysis and contextual data retrieved from archaeological excavations.

Further dating elements, although still experimental, have been obtained from C14 analysis of charcoal contained in the mortar; although the time span they indicate is often still too wide, they fit the chronology established on the basis of the archaeological study.[7]

2.2. *The Sequence and its Dating*

The establishment of a settlement in the area of Šayzar goes back to a very remote past, as the site is already mentioned in the written records of the second millennium BC, and its occupation is attested in the Seleucid, Roman and Byzantine periods.[8] However, no securely dated material evidence that can be attributed to these periods has so far been identified: the earliest structures uncovered have been ascribed to a period after the 2nd–6th century on the basis of re-employed inscriptions and datable architectural elements, i.e, they may equally well belong to the Byzantine or to the early Islamic period (Period I).[9] The written sources provide little information about the period that goes from the Islamic conquest to the 10th century either, and the archaeological evidence examined so far does not offer conclusive data in this respect.[10]

It is only from the 10th century that we begin to learn more about the site from the written sources. The lack of central power that marked the 10th century caused endless struggles for the control of northern Syria between the Byzantines, the Fatimids, the Hamdanids, and their various allies. Like several other settlements in northern Syria,

7. See Nonni et al., forthcoming. Other experimental methods for dating the mortar are presented in this work together with the data from C14.

8. Zorzi, 2012, pp. 41–44.

9. Zorzi, 2012, pp. 53–55; Tonghini, 2012, pp. 407–412.

10. Kennedy, 2012, pp. 2–4; Tonghini, 2012, pp. 407–412. However, further research may provide new evidence in the future; the results of C14 analysis conducted on the charcoal in the mortar suggest to date the foundation of one of the buildings attributed to Period I, CF26, to the years (calibrated date) 608–683 (one sigma ranges) or 579–771 (two sigma ranges): see Nonni et al., forthcoming.

Šayzar changed hands several times. Šayzar is described as a fully defensible site for the first time on the occasion of the Byzantine siege of the year 999, when the sources specifically mention the presence of a fortification on high ground.[11] The remains of a number of structures that clearly relate to a first programme of fortification of the site have been identified in various areas of the citadel, and they have been attributed to the second half of the 10th century and to the 11th century on the basis of stratigraphic data, and with reference to the characteristics of the structures and the typology of the materials that were used, and to the documentation from the written sources mentioned above (Period II).[12]

In the year 1081, the site was sold to the tribe of the Banū Munqiḏ by the Byzantine bishop of al-Bāra. The ruling family established its residence in the citadel. The Banū Munqiḏ played a very subtle policy of alliances between the other Arab emirates, the Seljuks and their heirs, and the Crusaders. The court of the Banū Munqiḏ seems to have attracted famous literary figures and scholars, and members of the family are known as poets and writers. A colourful sketch of life in the Muslim lands at the time of the Crusades can be found in the memoirs of Usāma ibn Munqiḏ, already partly translated at the end of the 19th century.[13] The written sources do not seem to pay much attention to the structures of the fortification and to the building programme carried out by the Banū Munqiḏ. We know that the site must have been strongly fortified, as it resisted the siege of 1138 conducted by an alliance formed by the Crusaders of Antioch, the Byzantines and the rulers of Damascus.[14]

Various renovation and restoration works as well as strengthening programmes that concerned the existing defensive lines are attributed to the age of the Banū Munqiḏ on the basis of stratigraphic and typological data, and of elements derived from the written sources (Period III). This evidence shows that the programme of fortification of the citadel that had begun in Period II had been completed throughout the entire site by the time the earthquake of the year 1157 struck.[15]

The death of the Banū Munqiḏ family as a consequence of the earthquake gave Nūr al-Dīn the opportunity to take the site. He ordered the rebuilding of the defences, fearing an attack by the Franks, and appointed one of his closest officials, Sābiq al-Dīn ʿUthmān b. al-Dāya, to rule the city.[16]

Already at the end of the same year the Franks attacked Šayzar, but as a consequence of a dispute among the Crusader ranks the siege was eventually lifted.[17] An impressive

11. Kennedy, 2012, p. 4.
12. Tonghini, 2012, pp. 412–420.
13. Derenbourg, 1895; Hitti, 1929.
14. Kennedy, 2012, pp. 6–19; Zorzi, 2012, pp. 49–51.
15. Tonghini, 2012, pp. 421–428.
16. Kennedy, 2012, pp. 19–20.
17. Kennedy, 2012, pp. 20–21.

building programme aimed at the restoration and strengthening of the defences was carried out after the earthquake of 1157 and continued after the following one that struck in the year 1170 (Period IV).[18] The attribution of this fortification activity to the patronage of Nūr al-Dīn is supported by dated inscriptions still in situ, stratigraphic and contextual data, the typology of the materials employed and certain constructional characteristics, as well as considerations derived from the specialist literature.

The same al-Dāya family remained in control of the citadel on behalf of Ṣalāḥ al-Dīn and his heirs, enjoying a substantial phase of independence. The written sources are slight as regards the late 12th and the early 13th century: the threat of the Crusaders and the danger of new sieges having receded, the recently renovated fortifications may not have required major attention.

