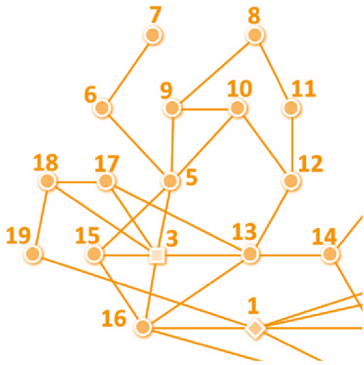
Between public square and colonnaded street: functionality and cultural significance of the urban layout of Byzantine Philoxenite, Egypt



Abstract: The urban layout of Byzantine Philoxenite diverges from the traditional axial planning seen in the Eastern Mediterranean. Unlike many Late Antique cities centered on a broad, colonnaded street, Philoxenite's focal point was a large public square measuring approximately 1600 m². This unique spatial arrangement was confirmed through geophysical surveys conducted in 2024 as part of the Marea Archaeological Project. Spatial analyses, including access, connectivity, and visibility studies, reveal that the square functioned as the primary integrative element of the city, surpassing the broad street in accessibility and control over urban movement. The study highlights the central square's significance in the lived experience of the city's inhabitants and visitors, contrasting Philoxenite's layout with other regional centers such as Alexandria, Abu Mena, and Taposiris Magna. The findings challenge the notion that public squares in Late Antique Egypt played a secondary role in urban planning, contributing to broader discussions on the evolution of urban space in the final centuries of the Byzantine Empire before the Islamic conquest.

Keywords: Marea, Byzantine period, city planning, Egypt, access analysis, visibility analysis, agent analysis

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He [*governor of Alexandria under Anastasius*] *established a market there and granaries in which were stored the crops which were carried to the church and he called it Iksānīṭā* [*Philoxenite*]. *He built a colonnade* [*leading*] *from there to the church. In it, there were vessels full of water.*

Patriarch John IV(?) of Alexandria, *The Encomium on St. Menas*[1]

INTRODUCTION

The principal account of the foundation of Philoxenite, a medium-sized Byzantine town on the southern shore of Lake Mareotis, is short but informative. It records the main elements of the new settlement, among them a church, a market, granaries, and a colonnaded street. This list is not unusual. The only distinctively urban component in it, the colonnaded street, is a common feature representing a hallmark of Roman urban tradition in the Eastern Mediterranean.[2] Broad, decorated streets played central, spatially unifying roles in the layouts of both major and medium-sized cities in the Roman East: Antioch, Gerasa, Ptolemais, Apamea, Damascus, Sepphoris, Sebaste, and, most importantly in this context, Alexandria. Their prominent position —serving as both the main functional artery and the architectural symbol of Byzantine cities in the East— is visually emphasized in the portrayal of Jerusalem on the Madaba mosaic map, where the city is depicted as being dominated by its central colonnaded street. The depiction dates from the 6th century AD and may thus be considered representative of the aesthetic sensibilities and the idealized urban image popular at the time of Philoxenite's foundation.[3]

What makes Philoxenite distinct is that, contrary to the suggestion conveyed in the *Encomium* and the urban tradition prevalent in the East, its actual urban layout was not centered on a broad, decorated street. Though present, such a street was located along the eastern section of the town and did little to "unify" the urban scheme it was part of. Instead, at the heart of the city, connected to several streets leading to different parts (districts?) of Philoxenite, there was a large, rectangular open

1 The quote comes from an Arabic version of the text preserved in a manuscript dated to the 14th–15th century AD (Jaritz 1993: 119). The author of the Encomium was most likely John IV (Wipszycka 2012: 422), the patriarch of Alexandria in 775–789. For the original Coptic text, see Drescher 1946: 148. For a detailed discussion of the content of different manuscript versions of the *Encomium*, see Piwowarczyk forthcoming.

2 For an overview of colonnaded streets in the Roman East and a discussion of their development, see Burns 2017: 325–336. It should also be noted that several examples can be found in the West as well; see Frakes 2009: esp. 83–89; MacDonald 1982: 44.

3 Mosaics of Madaba have been the subject of extensive research. The most recent monograph, written in Arabic, is by Basem and Amireh (2023), with Brubaker (2002) being an example of an earlier study relevant to this paper.

space. Its existence, postulated for several years on the basis of a magnetic survey and an architectural survey of visible wall remains (Derda et al. 2021: 130), was confirmed in 2024 by a magnetic fluxgate gradiometer survey [*Fig. 1*] conducted as part of the ongoing Marea Archaeological Project led by Tomasz Derda and financed by the National Science Centre, Poland. Measuring approximately 1600 m², it is one of the largest public squares recorded in Graeco-Roman Egypt (Skalec 2012). As such, it must have played a significant role in shaping the lived experience, particularly the flow of pedestrian movement and visual reception of Philoxenite. This role, though indirectly hinted at by a reference to the public square in Philoxenite in one of the *Miracles of St. Menas* by Theophilus of Alexandria,[4] has thus far escaped academic attention.

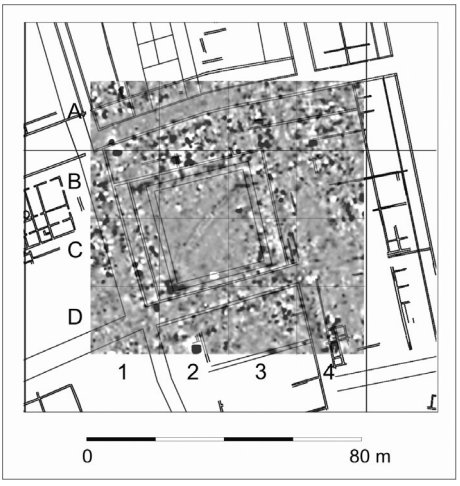

Fig. 1. Area of the public square/agora in Philoxenite. Transparent magnetic map superimposed on the site plan (T. Herbich)

Understanding the functional relationship between the public square, the nearby broad street, and the wider network of surrounding streets will shed valuable light on the everyday realities of the city and the cultural inspirations of the architects responsible for its planning. Given that Philoxenite represents one of the last major new urban foundations in Egypt prior to the Islamic invasion (Gwiazda and Derda 2021: 8), analyzing its spatial configuration, particularly the role of a novel, unusually spacious new element such as the central public square, is significant for the broader interregional discussion on the final phase of Antique urban development in the East, before Egypt and the Levant were lost to the Roman Empire. The first stage of the analysis is to reconstruct at least a portion of the urban layout of Philoxenite as it appeared in the 6th century AD, when all major elements of the Byzantine town had been completed. Next, the reconstructed public space will be investigated using spatial analysis tools: plan analysis, access analysis, visibility analysis, and agent analysis. The latter two methods, adapted to archaeology from the field of robotics, will be carried out using the DepthMap software platform developed by Alasdair Turner at the VR center for the built environment at the UCL Barlett School of Architecture (Turner 2004). Finally, the last section of the study will position the obtained results within the broader context of Late Antique urbanism, Egypt, and the Mareotis region. This will include comparisons with the spatial arrangements of other towns, particularly

4 For Miracle 8, see Drescher 1946; for Miracle 4, see Pomålovskij 1990.

nearby Taposiris Magna, Abu Mena, and Alexandria, as well as a discussion of the appearance and role of the few known public piazzas in Graeco-Roman Egypt and of the identified spatial functions of Philoxenite's central square.

RECONSTRUCTING THE LAYOUT

Byzantine Philoxenite was located at the tip of a peninsula projecting from the southern shore of Lake Mariout. Thus, although it lacked a town wall, its urban development was nonetheless restricted by natural boundaries — primarily the lake, but also the rocky elevation that separated the northern tip of the peninsula from its southern inland extension. The location was marked on maps as "Marea" and included in descriptions of Egypt from the early 19th century (Kutiak forthcoming b). Archaeological work has been carried at the site since the 1970s by successive Egyptian, American, French, and Polish missions. Much of this early research, however, focused on individual buildings, and not all of it was published.[5] As a result, the available plans were often schematic or depicted only one or two streets immediately adjacent to excavated buildings (Solieman 2004: 168–179; Kościuk 2012: 31).

