An interpretation of the urban fabric: the structure of pre–Islamic Aleppo

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Abstract. *Deciphering the palimpsest structure of a city is an effective means of discovering the processes that underlie its physical character. Aleppo in the south-eastern part of the Mediterranean basin, was built incrementally following principles that endured over a long period. Its stone-based building technology has produced such permanent urban forms that its urban landscape is a palimpsest of an urban development from an initially spontaneous settlement, adapted to regional, and later, imperial urban standards (Hellenistic and Roman-Byzantine) and finally becoming part of a local dialectical process that led the city to develop an individual urban form from Umayyad times onwards. In Aleppo, it is impossible to understand the structure of the urban fabric of the medieval Islamic and Ottoman city without taking into account the role played by the substratum of the Hellenistic-Roman-Byzantine city in its conformation.*

Key Words: urban fabric, traces, palimpsest, pre-Islamic, Syria, Aleppo

The urban landscape is often thought of as a palimpsest. It is possible to decipher this palimpsest structure and the traces of each phase of its urban development through a structural interpretation of the building fabric.[1] This is achieved by 'reading' the urban fabric in order to reconstruct its different forms through time, trace its geometric laws and spontaneous growth, and delineate the idea of the city corresponding to each phase of its construction, and to discover the elements of duality, or polarity, between the permanence of traces and the variations of their physical form that have shaped the urban landscape. From this interpretation emerge traces of each phase of the process that has determined the form and structure of the urban organism and its territory.

This paper is an attempt to interpret the urban fabric of Aleppo's palimpsest structure using the tools of the Italian School of urban morphology.[2] This interpretation allows us to compensate for the lack of historical and archaeological data on the structure of the urban fabric of Aleppo in pre-Islamic times and to integrate existing fragmentary data on the structure of its urban fabric through time. From such an interpretation emerge the different traces of Roman plans that were closely linked to the form of the city's site and became the principal traces of urban development of the medieval Islamic and Ottoman city. Such traces are still legible today in the structure of the urban fabric of the walled city, while more widely in the city they correspond to traces of plans that have remained unaltered through time along the original boundaries of plots – for example, new walls constructed on ancient foundations – and, in the surrounding countryside, property boundaries, routes or even rows of trees.

The paper clarifies the nature of Aleppo's urban landscape and demonstrates the inaccuracy of the theories advanced by a number of Orientalists, in particular the view of Arabs as destroyers of the geometrical and ordered organization of the classical city. Indeed, when Arabs conquered Syria they

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inherited a complex urban and territorial structure, which was apparently 'disordered', since it derived from the summation of different plans with different layouts, often related to different agrarian systems. They occupied these existing settlements and from then onwards the medieval Islamic city developed, with its own physical and conceptual organization. In accordance with the idea of a linear process in the development of the urban fabric in pre-modern times, to understand the urban structure of medieval and Ottoman Aleppo we need to decipher the palimpsest of traces that influenced it.

Like many cities in Syria, Aleppo reveals a continuity of growth from the pre-Hellenistic to the medieval Islamic and Ottoman city, via the Hellenistic, Roman and Byzantine city. Its urban structure continues even today to recall such urban models. In particular, what stands out in an interpretation of the urban fabric of Aleppo is the permanence of traces of planning dating to Roman times. These traces are not immediately legible, since they derive from territorial plans carried out in different phases and closely dependent on the form of the site and territory of Aleppo. This is a feature common to other cities in Syria. Indeed, many of these cities were planned in Hellenistic times as mono-directional settlements, situated along routes and in relation to nodes of strategic importance for the military control of traffic and commerce. They later expanded and, in the Roman period, underwent extensive renewal, in many cases being completely reorganized, added to and often superimposed on both the original nucleus of the Seleucid settlement and earlier transformations.

The resulting different plans, the main orientations of which on an urban scale derived from the nature of the site and, on a larger scale, from the main routes within Syria, created an apparently unplanned urban form which was often associated over a long period with typo-morphological processes based on a logic of development different from that typical of Roman urban planning, and much closer to the 'spontaneous' structure of early Byzantine and, later, medieval Islamic cities.

An interpretation of the urban fabric of Aleppo has been carried out in different stages and entails relating the orthogonal alignments of the building fabric (to find planned phases of urban development) to the spontaneous routes in the urban fabric (to find traces of spontaneous expansion subsequent to planning). Furthermore, the structure of the urban fabric has been measured using different units of measurement, corresponding to the different phases of urban development, in order to have a metrical confirmation of the proposed hypotheses.

This interpretation has used the French cadastral maps of the 1930s. These maps chart the form of Aleppo before its modernization. The present state of Aleppo is thus quite different from that of the city as represented in these maps.

The findings from these maps have been compared with those from other documents, such as maps of Aleppo at different scales, to verify evidence on an urban, territorial and neighbourhood scale; thematic maps, to verify evidence from previous studies on Aleppo; historical maps of Aleppo; historical photographs or pictures on various scales; and photographic and metrical surveys of the urban fabric. This information has been compared with data on the forms of cities in Syria that have structures similar to that of Aleppo.

The Seleucid city

The first human intervention in the territory of Aleppo was associated with the foundation of prehistoric settlements, in which the natural structure of the land was modified by creating *tells*, or artificial hills of regular shape. These were created by the overlapping and stratification of fictile building materials.

The first significant phase in the human organization of the urban fabric and territory of Aleppo corresponds to the Hellenistic period when – between 301 and 281 BC – Seleucus I founded the settlement of Beroea (the Greek name for Aleppo) near the *tell el–'Akabé*, identified by Jean Sauvaget[3] as the site of the pre-historical settlement of Aleppo. The choice of site for the foundation of Aleppo

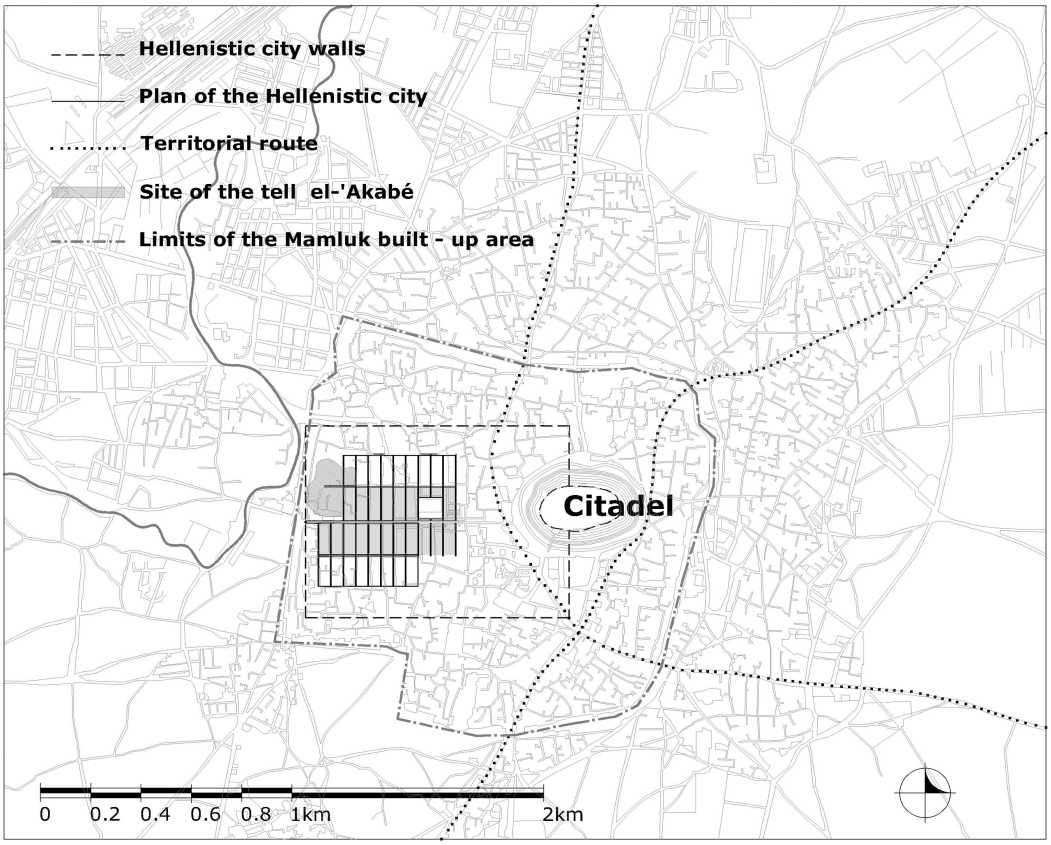

Figure 1. Plan of Beroia at the time of the Hellenistic foundation.

was based on strategic considerations. Beroea was on routeways between the coast and the Euphrates and thus controlled the lines of traffic and commerce.

