THE 2000 FINNISH HĀRŪN PROJECT: PRELIMINARY REPORT

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The Finnish Jabal Hārūn Project (FJHP) carried out its third fieldwork season between August 4 and September 21, 2000. The project is directed by Prof. Jaakko Frösén, University of Helsinki. The archaeological fieldwork was supervised by Dr. Zbigniew T. Fiema, University of Helsinki, with Dr. Mika Lavento, University of Helsinki, in charge of the survey part of the project. In total, five archaeologists, one architect, and 13 students from the University of Helsinki, and four professional cartographers from the Helsinki University of Technology (HUT), as well as one Swedish archaeologist and one Jordanian student have participated in the fieldwork. Dr. Christina Danielli, a senior conservator from Italy and two students from the Department of Conservation, Espoo-Vantaa Institute of Technology have also taken part. The DoA representative for the FJHP was Mr. Hani Falahat. Up to 20 local laborers were employed in the excavations and the survey. The project is sponsored by the University of Helsinki and by the Academy of Finland.

The FJHP focuses on Jabal an-Nabī Hārūn (جبل النبي هارون) located ca. 5kms to the southwest of Petra, which, according to the Jewish, Christian and Muslim tradition, is a place of burial of Moses' brother Aaron. The peak of the mountain is occupied by the Muslim shrine which contains a cenotaph believed to contain Aaron's remains. At around 70m below and ca. 150m to the west of the peak there is an extensive, ruined architectural complex located on a wide plateau of the mountain, at ca. 1250m asl. This complex, considered to have been a Byzantine monastery/pilgrimage center dedicated to St. Aaron, and preliminarily dated to the later fifth through the seventh century AD, is the focal point of the investigation. The main objectives, fieldwork methodology, and the results of the previous seasons were already presented elsewhere (Frösén *et al.* 1998; 1999; 2000). In 2000, the excavations concentrated in the area to the west of a large basilican church in order to uncover the non-ecclesiastical remains at the site, but also in the church and chapel proper. The FJHP surveying team continued its investigations in the area to the southwest and north of Jabal Hārūn.

The following is a summary of the excavation, survey and cartographic activities conducted in 2000, followed by the general conclusions. A separate text also published in this volume contains specialized reports which include the reports on the pottery, glass, lithics, macrofossil analysis, conservation activities, and the ancient road investigated in the FJHP survey area. Some of these reports specifically relate to the 2000 fieldwork season and thus are directly relevant to this text and conclusions.

I. CARTOGRAPHIC REPORT

(K. Koistinen, H. Haggrén, J. Latikka, H. Junnilainen, V. Putkonen)

Before the FJHP 2000 fieldwork season, the digital terrain model of the mountain and its environs was enlarged using aerial photographs to cover also the northern, eastern, and southeastern sides of the mountain, the total of 6km^2, as opposed to 3km^2 after the 1999 season. During the fieldwork, the members of the cartographic team continued their assistance in the excavation and survey cartographic and photogrammetric documentation (see previous *ADAJ* reports). The recording system based on the use of a tachymeter, with three-dimensional readings downloaded every afternoon to the project's database was supplemented by digital imagery taken regularly in the excavation area. The technical development work at HUT (Koistinen *et al.* 1999; Koistinen 2000; Pontinen 2000) enables the use of the collected imagery to further improve the 3D model or to create various image products, such as photomaps. The digital images have already been utilized in the field to record specific information, as related, for example, to the conservation work. At the end of the season, the plan of the monastery was updated

(**Fig. 1**). A new documentation method utilized this year was the hand-held GPS-receiver used to record some routes in the difficult (very steep) areas on the northeastern side of the mountain where the use of a tachymeter was impractical. Although the positional accuracy achieved with such equipment cannot exceed 10-15m in Northings and Eastings, it still provides relatively good locational information. The positional accuracy of the equipment was tested by checking the network of the excavation site (as measured by tachymeter in 1998).

II. EXCAVATION REPORTS

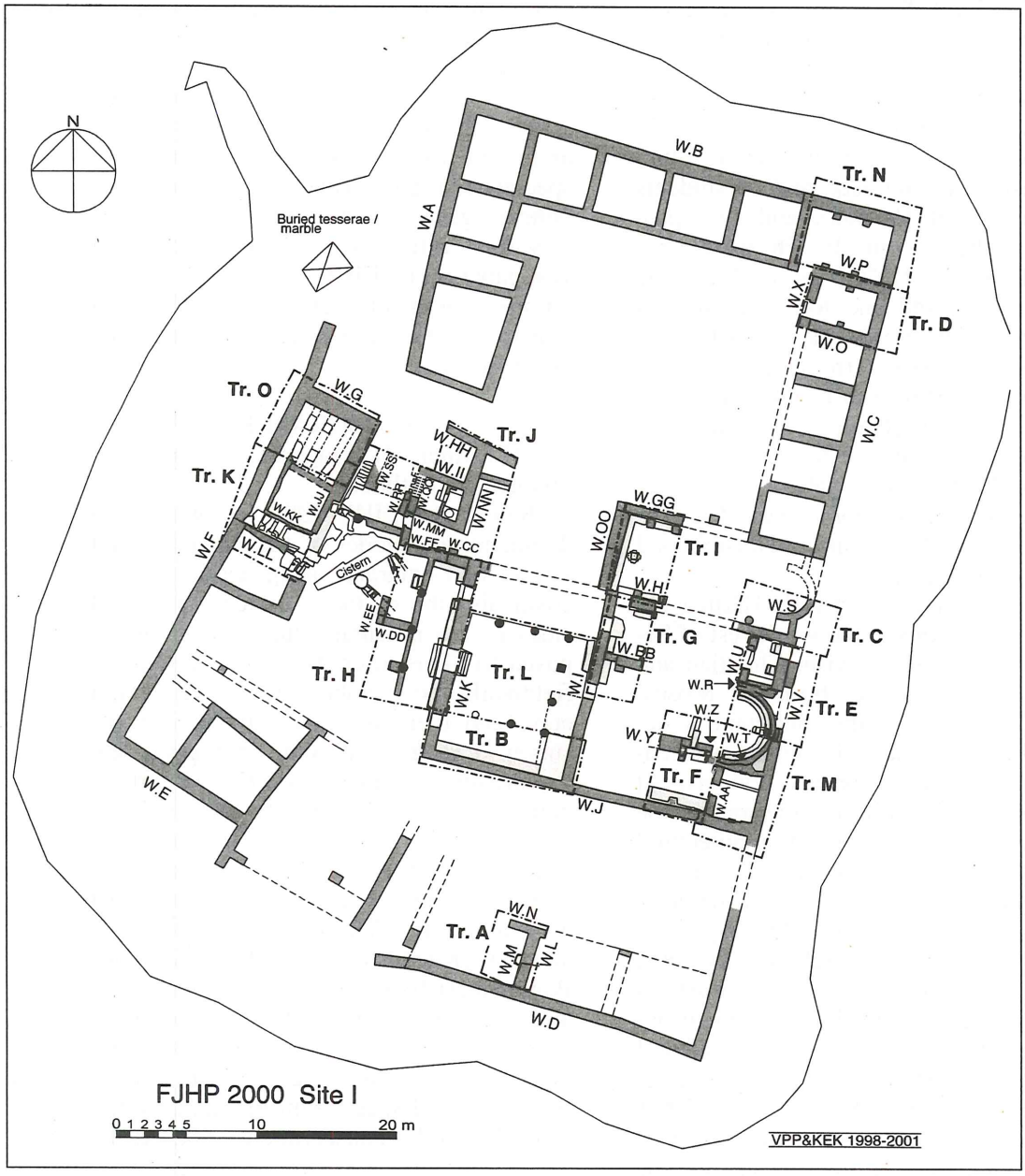
Five new trenches were opened in 2000 (**Figs. 1 and 2**). Three of these are located in the area of the church proper (Trenches M and L) and the chapel (Trench I), while two are located farther west (Trench J) and specifically on the high ridge (Trench K) which forms the western limits of the entire site. Intensive surface clearance was also conducted in Trenches O and N.

