RECENT EXCAVATIONS AT THE 'AMMĀN NYMPHAEUM PRELIMINARY REPORT

by
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The 'Ammān Nymphaeum

Nymphaeum structures were elaborate or monumental structures built over a cave or grotto with a running water source sacred to nymphs (Yegül 1992: 492). They usually had one or more rows of niches, orders and statuary, rising behind a basin. These Nymphaeum structures were found in major Classical cities such as Tipase, Olympia, Ephesus, Lepcis Magna, Jarash and 'Ammān (Macdonald 1986: 103).

Hence the name Nymphaeum (according to Pierre-Adam) is given to ornamental fountains. The muses, the river gods Narcissus and Pan were also found in these places. The Romans found inspiration in installations laid out by the Greeks, such as the Pirene fountain at Corinth, the largest ancient Nymphaeum still surviving. The Romans reconditioned the fountain, giving it a monumental facade overlooking a vast basin (Pierre-Adam 1994: 237-238).

In the centre of 'Ammān, approximately 200 m to the west of the theatre on the south side of the *decumanus maximus*, and very close to the point where the *cardo* intersects with the *decumanus*, are the remains of a wide façade, preserved in a poor condition (Hadidi 1970: 79). The history of 'Ammān and the topography of the structure, which is one of the most finely decorated monuments in the city, suggest that it may have been a water structure, evidently an important asset to the city of Philadelphia.

This structure was identified as a Bath by Conder (1889: 41), a public building by Burkhardt (1822: 358) and Merrill (1881: 400), and as a Nymphaeum by Butler (1909: 59). It was compared by Hadidi to the Nymphaeum at Jarash (Hadidi 1978: 216), and was also visited by Robinson (1837: 174) and Seetzen (1854: 396).

The structure is in the lower city which follows a typical Roman plan. There were two colonnaded streets along the major wadis of the city. The first street started from what is now the Raghadān Bridge to the east of the Hashemite plaza and extended west, passing by the Municipal Library and continued past the Great Ḥusaynī Mosque, ending near Rās al-'Ayn. The second street started from a point on the first street near the area of the Ḥusaynī Mosque, along the line of King Hussein Street up to the modern building of the Central Bank.

The Architecture of the 'Ammān Nymphaeum

The Ground Floor

The Nymphaeum structure was in use over a long period of time, and clearly must have had a complex construction history.

The dating evidence for the original construction can be principally seen in the details of the ground floor arches. Although the natural topography of the area on which the structure was built is not fully known, the height of the bedrock does seem to have varied considerably. The Nymphaeum itself was built on an area that sloped down to the southwest; in this case a series of vaults would be essential so as to enable the water to pass underneath without causing any destruction. These vaults would also act as a passageway.

A road was carried across the shallow wadi, over a bridge constructed using the arch principle. We know of four mediumized and one large arches that were constructed at the site. These features suggest that the original construction was com-

pleted by erecting these arches, which represent the second phase of construction site. There are three arches, the entrance being number one, the arch has a joint at the mid-point, and there is not a key stone. The same for the second arch. The passage is enlarging as it advances to the inside. This arch too has a joint at the mid point, and no key stone, and it has two centres for construction. The same for the third arch. The fourth arch, has a key stone with centre above the springing. This arch is not of the same construction as the former one and representing the early phase of construction. So the Nymphaeum construction was developed by adding arches with joints at the mid-point to the existing arches with key stone so as to enlarge the foundations to build the first floor, the Nymphaeum building.