It was only in the year 1233 that the citadel was taken by force from the al-Dāya family by the sultan of Aleppo al-Malik al-ʿAzīz Muḥammad, and Šayzar passed under the more direct control of the Ayyubids from Aleppo and then of the new dynasty of Mamluk sultans. In this period (Period V), the system of control of the access into the citadel was redesigned in several stages, while the defensive circuit was completed with the building (or rebuilding) of curtain walls and projecting towers.[19] Dating for this Period is based on stratigraphic data, dated inscriptions, typological characteristics and elements derived from the written sources; parallels with other examples in the specialist literature confirm this attribution. The defensive works of this period at Šayzar reflect a mature concept of military architecture also attested at a number of other sites in the region; the evidence analysed at Šayzar provide a large corpus of new data in relation to building techniques, defensive devices (especially arrow-slits), and masonry typology.

Šayzar is still mentioned as an important citadel in the 14th and early 15th century sources, but is no longer included in the list of fortifications visited by sultan Qāytbāy in the year 1477. Although operations related to the restoration of the fortification were still being carried out in Period VI, Šayzar gradually lost its strategic function over the following centuries and had turned into a simple village by Period VII.[20] The last inhabitants moved down to the plain in 1958.

18. Tonghini, 2012, pp. 428–442. This programme will be described and discussed in the following section (3).
19. Tonghini, 2012, pp. 443–452.
20. Tonghini, 2012, pp. 452–454.

2. The Fortification Works of Nūr al-Dīn (Period IV)

The fortification works that can be attributed to the period of Nūr al-Dīn are the result of a number of building campaigns that aimed at reorganising the defences of the entire citadel, restoring fortification works built in previous periods and integrating them into a new, ambitious programme. The following sections offer a short description of the various structures, their building techniques and materials, and the dating evidence.

2.1. *The* glacis

The most impressive programme related to Period IV is undoubtedly that of the so-called *glacis*, a complex organism that controlled the access to the citadel and organised the defence of its northern part (figs. 1–5).[21]

The area of the access was enclosed to west, north and east by the huge scarped, windowless masonry wall referred to as a *glacis* (figs. 2–4).[22] The *glacis* structure could be entered through a monumental gate that gave access to a series of vaulted galleries that ascend to the heart of the citadel following a pre-existing road system. Protection of this gate probably included a flanking tower, of which only a faint trace remains; other defensive devices have today entirely disappeared. Later rebuilding activities have also destroyed all traces of the system of approach to the gateway; the remains of a pier later incorporated into a masonry bridge may indicate that a similar device—either a fixed bridge or a drawbridge—may already have been built in this earlier Period IV, but no conclusive hypothesis can be offered today on the basis of the evidence that is left.

The scarped masonry is designed both to protect the rocky sides of the plateau and to create a highly defended complex organised on at least four levels with a series of internal spaces connected by vaulted galleries (figs. 3–4). The complex system of galleries is clearly functional to a carefully designed internal circulation, with a built-in possibility of isolating parts of the system in case of danger. The internal spaces are blind in most cases, and they probably served storage purposes. The scarped external front is surmounted by a curtain pierced by arrow slits.

The building material used comprises a considerable volume of reused elements, employed for the internal wall faces in the galleries and for the parapet at the top of the *glacis*, whereas for the scarped masonry external face (fig. 5) and for the arches use was

21. Montevecchi, 2012b, pp. 128–150; Tonghini, 2012, pp. 429–435, and for illustrations: pls. 1–5, 7; pl. 4–14; figs. 2–3, 7, 17, 21, 32–40, 42–46, 113.

22. The term may be strictly inappropriate but its use is firmly rooted in the specialist literature.

made of newly quarried, perfectly squared stone. The simultaneous presence of perfectly squared stone and reused material had already been found at Šayzar in Period III[23] and it seems to reflect the technical context of the 12th century in the region: reused material seems to have been easy to obtain and, at the same time, skilled workers were available to quarry and work new stone.[24]

The stratigraphic sequence established at Šayzar, data concerning the typology of the materials employed and certain constructional characteristics make it possible to attribute the *glacis* to Period IV.

Absolute dating is provided by an inscription which seals one of the vaulted galleries, Space 27 (fig. 3): although undated, it specifically mentions Nūr al-Dīn and his protocol, and it can therefore be attributed to the period between 1157, the year of the arrival of Nūr al-Dīn at Šayzar, and 1174, the year of his death.[25] The C14 dating of the mortar of the vault of Space 16 (US 6254) is in line with this date span.[26]

The state of preservation of some of the structures and the lack of continuity between some of the components of this complex organism do not allow us to state that the whole project was completed in the period of Nūr al-Dīn; more likely, the construction took place in stages, with reference to a single overall plan that was conceived after the earthquakes of 1157 and 1170, but it may have continued in the Ayyubid period.

2.2. *The South-Western Curtain and Building CF1*

A major defensive programme was also carried out in the Southern Area, at the southern edge of the plateau occupied by the citadel. It comprises the construction (or reconstruction) of a curtain wall that protects the western front of the southern area, and the building of a representative structure organised on two levels, CF1 (figs. 1, 6–7).[27]

This CF1 can be described as a curtain building, since its substructure and western boundary walls form part of the western line of defence (fig. 7). There is a monumental portal in the northern front of the building at present-day ground level, preceding a wide vaulted space with a central pillar; a staircase leads to another room located on the second floor. In a later phase, another space was added to the second floor, on the eastern side. The gate is flanked by two inscriptions, one of which is still partly readable and it provides

23. Tonghini, 2012, pp. 393–394, 426–427.
24. Tonghini, 2012, pp. 395–398, 431.
25. Roberta Giunta in Tonghini, 2012, number 9, pp. 71–75, fig. 17.
26. Calibrated date: one sigma ranges 1161–1209; two sigma ranges 1051–1222. See Nonni et al., forthcoming.
27. Tonghini, 2012, pp. 240–248, 435–436, and for illustrations: cpl 16; pl. 24–28, 33; figs. 18, 79, 82–90, 114–115.

the name of Nūr al-Dīn and an incomplete date that may refer to the year 1160 or to the year 1169–1170.[28] Because of this inscription, and in consideration of the monumental character of the gate, CF1 has been interpreted as a building with some official function.