Trench I (E. Mikkola, A. Rajala, P. Miettunen)

This trench was located in the western part of the chapel.

Phase 1: Construction and Early Occupation

Although all main walls of the chapel (GG, H, S) had been constructed in this phase, the location of the early western wall in this phase is not cer-



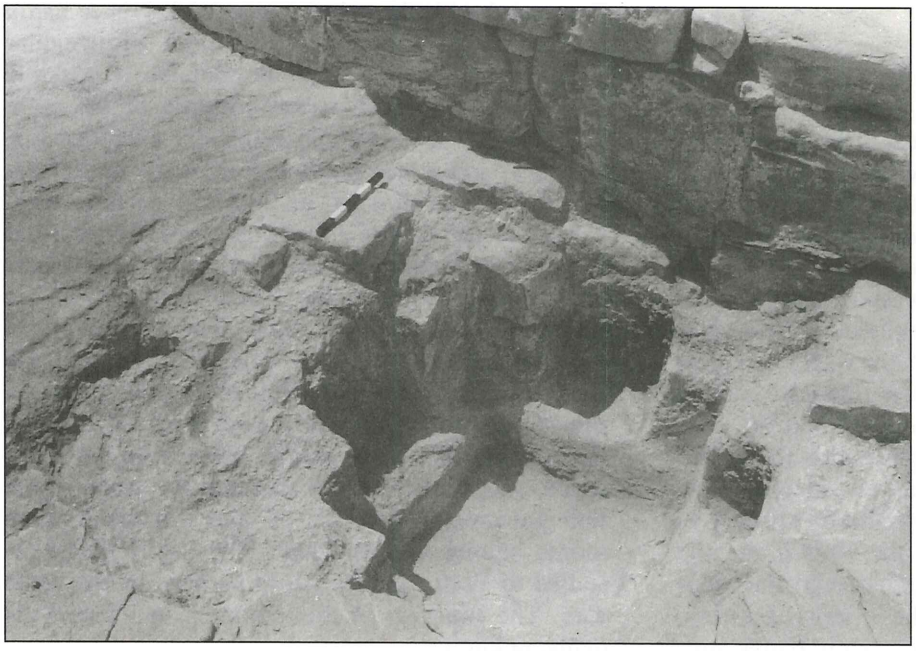
1. Site 1, the monastery (by K. Koistinen and V. Putkonen).

2. *The view of the Site 1 (the monastery) in 2000, looking west, from the summit of Jabal Hārūn (by M. Mustonen).*

tain; it could have been situated farther west than the extant Wall OO. Inside the room, a roughly octagonal pit was chiseled out of the bedrock and the cruciform masonry-built baptismal font (locus 26) with masonry-built upper part was installed and further integrated with the bedrock with mortar (**Fig. 3**). The font is small in size: ca. 0.92m (N-S) x 0.89m (E-W) at the opening, and no more than 0.6m deep. It is possible that the fragments of the painted plaster with floral decorations and Greek inscriptions, recovered from loci 08, 10, 12, 16, were originally associated with this installation. For example, the stone 1I.10/13, plastered on the front and side faces, may have originally been a part of an installation rather than a wall structure. The interior of the room was probably spanned by arches but the arch-supporting pilasters (loci 06, 07, 09, 11), as well as the benches (loci 20 and 22), might have been built in this phase or later. No floor remains associated with this phase were found, it is reasonable however to assume that the font was almost entirely sunk below the floor level, but perhaps with an elevated rim.

Phase 2: Rebuilding and Modifications

The structure was partially destroyed by an earthquake, and subsequently underwent some major modifications. Apparently, its function changed



3. *The baptismal font in Trench I (by M. Mustonen).*

as well, and the baptismal font was abandoned and backfilled with the mixture of sand — with pottery and bones — and stones. The extant western wall was probably built partially on the remains of the baptistery, and abutting the early plaster of Wall GG, which is visible in the sounding made through the bench (locus 19). The interior of Wall OO was filled with the debris of an earlier wall and/or the baptistery, which contained pottery, mortar, bone, glass and painted plaster. This material spilled over when the wall finally collapsed, mixing with natural deposits and forming matrix loci 02, 08, 10, 12, 15 and 16, which contained mainly fifth-sixth century pottery. On the northern and western sides of the exterior, a retaining wall/buttress was added to support the walls. The pilasters (loci 06, 07, 09, 11) were built in this phase at the latest, and before the final wall plaster was applied. The pilasters supported arch springers for N-S arches. Also, benches 20 and 22 were probably built in this phase, definitely after the pilasters. There were two layers of plaster on bench locus 20, and the outer plaster lips out onto the foundations of the floor (*infra*). Benches 19 and 24 were built abutting Walls OO and GG, probably somewhat later than benches 20 and 22, since they do not feature plaster. The step (locus 21) north of the doorway could have been built in this phase but before the benches. The foundation layer (locus 18) for the floor was laid out to even up the bedrock and to cover the remains of the baptismal font. The flagstones of the foundation layer appear too unstable to serve as an actual floor; the latter must have been completely removed at some point.