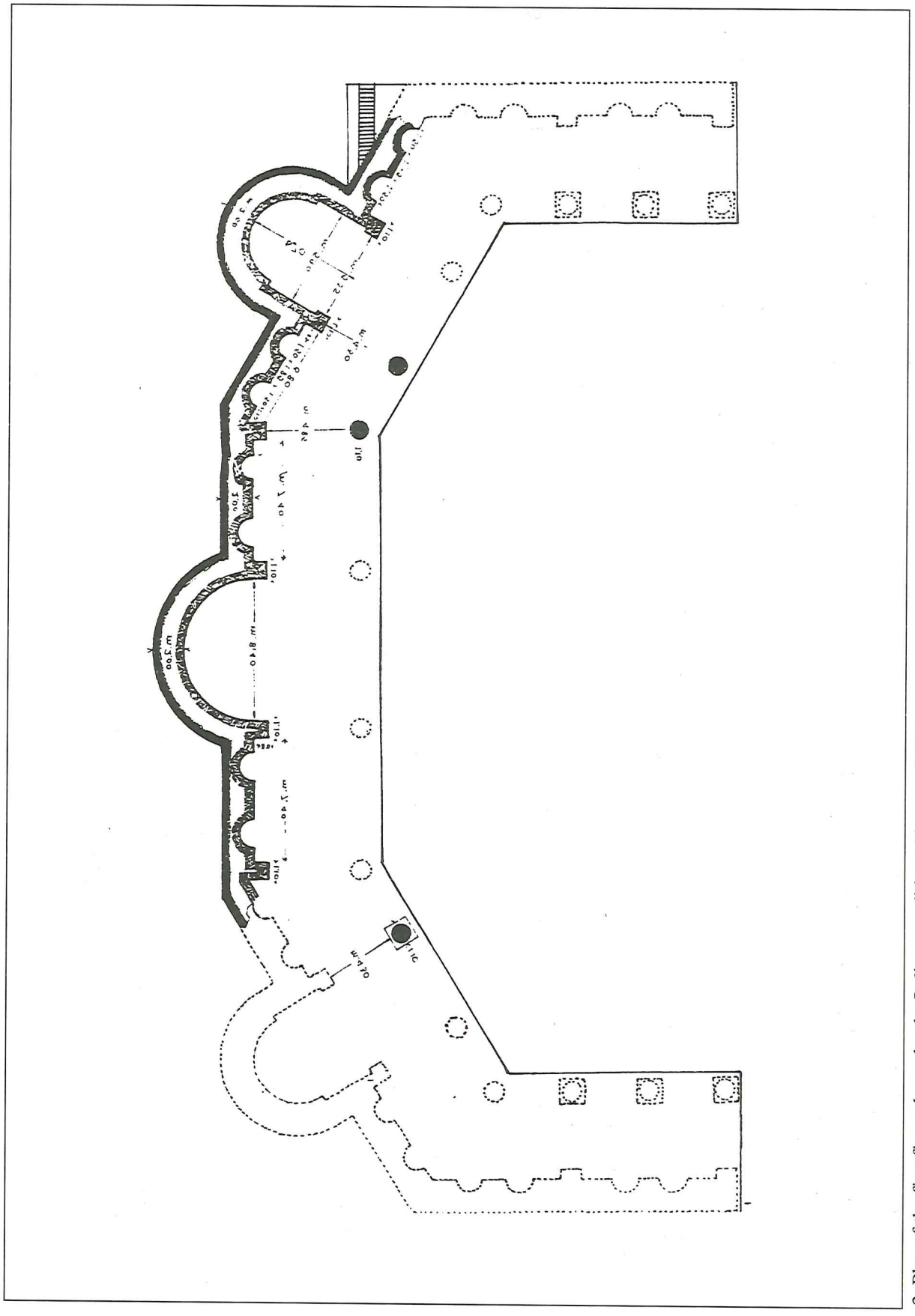
Above the arches is a set of niches, each measuring 1.25 m in width and rising about 2.10 m high to the level of the platform of the colonnade. Eleven niches were uncovered above the arches up till now.

Excavation of the lower parts of the structure was hindered by the problem that the deeper the excavation probed, the more forceful and active the flow of water became. The excavators worked hard under extremely difficult conditions in order to lower the water level sufficiently to achieve some progress in excavating the lower parts of the structure(Fig.1).

The First Floor (Fig.2)

The dimensions and architectural elements of the existing structure indicate that the building was truly a public monument. Based on early descriptions, it is a half octagon of large proportions, with a restored length of 68 m and consists of three large semi-domed apsidal recesses, each flanked by two tiers of shell niches, four in each tier. The width of each of the small niches is 1.25 m. The niches must have originally

1. Part of the excavated area of the basin and the courtyard.



2. Plan of the first floor, drawn by the Italian expedition (Almagro; 1983).

housed the statues. Two limestone heads were recovered through the excavation; the small niches were usually adorned with statues especially of citizens who rendered distinguished services or helped toward the expenses of construction (Fig. 3).