Another stretch of curtain wall continues from the area of CF1 towards the north (figs. 6–7); the stratigraphic relations between CF1 and this curtain are interrupted, but in consideration of the close similarities of building techniques and materials, the northern stretch of the curtain has been attributed to the same building programme that led to the construction of CF1. Five arrow slits have been identified at the top of this stretch of curtain wall. The curtain wall is founded directly on the rock and is scarped; a circular tower, CF23, of which only a few courses remain, constitutes part of this line of defence.

More evidence concerning the fortification of this area came to light in the course of the autumn season 2010.[29] Although the excavation has not been completed, and the evidence uncovered still requires detailed analysis, the remains of the structures that came to light may be part of the fortification programme carried out in this Period IV. This new evidence consists of a scarped wall, with pillars projecting on the western side, which may have constituted the inner wall of the curtain buildings of the western defensive line (figs. 7–8). It is possible that the programme carried out in the period of Nūr al-Dīn incorporated fortification works of previous periods, and therefore in-depth analysis will be necessary once the excavation has been completed in order to identify the contribution of the various building phases. However, whether these structures are the result of a new fortification programme or of a programme that incorporates portions of previous works, they seem to correspond to the typology of curtain buildings, i.e., a sequence of vaulted rooms abutting onto the external curtain wall.[30]

Large, rough-hewn blocks are used in the construction of CF1, of the curtain walls and of tower CF23, together with reused stones, sometimes re-worked, and perfectly squared stones; the latter are reserved for key elements such as jambs (the gate, the arrow slits), arches, corbels, and vaults. It has been suggested therefore that the use of roughly hewn blocks is not related to technical incapacity, but rather to the need to supply a large volume of building material in a fairly limited amount of time.[31]

28. Roberta Giunta in Tonghini, 2012, number 10, pp. 71–75, fig. 17.

29. The excavation of this area was conducted by V. Vezzoli (supervisor) and M. Rugiadi, with A. al-Basha as representative of DGAM.

30. On the western front, other similar curtain buildings have come to light in the course of clearance works carried out by the DGAM in the year 2010: fig. 9. Their survey and study is planned for future seasons of field work.

31. Tonghini, 2012, pp. 234–235, 397–398, 435–436.

The defensive programme relating to the southern edge of the Šayzar plateau also comprised the completion of a ditch, cutting of which had already started in Period II: in fact, study of the lithotype of the building material used in Period IV has shown that the rough-hewn blocks used for the Period IV curtains had been quarried from the ditch.[32]

2.3. *Towers on the Eastern Front*

On the eastern front evidence, was found of a number or reconstruction operations that followed a series of collapses. These building activities aimed not only at restoring structures of the previous periods, such as curtain walls and buildings, but they were clearly functional to a radical reinforcement of the defensive programme on the eastern front. Two new towers were added to the line of defence, CF16 and CF18 (figs. 1, 10–12). The common characteristic is the fact that they were both built on a substructure that projects from the line of the curtain wall, a feature that occurs systematically in the later towers of Period V (13th century).[33]

CF16 was organised on two levels, but only the first survives today, with two internal rooms covered with vaults; one of these rooms may have functioned as a water tank (fig. 10). Tower CF16 was built together with a stretch of curtain, and a system of connecting spaces built behind it. This tower has been attributed to Period IV in consideration of certain similarities with the masonry attributed to the same period in the southern area (see above, 3.2, The south-western curtain and building CF1), especially in terms of building material, and on the basis of data from excavations; the finds indicate the mid-12th century as a *terminus post quem* for the construction of tower CF16. The C14 dating of the mortar from an inner wall (US 3008) is in line with this date span.[34]

CF18 was built on the remains of a curtain building (CF17), on one level, with an interior vaulted space that was provided with three openings toward the eastern front, probably arrow slits; like tower CF16, it was constructed together with a stretch of curtain walls (figs. 11–12). Like CF16, it has been ascribed to Period IV on the basis of the building material used (fig. 12); the C14 dating of the mortar from the substructure (US 3217) may confirm this attribution.[35]

32. Tonghini, 2012, pp. 227–228, 235, 461.

33. Tower CF16: Tonghini, 2012, pp. 198–203; illustrations: pl. 15, 17–18; figs. 54, 65, 67–69. Tower CF18: Tonghini, 2012, pp. 203–206; illustrations: pl. 15, 19; figs. 55, 61, 70. For both towers, see also Tonghini, 2012, pp. 435–437.

34. Calibrated date: one sigma ranges 1041–1158; two sigma ranges 1025–1208. See Nonni et al., forthcoming.

35. Calibrated date: one sigma ranges 1058–1211; two sigma ranges 1045–1219. See Nonni et al., forthcoming.

3. The Features of Defensive Works in the Time of Nūr al-Dīn: Some Concluding Remarks

Archaeological analysis of the citadel of Šayzar has provided new evidence concerning the fortification works that can confidently be attributed to the age of Nūr al-Dīn, as discussed above.