The urban features of Aleppo were dependent on the site and were strongly influenced by the need for defence. The city had a fortified citadel on its periphery which was connected to the surrounding walls (Figure 1). From the orthogonal alignments of Aleppo's urban fabric and routes, and from a measurement of the urban fabric, it can be seen that the plan of Beroea in its Seleucid re-foundation was similar to that of other Seleucid colonies in Syria. It was founded on a scheme that was easy to realize and reproduce on sites chosen for their suitability for settlement.[4]

In this phase the form of Beroea was that of a mono-directional city, whose blocks (47.2m by 124m)[5] were aligned perpendicular to the main route, which was laid in an east-west direction and linked two existing sites: the *tell*, still inhabited by the native population, and the citadel, which assured protection for the settlement and military control of its routes.

The Roman city

During the Roman period, Syrian territory as a whole underwent different planning phases, and was organized according to Roman agricultural planning methods. On a territorial scale, the thalwegs were occupied by a vast road system that connected the Seleucid cities to the newly founded Roman cities.

In the first phase, the Roman road system consisted of thalweg routes that allowed rapid access to the far ends of Syrian territory. The main routes were along the Mediterranean coastline and the river valleys, while the primary production activities and settlements remained linked to earlier forms of territorial organization.

In the second phase, the thalweg road

system was extended inland, connecting the river valleys of the Orontes, Quweiq (the classical Chalus) and Euphrates, along which were founded Hellenistic proto-urban and urban nuclei. In this phase the Roman road system reinforced the network of caravan routes and led to the formation of a hierarchy of urban nuclei and the foundation of new centres. Many of the cities situated on the trade routes became important nodes (such as Antioch, Apamea, Beroea, Palmyra and Gerasa).

In the third phase, there was a large-scale appropriation of the valleys, through the systematic subdivision of arable and reclaimed land.

During the Roman occupation of Syria there were few colonies founded *de novo*. In this phase the Romans simply enlarged and reorganized existing cities, which, however, were so extensive at times as to be comparable to new foundations based on Imperial urban canons, but with variations due to existing natural and man-made conditions.

While Seleucid cities in Syria had a strongly military character, with the advent of the *pax romana* this feature changed: the city walls were often eliminated and the city gates changed their function, from being purely defensive structures to having an elevated architectonic value, which recalled the architecture of the triumphal arch.

In all the Seleucid settlements in Syria, under the Romans the *via recta* was gradually transformed into the colonnaded street, which became the most common architectural structure on an urban scale. It gave volumetric significance to the two-dimensional plan, order to the various districts, and unity to the urban layout planned at different times and in different ways. It was a meeting place for commerce and trade, and replaced the agora, stoa, forum and basilica in the exercise of these functions. Indeed, Roman cities in Syria do not present the rigid form imposed by the *castrum* model, but derive from a rational design that extended from the city to the territory and was adapted to existing urban and territorial configurations.

In the case of Aleppo, the structure of the urban fabric in Roman times was derived from the land conformation of Syrian territory, following the general rules just described. For this reason, to give an adequate explanation of the structure of the urban organism, it is important to understand this organization on different scales, from the urban to the territorial.

It is apparent that three different planning phases date from the Roman period and that they had different orientations. These phases can be traced in the orthogonal alignments of the building and agrarian fabric, by measuring the urban fabric, analysing the route systems and consulting historical sources.[6]

The first phase: *limitatio secundum coelum*

Examination of the orthogonal alignments of the urban fabric in a north-south direction, the direction that up to now has been attributed to the Hellenistic planning phase, reveals an anomaly with regard to the system described previously. The orthogonal alignments of the urban fabric in this direction, recognizable in the cadastral records, are not only widespread in the central area of the walled Mamluk city, but are also present throughout the walled city, especially in the fabric to the east of the citadel (Figure 2), in an area that, up to now, has not been considered as part of a systematic urban development prior to the Ayyubid period.[7]

Further indications of this first phase of the Roman urban development are revealed by measurements of the building fabric and an analysis of the route systems. The measurement that needs to be used to reconstruct the form of the city in the Roman phases of urban development is the *actus* (35.6m), a subdivision of the *centuria*, used by Romans in both agrarian and urban planning.

To the east of the Great Mosque, which was formerly the ancient agora, the urban structure changes suddenly and it is no longer possible to detect the rhythm of the Hellenistic urban structure. Measuring the urban fabric of the walled city it is noticeable that the two blocks immediately to the east of the Great Mosque, whose direction is aligned in a north-south