Later Phases

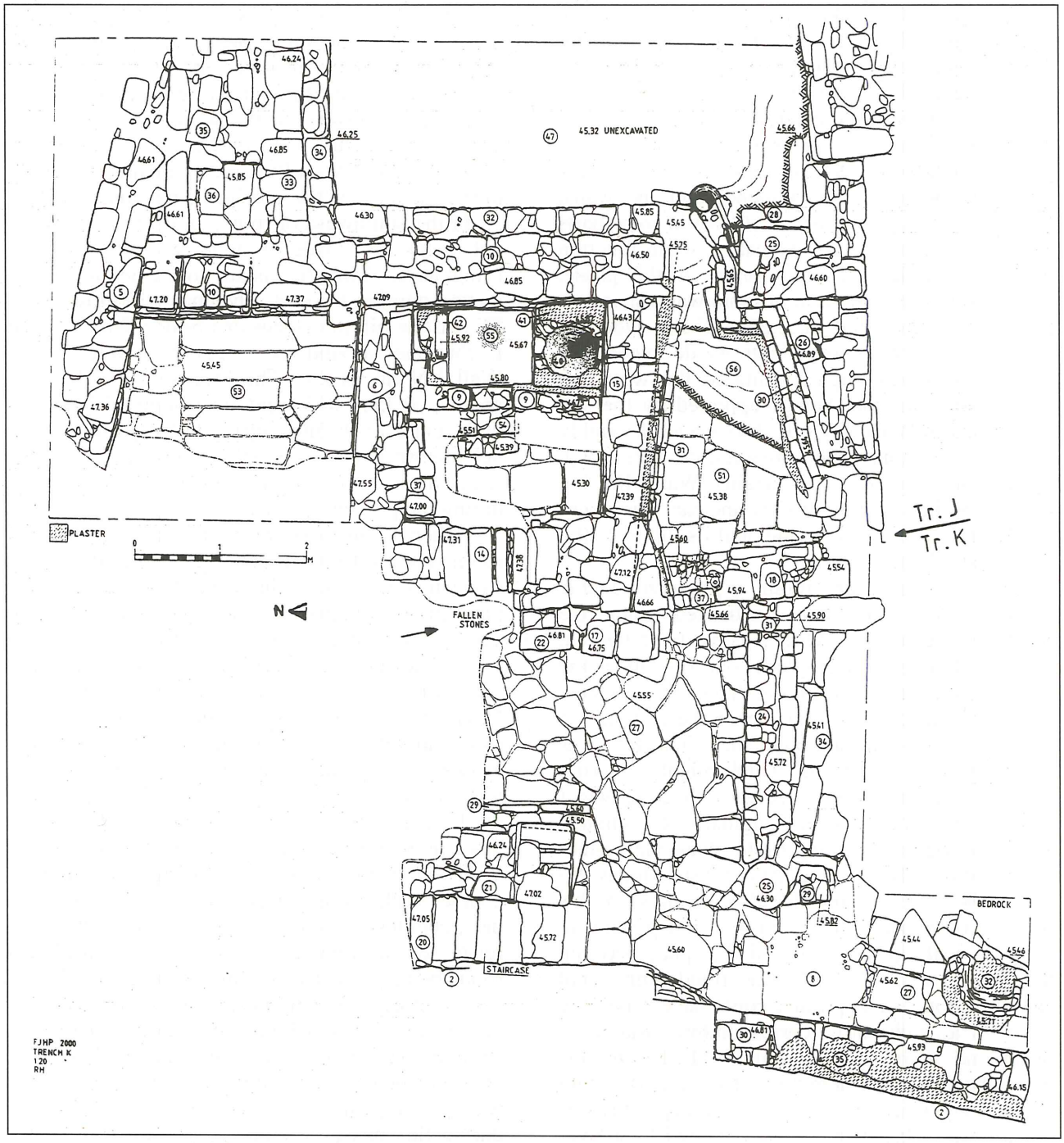
No remains associated with later phase occupation in this room were found. However, the final destruction is well documented. The destruction seems to have been of a seismic nature, which substantially affected the N-S running walls. The roof construction collapsed first (clayish locus 17), then the inner surface of the western wall (locus 14) with its fill (loci 15, 10 and a western part of locus 08). The collapse of arches is evidenced by a clear row of fallen voussoirs (ca. 0.55m wide) found in the stone tumble between pilasters 06 and 11, and a less clear row, between pilasters 07 and 09. The row of the voussoirs is leaning towards the north; the stones at the southern end are already protruding in locus 02 but at the northern end only in locus 16. Wall H, common to the church and the chapel, probably collapsed together with the inner face of Wall OO. Thanks to the external buttress, the outer face of Wall OO is much better preserved. The ashy layers (loci 02, 08, 12, 16) at the eastern side of the trench may have originated from the disintegrated ash-mixed mortar, possibly also used in the roof construction. The presence of cavities between and below the stones of the main tumble suggests that the collapse was sudden and the deposition of stones dense enough to prevent the wind-blown sand from filtering through the tumble and filling the empty spaces.

Trench J (R. Ylönen and J. Tuominen)

The trench is located between the narthex of the church, the tower at the western side of the complex, the northern court and the chapel. The trench was originally ca. 9.40m (N-S) by ca. 5.6m (E-W), later extended to the west. The surface sloped down to the east and in the southwestern corner, sloped to the south towards the cistern. The excavations exposed a complex structure consisting of three rooms (northwest, central and southwest) in the western half of the trench, as well as a small northeastern compartment (partially excavated) and a space in the eastern half of the trench (**Fig. 4**).

Phase I: Construction

The earliest walls in the area — HH, II, MM, and QQ — were most probably built directly on the bedrock. The first three walls run approx. E-W, although not exactly parallel to each other, which may indicate chronological differences. The size of the northwestern room is 2.15m (E-W) by 2.70m (N-S), however, its western side remains unexposed. The central room, limited by Walls II, NN, MM and QQ is 2.50m (E-W) by 2.25m (N-S). Compared with the other walls, Wall NN is badly preserved. Its northern end is built of irregular boulders and cobbles and it contains a possible door blocked after a partial collapse of the wall. The central room possibly originally extended farther east, and it was shortened after the partial destruction/demolition of its original eastern wall. Access to the central room was from the west but that area (including the doorway) remains only partially exposed due to the risk of collapse of the structures added there later. The southwestern room is limited by Walls MM, FF, CC, and the southern continuation of Wall NN (locus 25) — a short N-S wall built together with Wall CC. During this phase, the room might have been an open space, accessed from the east and the west. Stone slab pavements (loci 51, 52 and 53) in all three rooms belong to this phase. The lower gutter attached to Wall MM (*infra*) is perhaps of the same date. The function of this complex in Phase I remains unknown.