Fortunately, the urban topography of Byzantine Philoxenite was comprehensively mapped during a survey of the entire area conducted between 2018 and 2020 by architect Andrzej Bruno Kutiak. As part of a broader interdisciplinary project directed by Tomasz Derda, this work carefully recorded the outlines of all visible wall remains above ground and classified them according to the construction quality. Whenever possible, the survey took into consideration the results from earlier excavations, particularly of public spaces, and magnetic surveys. As such, it provides reliable data for reconstructing the city's street network as it existed in the late 6th to early 7th century AD. The principal adjustment required for this analysis was to incorporate the central public square (agora?), based on data from the magnetic fluxgate gradiometer survey, into the layout and connect previously identified public spaces to form a unified spatial system [*Fig. 2*]. The urban area of Philoxenite covers approximately 13 hectares. Within it, the outlines of 27 streets can be identified. Their alignment suggests a conscious effort at regular planning based on geometric grids: 13 identified streets ran roughly east–west, and 14 ran south–north. This configuration includes most —possibly all— of the city's major streets and represents approximately 70% of its total street network.

Fragments of ten of the recorded streets have been subject to archaeological excavation. These investigations confirm substantial diversity in both width and paving. The broadest street in the system —the main artery [*Fig. 2:A*]— measured approximately 258 m in length and 22 m in width. Streets perpendicular to it were

5 Extensive excavations and clearings conducted by Fawzi el-Fakharani are only partially published; see, for example, Sadek 1978 and el-Fakharani 1983.

narrower, with widths of only about 5 m. The second main artery of the city, which ran east–west along the waterfront, was 275 m long, with its width varying from approximately 9.5 m at the waterfront, to 12 m near the public square, and narrowing to just 5 m near the colonnaded (?) street. Most of the streets appear to have been left unpaved. Surprisingly, this includes the city's broad main street, of

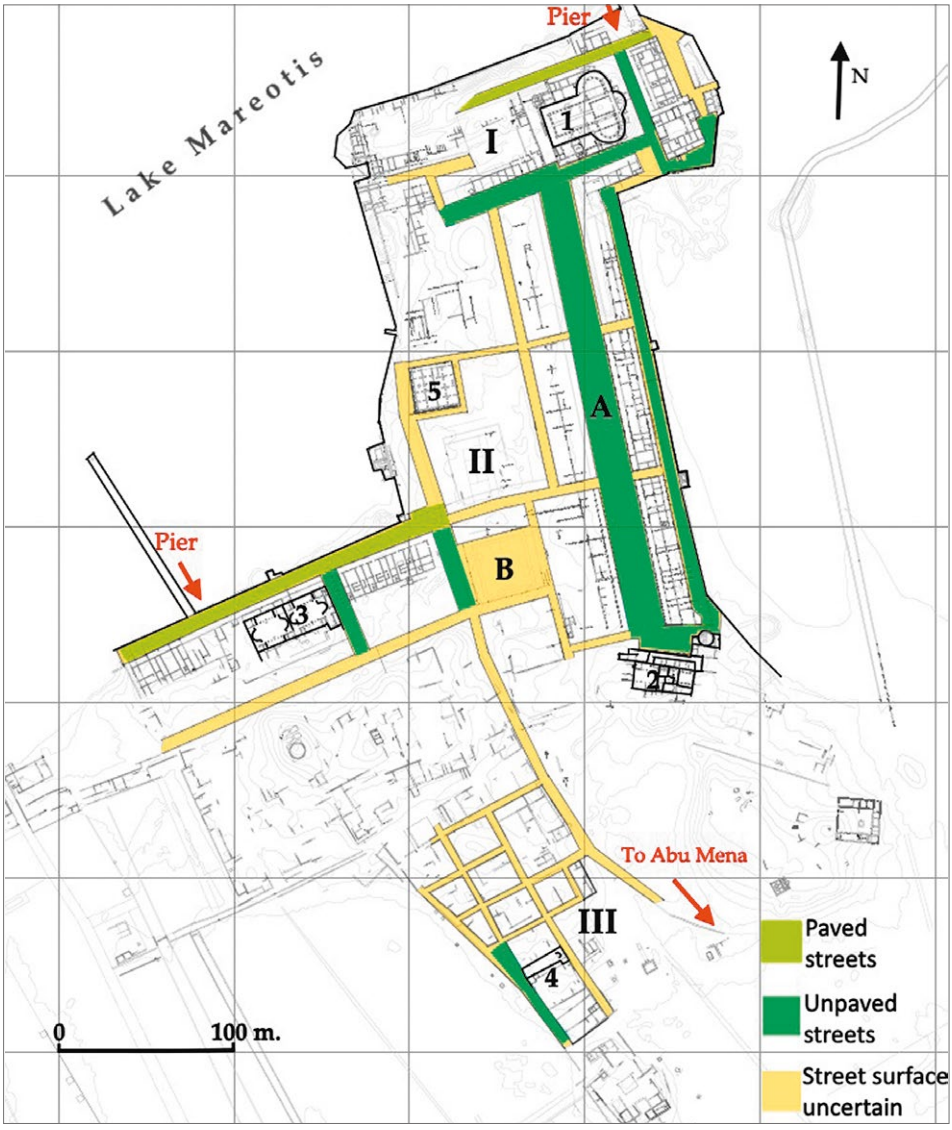

Fig. 2. Reconstructed layout of Philoxenite in the Late Antique period, with streets marked in different colors to indicate different paving types: A – wide, colonnaded (?) street; B – central public square/agora; I – northern plan unit; II – central plan unit; III – southern plan unit; 1 – great basilica; 2 – eastern baths; 3 – monumental baths; 4 – church; 5 – "mill" (T. Borowski, based on a plan by A. Kutiak)

which only two small sections have been excavated. In both cases, the surface "was made of crushed lime or gypsum mixed with soil. Subsequent street levels uncovered in the trench were non-hardened dirt surfaces, altogether nine surfaces counting the different colors of the soil" (Derda et al. 2020: 571).[6] No traces of column bases were identified, which raises an important question: can this main broad street of Philoxenite be regarded as the colonnaded street mentioned in the *Encomium*? Its location certainly fits the description provided in the text, as it is the only major street connecting the great basilica [*Fig. 2:1*] with the rest of the city. The absence of column remains in the archaeological record may be explained by the possibility that the street had a portico supported by pillars rather than columns. Traces of such pillars, resting on a stylobate, have indeed been identified. However, the presence of columns cannot be ruled out, given the limited scope of the excavation — only two small trenches, which together covered a miniscule portion of the street. It is also possible that any columns that once lined the street were removed (perhaps along with paving) when the city was abandoned in the 8th century AD. This seems particularly likely, as columns were certainly removed from several of the city's prestigious buildings (Gwiazda 2023b: 20–21), including the western monumental baths [*Fig. 2:3*], the great basilica [see *Fig. 2:1*], and the southern church [*Fig. 2:4*]. Even if the account of the *Encomium* is dismissed as an unreliable *topos*, and one assumes the street was never colonnaded, this has little impact on the discussion of its function. Through its sheer length and width, it clearly served as the city's main thoroughfare. Henceforth, it will be referred to as the "broad" or "wide" street, with the reference to its colonnade accompanied by a question mark.

The narrow streets adjoining the southern and eastern sides of the great basilica were also left unpaved, as were all of the public walkways along the eastern lakeshore (Gwiazda and Pawlikowska-Gwiazda 2019: 77; Derda et al. 2020: 564).[7] Trenches in the open public space north of the eastern baths [*Fig. 2:2*] revealed two successive lime-mortar floor levels but, again, no traces of paving (Szymańska and Babraj 2008: 43). Two additional unpaved streets were excavated in the western part of the city. Both were aligned north–south, meaning they were perpendicular to the lakeshore. One was adjacent to the eastern side of the monumental bath complex [see *Fig. 2:3*], and the other ran immediately west of the central public square [*Fig. 2:B*] (Haggag 2010: 51).[8]

6 Good-quality paving was identified in a very small section of the street, but it was described as being made of reused limestone slabs and is not indicative of the broader street surface.

7 Information regarding the street south of the basilica was provided by Daria Tarara (personal communication).

8 Solieman, who had access to el-Fakharani's field reports, noted that: "According to the reports, there were also revealed three narrower unpaved streets perpendicular to the coast, running north–south direction, enclosing various buildings in between. Under each of these street runs a drainpipe emptying into the lake." The location of the third street remains unclear. Possibly it may have been adjacent to the western side of the monumental baths (Solieman 2004: 143).