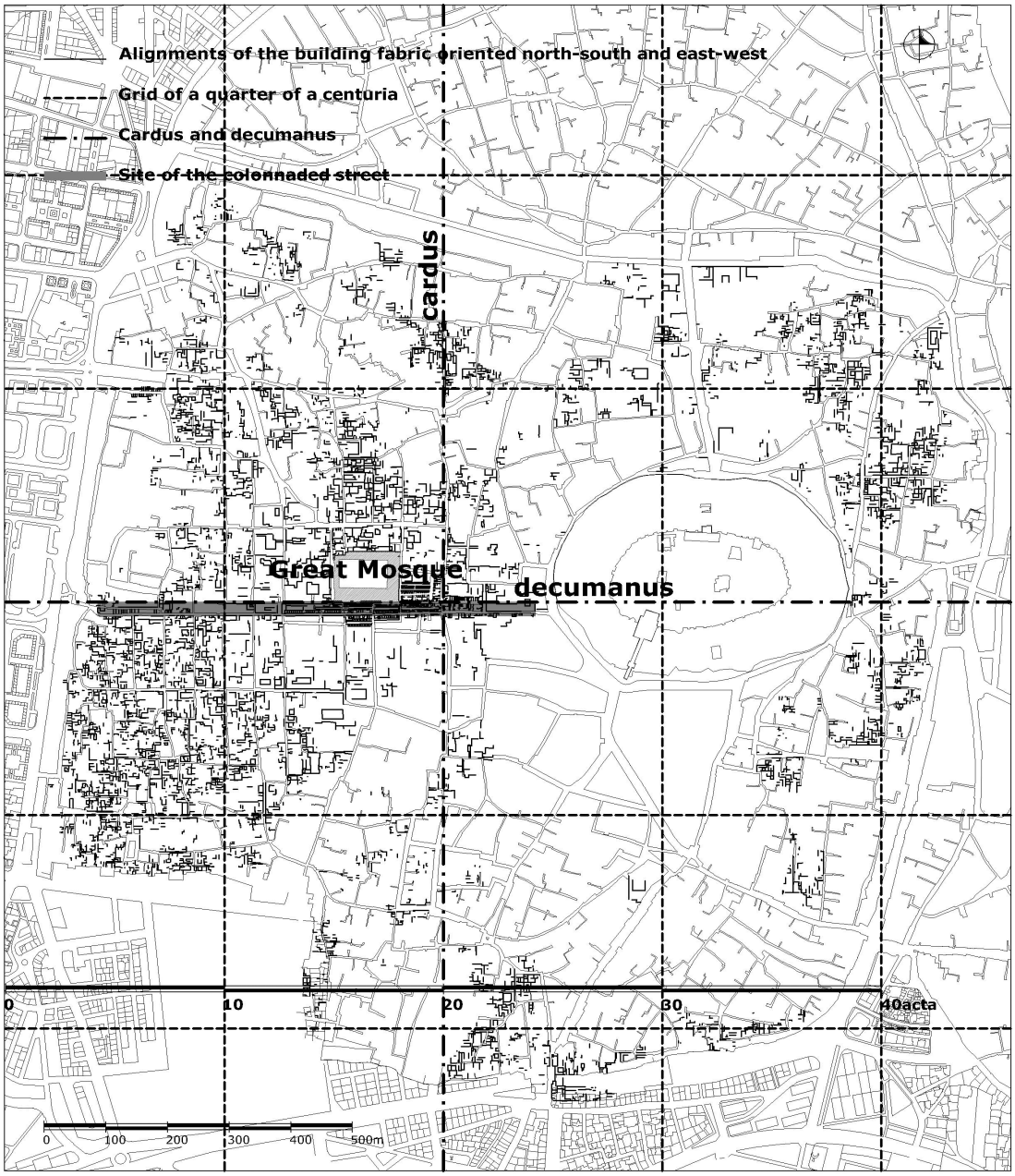

Figure 2. The Roman plan, *secundum coelum.*

orientation, have different dimensions from those of the blocks planned in the Hellenistic period. Their width is 71m, a dimension that corresponds to two *acta*. The same dimensional rhythm may be read in the position of many routes within the urban fabric (Figure 2).

To test this hypothesis and obtain more evidence of this phase of urban development we need to examine the structure of the territory of Aleppo. This reveals the presence of a homogeneous and isotropic territorial structure, based on a 710m by 710m module, and its subdivisions, that follows a north-south direction and is legible in both the agrarian areas and some of the routes to the south and east of the city boundaries: many urban and extra-urban route axes repeat the rhythm of the *centuriae*, many villages are at the intersection of these axes and many orthogonal alignments of the agrarian areas correspond to multiples of the *actus*. The presence of this regularity is especially evident in the agrarian plots to the

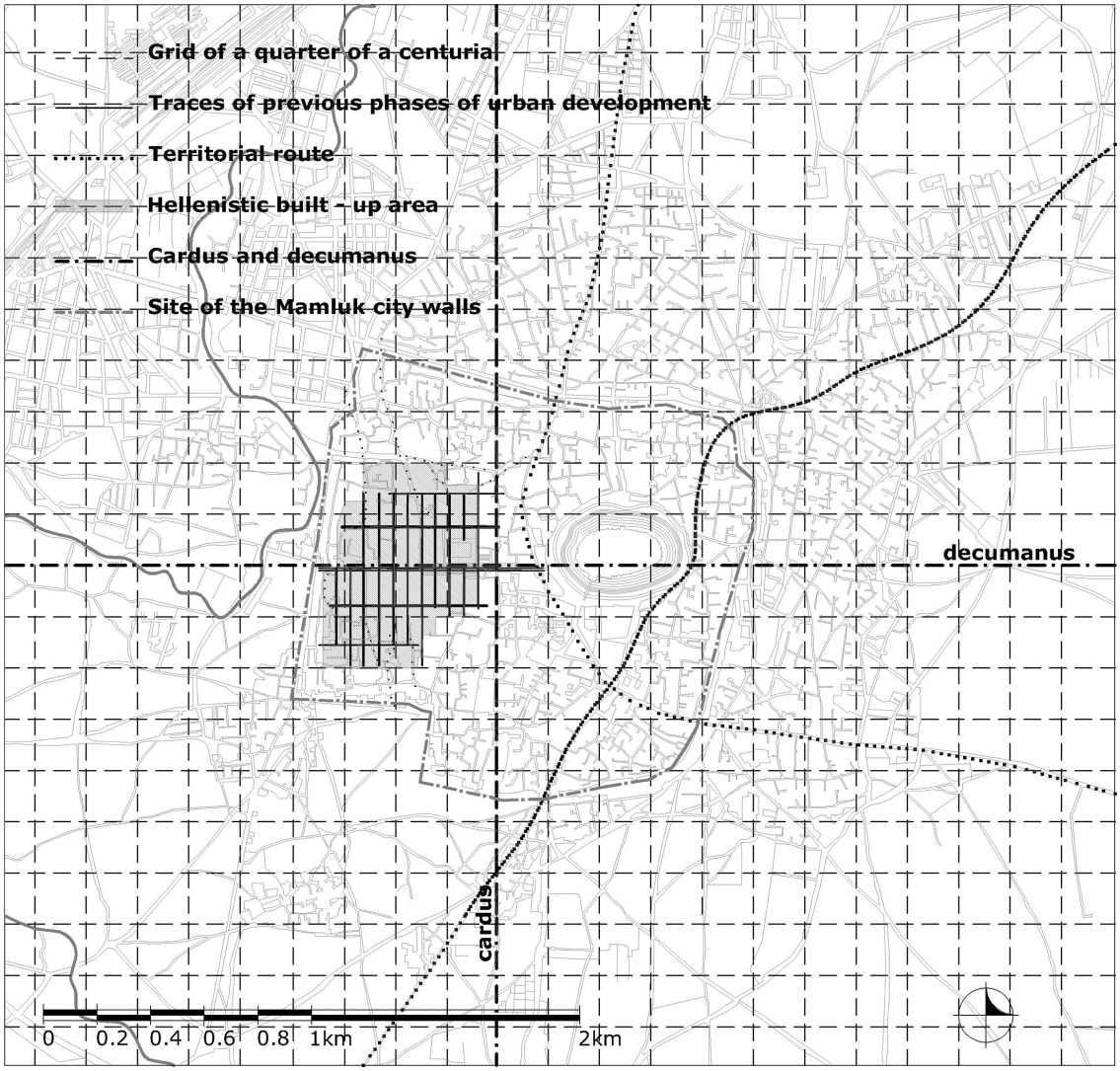

Figure 3. Outline of the Roman plan, *secundum coelum* of the city and environs of Aleppo.

south of the walled city.

The starting points for laying out this urban and territorial framework seem to have been, firstly, the intersection between the Hellenistic *via recta*, which became in this phase of urban development the Roman *decumanus* and was transformed into a colonnaded street, and, secondly, the route along the eastern boundary of the first Roman block next to the Great Mosque, which probably became the *cardus* (Figure 3). In this phase of the organization of the territory of Aleppo the urban and territorial structures merge. While Syria as a whole underwent a planning phase, the territory of Aleppo was organized according to Roman agricultural planning methods, and oriented *secundum coelum* – that is, with a celestial orientation – in an isotropic manner. We can assume that this phase of 'adaptation' corresponds to the period between the first century BC and the first century AD when, after the conquest of Syria in 64 BC, the transformation of Syrian territory began.

From this moment onwards the closed and compact structure of the Seleucid city was gradually replaced by a city, which, while not yet in contrast with the existing settlement, was beginning to transform radically the sense of urban space through the creation of a new spatial and architectural organization. This first Roman planning phase represents a kind of 'squaring' of the city and territory of

Aleppo, a structural grid more than an actual design.

The plan of Aleppo in pre-Islamic times is also made up of other forms and 'signs', which were superimposed on this scheme and which emerge from a study of the orthogonal alignments of the urban fabric. These forms and structures are not immediately legible, since they are derived from different territorial planning phases, and are closely dependent on the character of Syrian territory and the configuration of the site of Aleppo.

The second phase: *delineatio secundum naturam*

An examination of the orthogonal alignments of the urban fabric reveals that, to the south of the Great Mosque, starting from one of the routes of the Hellenistic settlement, the direction of the urban fabric changes suddenly (Figure 4). The axis which, starting from this route, leads to Bab Quinnasrin, deviates by 18 degrees from the north-south orientation. The deviation is not only very marked in relation to the axes of Bab Quinnasrin and Bab al-Nasr, but is also present to the south and east of the citadel.