4. Trench J and the eastern part of Trench K (by R. Holmgren). Trench J, wall designations and locus numbers: W. HH (05), W. II (06), W. NN (10), W. MM (15), W. QQ (38). Trench K: W. JJ (02), W. RR (18), W. SS (21).

Phase II: Remodelling

The function of the central room must have changed in this phase, as reflected by the evidence of some major modifications. The room was divided into the eastern and western parts by a wall (locus 09) made of small sandstone cobbles and mud mortar, with a central doorway. The eastern part, ca. 0.87–0.95m (E-W) x 2.05m (N-S), had a ceramic container (locus 41; diameter 0.6m, depth 0.6m) installed at its southern end. Above the mouth of the container there was a pipe-like conduit (ca. 0.1m wide) which entered the structure of Wall MM, probably emerging on its other side. Rim fragments from two different ceramic vessels were found on the opening of the conduit, serving as a spout. At the northern end of the eastern part,

there was a bench-like structure (locus 42), ca. 0.23m high and 0.36m wide. The plaster floor (locus 55) between the container and the bench is 0.35m higher than the original stone pavement in the western part of the central room. A step (locus 54) made of two boulders was added in the door between both parts. All the structures on the eastern side, including the container and the walls, were lined with plaster which at least in some parts appears to be hydraulic, indicating some function related to the liquid use or storage. In this phase, the western part of the central room was a space ca. 2.25m (N-S) long and ca. 1.20m (E-W) wide. An arch (locus 14) was inserted into the doorway in its western wall. Although leaning to the west, the arch is still standing, being supported by the soil fill formed in Phases IV-VII. It is made of roughly worked large stones and voussoirs, ca. 0.7m long. In the south, the arch leans against Wall MM, but its relationship with Wall II is unclear. The opening of the wall is 2.25m wide, and its top is 2.10m above the original floor.

In the southwestern room, a plastered double channel (locus 31) was constructed along the southern face of Wall MM. It consists of two ca. 14cm wide open troughs built one on top of the other, both coated with plaster. The upper channel might be related to the container in the eastern part of the central room, although the connection was not found. The lower one, which might be earlier in date, was probably a gutter collecting water from the face of the wall. Originally it continued farther to the east, turning north along the eastern face of Wall NN. An enigmatic pilaster (locus 26) beside Wall CC, probably also belongs to this phase. The pilaster's orientation is not parallel to the N-S walls in the area, and the space between the pilaster and Wall CC was filled with small chinking stones. The pilaster could have supported a roof or an arch but no corresponding installation was found on the opposite wall (MM). During this phase the doorway leading west from the SW room was blocked (locus 1K.36) and a soil deposit (locus 48) covered the pavement. It contained Late Byzantine sherds.

Phase III: Dumping and Storage

The central room was used for dumping during this phase. Two low steps were inserted into the door between the western and eastern parts of the room. On the western side, the stone pavement was covered by soil layers (loci 44 and 45) containing ashy sand, charcoal particles and a large amount of common ware preliminarily dated to the Late Byzantine-Early Umayyad transition. On the eastern side the plastered surface was covered by silty sand (locus 43). White lime slag/hydrated lime (locus 40), a residual from lime burning, was dumped into the container. Similar white lime gravel covered the soil layers on the western part and was mixed up with the sand on the eastern side. The presence of hydrated lime indicates small-scale industrial activity at the site during this phase.

In the southwestern room, an open water channel (locus 30), made of stone, was built for carrying water from the cistern to an unknown collecting point in the east. The channel follows Wall FF and the pilaster (locus 26) beside Wall CC and it continues around the southern continuation of Wall NN (locus 25). The channel is 3.70m long and ca. 0.35m wide and its trough (0.11-0.18m wide and 0.14-0.15m deep) is plastered. The channel's substructure — large stone blocks — is constructed on top of an ashy soil layer accumulated during the previous phase.

Either in this phase or earlier, the northwestern room was used for storing large-sized bluish-grey stone tesserae. More than 40,000 tesserae, some plain mosaic fragments, and rectangular limestone slabs were found in locus 39 which also yielded mixed Nabataean fine ware and common ware preliminarily dated to the Late Byzantine-Early Umayyad transition. Unlike the central room, this room did not yield remains of previous occupation. Between the stone pavement (locus 53) and the tesserae deposit there was only a layer of loose sand (locus 49). Some sort of remodelling took place in the northeastern corner of that room where Wall NN features only the three original lowermost courses with the upper courses rebuilt with boulders, cobbles and small chinking stones. This must relate to the changes in the small northeastern room being in fact a roughly rectangular (2.15 x 1.95m) stone installation (locus 35) with an alcove-like space (ca. 0.8 x 0.9m) open to the south. The structure was only partially excavated with its eastern limit being unknown. The floor of this space was paved with stone slabs (locus 36). Possibly during this phase, a simple enclosure wall (locus 33) blocked the installation, locus 35, on its southern side. The alcove was filled up with sand, bones, sherds and fragments of glass lamps (locus 24). The pottery included the transitional Late Byzantine-Early Umayyad types. Hard-packed sand (locus 47) on the eastern side of the trench accumulated at the latest in this phase.

Phase IV: Abandonment of the Central Room

Probably in this phase, the structures in the central room partially collapsed, the room was aban-

doned, and the occupational activity moved into the southern part of the trench. Both the eastern and the western parts of the central room were covered by sand and stones (loci 11, 12, 27 and the lowest part of 16). The pottery from these loci is Nabataean and Byzantine but not later than the early sixth century AD. Accordingly, the sherds may have come from the walls' fill. As a response to the deteriorating masonry of the central room, Wall NN was reinforced by a buttressing wall (locus 32), ca. 0.5m wide and 0.9m high, built against the eastern face of Wall NN. The blocking in the northeastern room was also supported by a buttress (locus 34), ca. 0.35m wide and 0.85m high. Both buttresses are standing on soil (locus 47).

The original course of the water channel (locus 30) was broken, two parallel long stones (locus 50a) added, and at their end a ceramic jar (locus 50b) was placed, seemingly to collect the water overflow. Sandy soil (lowermost locus 17) accumulated in the southwestern room and contained a large amount of ceramics, fish bones and scales, and eggshell fragments. Concentrations of ash and charcoal in locus 17 might indicate fireplaces and cooking in the southern area; a proposition supported by macrofossil analysis (see separate report).