In the southern part of the city, only one street was partially excavated — the one adjacent to the western side of the church [see *Fig. 2:4*]; unsurprisingly, it was a dirt road (Barański 2021: 112; Gwiazda, Derda, and Barański 2022: 365). It is likely that the main road to Abu Mena was also unpaved. There may have been no need for pavement, as the area south of the central square, which the road crossed, has exposed bedrock, providing a solid surface for travelers and beasts of burden to pass (Kutiak forthcoming a).

The only known paved streets in Philoxenite ran west–east along the northern waterfront. One was adjacent to the northern side of the great basilica, and the other was the broad promenade north of the monumental baths. Both were connected to piers with harbors and were, at least partially, visible to visitors approaching the city by boat. Furthermore, each street was associated with an imposing monumental structure adorned with tonnes of marble — the basilica and the monumental baths, respectively. This is no coincidence. It clearly underlines the importance of maritime traffic and commerce for the city's economy, as well as the symbolic value of the city's visual presentation to visitors arriving from the north, particularly the patriarch, dignitaries, and pilgrims from Alexandria. More surprising, perhaps, is the fact that the two paved streets —especially the northern one— were poorly integrated into the broader street system. From a functional point of view, they were not key elements of the urban layout. For locals, these were not the most easily accessible spaces in the city, certainly less so than the central public square or the main, broad street. Aligned west–east, the paved streets ran transverse to the peninsula on which Philoxenite was founded. As such, they did not follow the principal direction of movement for travelers passing through the city, either south to Abu Mena or north to Alexandria. The infrequent presence of heavy carts used for cross-country travel is also suggested by the absence of wheel marks on the preserved limestone pavement, which are typically left by carriages regularly traversing paved streets.[9] Investment in paving the waterfront streets, rather than public spaces in the city center, further strengthens the impression that the donor who financed the town's construction was not local and prioritized the visual display of prosperity over pragmatic, functional spatial solutions. Space syntax analysis will explore the issue of the intended versus actual hierarchy of public spaces in more detail.

PLAN ANALYSIS

One helpful technique for understanding the chronology of a reconstructed urban layout is the "plan analysis" method developed by Lilley (2000), based on the Conzenian morphology of towns, as first outlined in Conzen's influential study of

9 Paved streets with deep wheel marks left by frequently passing carts are preserved, for example, in the medium-sized Byzantine city of Sepphoris.

the development of medieval Coventry (Conzen 1969: 128). This approach requires the identification of the three main "plan elements" of a historic city: streets, buildings, and plots. In the context of this study, only streets and buildings are available for analysis. Groupings of related plan elements that exhibit a degree of morphological unity are subsequently selected and referred to as "plan units". The analysis and dating of these morphogenetic plan types can help retrace the principal stages of the city's development. Kutiak's study offers valuable support for this analysis, as he proposed dividing the city and its immediate environs into 12 "districts". However, these divisions require modification, as Kutiak's system was based partly on utility. Its role was, in part, to help describe the remains in an orderly manner, and as Kutiak himself noted, the borders between districts "correspond as far as possible to the character of the remains". Furthermore, his division includes suburban areas, agricultural fields, and the necropolis — zones where no cohesive street network could be reconstructed. These areas are therefore of limited use for space syntax research (Kutiak forthcoming a).

Despite its incomplete preservation, the layout of Philoxenite can be divided into three morphological plan units. The smallest unit encompasses the area at the very tip of the peninsula, immediately surrounding the main monument of the city, the great basilica. It corresponds to Kutiak's district A and is distinguished by its east–west alignment, which follows the orientation of the basilica. Excavations beneath the basilica have confirmed that this is the oldest part of the settlement: an earlier church was built here, adjacent to a site containing an amphora production kiln dated to the 2nd century AD (Szymańska and Babraj 2004: 62). The second plan unit is much larger and extends from the great basilica to the eastern baths in the south, and westward to the lakeshore promenade adjacent to the northern side of the monumental baths. This area was divided by Kutiak into three districts: B, C, and D. Of these, district B is aligned north–south, around the main broad street, while district D follows and east–west alignment along the paved lakeshore promenade north of the monumental baths. Though this division appears intuitive, it leaves district C with an unnatural shape, encompassing only the public square, without any surrounding streets, and a patch of land to the north. As this does not constitute a viable morphological plan unit, it is more reasonable to treat the entire area as a single unit centered on the main public square. The change in street alignment around the square was not the result of different developmental phases but was imposed by the irregular shape of the peninsula.

The unity of the second morphological plan unit is also supported by material culture. Nearly all structures within it were built using similar, high-quality masonry (Kutiak forthcoming a) — to such an extent that earlier archaeologists were under the impression that "all buildings [in the city] were built at the same time" (Rodziewicz 2003: 27–29). Large building complexes, warehouses, and shops on both the eastern and western sides of the central square were constructed using the same modular design method and are

dated to the 6th century AD (Gwiazda 2023a). Excavations have also shown that the two lakeshore promenades —one east of the main broad street and the other north of the monumental baths— were built in a similar manner. In both cases, the waterfronts were artificially regularized through large-scale earthworks that raised the terrain and provided a leveled surface for the construction of new buildings and, in the case of the western promenade, paving (Derda et al. 2020: 572).[10] Finally, it has been demonstrated that the urban grids on both the eastern and western sides of the public square were planned using the same measuring unit. Each grid was composed of a varying number of squares measuring 16 × 16 Byzantine *podes* (one *pous* [πούς] being 30.8 cm).[11] The third and final plan unit is located along the road to Abu Mena, on the southern side of the elevation that marks the southern boundary of the second plan unit. It corresponds to Kutiak's district F. Apart from being spatially separate from the rest of the town, most of the identified structures in this area were built with inferior-quality walls, and its grids were planned using smaller squares measuring 12 × 12 *podes* (Kutiak forthcoming a).

Presented chronologically, the three plan units can be understood as representing consecutive stages in Philoxenite's urban development. The earliest phase began with a smaller settlement centered on the earlier church, dating —most likely— to the 5th century AD (plan unit 1). This area was later rebuilt and expanded southward, with the main Byzantine city (plan unit 2) constructed in the second half of the 6th century AD, with the great basilica forming part of this building campaign. The third plan unit may date to the late 6th century AD and represents the final stage of urban growth toward the south — still regularly planned, but executed using cheaper materials. Alternatively, it is possible that this unit is not significantly later than the main city, but that its construction was simply financed by a different, less affluent —possibly local— donor or group of donors. This interpretation is supported by the fact that the main excavated structure in this unit, the southern church [see ***Fig. 2:4***], is built of fine masonry not inferior to that used in plan unit 2.

The dating of the main city is supported by archaeological data —particularly by pottery conveniently deposited at the foundation levels of modular buildings, including the monumental baths— which points to the mid-6th century AD as the time when the building campaign commenced (Gwiazda, Derda, and Barański 2022: 351; Gwiazda 2023a: 197).[12] Two structures within plan unit 2: the eastern baths and the "mill" to the north of the main public square, may predate the modular compounds, as

10 A leveling layer of sand, 1.65 cm thick, was uncovered by T. Borowski in 2024 below the gate of the monumental baths.

11 Kościuk (2012: 37) was the first to identify *podes* as the principal measuring unit for Byzantine Philoxenite. Subsequently, the urban grids used for planning different parts of the city were reconstructed by Andrzej B. Kutiak (forthcoming a).