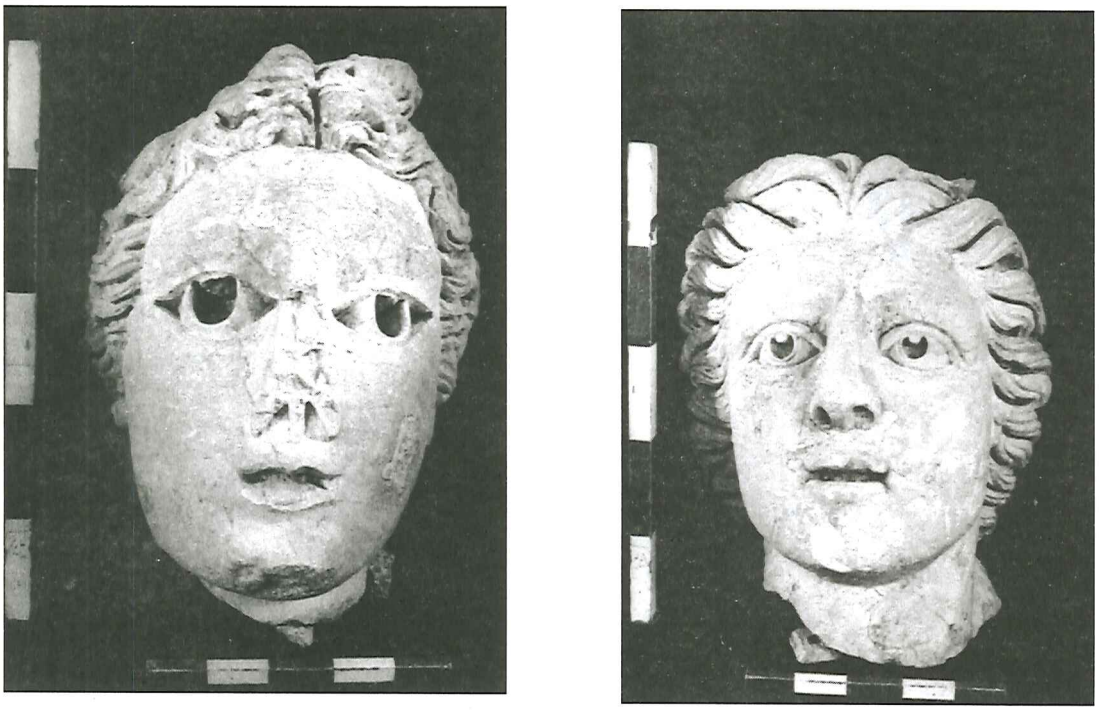
Each of these apses is supported by two square buttresses which project from the corners of the apses. The height of the apses is around 12 m. From the available architectural features, it is clear that the great central apse was set upon the axis of the original structure.

Despite Conder's (1889: 41) description of the building which was sufficiently well preserved at the time of his visit, it is clear that the angle of the platform wall and the corresponding angle and foundations on both ends would reconstruct a third apse where the foundations revealed an extension toward the west under the modern street (Quraysh Street). According to the symmetrical system of Roman architecture, this made a balance to the east side of the central apse.

The Basin and Courtyard

Prior to excavation, the only architectural features visible in front of the structure were tumbled stones, and modern private houses occupied the whole area of the courtyard. Excavating this area revealed the presence of a large water basin, no close photographs of which could be found among the collections taken by the early travellers.

The basin was partly excavated, revealing about 26 m east-west and 15 m north-south. It is situated in the northwestern part of the structure in front of the northern apse. This asymmetry may be a result of errors during construction or an intentional violation of the principle of symmetry. The stone pavement of the basin rested on a surface consisting of lime carefully prepared of rubble stone and dark, ashy mortar, which resembled the bedding cement of the Roman period construction noted elsewhere at the site. The architects at 'Ammān during that



3. Two heads of human status discovered during the excavation.

period did not use sophisticated measuring, and local geographical features may have caused deviation from theoretical symmetry since the basin was built over slightly raised ground close to a water source, indicating that the basin could be flooded and used for aquatic performances. Although there is no evidence for hydraulic mechanisms in the Nymphaeum building such as water channels and pipes, the fact that the 'Ammān Nymphaeum was situated so near the water supply suggests that the intention may have been to be able to channel water into the basin. Whether or not this was actually the case cannot be determined from the present evidence.