This rotation of the urban fabric of Aleppo was first noted by Eugen Wirth in his book on Aleppo.[8] Wirth attributed a deviation of 23–32 degrees of the streets south of the citadel and a deviation of 23 degrees to the west of the Bab al–Nasr axis to urban development in the Mamluk period, when this area was enclosed within the new city walls. The same rotation was noticed by Anette Gangler. Starting from Wirth's observation, she attributed this rotation to the permanence of what she defined as 'very ancient urban structures', without being more precise as to their date.[9]

Owing to its marked dependence on the territorial structure, this deviation should be ascribed to the second phase of Roman land organization. The work carried out by the Romans between the first and the second century AD was the construction of a major road system that linked Aleppo to other Roman cities in Syria. The traces legible in the urban fabric and territory of Aleppo, oriented according to this deviation from a north-south direction, seem to be based on the organization of a road system on a regional scale, following the direction of the Syrian fault-line.

Historical data for this phase of human intervention in the city and territory of Aleppo are almost non-existent. To trace the history of Aleppo in this phase two sources can be used: the *Tabula Peutingeriana* and the *Itinerarii Antonini*.[10] On the *Tabula Peutingeriana*, a map of the road network of territories known by the Romans before the third century AD, Aleppo is called Bethina and is represented by a symbol of two towers. To many scholars this symbol indicates the nodal points for the Roman road system. These data, in conjunction with the information given by the *Itinerarii Antonini* represent an important source for the definition of the role that Aleppo played in Roman times. Indeed, the city had an important role as a point of intersection between the caravan routes and Roman planned routes.

Using the grid *secundum coelum* of the first Roman phase of urban development, we can identify a new territorial system based on a 710m by 710m module, deviating westwards by 18 degrees from the north-south axis (Figure 4). Since the Romans did not use degrees in their computations, the main axis of this new centuriation (the *cardus*) may be described as the hypotenuse of a right-angle triangle with a 1:3 ratio (whose catheti correspond to 1 and 3 *centuriae* and the modules of the planning grid *secundum coelum*) that has its origin at the intersection between the *cardus* and *decumanus* of the earlier planning phase.

On an urban scale, the *cardus* in this arrangement coincides with the Bab al-Nasr route and with the main route of the settlement in the neighbourhood outside the walls to the north of the city, and is set at a distance of two *acta* from the Bab Quinnasrin route, the gateway to Chalcis.

The *decumanus* in this system coincides, outside the walls, with a ford, a route that starts from Bab Antakia, the gateway to

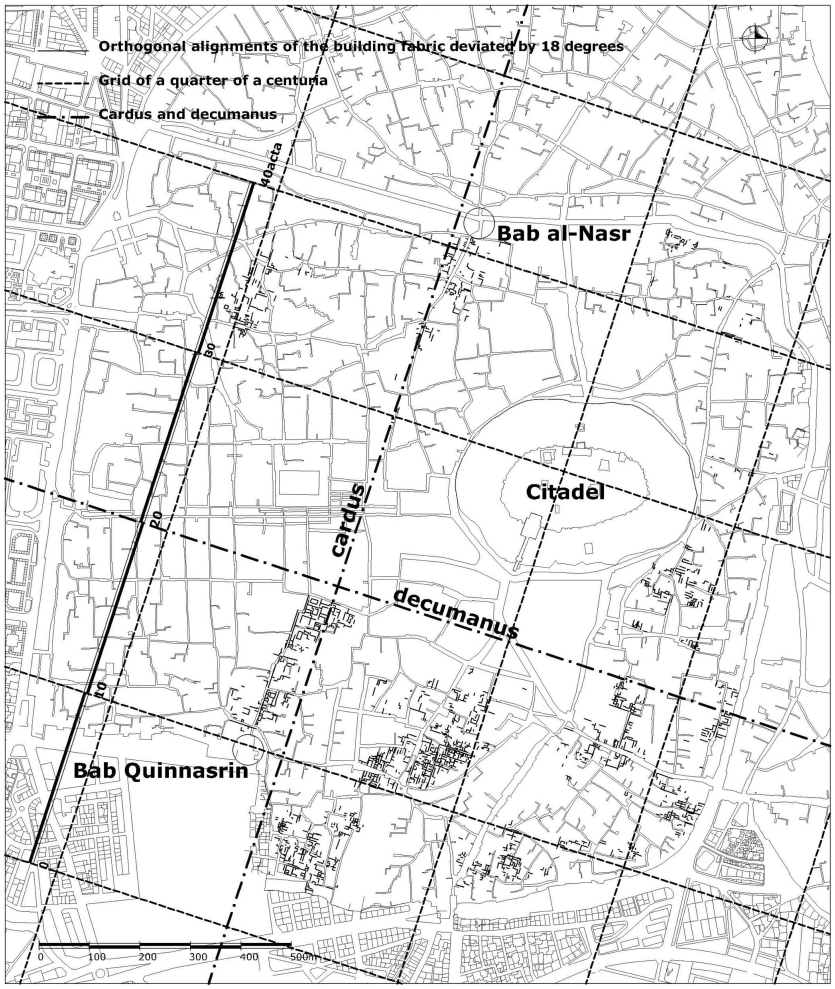

Figure 4. The first Roman plan, *secundum naturam*.

Antioch, crosses the river, and links up with the main route to Antioch. An orthogonal of the *decumanus* coincides with the axis of the entrance to the Ayyubid citadel (Figure 5).

On a smaller scale, in the urban fabric along the main route axis that leads to Bab Quinnasrin, we can still detect the structure of the original aggregation. The direction of the main route axis coincides with the direction of this second Roman organization of the city and territory of Aleppo. This axis, placed at a distance of two *acta* from the *cardus*, was originally 25 Roman feet wide, and along it, in the existing building fabric, we can find traces of the lots of courtyard houses of the *domus* type, which are all orientated in an east-west direction. Some of the planned building routes and connecting routes laid out in this phase can still be read in the neighbourhood structure. Some of these routes later became culs de sac.

The layout of the city deriving from the construction of these routes marks the first major hiatus in the urban growth of Aleppo, since it is not continuous with the existing fabric, but has rotated it *secundum naturam*, that is, according to the geographical conformation of Syrian territory.

The third phase: *delineatio secundum naturam*

In the territory and urban fabric of Aleppo we can still find traces of another planning phase, which makes a reading of its present urban structure even more complex. A further plan *secundum naturam* was carried out in order to