12 In 2024, a fragment of LRA 4 was found in the foundation layer of the monumental bath complex.

they are aligned differently. There too, however, excavations suggest a general 6th-century AD date of construction, indicating perhaps that they were used by workers brought in to construct the rest of the city (Szymańska and Babraj 2008: 28).[13] This seems to diverge somewhat from the narrative provided by the *Encomium* of St. Menas, which attributes the foundation of Philoxenite to Flavius Theodoros Philoxenos Soterichos, a known historical figure who held the position of *magister militum per Thracias* already during the reign of Emperor Anastasius (491–518). After a brief exile, his career continued under Justin I, who appointed him Consul of the East in 525 (Wipszycka 2012: 424; Derda forthcoming). We do not know the date of Philoxenos' death, but it is almost certain that by the mid-6th century AD, when major work on Philoxenite began, he had already passed away. This discrepancy between archaeology and historical sources was recently discussed by Wipszycka, who plausibly suggested that the investment made by Philoxenos can be identified with the earlier church beneath the great basilica, which archaeology dates to the 5th century AD (Wipszycka forthcoming). The scale of the later investment —encompassing the main part of the city (plan unit 2), including the new great basilica and monumental baths— suggests imperial patronage. Chronologically, the only plausible candidate is Emperor Justinian, who was also involved in the rebuilding of nearby Abu Mena (Kościuk 2009: 38). Wipszycka argues that the reason Justinian is not mentioned in any way in the *Encomium* was political and religious. The emperor was known for his support of the Chalcedonian creed, which made him the principal enemy of anti-Chalcedonians in Egypt, including the author of the *Encomium*, who refused to mention Justinian in a positive light. The imperial patronage and prosperity, however, were short-lived. The former ended with the reign of Emperor Phocas, and the latter was shattered in the 7th century AD, when —following the subsequent Persian and Arab conquests— Philoxenite declined and was abandoned before the end of the 8th century AD (Gwiazda, Derda, and Barański 2022). Such a short period of urban activity, though unusual in the Eastern Mediterranean, is convenient in the context of spatial analysis, as it makes it easier to focus on a single urban design and its intended functional dynamics.

ACCESS ANALYSIS

The principal premise underlying spatial studies is to treat space as an artifact in its own right, not merely as an empty void between notable monuments of art or architecture (Mol 2012: 44–60). Access analysis breaks up seemingly continuous spaces into sets of smaller areas (nodes) and investigates how they relate to one another and what the principal function of their alignment

13 The "mill" had been excavated earlier, between 1977 and 1981, and its earliest phase is broadly dated to the 5th–6th century AD; see El-Din Moussa 2003.

was (Hanson et al. 1998: 22–23; Mathieu 1999; Richardson 2003; Mol 2012: 63–142). This technique is typically used in archaeology for the study of buildings —for example, medieval royal palaces or castles (Fairclough 1992)— in which case individual nodes represent rooms or courtyards. In an urban context, this role is taken by streets and public squares.[14] As with corridors in buildings, each street is considered a single space (node), regardless of its length or

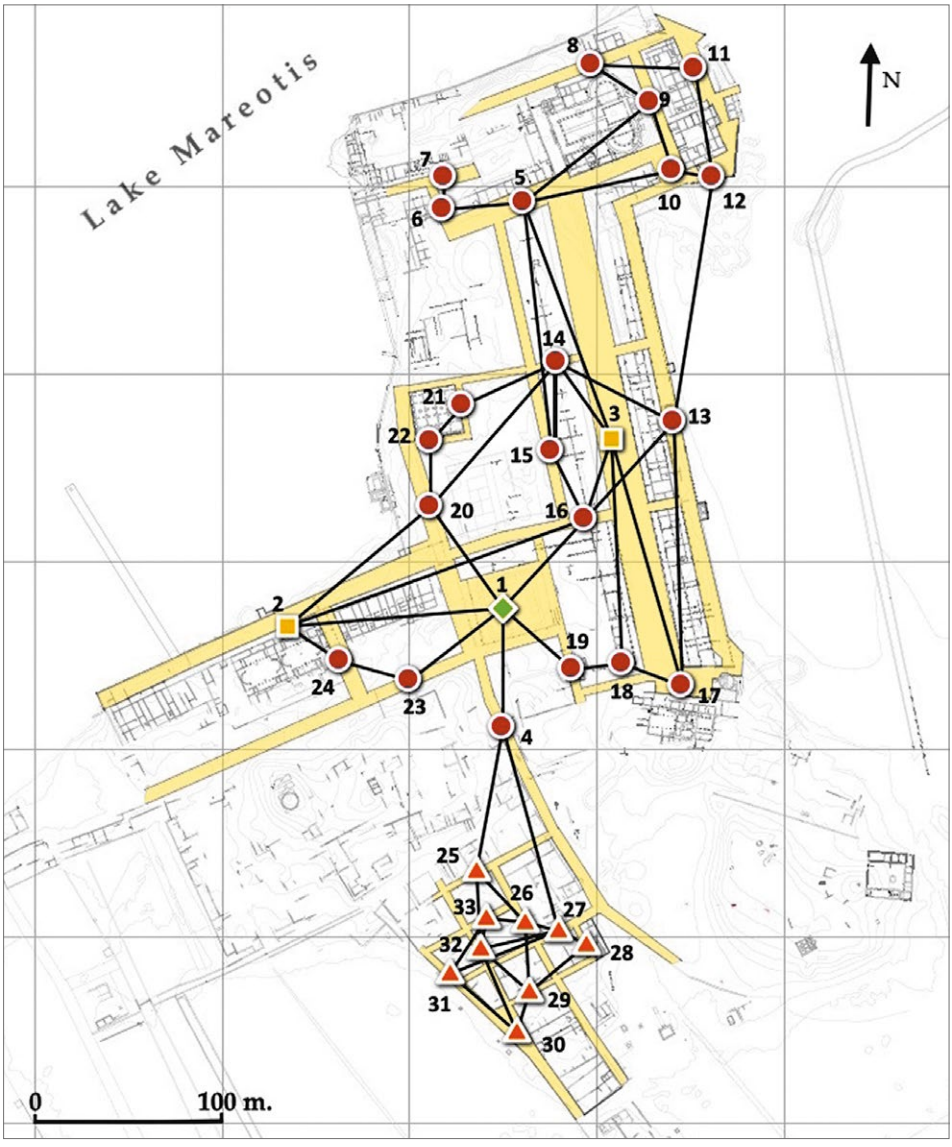

Fig. 3. Streets and public plazas in Philoxenite represented as nodes (T. Borowski)

14 For examples of access analysis applied to the study of historic urban layouts, see Borowski 2020.

the number of crossroads, as long as it retains the same width and continues along a straight line without turning more than 40 degrees in a single bend [*Fig. 3*]. Once transformed into nodes, the spatial system can be portrayed as a diagram, with a starting point (root) —the space from which exploration of the system begins— depicted at the bottom. The position of individual spaces within the diagram is then quantified through measured syntactic values: depth, connectivity, control, and integration (Real Relative Asymmetry, or RRA). These calculated measurements can reveal (or confirm) functional dynamics that are not evident by simply examining a plan of a building or city.

First, the focus is on the most basic value: "depth", which represents the number of spaces one must pass through to travel from one space to another. The layout of Philoxenite was analyzed from the perspective of both visitors and inhabitants. The first group includes those disembarking from a ship at one of the two identified ports with piers (nodes 2 and 8), as well as those entering the city via the road to Abu Mena (node 4). The second group includes locals living near the central square (node 1) and near the broad, colonnaded (?) street (node 3) [*Fig. 4*]. Overall, the diagrams confirm that Philoxenite had a well-integrated layout, in which every space could be reached in a maximum of five or six steps.

Table 1. Mean depth values of Philoxenite's urban layout from the perspectives of visitors and inhabitants

Visitor		Inhabitant	
Entry-point	**Mean depth value**	**Entry-point**	**Mean depth value**
Paved waterfront near the basilica (node 8)	5.06	Central square (node 1)	2.69
Paved waterfront near the baths (node 2)	3.06	Broad colonnaded (?) street (node 3)	3
Road to Abu Mena (node 4)	3.09		

Nonetheless, comparing the graphs and their mean depth values reveals important differences that depend on the point from which the city was explored [*Table 1*]. From a visitor's perspective, Philoxenite was least open to newcomers arriving at the port near the basilica (mean depth 5.06). This is unusual, as port cities are normally well-integrated with their main harbors to facilitate maritime trade.[15] In Philoxenite, however, the basilica port clearly served a different purpose: it was not intended for merchants. The limited space at the tip of the peninsula and the proximity of the monumental basilica suggest that this was a prestigious administrative quarter, not to be casually accessed by commoners. This also explains its poor connection to the road to Abu Mena

15 Famagusta serves as a good example, with port markets easily accessible from all parts of the city; see Borowski 2017: 208–209.