This phase is clearly crucial for our understanding of the evolution of military architecture in the Islamic Near East, with elements of continuity from previous traditions and elements of change and innovation.

We have seen how the tradition of planning the external defences with curtain buildings seems to continue from previous periods. Further investigations at the site of Šayzar will clarify if the construction of curtain buildings derived from the necessity to include previous defensive programmes in the restoration of the defences, and therefore constrained the builders to adapt to a pre-existing overall plan, or whether this typology continued to be used because it was regarded as a highly effective system of defence; the need to adapt to the morphology of the terrain obviously remained a major concern in all periods.

New components were put in place to increase the defences: the *glacis* and projecting towers.

A certain number of fortified sites and citadels in the region feature a masonry *glacis* covering the sides of the high ground on which the structures stand: although none of the following seems to be comparable with the complex structure observed in Šayzar, in the strictly regional context it is possible to cite the cases of Qal'at Muḍīq, Šuġr-Bakas, Ḥārim, Aleppo, Himṣ and Ḥamā; the dating of these works, however, is often somewhat vague and often relies on descriptive elements supplied by the written sources.[36] The data collected at Šayzar, therefore, for the first time, offer detailed documentation of the material evidence and solid dating elements that allow the reconstruction of the *glacis* to be attributed to Nūr al-Dīn.

As regards the typology of the towers projecting from the line of defence, a characteristic well attested in Ayyubid fortifications, the evidence analysed shows that, at Šayzar, they are introduced from Period IV and they do not occur in previous periods, i.e., before the mid-12th century.

36. For a recent study of Qal'at Muḍīq, see Dangles, 2004; for Šuġr-Bakas, see Van Berchem, Fatio, 1914, pp. 251–259, and Deschamps, 1973, pp. 349–350; for Ḥārim, see Gelichi, 2003 and Gelichi, 2006. For a summary of studies in the architectural history of the citadel of Aleppo, with an analysis of the written sources, see Allen, 2003, ch. 5; for the most recent research, Gonnella, 2006 and 2008. For Ḥamā, see Pentz, 1997, and for the *glacis* pp. 27–29 in particular. For Ḥimṣ, see King, 2002, and for the *glacis* pp. 47–48, 51. For a discussion of the problem and a dating to the pre-Ayyubid period, possibly even Byzantine, see Voisin, 2004, p. 325 and fig. 20. See also Meinecke, 1991, in connection with Sarkhad.

As for other defensive devices, the evidence gathered at Šayzar shows that, in Period IV, a type of arrow slit typical of the Ayyubid period was already present: the lintel is placed on lobate brackets at the side and the base of the opening slopes towards the exterior. These arrow slits pierce the south-western curtain wall, in the southern area, and are made with new, perfectly squared and dressed blocks. However, this type of arrow slit seems to coexist with other, more traditional types: the arrow slits that crown the *glacis* are made of reused material and present a flat base.

As regards other features that characterise Ayyubid military architecture, such as the bent entrance system, they do not seem to appear at all at Šayzar.[37] In Period IV, the fortification is entered through the *glacis*, on the northern side; it is true that later rearrangements and restorations have concealed most of the evidence related to the system of access, but it is more likely to belong to the axial type, with a flanking tower to protect it.

One last remark concerns the technology of building material production. The building material used in Period IV features the coexistence of freshly quarried new material that is sometimes roughly hewn, but can also be perfectly squared and dressed, together with reused ashlars. The proportion of the various types varies in the structures attributed to this Period; new ashlars are used for specific components, such as jambs, vaults, corbels and arches, but also for the external front of the *glacis*. It has been noted therefore that the technical skill needed to produce new ashlars had already been revived,[38] and the decision to resort to reused material was determined by other reasons. At the same time, the presence of rough-hewn blocks was very probably determined by concerns about saving time, since the earthquake of 1157 had presumably destroyed the defences of the citadel, and the reconstruction had to be carried out as soon as possible.

The coexistence of reused stone with newly worked material can be noted in the region already in the first half of the 12th century. For example, reused material was employed in the construction of the fortified entrance to the temple of Baal at Palmyra, dated 527/1132–1133, but the great arch of the entrance and the brackets supporting the machicolation are built with previously reused stones that have been completely reworked.[39]

37. For an overview of the subject, see Yovitchitch, 2011, pp. 217–224, 239–253.

38. In fact, the presence of new ashlars has already been noted in the previous Period III: Tonghini, 2012, pp. 393–394, 426–427.

39. Sauvaget, 1931; Allen, 2003, ch. 1. It should be noted that already at the end of the 11th and the beginning of the 12th centuries well documented examples of buildings made with perfectly squared stone occur, such as the minaret of the Great Mosque of Aleppo, completed in 1094 (Herzfeld, 1943, pp. 34–36; Allen, 1986, pp. 23–28), or the portals created on the occasion of the restoration of the western wall of the Great Mosque of the Umayyads in Damascus in 1109–1110 (Sauvaget, 1932, pp. 25–26; *RCEA*, vol. 8, p. 120, and inscriptions nos. 2933 and 2934, pp. 80–82). At Qalʿat Nağm, Yovitchitch identifies structures built in ashlars he refers to the period of Nūr al-Dīn (2011, pp. 119–120).