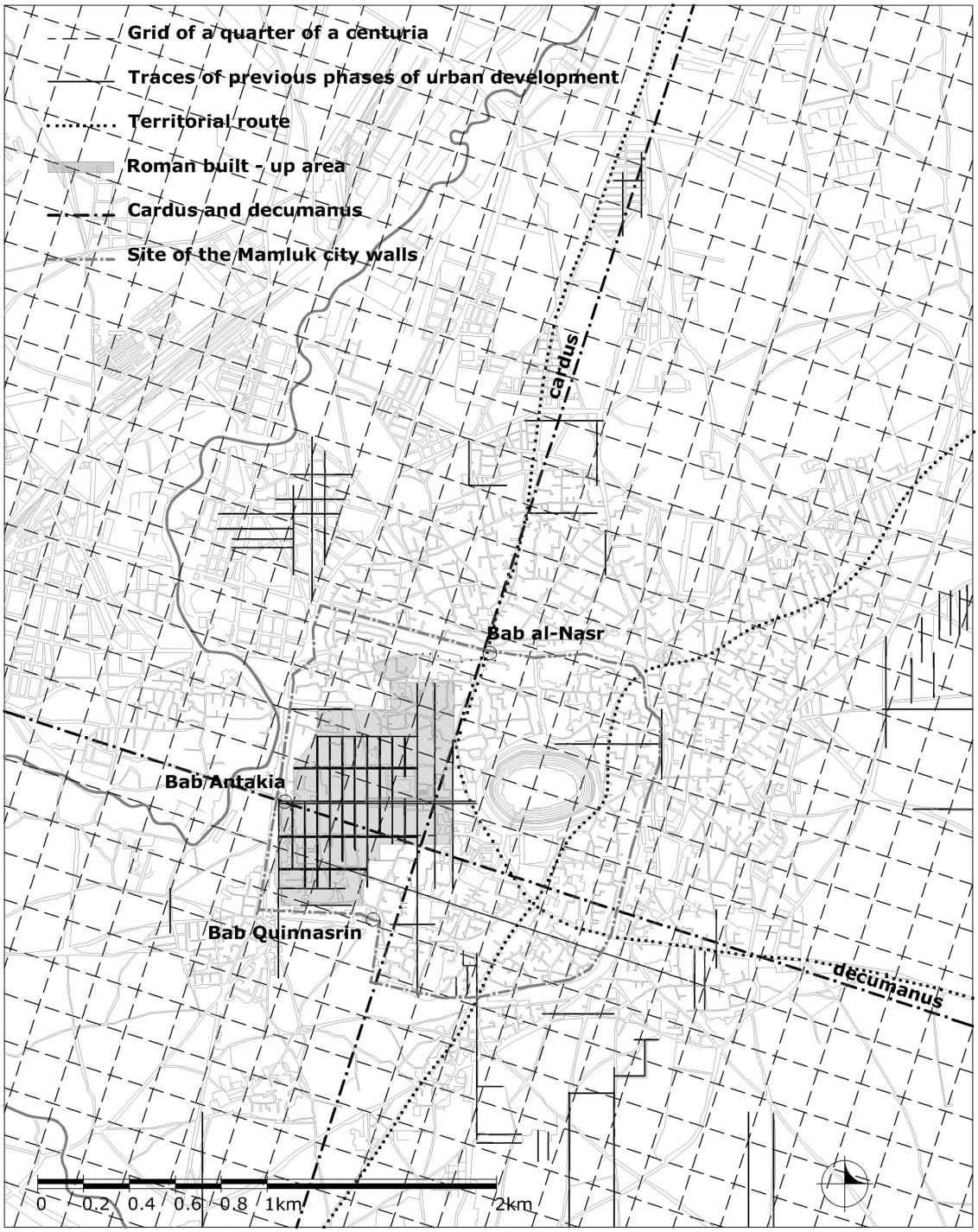

Figure 5. Outline of the first Roman plan, *secundum naturam* of the city and environs of Aleppo.

adapt the urban, though mainly agrarian, fabric of Aleppo to the direction of the Quweiq river valley, that is, to the natural conformation of the site.

The orthogonal alignments of the urban fabric reveal that within the walled Mamluk city, along the walls – which are not orthogonals and do not have the orientations to be

considered later – the urban fabric deviates at an angle of about 10 degrees from the celestial orientation. This further deviation is not as immediately evident as the one previously described, since it can be easily confused with the spontaneous fabric. It is, however, too widespread and extensive along the boundary walls to be casual, spontaneous or unplanned. Moreover, it is present not only outside the Ayyubid and Mamluk city walls but also on the *tell*, thus indicating a re-planning of the *tell* in this phase.

To trace the geometry of this further phase of urban development we need to find its original axes: the *cardus* and *decumanus*. Starting from the network *secundum coelum*, we can identify the direction of the main axis of this territorial system (of 710m by 710m), which is deviated by about 10 degrees to the west from the north-south axis.

The *cardus* in this system is an axis passing through Bab Antakia. Near this axis, corresponding to the re-planned urban fabric of the *tell*, are archaeological remains dating from the Roman period. These remains correspond to the wall alignments that follow this deviation. The *decumanus* in this system may have been an axis passing through Bab Antakia (Figure 6).

This planning phase, the main direction of which follows the axis of the Quweiq river, seems to have been influenced by the need to adapt the agrarian organization of the territory, which would later be integrated in the urban structure, to the main direction of the valley. Indeed, in the third phase of the Roman organization of Syria, there was an adaptation of the territorial structure of Aleppo to that of the Quweiq river valley; in other words, to the centuriation of the valley.

The derivation of the structure of the urban fabric of Islamic Aleppo from this Roman agrarian plan makes it easy to verify the *actus* as a unit of measurement. In particular, measuring the urban fabric of the Mamluk city, we find that the perimeter of that city, the boundaries of which were aligned along the traces of Byzantine structures, coincides with a square of four *centuriae* (Figure 7).

On a smaller scale, reading the urban fabric along the axis that leads to Bab Quinnasrin, traces of the original aggregation of this third phase of the Roman organization of Aleppo can still be found. Throughout the whole area within the aggregation, and even along a part of the Bab Quinnasrin axis, there are traces of the parallel *domus* lots of the original planning phase, laid out in an east-west direction. On an architectural scale, the structure of Bab Quinnasrin and of the *khan* next to it coincide with this deviation.

In this last phase of Roman intervention the city was indeed constructed *secundum naturam*, with a form aimed at reorganizing the fabric of earlier planning phases and incorporating not only the Hellenistic settlement, but also the *tell* into this new urban form.

The palimpsest of signs that makes up the territory of Aleppo is not an anomaly of the region in the Roman period. Indeed, the superimposition of several centuriations in the same territory is a sequence typical of Roman territorial planning, verifiable in other Syrian and Mediterranean areas.[11]

In Syria, traces of *centuriae* have also been found in Homs by W. J. Van Liere. In his article on the urban structure of Homs,[12] Van Liere, working on aerial photographs, found traces of a centuriation of the urban and agrarian fabric. The scheme of this centuriation is identical to that recognizable in Aleppo: the *cardus* is oriented along the axis of the Oronte valley, but deviates by 10 degrees to the west. The axes of this centuriation intersect in the centre of the town.

The transitional phase and initial Islamic urban reorganization

In the transitional phase between the end of the Roman Empire and the beginning of the Byzantine period there was no outward urban growth, but a series of reorganizations in the building fabric and the beginning of a process of encroachment in the interstices of the earlier plans. In particular, when the new Byzantine city walls were built, Aleppo lost its close morphological relation with its territory. In