(node 4). To reach that road, dignitaries and wealthy guests who disembarked near the basilica had to cross six spatial steps, effectively traversing much of the city, including the main broad street and the central square. The deliberately extended route created a processional display, presenting Philoxenite as a large and populous urban center. Pilgrims and commoners who sought a quicker route south could instead use the second port, near the monumental baths. This entry-point was the best-integrated with the rest of the city (mean depth 3.06), making it easily accessible to visitors and residents alike and providing a suitable locus for commercial activity — hence the numerous shops discovered along the paved waterfront. The only missing amenity in this quarter was a church, a gap partially filled by the well-built church [see *Figs 2*, *4*] in plan unit 3, close to the road to Abu Mena, and possibly by another, as-yet-unexcavated, church postulated by Andrzej B. Kutiak in the northern part of the same unit (Kutiak forthcoming a).

From the perspective of local inhabitants, it is clear that those living closer to the central square had, on average, better access to different parts of the city (mean depth 2.69) than those living near the main broad street (mean depth 3). This aligns well with the earlier observation that the central square, not the broad street, formed the functional heart of Philoxenite's spatial system.

The importance of the central square is further indicated by an analysis of connectivity and control values. Connectivity measures the number of spaces that can be directly accessed from a given space. In an urban context, a street connecting two other streets with no

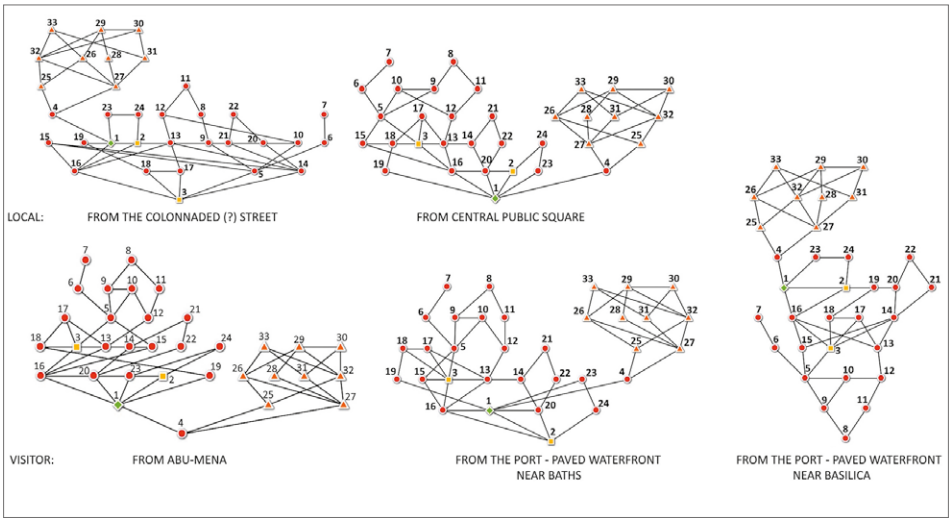

Fig. 4. Access diagrams of Philoxenite, showing the city from the perspectives of: (1) an inhabitant living near the wide, colonnaded (?) street; (2) and inhabitant living near the central square; (3) a visitor entering the city from Abu Mena; (4) a visitor entering from the port with paved waterfront near the baths; (5) a visitor entering from the port with paved waterfront near the basilica (T. Borowski)

additional junctions would have a connectivity value of 2, while a dead-end street would have a value of 1. The most well-connected space in Philoxenite is the central square, which provides access to six other spaces (connectivity 6). The broad street has a connectivity value of 5 — high, but not unique, as several other streets (namely 5, 14, 16, 32 and 27) share the same value. Among the three principal entry-points to the city, the port near the monumental baths has the highest connectivity (4), while the port near the basilica is the least connected, with a value of just 2.

Similar results are provided by the control value, which measures the degree of influence a space exerts over access to its surrounding spaces. This is calculated based on the number of alternative routes (spaces) that also provide access to a given space. Each space has a number (n) of directly connected neighboring spaces. Accordingly, each neighboring space contributes 1/n control to the space in question. The total control value of a space is the sum of these fractions provided by its neighbors (Hillier and Hanson 1984: 109; Mol 2012: 212). For example, a street that connects two other streets —one of which is accessible from three other streets and the other only via the connecting street— would have a control value of 1.25, representing full control over one street and 25% control over the other. In Philoxenite, the space with the highest control value is, once again, the central square (control 2.04). The main, broad street has a much lower control value of 1.27, which is far less than several other streets: 5 (1.7), 14 (1.54), 27 (1.67), and 32 (1.45). Evidently, the central square exerted significantly more influence as an indispensable focal point, controlling a larger portion of Philoxenite's spatial configuration. From the perspective of visitors, the paved waterfront by the port near the baths has a higher control value (1.12) than the other two entry-points: the port near the basilica (0.84) and the road to Abu Mena (0.87). This once again emphasizes its favorable —though not central— position as the most accessible and commercially active entry-point.

The final important value in the access analysis of Philoxenite is Relative Asymmetry (RA). This is a quantitative mathematical measurement that combines two spatial properties. The first is the "shortest path", which shows the minimum number of spaces that must be traversed to reach a given space from another. The second is "choice", or *ringiness*, which calculates the number of alternative routes (rings) that can be used to access a given space. Together, these two properties provide the most accurate measure of spatial integration within the system: a low RA value indicates good integration, while a high RA value signals spatial segregation.[16] The main disadvantage of RA is that its values are strongly influenced by the size of the spatial configuration being analyzed, making it unsuitable for comparing systems with significantly

16 The basic mathematical formula for calculating RA is RA=2(MD-1)/(k-2). In this equation, MD stands for mean depth, while k represents the total number of spaces within the system. For a detailed discussion of the rationale behind this formula, see Hillier and Hanson 1984: 109–110.

different numbers of spaces (e.g. large and small cities). To allow for future comparisons between Philoxenite and other urban centers, the RA results of this study will be recalculated by JASS (Justified Analysis of Spatial Systems) into RRA (Real Relative Asymmetry) values. RRA values are not dependent on the number of spaces in the diagram and are therefore more appropriate for comparative analysis (Hillier and Hanson 1984).

Table 2. RRA values of streets and public squares within the reconstructed urban layout of Philoxenite

Space No.	RRA value	Space No.	RRA value	Space No.	RRA value
1 (central square)	0. 6356	12	1.0122	23	0.9769
2 (paved waterfront)	0.7768	13	0.8121	24	1.1181
3 (broad decorated street)	0.7533	14	0.7886	25	1.0358
4 (road to Abu Mena)	0.7886	15	0.8121	26	1.2712
5	0.9298	16	0.6591	27	0.9887
6	1.2711	17	1.024	28	1.3182
7	1.636	18	0.9063	29	1.5536
8 (small paved waterfront)	1.5301	19	0.871	30	1.5654
9	1.2123	20	0.765	31	1.2947
10	1.2005	21	1.1299	32	1.2594
11	1.3418	22	1.1064	33	1.5772

The immediate observation upon examining the RRA values of public spaces in Philoxenite [*Table 2*] is that the central square is, unsurprisingly, the best-integrated public space in the entire city (RRA 0.6356). The second-best integrated space is street 16 (RRA 0.6591), which connected the central square with the main broad street, which was also the third-best integrated space in the system (RRA 0.7533). This hierarchy between the central square and the broad street aligns with earlier observations. Perhaps more unexpected is the fact that, despite the entry-points to Philoxenite having lower mean depth values, the fourth-best integrated space in the city is one of its entry-points — the paved waterfront near the monumental baths (RRA 0.7768). This further highlights the advantageous position of this prestigious space and helps explain why it served as the main commercial entry-point, equipped with numerous shops. In this context, it is worth noting that, on average, public spaces adjacent to religious architecture (5, 6, 7, 8, 9, 26, 29, 30) are among the least integrated spaces within the city (mean RRA 1.3373). By contrast, streets with identified shops —that is commercial avenues (2, 3, 13)— were much better integrated (mean RRA 0.7807). Although future excavations may modify this picture, it is already clear that the everyday life of Philoxenite was oriented principally around secular, commercial spaces. In this pragmatic, functional layout, churches were perhaps visible from afar but were not frequently approached during the daily routines of either visitors or local inhabitants.