As can be expected, new ashlars are especially used for prestigious buildings in urban contexts, as seen in a number of constructions attributed to Nūr al-Dīn, including the Madrasa kubrā in Damascus, founded in 1172.[40] However, the tradition of employing reused stone continued to be widely observed until the middle of the 12th century and beyond, not only in defensive works but also in urban buildings: again in Damascus, for example, there were the city gates commissioned by Nūr al-Dīn after 1154 and the perimeter walls of the Māristān Nūr al-Dīn, dated 1154.[41] At Ḥamā, in the mosque founded by Nūr al-Dīn in 1163–1164, reused stone continues to be the main material, at least in the perimeter walls, but ashlars are also used, especially for important features.[42] The evidence collected at Šayzar, therefore, confirms this regional trend, with new data organised in a systematic typology of masonry types that will contribute to a better understanding of the building technology of the area.

40. Sauvaget, 1932, pp. 53–54; Herzfeld, 1942, pp. 40–46.
41. For Nūr al-Dīn's city gates, see Sauvaget, 1932, pp. 39–48; Sack, 1985, p. 276; Allen, 2003, ch. 2; Braune, 2008. For the Māristān, see Herzfeld, 1942, pp. 2–11.
42. Van Berchem, Fatio, 1914, p. 176; Herzfeld, 1943, pp. 40–45.

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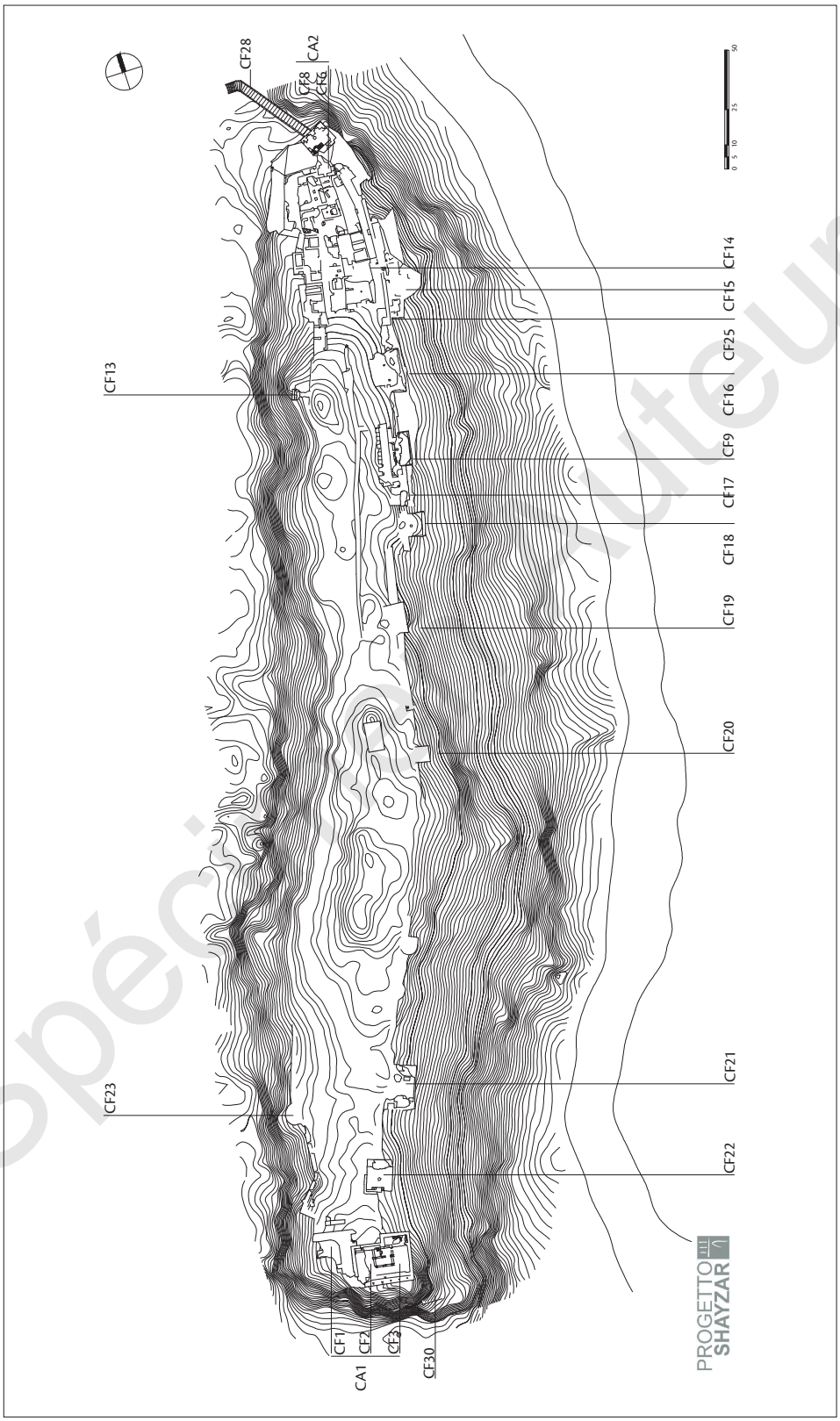

Fig. 1. General plan o f the citadel of Shayzar (Copyright Progetto Shayzar).

Fig. 2. Shayzar, the glacis, from the north-west. Photo L. Tarducci.