A large paved courtyard surrounds the basin from the east and southwest. The purpose for the enlargement of the courtyard presumably was to provide additional space for ecclesiastical personnel or benevolent activities of the Nymphaeum, thus the courtyard probably served as a forum-like plaza in front of the Nymphaeum. What supports this idea is the further open space here, already cleared by the on-going excavation, and it is a logical find since the Nymphaeum is set back from the line of the decumanus. The construction of the courtyard and the basin can be dated by inference to the same phase as the building of the first floor structure. There is a staircase located in front of the central apse leading up from the courtyard to the first floor platform. For the present, this represents the main entrance located — as would be expected — in the centre, according to the symmetry theory. The door is 0.90 m wide, flanked by two small roughly made niches, each 1.20 m wide.

The stones of the jambs were not decorated or pitted with cramp holes for fitting the marble, as they were a later addition. The lintel was either robbed or fallen. It is reasonable to suppose that this door was intended for public use.

The Roof

Virtually the entire upper portion of the building had disappeared prior to the earthquake of AD 747, except for the northern apse which is still partly *in situ*. The northern apse shows that the apses were terminated in semi-domes, which probably collapsed in the earthquakes of AD 631, 641 or 659 (Amiran 1950: 226) and the stones were removed.

Depending on Butler's interpretations referring to the middle area of the structure with its columns and arched central intercolumniation, was covered by a double pitched roof (Butler 1909: 58).

Many broken ceramic roof tiles were found throughout the excavations. The fragments represented only a small portion of the tiles that would have been required to roof the structure, and it must be supposed that, following the earthquake of AD 747, most of the unbroken tiles were carried away. The wing limits of the colonnade are not known. Excavation did not extend far enough to the northeast/southwest, so part of the wings is still buried under modern buildings, despite the removal of the upper courses of these wings, during late periods.

At this stage the colonnade was only one storey high. Its practical function was possibly to shelter the spaces, as well as to provide a place for people to walk and rest away from sun or rain. It also served an aesthetic purpose, reflecting Roman architectural conventions and making the interior of the structure less austere.

Little of the columns was found, chiefly a few bases, drums and capitals. The large Corinthian columns which had been earlier installed to give a grand view to the building severely suffered from earthquakes and destruction. Their overall height of approximately 10 m corresponded closely to the height of the large apses in the first storey.

The columns in the structure supported architraves, but there is little archaeological evidence for that. Some of the architrave pieces were reused later in the Umayyad walls in the courtyard of the nymphaeum.

Conder's, Merrill's and Butler's photographs and sketches show partly preserved columns in front of the apses, which indicate that there was originally a colonnade that ran parallel to the four sides of the facade at a distance of 4.5 m from it. The intercolumniation of the colonnade is 3.5 m and its order is Corinthian, judging from three fallen capitals which were found in front of the building and which were reused in building the Islamic walls (Waheeb: forthcoming).

A few fragments of a crude column (0.90 m in diameter) slightly smaller than the columns of the exedera, along with some bases and Ionic capitals resembled columns found reused in Umayyad walls and Abbasid rooms. The shafts of two columns of green chlorotic limestone, very likely from another building, were found in the courtyard.

Just one column in front of the northeastern apse and the lower drum of the southwestern wing is known to have existed now on the platform.

The Marble

The interior walls of the Nymphaeum and the lower parts of the three large apses and the small niches are fitted with round and square holes sunk in the stones. Holes for attachment clamps can be seen, these attachment clamps were of bronze so as to fix marble for casing the interior. Occasionally some clamps were found still embedded in the lower parts of the Nymphaeum walls.

The revetment was set in a thick mortar (0.5 cm) consisting of common grey ashy cement.

Numerous marble fragments were found in areas A and B, but little was found in C and D, these varied slightly in appearance, ranging from a light greyish-white to reddish, light dark, blue and green.