VISIBILITY ANALYSIS

One of the principal observations in the study of architectural spaces is that visibility invites access and movement (Turner and Penn 2002). Consequently, assessing and comparing the level of visual exposure of different public spaces reveals how an urban layout functioned and how its form shaped everyday life. This space-syntax analysis can be carried out with the DepthMap software platform, which transforms vector plans of spatial configurations into linear isovist graphs — sets of points visible from one selected location that determine view areas and mutual visibility. In a second step, the line maps are converted into grids of points —that is, visibility graphs— in which visually exposed spaces are marked with bright, warm colors, while concealed spaces, visible from fewer points, appear darker and cooler. The process of integrating a set of isovist polygons into a single visibility graph is explained in detail elsewhere (Turner et al. 2001), including in studies of Late Antique urban centers (Stöger 2011: 64). DepthMap then quantifies the exposure of individual nodes within the grid; numerical output makes it easier to compare spaces with minor differences in visibility (Turner 2004: 11).

Fig. 5. Visibility graph showing visual integration (HH) of public spaces in Philoxenite (T. Borowski and P. Zakrzewski)

The visibility graph showing visual integration (HH) of public spaces in Philoxenite [*Fig. 5*] highlights the differences in the visual arrangements of the previously identified plan units of the city. Plan units 1 and 3 —tellingly, the two units with religious structures— are rendered in darker tones, signaling lower intervisibility of streets within them. In the case of unit 3, this is not surprising, as this part of the city was located outside of the main commercial and communication arteries. All its streets were narrow and most likely remained unpaved. Except for the church, its buildings were constructed with inferior masonry, suggesting that its planners had fewer funds at their disposal. The concealed, more intimate character of public spaces in unit 1, however, may seem unexpected, as this part of the city was visually exposed due to its location at the tip of the peninsula and its inclusion of the monumental basilica. It is an interesting juxtaposition that

ought to be explored in some detail, as it can only partially be explained by the natural constrictions of available space. It seems that even though the basilica was visible from afar, those who entered the urban area around it were concealed from public view. As has been shown, the area was poorly integrated with the rest of the city, indicating that people present there were not casual passersby, but rather officials, wealthy patrons, and church dignitaries from Alexandria. These were the type of individuals who were offered privacy from prying eyes. The spatial arrangement of plan unit 1 was thus not dissimilar to that of a palace — with the exterior visible from afar but the interior visually concealed from outside spectators. On a practical level, the narrower streets hemmed in by buildings, particularly to the north of the basilica, also offered protection from the strong winds that must have swept the exposed tip of the peninsula (Kutiak forthcoming a).

The central part of the city, that is, plan unit 2, is marked by bright colors, signaling good intervisibility of its public spaces. Creating a visually cohesive set of public spaces seems, therefore, to have been an integral part of the urban design of Philoxenite, as it was conceived in the 6th century AD. The reasons for this were not only aesthetic but also practical. High intervisibility conveyed a sense of security across spaces frequently accessed by strangers — far more so than narrower, darker alleyways. It also facilitated movement. As has been established, visibility invites access, as people are more likely to explore areas they can easily see from afar. The levels of visual exposure in Philoxenite are highest in the urban center, which helped draw people toward it and, once there, to navigate between its principal public spaces. Street 16, which connected the central square with the main broad street, was particularly important in this context, and thus it is understandable that it was the most visible space in the system. Located nearby, the paved waterfront by the monumental baths was also relatively well exposed, which confirms earlier observations that, functionally at least, it was the most advantageously positioned entrypoint to the city.

AGENT ANALYSIS

Visibility graphs can be used by DepthMap to simulate pedestrian movement patterns within the examined space. This method, developed in the field of robotics, is based on the previously mentioned observation that people form a vision-based mental model of the world, which inclines them to move toward spaces they can easily see. The program releases agents —representing individuals— within the studied space and traces their movement through it. The agents' movement strategy is partially based on Gibson's theory of natural vision (Gibson 1979). Once again, spaces frequently visited by pedestrians are marked with brighter colors. The validity of the results has been tested at the Tate Gallery in London, where it was confirmed that the movement of

visitors correlates with the movement of agents (Turner and Penn 2002; Mol 2012: 212; Jansen 2018: 69). DepthMap allows the researcher to control several components of the simulation — for example, the location where the agents are released, their number, their field of vision, the number of "steps" they take, and the frequency with which they change direction. For the analysis of Philoxenite, the parameters used are 50 agents making 1000 steps. The set number of steps after which agents change direction is three (or earlier if forced to by an obstacle), and their field of vision (bins) is set to 15, corresponding to 170 degrees — shown to best reflect natural movement (Al Sayed and Turner 2012: 8; Al Sayed et al. 2014: 104). Although agent analysis has been successfully applied to historical, Late Antique, and medieval spatial systems (Craane 2009; Stöger 2011; Mol 2012; Jansen 2018), it should be reiterated that the method is still under development, and its results should be interpreted with caution. Vector layouts of cities or buildings do not account for some elements that may have affected movement, such as visual attractors or smell.[17]

Fig. 6. Agent analysis of Philoxenite, showing the movement of individuals released at random locations (T. Borowski and P. Zakrzewski)

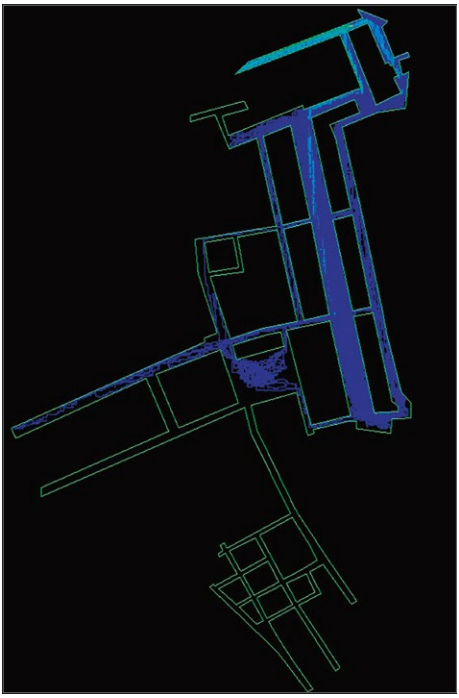

Fig. 7. Agent analysis of Philoxenite, showing the movement of individuals released as visitors entering the city from the port near the basilica (T. Borowski and P. Zakrzewski)

17 For a discussion regarding "attraction theory" in studies of pedestrian movement, see Hillier et al. 1993.

In the context of large courtyards or public squares, for example, it has been observed that "in real life people tend to select their movement towards an edge, away from central open spaces, while the agent analysis in DepthMap always draws the agents to a center because the sight lines [there] are longer" (Mol 2012: 83). This, however, does not render agent analysis uninformative regarding the general intensity of movement and interaction potential of public squares as a whole.

An overview of the city plan showing the movement of agents released from random locations [*Fig. 6*] indicates that the most frequently visited space within Philoxenite was the central square, which also makes it the place of highest interaction potential. The hierarchy of other public spaces identified earlier is likewise confirmed, with the broad street being the second most popular location, followed by the paved waterfront near the monumental baths. As one might expect, fewer people ventured toward the prestigious area at the tip of the peninsula, particularly to the west of the basilica, where its atrium was most likely located. It is interesting to note that, despite being visually exposed, the street connecting the central square with the broad street is marked with darker colors. Evidently,

Fig. 8. Agent analysis of Philoxenite, showing the movement of individuals released as visitors entering the city from the port near the baths (T. Borowski and P. Zakrzewski)

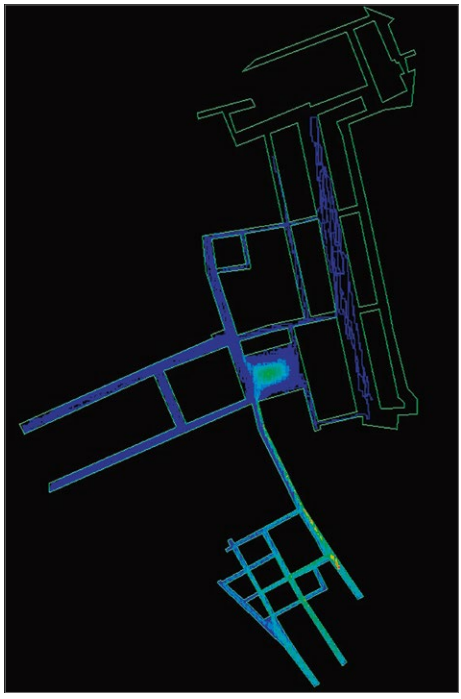

Fig. 9. Agent analysis of Philoxenite, showing the movement of individuals released as visitors entering the city from the road to Abu Mena (T. Borowski and P. Zakrzewski)

even though it played an important role as a communication artery, people did not stay there for long, and social interactions were more common elsewhere. It is also noteworthy that, despite there being a small square in front of the eastern baths [see *Fig. 2:2*], people seem to have rarely accessed it. This may have been due to the area to the southeast —beyond the baths— being occupied by the necropolis, which was often avoided in daily traffic. This necropolis included rock-cut caves used as mass graves, at least one funerary chapel, and a church (Szymańska and Babraj 2008: 177–188; Derda, Gwiazda, and Burdajewicz 2023).