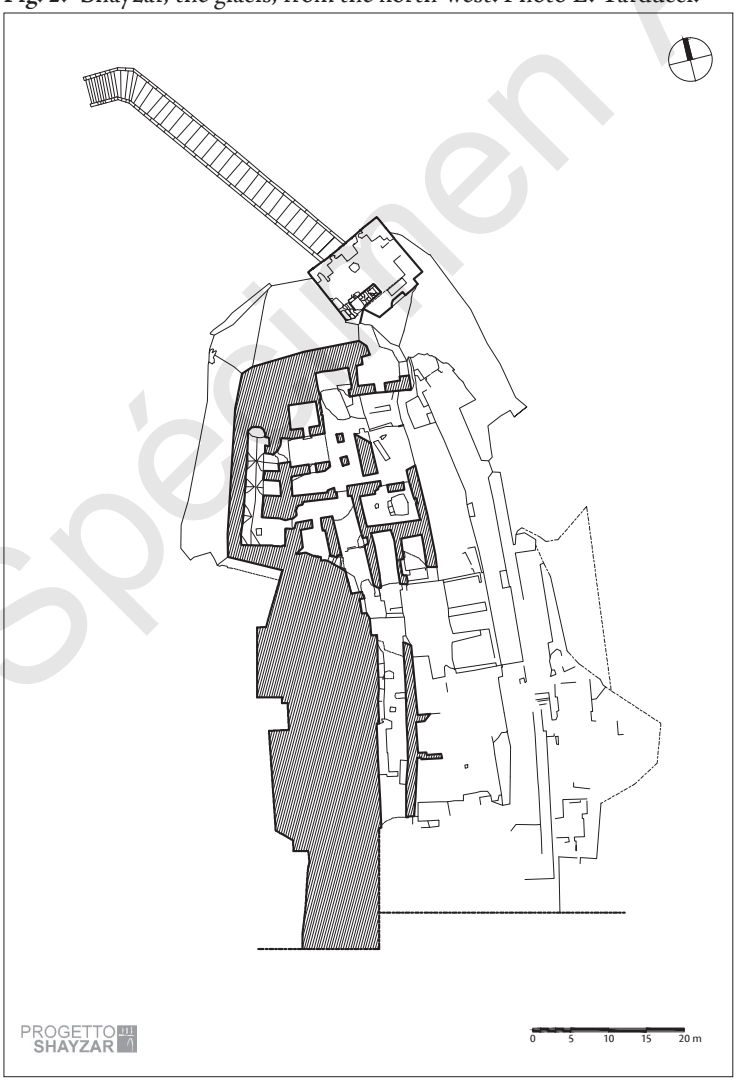

Fig. 3. Plan of the glacis, level 3; the arrow indicates the location of the inscription of Nūr al-Dīn in the gallery Sp. 27 (Copyright Progetto Shayzar).

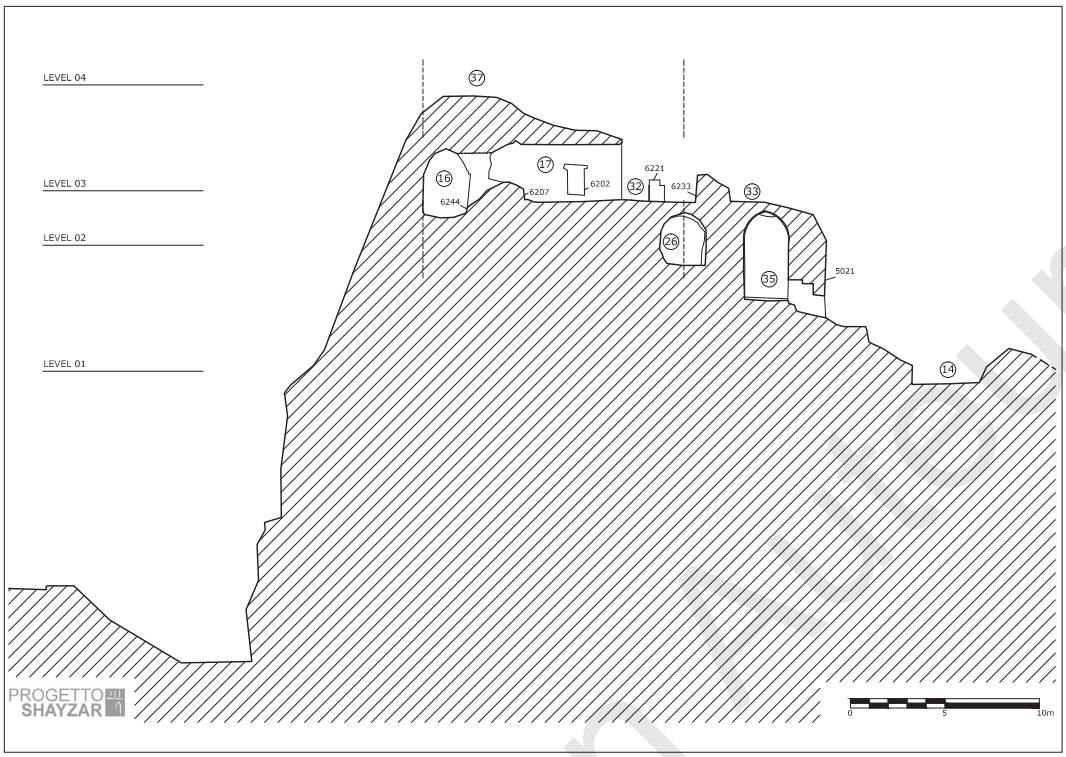

Fig. 4. Section of the glacis, facing north (Copyright Progetto Shayzar).

Fig. 5. The glacis from the west, with the crowning parapet. Photo L. Tarducci.