Only a few fragments of decorative elements were found during our excavations. It is clear that the range of patterns employed in the building is quite wide, consisting of floral and geometrical designs, reels and beads. Blocks with decorative mouldings in shallow relief were also used.

Most of the decorative elements are missing, presumably either because the columns collapsed and the stones were crushed or they were robbed during the last century. Judging from the available fragments, it is difficult (at this stage) to determine where they originally stood.

The Pavement around the Nymphaeum

The area surrounding the Nymphaeum was levelled by a fill as high as the crown of the ground floor arches. Evidently, great effort and expense were made to bring the paved courtyard of the Nymphaeum up the slope of the wadi and maintain it at one level, especially the extension toward the colonnaded streets which is the most active part in the entire city during that time. Further, the evidence from the writings of the travellers during the past century indicates that originally both sides of the stream beside the Nymphaeum were kept at a level surface extending from the decumanus maximus to the steep hill on the south side of the stream. Merrill (1881: 400) stated that the natural bed is rocky, and the stream itself south and southwest of the Nymphaeum was covered with a series of barrel-vaults and paved. It is clear that the stream, in portions at least, was covered and the space above levelled and paved. This of course includes the area where the stream passes southwest and south of the Nymphaeum building. This would have added a great deal to the beauty of the building. The

paving above the barrel vaults of the stream did not only protect the water from contamination and pollution but also provided extra space between the decumanus and the southern quarter of the area of the Nymphaeum. Unfortunately, the remains of these vaults and pavement have disappeared and we relied on old photographs which reflect in part the beautiful and ingenious works of Roman engineering (Figs. 4 and 5).

The basic kind of paving which was found at the Nymphaeum in the basin and courtyard area consists of stone pavers of varying dimensions placed in rows with their long sides parallel to the basin walls. The paving consists of white lime flagstone ca (1.50 cm long 0.88 cm wide). These pavers were largely robbed out after the basin and courtyard area was abandoned. All that is left is the ashy grey cement bedding, except were fallen architectural stones had crushed the slabs and made them useless to robbers.

The Water System

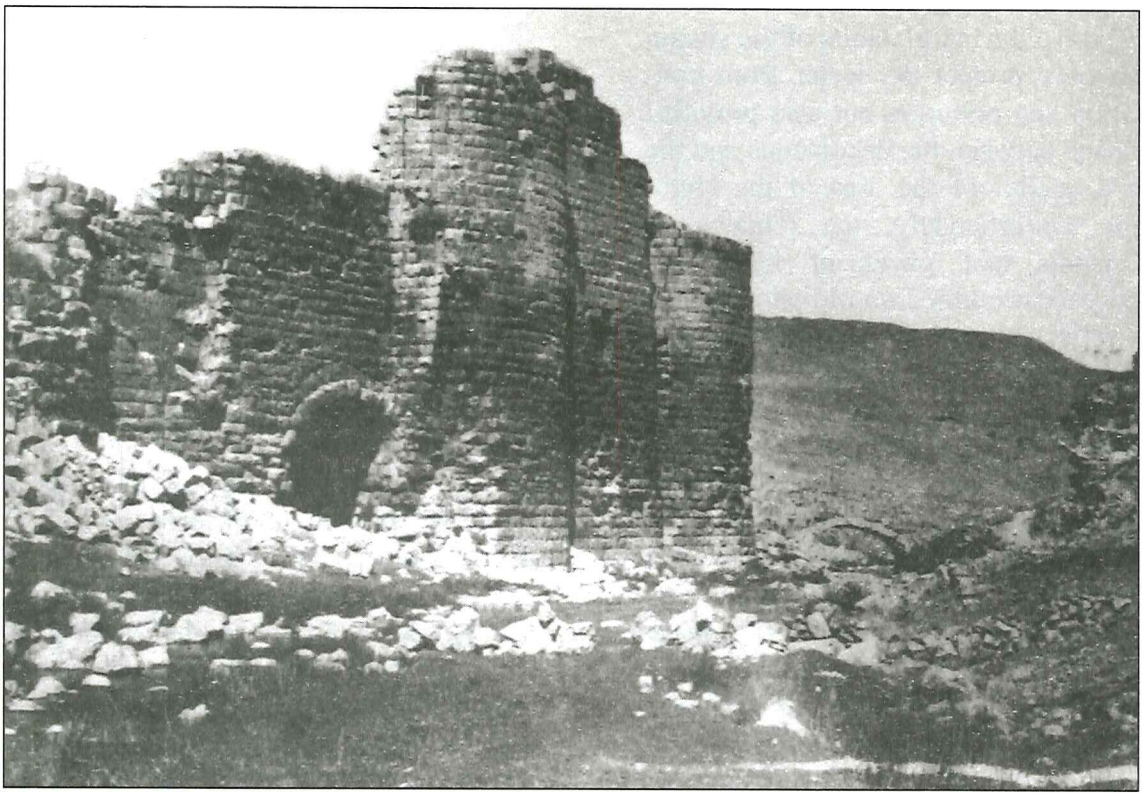
The water has to come from a higher source, particularly if the city itself is built on high ground. The structure as a part of Philadelphia's buildings lies at the lowest point in the city beside the main wadi that drains the surrounding hills. In the centre of the city the main wadi flows southwest-northeast. According to Saleh (1980) on the north is a tributary wadi which splits into two. This is named on the Palestine Exploration Fund Survey as "Misdar el-Madheneh". The eastern branch is today occupied by as-Salṭ street, and the western by Wādī as-Sīr street. The two wadis met at the point where the Roman monument was erected. To the east is a second tributary wadi on the north side of Wādī al-Ḥaddada, which curves around to the west. (see Figs. 4 and 5) (Conder 1889: 40) added that the waters of the tributary valley "Misdar el-Madheneh" ran through the buildings in winter to join the main stream. The Romans often brought water over considerable distance to cities, towns and buildings through aqueducts from higher points (Hodge 1992:68).