Phase V: Continuing Occupation in the Southern Area

The occupation continued in the southern area but the open water channel (locus 30) was abandoned and filled with sand (locus 29). Water-borne and wind-blown sand (locus 46) also accumulated inside the overflow jar. In the western part of the southwestern room, occupation continued (upper part of locus 17), associated with intensive food preparation. The heavy concentration of ash between Wall MM and four stones set parallel to the wall, mark an area used for fireplaces. The soil contained large pottery fragments (some broken *in situ*), glass, bones, and eggshell fragments. It is possible that the uppermost layer of locus 17 may also contain the remains of the burnt and collapsed roof, either of the southwestern room or adjacent structures, and that these remains were also used as fuel. Generally, the extensive locus 17 may have already originated in Phase IV, and is definitely more than the result of a single activity episode but its ceramic contents are relatively homogeneous, including the Late Byzantine-Early Umayyad transitional types but possibly also Early Umayyad period sherds.

A thick (0.28-0.55m), sandy layer (locus 20), with scattered ceramic sherds (again, transitional Late Byzantine-Early Umayyad types but also possible Early Umayyad period sherds), glass and bones, was gradually deposited in the eastern part of the trench. Above this layer, a thin, heterogeneous ashy soil layer, rich in finds, formed in the southeastern corner (locus 19); probably of the same nature as locus 17. Related to locus 19 is an L-shaped installation of five relatively long stones (locus 28) placed on top of locus 20, against Walls CC and K and locus 25. The installation, 1.65m long, 0.20m wide and 0.12-0.25m high, could have functioned as a low bench.

Phase VI: Latest Occupation

A sandy layer (locus 18) with pottery, bone, and metal objects accumulated in the eastern side of the trench. A stone concentration, locus 23, set within and on top of the soil in the southern part of the area also belongs to this phase. The stones, set in an E-W direction, were either intentionally placed to form a low wall-like structure, or they collapsed from Wall CC. Heterogeneous sand layers with scattered patches of charcoal and stone debris formed in the central room (locus 07) and the southwestern room (locus 13). The latter contained numerous potsherds, including both transitional and possible Early Umayyad types, glass fragments, remains of metal objects, coins and bones, indicating a dump or temporary occupation. Another temporary shelter (part of locus 17) consisting of a row of boulders was found south of Wall MM, curving slightly to the east. Possibly related to this phase was the narrow ledge of small sandstone slabs (locus 37) set against the arch and Wall II in the central room. The top of the ledge corresponds to the top of locus 07 and they may be contemporary. However, the instability of locus 09 prevented further examination.

Phase VII: Final Collapse

Loci 21 (wind-blown sand) and 22 (remains of a campfire) belong to the latest phase. The collapse of the upper courses of the walls formed a stone tumble over the entire trench (loci 2, 4, 8). Numerous and varied finds and the remains of a relatively recent campfire (locus 3) indicate squatter activity among the ruins. Finally, wind-blown sand and eroded stone material formed the layer of brown topsoil covering the trench (locus 1). This layer contained only a few scattered finds.

Trench K (N. Heiska, V. Immonen, H. Kuisma)

This trench is located northwest of the cistern, on the high ridge marking the western limit of the monastic complex. Four walls were visible on the

surface forming a room space there. The room turned out to be a solid stone platform or podium-like structure, and therefore the excavation was expanded in three directions. To the southwest there was a stairway with two landings, and a wall of another structure. The expansion eastward revealed extensive stone tumble on top of the paved courtyard around the cistern and between the structures of Trenches K, O and J. The courtyard was apparently a major communication hub in the monastic complex which provided access from the church proper into the northern and southern areas of the monastery (**Figs. 4 and 5**). The installations uncovered there included a stairway, remains of an arch, pilasters, and a water basin. Directly north of Trench K, the top parts of three arches inside another room were exposed (Trench O) but the excavation did not proceed there. The structures and installations described here relate to several different building phases, the earliest one of which preceded the construction of the monastery in the Byzantine period. The solid platform-like structure features a masonry technique totally unlike any found in so-far exposed structures at the site. This structure appears directly related to the room with three arches in Trench O, and probably to the structures south of Trench K. Although it is impossible to fully establish the absolute chronology and the function of these structures, these probably originated in the Nabataean-Roman period.

Phase I: Initial Construction and Occupation

Walls JJ and KK were erected. Wall KK and the two upper courses of the preserved part of Wall JJ are made of well-dressed ashlars (max. 1.25 x 0.4 x 0.4m) with traces of mortar in the seams. The lower courses of Wall JJ are constructed of slightly smaller ashlars. Although the connection between Walls KK and F is uncertain, the latter must also relate to this phase. The same applies to a narrow division wall (locus 5) located 0.8m east of Wall F. As Wall KK is only one course wide, the space created by Walls JJ, KK, and locus 5 was filled with flat irregular stones forming horizontal levels, presumably already during the construction. Although the northern limit of this structure was not located, the presence of three arches in the directly neighboring room of Trench O indicates the existence of such a partition wall preserved lower down.

Phase II: Addition of New Structures

A staircase (locus 20), ca. 0.7m wide, was built adjacent to Wall JJ, ascending to the north. Its eastern side is supported by Wall SS which has a pilaster (locus 21a) at its southern end. Approx. 2m to the east of it is another pilaster (locus 22) abutting Wall QQ (in Trench J). Voussoir stones found in the tumble between the pilasters indicate the presence of an arch there. A flagstone floor (locus 34) was probably also laid out then. It is visible only near the edge of the cistern and in the soundings through the upper floor (locus 27). This lower (earlier) floor does not seem to continue farther north, i.e., beside the staircase, locus 20, but it abuts Walls JJ and RR. The latter, made of roughly dressed stones, was probably erected then to support Wall QQ. A narrow but carefully made doorway divides Wall RR into two parts. A pilaster (locus 31) was built to the south of the doorway, against Wall RR. A column (locus 25) located a

5. The courtyard by the cistern, looking north. On the left, the monumental structure in Trench K, on the right, structures in Trench J (by M. Mustonen).

few meters south of the staircase could belong to this phase as well.