Fig. 6. The southern area, western curtain and tower CF23. Photo C. Tavernari.

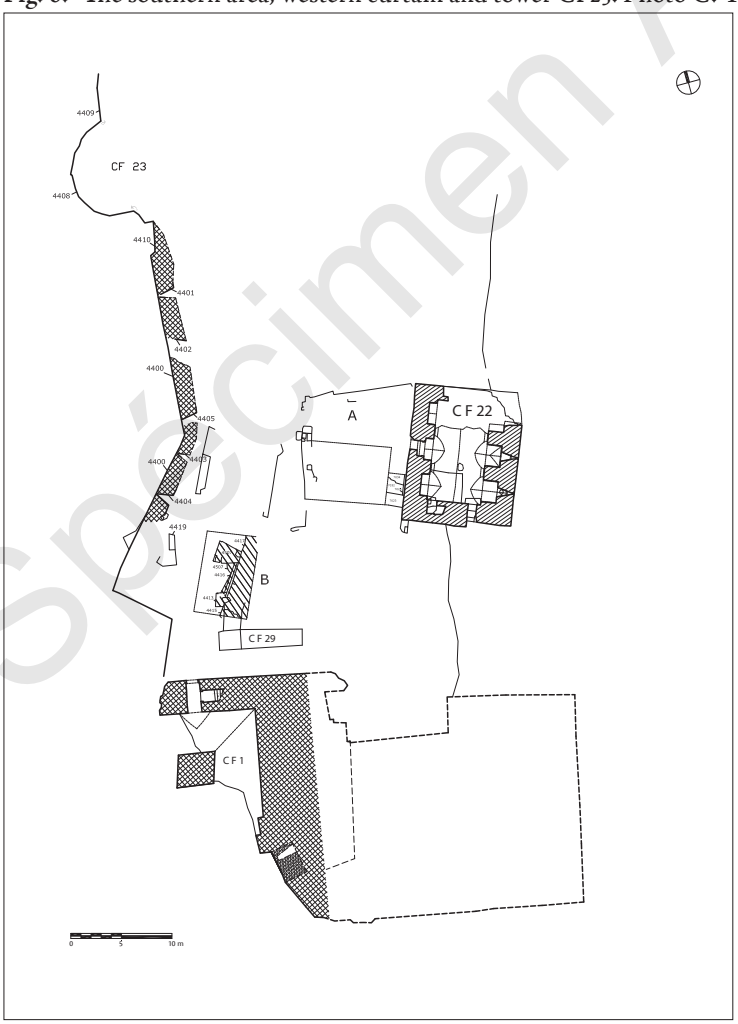

Fig. 7. The southern area: building CF1, the western curtain and the building excavated in 2010, sondage B (Copyright Progetto Shayzar).

Fig. 8. The inner wall of the newly excavated building (Fig. 7, sondage B), from the west. Photo C. Tonghini.

Fig. 9. The interior of the western curtain buildings, from the south. Photo L. Tarducci.

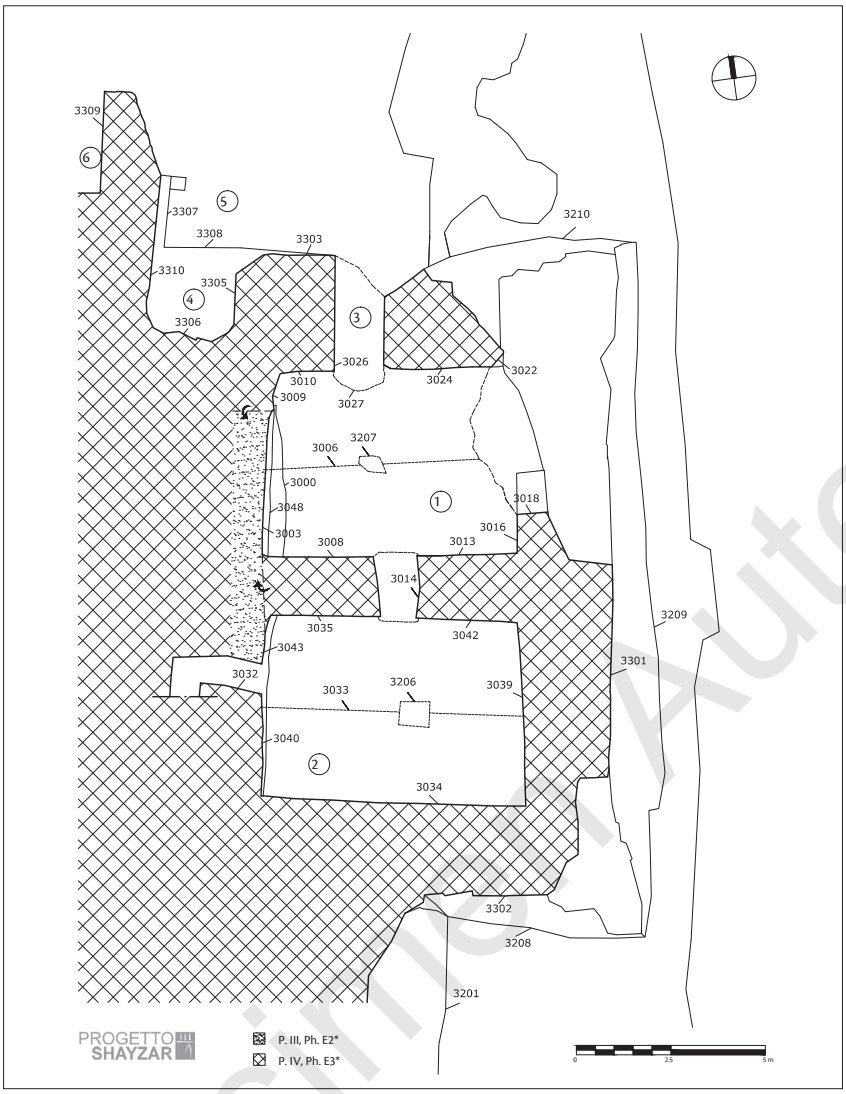

Fig. 10. Eastern front, tower CF16, plan (Copyright Progetto Shayzar).