Water from the highlands of Jabal al-Qal'a, al-Jofa, al-Luwaibida, and other hills flows through porous limestones layers and emerges at the foot of the lower city plateau on which the Roman city of Philadelphia was built.

The waters brought by the aqueducts were distributed to different parts of the city from special distribution tanks. The 'Ammān Nymphaeum occupied an important position among the various public establishments and possibly was served directly by a main line from a tank or a branch from an aqueduct, which is suggested by the observations of travellers during the past century and can also be traced through the archaeological evidence. A major reservoir was necessary for the collection and distribution of water.

The aqueduct would carry water from Rās al-'Ayn and other springs to the central city, especially to the Nymphaeum building with its basin. Utilizing the topography, the engineers channelled the water down the sides of Wādī 'Ammān, splitting it on the slopes into multiple pipes to reduce the pressure (Wheeler 1964: 149).

A clear evidence of Roman aqueducts comes through descriptions from the last century. Conder (1889:39) mentions an aqueduct which runs parallel to the stream on its north side. "This was traced as far as the Moslem baths north of the mosque (al-Husayni); but it may have been first constructed in the Roman period for the supposed Roman baths east of the mosque. The present wall is of small irregular masonry, the stones about 15 inches by 9 inches. The channel is about 2 feet wide, and is fed from the spring of 'Ayn 'Ammān. Two



4. View of the Nymphaeum from the south east (Conder; 1889).

5. Close view of the seil arch from the southeast of the Nymphaeum (Hadidi; 1970).

side-channels 3 feet deep, lead out south to little water mills".

The Roman aqueduct that was used to bring running water to the central part of Philadelphia was also mentioned and described by the local people of 'Ammān before 1948. It was called (al-qanah ar-Rumāniyya) which means the Roman Aqueduct. The aqueduct started from Rās al-'Ayn. It was built of white slabs of limestone. It measured 1 m high by 1 m wide with siphons located at regular distance above the aqueduct for checking and cleaning purposes. It ran alongside the lower parts of Jabal 'Ammān reaching the point just opposite al-Ḥusaynī Mosque, where a huge reservoir for water distribution was located (Rasheed 1983: 83).

Some water pipe fragments were discovered through the test sounding beneath the courtyard pavement of the Nymphaeum. These represent part of the early water system at the site before the construction of the courtyard.