Phase III: Major Remodelling

For some reason the level of the pavement was raised some 0.2m. A bedding of red homogeneous sand (locus 33) and then the pavement of irregular flagstones (locus 27) were laid out on top of the early floor. This upper floor probably extended to the north, integrating the lowermost step of the staircase, locus 20. A low stone wall (locus 24) was erected between the column (locus 25) and pilaster (locus 31), integrating both elements. The wall stands partly on the lower and partly on the upper floor integrating its edge, apparently because the floor level remained the same (i.e. lower) near the cistern. The wall could have channelled traffic coming through the doorway in Wall RR. A new threshold (locus 37), corresponding to new floor level, was built in that doorway. A plastered bench (locus 35), ca. 4.5m long, was built against Wall JJ. The bench is 4.5m long, 0.7m wide, and 0.4m high, with a raised southern end made of a stone and a thick coat of plaster. Notably, Wall JJ is one course wide in this part, but features a two-course width beyond the bench. Either the inset in the wall is original, or its outer face was demolished later, and the bench built on top of the surviving lower outer courses. Either in this phase or earlier, a staircase (locus 9) was constructed between Walls KK and LL. The latter seems to be a part of another building complex to the south, probably later in date than Wall KK. The upper landing of the staircase directs the traffic to the north, and the lower landing, to the south, where another staircase (locus 13) leads down near the southwestern end of the cistern.

Phase IV: Small-scale Remodelling

This phase can be further subdivided. In Phase IVa, the doorway in Wall RR was blocked thus preventing passage from the courtyard to the area south of the structures in Trench J. Later (Phase IVb), a fireplace was set north of the blocked doorway, and its ashes (locus 23) covered the flagstone floor in this area. A layer of white hydrated lime, similar to that found in Trench J (*supra*), indicates the existence of some kind of building or restoration activity in the area. Ceramics associated with these deposits included the transitional Late Byzantine-Early Umayyad types. An oval-shaped water basin (locus 32) was constructed near the southern end of the bench. The basin was ca. 1 x 0.8m and ca. 0.35m deep, built of small stones set in mortar, the outer coat of which may be hydraulic. The function of the basin may have been ritual. An ashlar-built pilaster (locus 30), of unknown function, was built on top of and at the northern end of the bench.

Phase V: Later Occupation

A soil layer (locus 19) was deposited on top of the flagstone floor. A simple support wall (locus 17) was built on top of the layer, adjacent to Wall RR, and between the pilasters loci 22 and 31. A rough stone structure (locus 26) was built on top of the fill between the column (locus 26) and the pilaster (locus 30).

Phase VI: Final Collapse and Latest Deposition

The collapse of the structures in the area created a massive stone tumble (loci 11, 12), with loose wind-blown soil on the top. No further occupational activities could be discerned.

Trench L (R. Holmgren, Y. Doleh and J. Sipila)

This trench, directly north of Trench B (south aisle of the church), covers the area of the nave of the early church, which, following the first destruction which affected the church, was turned into a colonnaded courtyard (atrium).

Phase I: Early Church

The earliest here is Wall K (locus H.20), the western wall of the church. Its fill (locus 6a) apparently originated from a place at the site which was occupied before the Byzantine period as it contained quantities of Nabataean pottery. A pilaster (locus 19), which bonds with the wall, supported the architrave or arches over the northern row of columns in the nave. Three column stumps or bases in the northern row are still *in situ*. Soundings through the extant floor revealed remains of the composite bedding of the early (marble) floor of the nave, now missing. The bedding (locus 16) consisted of large worked stones and mortar and cobble layers mixed with sand. Only two sherds were found there, both of fourth-fifth century AD date.

Phase II: Central Atrium

As a result of a seismic disaster, the church was damaged. The rebuilding included the subdivision of the church by Wall I into an eastern part (church proper) and the western part — an open colonnaded courtyard (atrium), connected by the central door in Wall I. The fill of Wall I contained ashy soil, numerous marble, often decorated fragments (some burnt), glass, tesserae and ceramics — apparently the debris from the disaster — recovered from loci 4, 5, 8 and 9 representing the lat-

er collapse of that wall. The peristyle atrium had two original E-W rows of columns supplemented by the eastern row running N-S. In that row, instead of a northern column, a square pilaster (locus 14) was erected. Its construction is exeedingly poor — cobbles held together by mortar — and it could possibly have served as a pedestal for an unknown object. A simple bench (locus 15), currently ca. 2.2m long, 0.5m wide and 0.2m high, was built against Wall I, north of the central door. During this short phase the old marble floor was presumably still in use. The two lowermost steps (locus 17) in the central doorway in Wall K probably also belong to this phase.

Phase III: New Floor

The marble floor in the court was partially removed, and the new sandstone floor (locus 18) was laid out ca. 0.2-0.25m above the assumed level of the marble floor. As opposed to the original marble floor, the new, upper floor is markedly sloping westward. Apparently, heavy rains might have caused excessive flooding of the open atrium area (thus also the church) during Phase II. Also the bench (locus 15) appears to have suffered from such conditions. The sloping floor helped to channel the rainwater toward the outlets leading to the cistern. The floor was made of irregular flagstones, with reused marble fragments and large tesserae patching the gaps in the pavement. Either during this or the preceding phase, the central door in Wall K received three more steps on top of the original two, presumably in relation to the raised level of the threshold. This phase probably ended in some sort of minor destruction.

Phase IV: Later Additions

The southern central part of Wall K might have been rebuilt following the destruction, and the tumble (locus 6) should contain the collapsed stone and fill pertaining to that rebuilding. The major feature in this phase is a massive buttress (locus 2) abutting Wall I and standing on the floor of Phase III. The buttress built as a wall-enclosing space filled with layers of debris, stones and reused material (including column drums) is currently ca. 2.18m wide and ca. 2m high. Its southern part was excavated in Trench B. While the buttress extends north up to the door in Wall I, it does not continue against that wall beyond the door.

Phase V: Casual Occupation and Abandonment

The sandy but tightly-packed layer, locus 11, accumulated against the buttress and over the entire pavement indicating that the area was no longer actively cleaned. However, this locus yielded quantities of marble fragments, stone tesserae, and fish bones suggesting low intensity occupation associated with the collection of still useful material. A concentration of such material mixed with small stones and cobbles (locus 10) was located over the bench (locus 15), against Wall I. Loci 11 and 10 contained mixed ceramic material, including Late Byzantine, Umayyad-Abbasid and Ayyubid ware but not Mamluk. In the southeastern corner of the trench, a considerable amount of ash mixed with fish bones marks a fireplace (locus 12) which reaches through locus 11 down to the level of the pavement.