The movement of visitors entering Philoxenite is reconstructed in three graphs, with agents released at the paved waterfront near the pier by the basilica [*Fig. 7*], at the paved waterfront near the pier by the monumental baths [*Fig. 8*], and on the road to Abu Mena [*Fig. 9*]. The immediate observation is that, once again, the pier near the baths offered the best access to different parts of the city. A significant number of visitors reached the central square and from there ventured either east toward the main broad street, or south directly toward Abu Mena [see *Fig. 8*]. On the other hand, visitors disembarking near the basilica were spatially and functionally

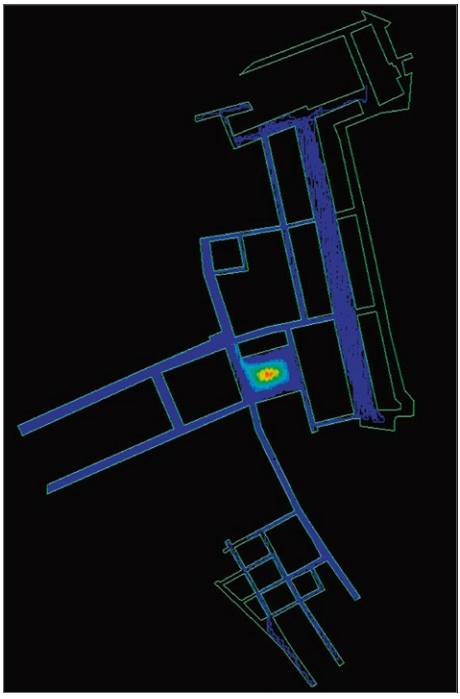

Fig. 10. Agent analysis of Philoxenite, showing the movement of individuals released as local inhabitants living near the central square (T. Borowski and P. Zakrzewski)

Fig. 11. Agent analysis of Philoxenite, showing the movement of individuals released as local inhabitants living near the broad, colonnaded (?) street (T. Borowski and P. Zakrzewski)

discouraged from exploring the rest of the city and rarely ventured farther than the broad street [see *Fig. 7*]. The practical implication of this, as already noted, was not just limited contact; rather, prestigious visitors crossing from the basilica to Abu Mena were offered an advantageous image of Philoxenite as a larger town, with numerous public spaces, long streets, and crossroads. One can cautiously suggest that many daily visitors followed a different, shorter path. This is best shown in the example of visitors from Abu Mena, who quickly accessed the main public square of Philoxenite and from there were far more likely to go west, toward the paved waterfront and port near the monumental baths, than east toward the broad street leading to the basilica [see *Fig. 9*]. This notion is supported archaeologically by the discovery of ampullae of St. Menas in one of the shops adjacent to the monumental baths (Solieman 2004: 178). The sale of such religious items near the baths was likely intended to satisfy the needs of customers who followed the shortest path between Abu Mena and the port and thus did not venture toward the great basilica at the tip of the peninsula.

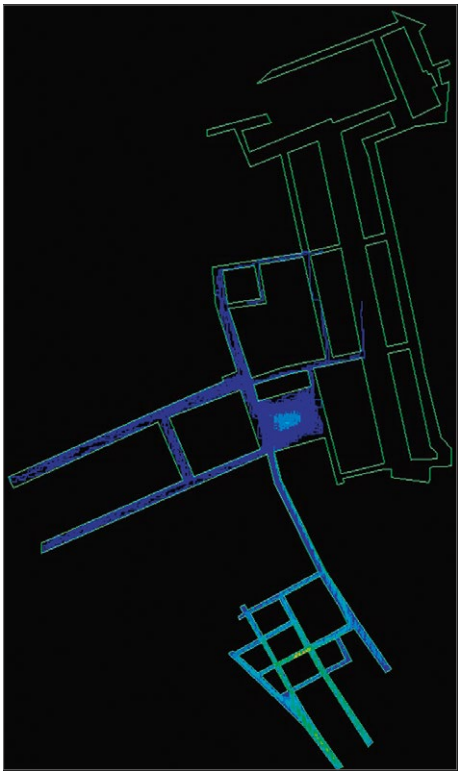

Fig. 12. Agent analysis of Philoxenite, showing the movement of individuals released as local inhabitants living in the southern suburb (T. Borowski and P. Zakrzewski)

The movement of inhabitants is reconstructed by three graphs, showing agents released in the central square [*Fig. 10*], on the main broad street [*Fig. 11*], and in the southern suburb [*Fig. 12*]. The results are consistent with earlier observations. Those living near the central square had the easiest access to other parts of the city. It is interesting to note that they were more likely to visit the seemingly distant southern suburb than the area around the basilica, highlighting the fact that this was a prestigious and relatively concealed area. Those living near the main broad street, on the other hand, had good access to the central square and the port near the baths but, as could be expected, almost never ventured into the southern suburb. Naturally, inhabitants of the southern suburb reciprocated this disconnect and rarely accessed the broad street. Instead, they were more inclined to venture west, toward the port near the baths and possibly even further, toward the grange/estate and other agricultural facilities located beyond the reconstructed layout of the city.

CULTURAL SIGNIFICANCE AND REGIONAL COMPARISONS

Among several observations consistently revealed by the spatial analysis of Philoxenite, the crucial functional role of the city's main public square remains one of the most prominent. The very fact that Philoxenite had a public square —a 6th-century expression of the ancient agora— fits well with and complements current debates on the forms of Late Antique urban foundations. The old notion, rooted in earlier scholarship (Potter 1995; Hoepfner 2003), that fora/agoras of the ancient world had largely fallen out of use in the late 4th and 5th centuries AD has been convincingly rejected by recent studies. Several examples of the repair and construction of entirely new fora in the 6th–7th centuries AD, across both the Western and Eastern Mediterranean, have been discussed by Lavan (2020: 339–373). The list, supported by archaeological and historical data, includes new round plazas in Dyrrachium (AD 500–525) and Justiniana Prima (AD 535–616), as well as rectangular plazas built in Carthage (AD 537–562), Thessaloniki (6th century AD), Constantinople (approximately AD 609), Laodicea ad Lycum (AD 494–610), Bostra (AD 487–512), and others. Naturally, investments in larger urban centers are better documented; however, the construction of agoras/fora in settlements comparable to Philoxenite is also attested — for example, in Anaplus (AD 527–558), one of the suburbs of Constantinople, and in Caput Vada (AD 534–565), a new town established to mark the site where the Byzantine army landed to reconquer North Africa.

Though the presence of a public square in a 6th-century AD Byzantine urban foundation is not surprising, its central, dominant position in the urban layout must be regarded as highly unusual and warrants further consideration. As already noted, at least since the 1st century BC —possibly earlier— urban centers of the Eastern Mediterranean were dominated by broad, colonnaded streets rather than central squares. Egypt in particular has often been identified as one of the principal regions in which the idea of a central axis in a grid plan, and a strong sense of axiality in urban architecture, originated and remained prevalent throughout antiquity (Burns 2017: 41). Pharaonic examples aside, nowhere else was this more evident than in Alexandria, the great metropolis in whose shadow Philoxenite developed. The grand central avenue dominated the layout of ancient Alexandria. Paved and decorated with columns since at least the 2nd century AD, it was approximately 30 m wide and stretched 5 km across the entire city — from the Gate of the Sun in the east to the Gate of the Moon in the west (Burns 2017: 47; Tkaczow 2020). Praised by classical authors like Strabo and Diodorus, it had a profound impact as a model for urban development and the image of Graeco-Roman cities in Egypt and across the Eastern Mediterranean (Burns 2017: 38–51). Among numerous examples, one particularly close parallel is Byzantine Taposiris Magna, where the urban area was axially oriented along the central street, leading from the pharaonic enclosure to the north to the Byzantine

harbor in the south.[18] Yet, in the mid-6th century AD, and in even closer proximity to Alexandria, Philoxenite adopted a different spatial arrangement.