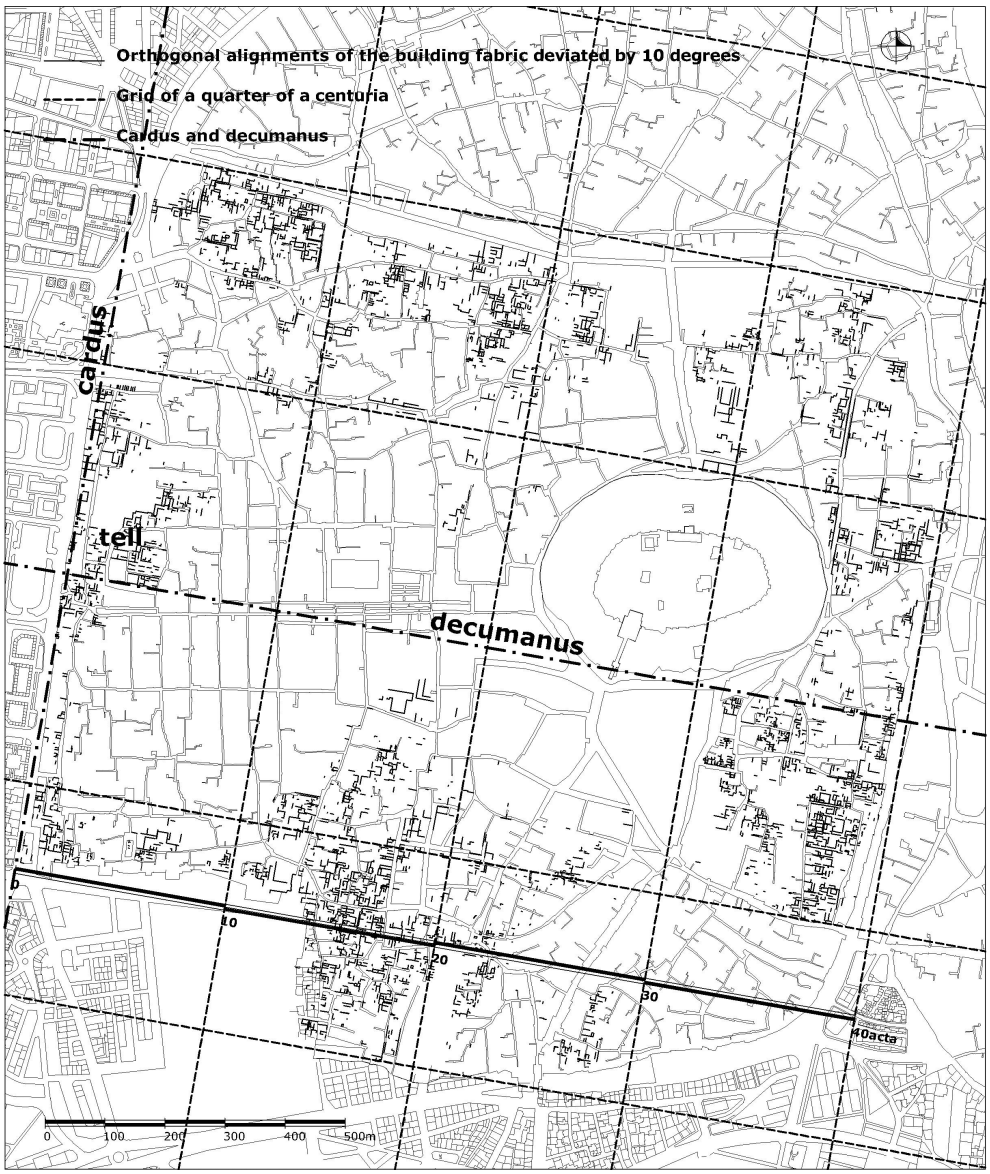

Figure 6. The second Roman plan, *secundum naturam*.

this phase, the form of Aleppo was still that of a city with a low building density and a rather disordered form. This was owing to the superimposition of four different plans, as well as to the spontaneous growth of the urban fabric.

When the Arabs conquered Aleppo, they took over a city and a territory which already had a disordered form, reflecting the co-presence of these superimposed plans. They occupied the traces of the Roman agrarian and urban organization, and starting from this organization the new traits of the medieval Islamic city were developed.

In the first phase of the Arab conquest, from 637 to the tenth century AD, the idea of the permanence of place, and the change of meanings related to these places, became the informing principle of urban development. Even though, in this phase, there was no change in the urban form, and it seems that in the very early Islamic period the pre-Islamic features of the urban structure of Aleppo remained unchanged, on an architectural scale, a series of small modifications was carried out. These modifications disrupted the consolidated sense of the Byzantine city.

The first mosque of Aleppo was built near

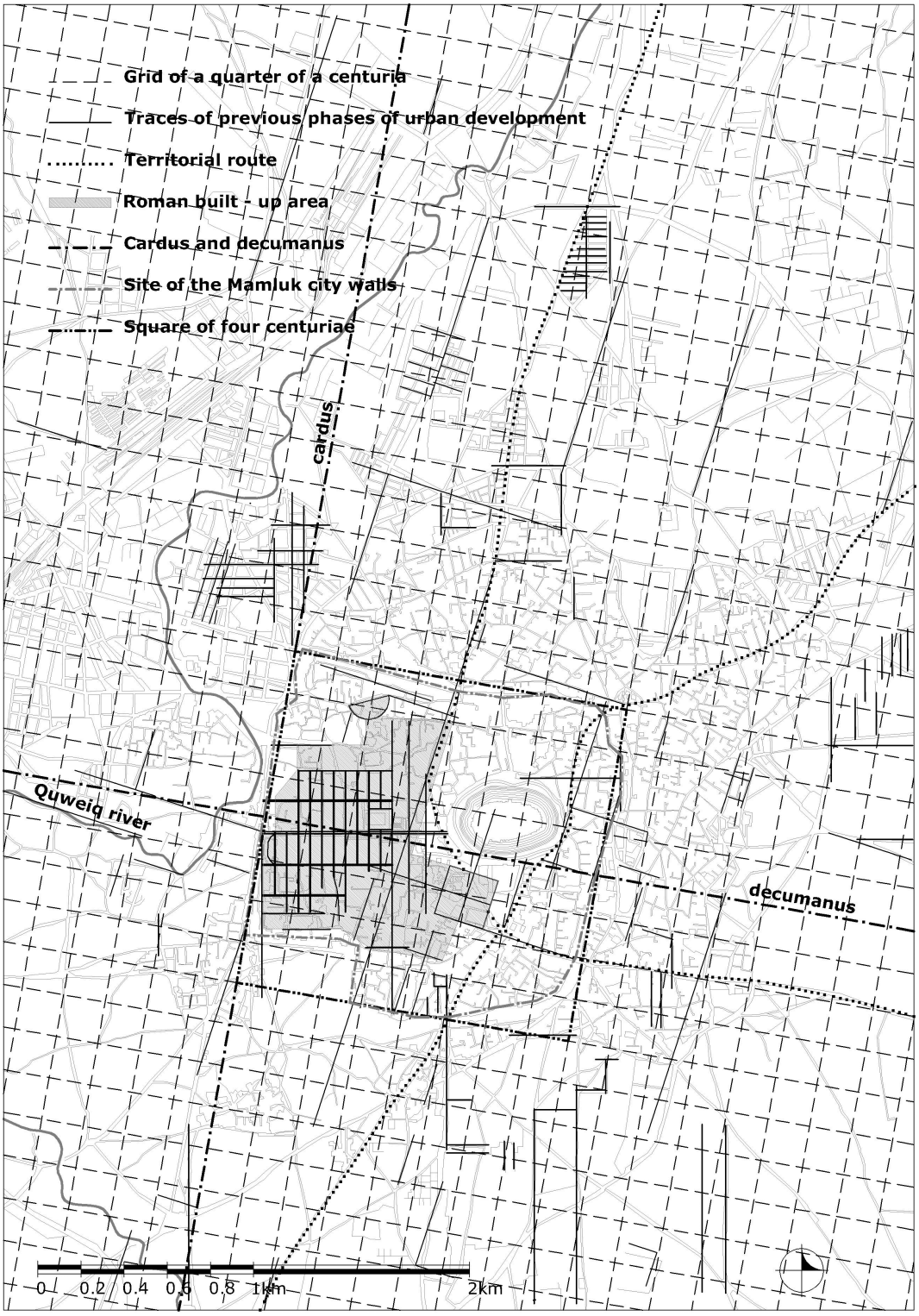

Figure 7. Outline of the second Roman plan, *secundum naturam* of the city and environs of Aleppo.