Phase VI: Collapse and Natural Deposition

Whether the collapse of the walls in the area is a result of a single destruction or several such episodes associated with natural deterioration is unknown. But it was possible to discern discrete tumble layers as originating from specific walls. The earliest collapse is represented by loci 8, 9, 5, 4 (in the eastern part, i.e. from Wall I and the buttress) and loci 6, 6a (in the western part, i.e. from Wall K), separated by the soil locus 7. This deposition was in turn covered by the low density tumble (locus 3) which spread over the entire trench and, surprisingly, still contained quantities of ceramics, fish bones, tesserae and marble. Sandy locus 1 was the uppermost deposit.

Trench M (A. Lahelma and K. Hinkkanen)

Trench M, directly south of Trench E, covered the southern half of the apse of the church and the southern pastophorion. One of the objectives was to examine the enigmatic layer of tesserae and mosaic fragments observed in 1999 in the southern balk of Trench E and see whether it was a cache/dump of building material, or a simple, secondary mosaic floor. The first suggestion turned out to be correct.

Phase I: The Early Church

To this phase belong the walls of the southern pastophorion (V, J, and AA) as well as the semicircular apse wall (T) and the fill (locus 7) behind that wall. The uppermost preserved courses of Wall T, and probably also the semidome of the apse, were made of yellowish limestone as opposed to the sandstone blocks used elsewhere. In the same phase, a well-preserved two-tiered synthronon (loci 18 and 19) made of plastered limestone ashlars was constructed against the apse wall. Inside the pastophorion, two arch springers (loci 10 and 11) against the southern and northern walls in-

dicate the roof support by a single N-S arch. A single-shelved cupboard (locus 35) in the northern wall, likewise belongs to the original construction, as well as the sandstone threshold (locus 36) in the doorway in Wall AA. The remains of whitish mortar on top of the threshold suggest that it may originally have been covered by other material, such as marble. The first phase may have ended with a destruction, since in the following phase, the synthronon appears to have been repaired with inferior material, and the floors in the apse and the pastophorion were entirely replaced. No traces of the original floors in both these areas were discovered.

Phase II: The Remodelling

The second phase is marked by extensive rebuilding but a relatively low-quality workmanship and the use of mud mortar and recycled material, including marble fragments. The ecclesiastical function of this area appears, however, to have been retained. A *thronos* (locus 16), currently poorly preserved, was inserted in the middle of the synthronon. A floor consisting of a bedding (locus 20) of fine red sand, a mortar bedding (locus 22) and marble pavers (locus 21) was now laid out inside the apse. Only small fragments of the marble floor are preserved *in situ*, but the mortar bedding impressions show that the slabs next to the synthronon were arranged in a curve parallel to the lower row of the synthronon. A pilaster (locus 38) built against the western end of the apse wall also belongs to this phase.

Inside the pastophorion, a sandstone floor (loci 32 and 37) was constructed. In the northern part of the room, a low partition-like, E-W installation (locus 26) was built. On the northern side of the partition and under the floor, there is a large "tomb-like" space. Apart from two thin soil layers (loci 33a and b), the space was empty. The size of that space (1.30m long, 0.9m wide, 0.55m high) does not readily suggest a burial place, although a small ossuary might be conceivable. Alternatively, the space could have been used as a storage bin, although access could only be achieved through demolishing the floor. Supportive structures similar to ones inside the "tomb" could also be observed next to the eastern and northern walls, where the sandstone floor was completely missing. There may have been other compartments under the floor of the pastophorion, now filled with sand. East of the "tomb", and directly in front of the cupboard, an equally enigmatic installation (locus 25) was constructed. It consists of the following elements. The low, rectangular structure made of thin sandstone slabs and mud mortar, with a round hole (diameter 0.16m) in the northern part, giving access to a sizeable pithos-like container under the floor level was in the north and a "tombstone-like" construction made of sandstone slabs, marble fragments and mud mortar was set upright in the middle of the rectangular structure. Given the presence of the "tomb" next to it might indicate that the upright installation was some kind of a memorial stone, but other interpretations may also be worth considering. The central feature appears to be the "pithos", constructed of five separate carved blocks of stone. The contents of the vessel (loci 34a and b) gave no indication what was stored there (liquid?), but an ecclesiastic function seems possible.

Phase III: Decay and Destruction

The later occupation in the remodelled apse reflects a period of decay that ended by a destruction, both evident in the apse area. A fair number of marble slab fragments, some perhaps from the apse floor which was now removed, were piled on top of the synthronon. These were covered by a layer of soil (locus 17), also accumulated on the apse floor and the steps of the synthronon. Pieces of polychrome painted plaster, from Wall T or the semi-dome, were found in locus 17 and directly on top of the synthronon, indicating the neglect of the area. The ceramics from that locus included the Late Byzantine ware (fifth-sixth century AD). Finally, a disaster, probably an earthquake, brought the entire semidome down and formed a heavy stone tumble (locus 14), mainly of yellowish limestone, inside the apse. The destruction or removal of much of the sandstone floor inside the pastophorion is likely to be linked to this event.

Phase IV: Non-Ecclesiastical Occupation

The ecclesiastical function is not supported during this phase although the area continued to be in use. The damaged structures were not sufficiently repaired. Characteristic is the collection of reusable building material into different caches, and the deposition of soil mixed with refuse on the floor of the pastophorion. The phase can be divided into two sub-phases.

-IV a. Inside the apse, the stone tumble was never cleared but the area was turned into a storage, accessed by the stairs and a stepping stone excavated in Trench E. Large mosaic fragments, chunks of mortar and a great number of limestone tesserae (locus 3) were piled in a pit formed by the stone tumble. The pastophorion appears to have suffered less damage and was apparently still covered by a roof. A layer of tesserae, rubble and pieces of pot-

tery (locus 27) was deposited on top of the "tomb", north of the partition, locus 26. The pottery included only the late fourth through the sixth century types but also a lamp considered to be Abbasid in date. Hundreds of small, multicoloured glass tesserae and glass vessel fragments were piled on top of the installation (locus 25) in the northeastern corner. Soil locus 28 accumulated on top of the preserved part of the floor, and the now uncovered "compartments" under the floor level were completely filled with sand and refuse (locus 29). A sounding in the southeastern corner of the room revealed that this layer is ca. 0.6m thick and it contains a large amount of finds. It will be fully excavated in the future seasons. A large limestone vessel found, perhaps *in situ*, in the middle of the room could have been used for grinding.

-IV b. A limited occupation might have continued inside the pastophorion, but a layer (locus 23) of sand, debris and some stones featured a relatively small number of finds. Fragments of monochrome (red on white) painted plaster with Greek writing were found adjacent to Walls AA and J.