This is not to say that fora and public plazas were absent in Egypt; examples can be found in both large cities and smaller settlements (Skalec 2012: 88–89). However, it is important to note a distinct contrast in their prevalence compared to other regions of the Roman Empire. The emergence and subsequent spread of a typical public space that could be referred to as an "agora" in Egypt likely coincided with the increasing influence of Hellenistic culture and the establishment of the Ptolemaic Dynasty at the end of the 4th century BC. It is well documented that the term "agora", commonly used to denote a public square, appears in Greek papyri from Egypt throughout the Graeco-Roman period, from approximately the mid-3rd century BC to the 7th–8th century AD. However, its meaning was significantly broader than that traditionally associated with the monumental agoras of Greek poleis or with Roman fora. While the term undoubtedly referred to large-scale urban spaces with administrative and commercial functions in major cities, it could also denote a marketplace situated in smaller towns or even villages (Skalec 2013: 151–152).

Thus, public plazas, agoras, fora, and other types of non-linear public spaces could take on a variety of forms and functions. Alexandria featured opulent public squares, such as the Forum Augusti (McKenzie 2007: 177), yet these did not dominate its urban layout in the way the main colonnaded "Canopic" street did. The same may cautiously be said for nearly all other known public squares in Graeco-Roman Egypt. However, their limited number —given a span of several centuries— and their generally low degree of recognition make a comprehensive comparative analysis difficult. One indicator of their secondary spatial status is size: nearly all are smaller than the public square in Philoxenite — Tebtynis (approximately 400 m^2), Marina el-Alamein (about 240 m^2), Bakchias (288 m^2), and Narmouthis (approximately 1500 m^2).[19] Another distinctive feature of the agora(?) in Philoxenite is its nearly square, centrally planned layout, which contrasts with most other known examples, where variations in the size and shape of public plazas can often be attributed to pre-existing structures and the irregular street patterns characteristic of multi-phase settlements.

The full range of functions (judicial, commercial, symbolic, etc.) ascribed to the central square in Philoxenite is difficult to establish, owing to the lack of data regarding its architectural decoration, the functions of adjoining buildings, and the near-absence of historical references. Traditionally, Greek agoras and Roman fora were pivotal spaces within the socio-political, economic, and religious fabric of ancient cities, serving as arenas for civic discourse, governance, commerce, and tangible expressions of identity.[20] As already noted, the public square (agora)

18 For a plan of the town in the Byzantine period, with the street marking the principal north–south axis clearly indicated, see Boussac 2015; Le Bomin 2015.

19 Calculations based on Skalec 2012.

20 For a broader discussion, see Frakes 2013; Dickenson 2017.

in Philoxenite is mentioned in one of the miracles of St. Menas. Miracle 8 describes how a Christian from Alexandria tried to steal a deposit of valuables from his Jewish neighbor, who had entrusted them to him for safekeeping while traveling abroad. On the Jew's return, the Christian refused to hand back the valuables, so the Jew challenged him to swear his innocence by the altar at the sanctuary of Abu Mena. After doing so, the pair stopped at the square —called agora in the Coptic text— in Philoxenite, where they bought food and met the Christian's servant who, inspired by St. Menas, produced the stolen goods and returned them to their rightful owner (Devos 1960: esp. 289–300).[21] In the story, the square functions as a secular space where ordinary travelers could rest, shop, and socialize. Incidentally, this is also the role ascribed to the city's agora in the *Encomium*: "and he [the prefect] had the marketplace (agora) established among them in order that the multitudes might find and buy all their needs" (Drescher 1946: 148). The near-certainty that no church stood by the public square in Philoxenite reinforces this impression and aligns with broader developments in the role of agoras in the 6th–7th centuries AD. As Lavan (2020: 372) observes, "Christian religious practice did not assert itself in its place: a strongly Christian civic square never really emerged within this period … Everyday meetings of friends seem to have been more important in 6th century AD agoras than ritualized social or political interaction". By contrast, colonnaded streets from the 3rd century AD onward were often architecturally linked to churches and used for Christian display (Jacobs 2014: 285–286), further highlighting the distinct, secular character of Philoxenite's central square.

It is in its secular capacity, as a social and urban center, that the uniquely dominant position of the public square in Philoxenite has been established through spatial analysis. Interestingly, the only comparable example in Egypt is the pilgrimage city of Abu Mena, located just 16 km away. Abu Mena featured a regularly planned, central colonnaded square known as the Pilgrims' Courtyard, measuring approximately 2280 m² (Kościuk 2009: 41–42).[22] Dated to the early 6th century AD, this space is generally believed to have served primarily to manage the substantial influx of pilgrims — many of whom also passed through Philoxenite. Its importance as a key stopover point is underscored by the surrounding buildings, identified as pilgrim hostels (*xenodocheia*). Though not the only public plaza in the city,[23] the Pilgrims' Courtyard, by virtue of its size and central location, dominated the layout of Abu Mena. It must have been a crucial element in the perception and "lived experience" of the city, rivaling the colonnaded street to which it was connected.

Despite significant differences between the central public squares in Philoxenite and Abu Mena —the former being spatially separate from major monuments and the latter directly adjacent to the monumental basilica and colonnaded street—

21 For a Polish translation with commentary on the text, see Piwowarczyk 2021: esp. 406–408.

22 For shorter studies in English, see Kościuk 2003; 2006.

23 For a discussion of a smaller and less prominently located plaza, see Kościuk 1998; Kościuk and Cichocka 2018.

it would be remiss not to consider them related, especially given their proximity and near-contemporary dating. Their central and dominant positions within their respective urban layouts appear to diverge from traditional urban principles of Alexandria, Egypt, and the broader Eastern Mediterranean. In some respects, they resemble the layouts of Roman cities in the West, particularly Italy, where fora —not colonnaded streets— served as focal points of urban life and, notably, where fora were more numerous and survived particularly well into the Late Antique and early medieval periods (Lavan 2020: 340, 365). The broader relationship between the spatially dominant fora/agoras of antiquity and the medieval urban squares prevalent in the Christian West —but nearly absent in the Islamic world— is beyond the scope of this study.[24] Nonetheless, it is tempting to wonder whether Abu Mena and Philoxenite might signal the beginnings of a broader urban trend, in which the central square would have become the principal focal point in other new Roman cities across Egypt and the Levant, had these regions not been lost to the Roman Empire in the 7th century AD. Whatever plans or aspirations Roman architects may have held for the Mareotis region, the Islamic conquest redirected the course of urban development in the Eastern Mediterranean (Dey 2015: 189–220).

CONCLUDING REMARKS

Though moderate in size, Philoxenite presents an unusual number of unique urban features and characteristics. It boasts the largest bath complex in the Mareotis region, one of the largest Late Antique basilicas in northern Egypt, and one of the latest examples of modular construction in antiquity. Morphological and spatial analyses demonstrate that its urban layout —uniquely centered on an imposing central square— can be securely added to that list. The results reveal a clear hierarchy of public spaces and access points, with the paved waterfront near the baths significantly more likely to be visited by pedestrians than the waterfront and port immediately northeast of the basilica. In the context of this prestigious area, one general observation should be noted. Excavations to date have yielded particularly rich and interesting examples of Late Antique material culture. Yet, the abundance of prestigious objects and decoration need not be taken as evidence of frequent crowds of pilgrims or passersby. It is possible that a few residents and more elite visitors left a stronger material imprint than the multitude of commoners who, according to spatial modeling, were more likely to use the port near the monumental baths, avoid the tip of the peninsula altogether, and pass through the central square and even the unpaved, main broad street. The material culture and architectural decoration of the former can hopefully be better assessed following future excavations.

24 The distinction between western and eastern Islamic urbanism of the medieval period was already discussed by Max Weber (1966) and is frequently addressed by later scholars — for example, Trachtenberg (1997), who hailed the medieval "piazza" as Italy's main contribution to urbanism. For a more recent study, see Dey 2016.

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