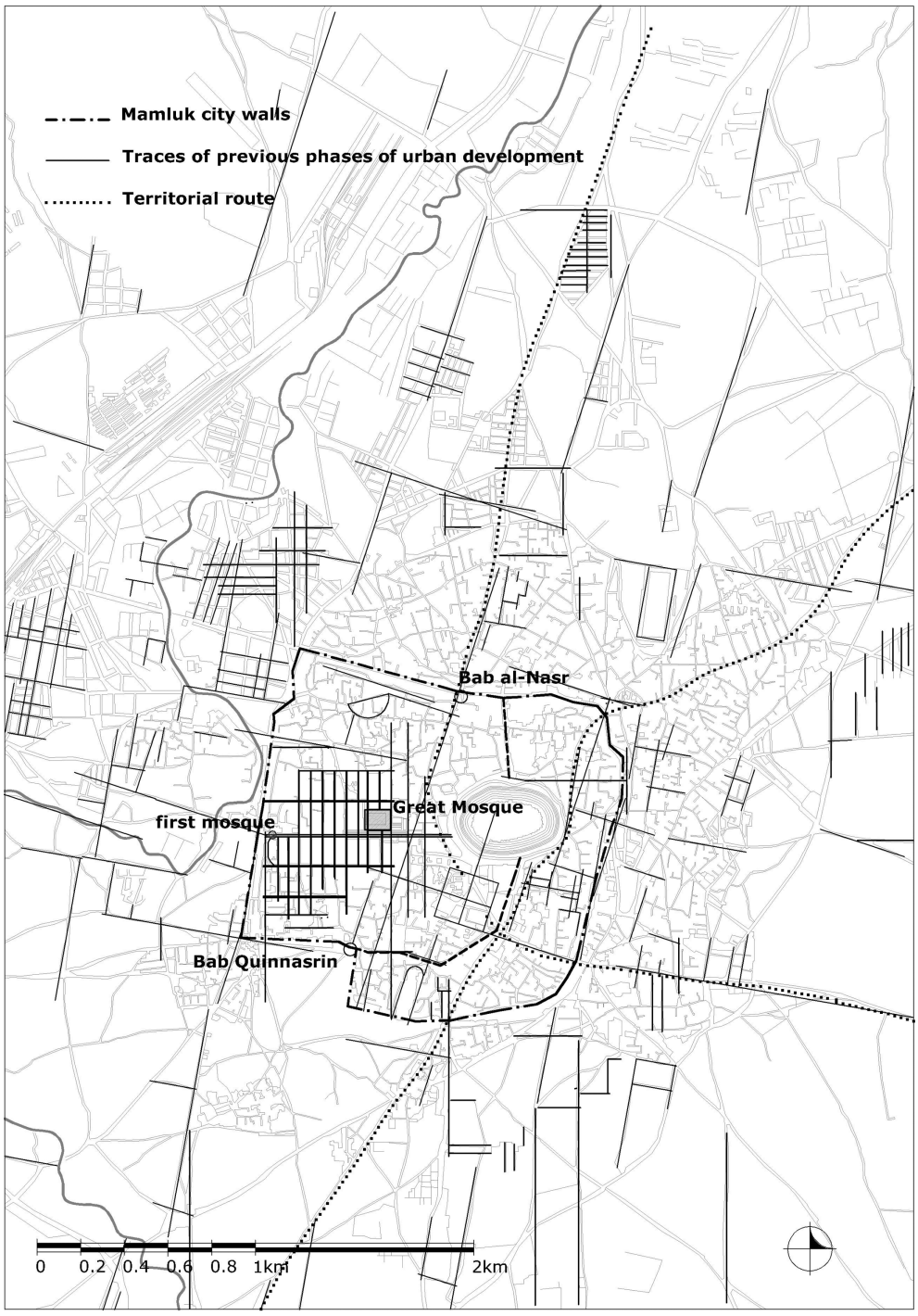

Figure 8. Relation between the traces of pre-Islamic Aleppo and the layout of the Ayyubid and Mamluk urban walls.

Bab Antakia, at the end of the Roman colonnaded street, and encroaches on the Roman monumental arch. This apparently simple operation deeply changed the structure of the main street axis of the city, now blocked up on both sides: on the Bab Antakia side, the colonnaded street was blocked at the end by the presence of the mosque and, on the opposite side, by the presence of the citadel. From this moment onwards, the process of transformation of the colonnaded street into *suqs* began: the space of the colonnade and the

central lane was initially congested by commercial building units that transformed the main street axis of the city into two, three and four parallel commercial roads.

According to a scheme reproduced in almost all Syrian cities at that time, the process by which a place took on permanence and a change in meaning was formalized by the construction of the Great Mosque that was built on the site of the Hellenistic agora, the Roman forum, and the Byzantine cathedral cemetery 80 years after the Umayyad conquest. For the site of the Friday mosque, the heart of the city centre was chosen, the former site of political activity and the sacred place of Christianity, which were replaced by the construction of a building symbolizing the new political and religious power.

A second phase of the Arab urban development of Aleppo corresponds to the period between the tenth and twelfth centuries AD, with the urban sprawl after the Mongol invasion. From this moment on, the city no longer grew according to a homogeneous and isotropic grid system, but in terms of different neighbourhoods, which were distinctly separate and self-contained, and were derived from a different morphological process that affected the urban fabric, both residential and public. On an urban scale, the city began to be subdivided into self-sufficient districts, the features of which seem to follow a model diametrically opposed to the widespread models of classical planning.

Conclusion

The reconstruction of the form of Aleppo in the pre-Islamic period has provided a linear growth model or *process* for the urban fabric. This is made up of the stratifications and superimpositions of different geometric concepts. The successive phases of these were deeply conditioned by the nature of the environmental organism in which the city is situated.

From this reconstruction it emerges that the complex, stratified, and apparently chaotic form of the urban fabric of Aleppo derives from the sum of various urban plans of Roman origin superimposed one over the other. In particular, the superimposition of the layouts of the Roman plans in their various phases created a complex form for the urban fabric of Aleppo, especially along the main axes of the road system within the walled city: the Bab Quinnesrin and Bab al-Nasr axes. During the Mamluk and Ottoman period, these became places epitomizing the city's character and representing zones of specialization and development of the Islamic urban form (Figure 8).

This interpretation demonstrates the inaccuracy of the theories advanced by Orientalists, and in particular Sauvaget's view of Arabs as destroyers of the geometrical organization of the Hellenistic urban form of Aleppo. Instead it emphasizes the role and structure of the three different Roman planning phases that have been ignored in previous studies on the urban form of Aleppo.

Notes

1. This article is based on doctoral studies carried out at the ICAR Department, Politecnico di Bari, on the PhD programme in Architectural Design for the Mediterranean Countries. The title of the doctoral thesis is *Mediterranean cities: Aleppo. Forms and types of the city intra moenia,* and the supervisor was Professor Attilio Petruccioli.
2. See in particular Caniggia, G. (1963) *Lettura di una città: Como* (Centro Studi Storia Urbanistica, Roma); Cataldi, G., Iacono, P. and Merlo, A. (2000) 'La geometria di Firenze il progetto matrice della città e del territorio', *Firenze Architettura* 1, 4-17.
3. See Sauvaget, J. (1939) 'Le 'tell' d'Alep', *Mélanges syriens offerts a monsieur René Dussaud par ses amis et ses élèves* (Librairie Orientaliste Paul Geuthner, Paris) Vol 1, 59-63.
4. On the history and urban structure of Seleucid cities in Syria see Balty, J.–C. (1994) 'Apamée et la Syrie du nord aux époques hellénistique et romaine', *Revue du Monde Musulman et de la Méditerranée* 62, 15-26; Frézouls, E. (1971) 'Observation sur l'urbanisme dans l'orient syrien', *Annales Archéologiques Arabes Syriennes. Revue d'Archéologie et d'Histoire*

21, 231-43; Grainger, J.D. (1990) *The cities of the Seleukid Syria* (Clarendon Press, Oxford); Lacoste, H. (1960) 'La restitution du plan antique d'Apamée in Syrie', *Bulletin de l'Académie Royale du Belgique, classe de Beaux-Arts* 43, 53-62; Leriche, P. (1989) 'Les fortifications grecques et romaines en Syrie', in Dentzer, J.-M. and Orthmann, W. (eds) *Archéologie et histoire de la Syrie II. La Syrie de l'époque achéménide à l'avènement de l'Islam* (Saarbrücker Druckerei und Verlag, Saarbrücken) 267-82; Leriche, P. (2000) 'Le phénomène urbain dans la Syrie hellénistique', *Bulletin d'Etudes Orientales de l'Institut Française de Damas* 52, 99-125; Monceaux, P. and Brossé, L. (1925) 'Chalcis ad Belum. Notes sur l'histoire et les ruines de la ville', *Syria* 7, 339-50; Peters, F. E. (1983) 'City planning in Greco–Roman Syria. Some new considerations', *Damaszener Mitteilungen* 1, 269-77; Sauvaget, J. (1934) 'Esquisse d'une histoire de la ville de Damas', *Revue des Etudes Islamiques* 8, 421-80; Sauvaget, J. (1934) 'Le plan de Laodicée-sur-Mer', *Bulletin d'Etudes Orientales de l'Institut Française de Damas* 4, 81-114; Sauvaget, J. (1936) 'Le plan de Laodicée-sur-Mer (Note complémentaire)', *Bulletin d'Etudes Orientales de l'Institut Française de Damas* 6, 51-2; Sauvaget, J. (1949) 'Le plan antique de Damas', *Syria* 26, 314-58; Will, E. (1989) 'Les villes de la Syrie à l'époque hellénistique et romaine', in Dentzer, J.-M. and Orthmann, W. (eds) *Archéologie et histoire de la Syrie II. La Syrie de l'époque achéménide à l'avènement de l'Islam* (Saarbrücker Druckerei und Verlag, Saarbrücken) 223-50.