It is worth mentioning that more water is expected in winter due to rain water running down the slopes of the surrounding valleys like Dhrā', Umm as-Swaywina and 'Abdoon (Fawwaz 1986: 14), in addition to the running water from the steep hills of Jabal Nazzal and al-Ashrafiya (Hmoud 1994: 32; Hamoudah 1969: 17). Modern construction works adjacent to the Nymphaeum revealed the presence of a spring beside the southwestern wing and another one located beside the northeastern wing of the Nymphaeum building, which means more evidence for the interpretation of water usage in the structure.

Until now there is no indication to rely on, the whole facade of the Nymphaeum severely suffered from destruction through the ages.

In Jordan different structures were described as Nymphaeums, Petra (Browning 1982: 145-136, Fig. 18A, Map 4), Pella (a Nymphaeum is depicted on several of the coins of Pella dating from the early third century AD; McNicoll 1992: 122) and Umm Qays (Kerner and Hoffmann 1993: Fig. 5).

The Jarash Nymphaeum was built in AD 191 (Hadidi 1978: 216) but this structure is different in shape and dimensions from the 'Ammān building.

In contrast to its neighbouring Nymphaeum this structure presumably local in origin, have understandably caused this building to be characterized as essentially eastern. This work is imperial and built when different artistic forces from around the Mediterranean were beginning to coalesce. No doubt this is correct with regard to architectural carving and certain features of design, but other architectural features may seem rooted in western practice.

The Romans who founded and built many of the colonial cities had become accustomed during their daily life to a relatively high standard of living. Also the legionaries, the merchants and the visitors could enjoy themselves by a regular feature of ordinary civilised living.

Philadelphia, as originally planned, conformed to Roman tradition in having a main street traversing the entire town, gate to gate. The result, a flowing chain of thoroughfares linking the principal buildings and squares, made up the skeleton of an armature of avenues and public spaces and their adjoining public buildings.

Discussion

Large-scale buildings rising high above their surroundings were common-place, and the frequency of their appearance in small places is striking. The Nymphaeum structure was made large and we are probably safer simply to stick with the generalisation that such a structure, even without clear function, could be a monumental building. In the absence of inscriptions or literary references, the date of the construction of the Nymphaeum can be determined

only by an examination of stratigraphic evidence and stylistic criteria. An undated Greek dedication to the Nymphs and Muses must honour the benevolent spirits associated with the Nymphaeum was discovered near the theatre (Gatier 1986: 38).

Another inscription mentioned a public bath (balneion) and a quadruple portico (tetrastoon) built around AD 150 (Gatier 1986: 42). A rescue excavation conducted east of the odium where the bath was suggested, but according to Northedge (1992: 58) it was a colonnade enclosing a second forum-like plaza in front of the Nymphaeum.

However it is clear that the reconstruction work is closely associated with the original building plan and use of the structure, and thus should be close to it in date. As for the ground floor (the arches) the simple moulding suggest the early Roman period. On the basis of this evidence the date of the construction of the great monument would seem to have been in the latter part of the second century AD, perhaps during the flush of prosperity but a date in the early third century is also possible. Almost certainly other contemporary structures in Roman 'Ammān (such as the theatre and the odium) were built as a part of a remodelling of the lower city in the second century AD.

Those structures which can be closely dated, all belong to the second half of the second century. The Nymphaeum may well be of similar date.

It is appropriate to consider the kind of activities that may have been carried out in this structure, whether this structure represents a true Nymphaeum since it included a water basin(?) and niches for statues or it was a monumental structure slightly different from the well known style Nymphaeum. In general the form of the building does not necessarily reflect a narrow range of function, and our preliminary assessment suggests that the remains represent a unique monumental structure at 'Ammān.

A close parallel to the 'Ammān Nymphaeum was located at Philippopolis (Shahba) in Syria representing an imperial monument (Le sanctuaire imperial de Philippopolis) (Amer and Gawlikowski1985:5).

The monument of 'Ammān deserves not only preservation but some degree of aesthetically and archaeologically appropriate development so that it can become again, like the Theatre and the Odium, a focal point of Roman Philadelphia in downtown 'Ammān.

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