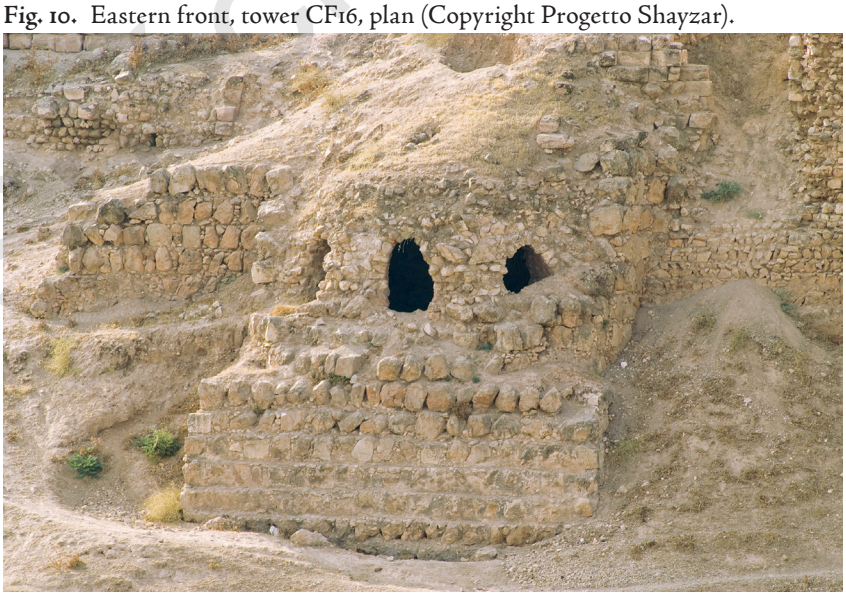

Fig. 11. Eastern front, tower CF18, from the east. Photo L. Tarducci.

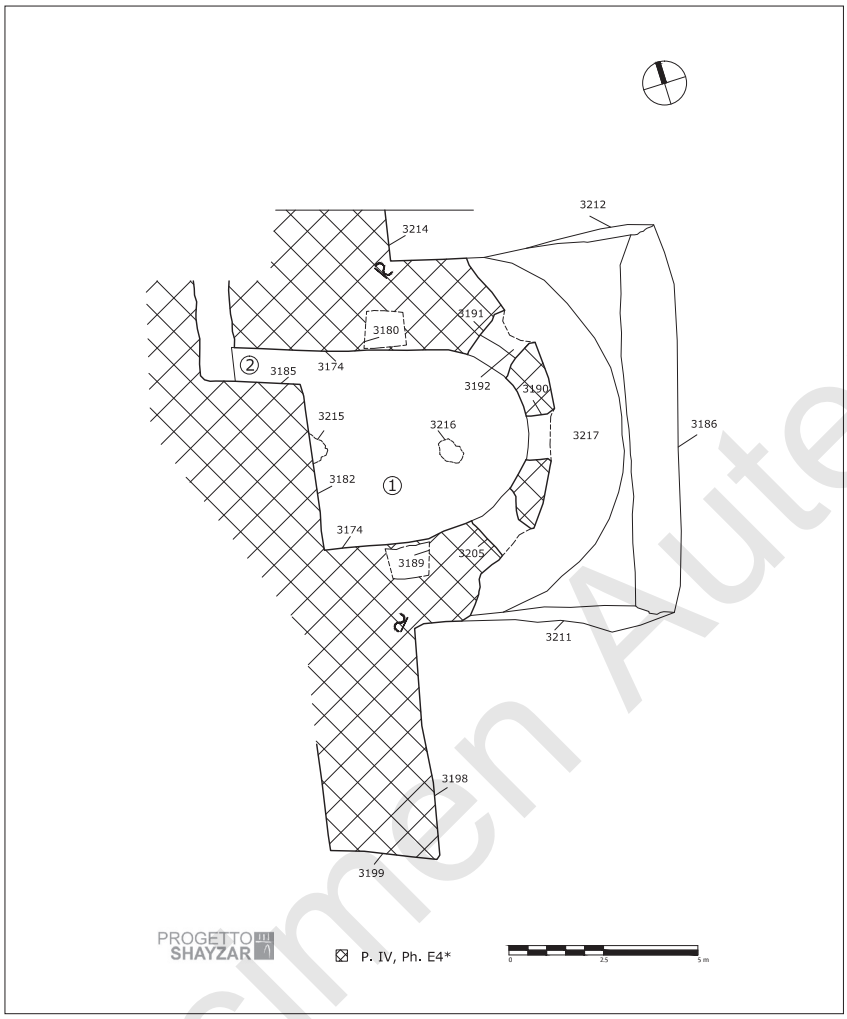

Fig. 12. Eastern front, tower CF18, plan (Copyright Progetto Shayzar).