5. The measurement we need to reconstruct the form of the city in this phase of urban development is the Greek foot. Using this unit of measurement it is possible to obtain the dimension of the streets (8ft and 16ft wide, or 2.36m and 4.72m) and the dimension of the blocks of the settlement (160ft by 420ft, or 47.2m by 124m). These dimensions were first verified by E. Wirth in Gaube, H. and Wirth, E. (1984) *Aleppo. Historische und geographische Beiträge zur baulichen Gestaltung, zur sozialen Organisation und zur wirtschaftlichen Dynamik einer vorderasiatischen Fernhandelsmetropole* (Dr. Ludwig Reichert, Wiesbaden) and differ from those found by J. Sauvaget in Sauvaget, J. (1934) 'Le plan de Laodicée-sur-Mer', *Bulletin d'Etudes Orientales* 4, 81-114 which were 46m x 120m.
6. References for Aleppo in this phase of urban development are found in Gaube, H. (2000) 'Aleppo zwischen Alexander dem Großen und der Arabischen Eroberung', Fansa, M. (ed.) *Damaskus-Aleppo: 5000 Jahre Stadtentwicklung in Syrien* (Philipp von Zabern, Mainz), 101-7; Guyer, S. (1914) 'La madrasa al-Halâwiyya à Alep', *Bulletin de l'Institut Français d'Archéologie Orientale* 11, 217-31; Sauvaget, J. (1939) 'Le "tell" d'Alep' *Mélanges syriens offerts a monsieur René Dussaud par ses amis et élèves (Librairie Orientaliste Paul Geuthner, Paris)* Vol.1, 59-63; Sauvaget, J. (1941) *Alep. essai sur le développement d'une grande ville syrienne, des origines au milieu du XIXe siècle* (Librairie Orientaliste Paul Geuthner, Paris); Sauvaget, J. (1929) 'L'enceinte primitive de la ville d'Alep', *Mélanges de l'Institut Français de Damas* 1, 133-59; Sauvaget, J. (1933) *Les perles choisies d'Ibn Ach -Chihna. Matériaux pour servir à l'histoire de la ville d'Alep I* (Mémoires de l'Institut Français de Damas, Beyrouth).
7. See Sauvaget, J. (1941) *Alep. Essai sur le développement d'une grande ville syrienne des origines au milieu du XIXe siècle* (Librairie Orientaliste Paul Geuthner, Paris); Gaube, H. and Wirth, E. (1984) *Aleppo. Historische und geographische Beiträge zur baulichen Gestaltung, zur sozialen Organisation und zur wirtschaftlichen Dynamik einer vorderasiatischen Fernhandelsmetropole* (Dr. Ludwig Reichert, Wiesbaden); Gangler, A. (1993) *Ein traditionelles Wohnviertel im Nordosten der Altstadt von Aleppo* (Wasmuth, Tübingen). None of them have considered the area east of the citadel as an urban feature before the Ayyubid and Mamluk periods.
8. Gaube, H. and Wirth, E. (1984) *Aleppo. Historische und geographische Beiträge zur baulichen Gestaltung, zur sozialen Organisation und zur wirtschaftlichen Dynamik einer vorderasiatischen Fernhandels-metropole* (Dr. Ludwig Reichert, Wiesbaden) 124-6.
9. Gangler, A. (1993) *Ein traditionelles Wohnviertel im Nordosten der Altstadt von Aleppo* (Wasmuth, Tübingen) 25.
10. Miller, K. (1964) *Itineraria romana. Römische Reisewege an der Hand der Tabula Peutingeriana* (Bretschneider, Roma). A reconstruction of the road system in Syria during Roman times, according to the information derived from both the *Tabula Peutingeriana* and the *Itinerarii Antonini,* has been made by

E. Mouterde and A. Poibeard in Mouterde, E. and Poibeard, A. (1945) *Le limes de Chalcis. Organisation de la steppe en haute Syrie romaine* (Librairie Orientaliste Paul Geuthner, Paris); Bauzou, T. (1989) 'Les routes romaines de Syrie', in Dentzer, J.-M. and Orthmann, W. (eds) *Archéologie et histoire de la Syrie II. La Syrie de l'époque achéménide à l'avènement de l'Islam* (Saarbrücker Druckerei und Verlag, Saarbrücken) 205-21.

11. Traces of superimposed centuriae are charted for southern-central Italy in Cataldi, G., Iacono, P. and Merlo, A. (2000) 'La geometria di Firenze il progetto matrice della città e del territorio', *Firenze Architettura* 1, 4-17; Chouquer, G., Clavel-Lévêque, M., Favory, F. and Vallat, J.-P. (1987) *Structures agraires en Italie centro-méridionale. Cadastres et paysage ruraux* (Collection de l'École Française de Rome, Rome); Dodinet, M., Leblanc, J., Vallat, J.-P. and Villeneuve F. (1990) 'Le paysage antique en Syrie: l'exemple de Damas', *Syria* 67, 339-55.
12. Van Liere, W.J. (1959) 'Ager Centuriatus of the Roman Colonia of Emesa (Homs)', *Les Annales Archéologiques de Syrie. Revue d'Archéologie et d'Histoire Syriennes* 8/9, 55-8.

Annual meeting of CISPUT, Carmignano, Italy, 17-18 November 2006

The sixteenth-century Villa Medicea of Artimino, in the Comune of Carmignano, Prato, gave hospitality to the eighteenth meeting of CISPUT.

The theme treated on the first day was *The Tenth 'Biennale di Architettura' of Venice: critical considerations*. The section of the Biennale entitled *Città di Pietra,* edited by C. D'Amato, was analysed in detail. After a report by A. Petruccioli, some of the architects participating in the competition *Progetto Sud* presented their projects.

Of the four themes presented by the organizers, the planning of the multi-religious centre of Punta Perotti in Bari was particularly appreciated. A. Natalini pointed out the relation with water, in line with his Dutch projects; E. Bordogna (G. Canella's group) chose the fantastic church represented in a Bellini picture as a model; and M. Ieva (A.V. Riondino's group) worked on some typical elements of the Romanic architecture of Puglia. Later P. Buontempi, A. Pacciani and E. Genovesi explained their projects.

The last contributions of the day were those by G. Cataldi, who participated in all the themes, co-ordinating four groups. Starting from common basic principles, each team developed a different project concerned with the urban fabric and the definition of a homogeneous structural system. The discussion closed with G. Muratore's criticism of the excessive influence that the world of finance and speculation exerted on this Biennale edition. Concluding the day, R. Pasqualetti and M. Maretto presented the architectural reviews *Architetture delle Province* and *Aiòn*.

The theme treated on the morning of the second day was *Carmignano: 'survey' and projects*. A collaboration between the Comune of Carmignano and the Universities of Florence and Rome, whose purpose is the survey of the Carmignano territory, has produced some preliminary results, and these were presented by G. Cataldi and T. Londi. In addition, G. Cavallina illustrated contemporary examples of residential building in historical centres and rural areas.

Of particular importance was the theme dealt with during the afternoon of the second day, *Towards the constitution of the Italian Group of Urban Morphology*. The creation of this Italian group within ISUF was proposed by G.L. Maffei. The group would co-ordinate and represent at an international level the typo-morphological studies developed in Italy each year. This proposal was welcomed with great enthusiasm by all those present, and it was decided to organize an inaugural convention in Rome early in 2007.

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