Phase V: Casual Occupation (?) and Abandonment

The events in the apse and inside the pastophorion are difficult to correlate at this stage. In the former, a homogeneous layer of windblown sand and stone tumble (locus 2) slowly accumulated on top of the tesserae layer (locus 3). But inside the pastophorion, three sub-phases can be distinguished:

-Va. A layer of stone tumble (locus 15) mixed sand, accumulated on top of the occupation layers below. This layer already yielded some painted plaster also found in locus 23, but relatively few finds relating to human presence.

-Vb. A layer of intensive stone tumble (locus 13) deposited inside the room. The presence of a possible fireplace (locus 12) on top of this layer indicates casual occupation associated with very few finds.

-Vc. A second layer of dense stone tumble (locus 4) featured a row of voussoirs indicating that the pastophorion arch was intact up to this point. Finally, windblown sand and stones (locus 1) that have tumbled from the uppermost courses of the walls covered the area of the entire trench.

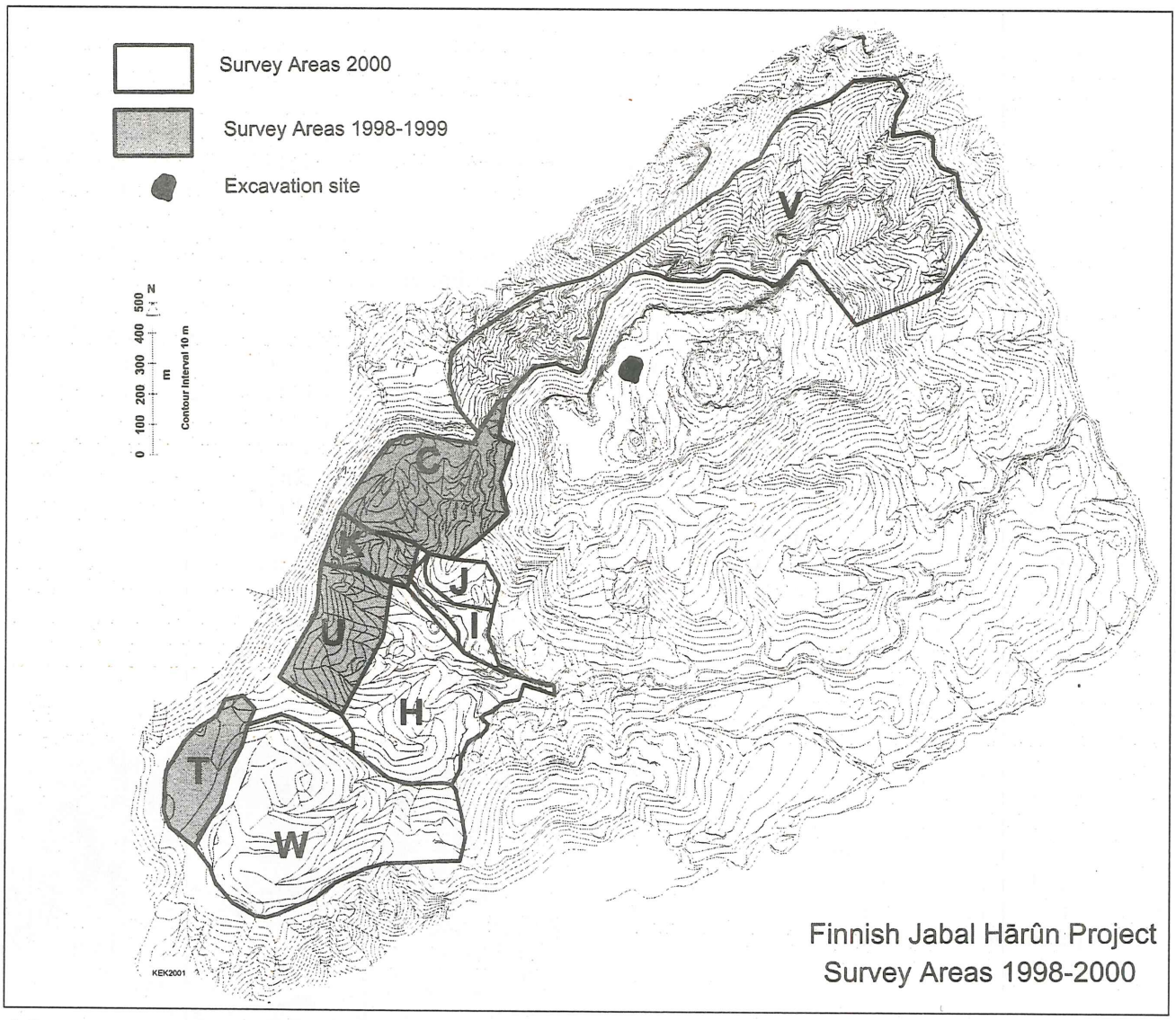
III. SURVEY REPORT

(M. Lavento, A. Siiriäinen, E. Hertell, M. Huotari, H. Jansson, P. Kouki, A. Mukkala and S. Silvonen)

The FJHP 2000 survey was continued in two separate areas (**Fig. 6**): on the southern and southwestern side of the mountain, from Wādī as-Sādah (وادي السـاده) in the southwest to the lower slopes of Jabal al-Farāsha (جبل الفـراشـة) in the southeast (Areas I, J, H and W), and on the steep slopes north of Jabal Hārūn (Area V). The documentation of hydraulic installations was continued in the southern area, and Paleolithic/ Epipaleolithic sites there were intensively studied with regard to their locational topography and the provenience of flint and chert (see separate report following this article). Also, the intensive study of an ancient road in the survey area was conducted (see separate report). Surveying tracts were drawn smaller (approx. 50 x 60m) than in 1999 in order to obtain more information. Slopes with a gradient higher than 25 degrees were left unwalked as cultural material from there would have certainly been washed down by winter rains. The total area investigated in 2000 was approximately one square kilometer, in which 168 barrages and 68 terraces were documented. For comparison, the 1998-2000 survey seasons have covered ca. 4 square km, and a total of 111 major sites have been recorded there, including 391 barrages.

Geomorphology of the 2000 Survey Area

The survey area east of Jabal Hārūn belongs to the "Al Quwayra Fault Zone" and lies in a NE-SW oriented geosyncline. The eastern border of the geosyncline runs through the 2000 survey area in an approx. N-S direction, dividing it sharply into Late Cretaceous limestone in the west and Ordovician to Cambrian sandstones east of the syncline. The survey area north of Jabal Hārūn is located on the very steep slopes of the mountain. The bedrock is Ordovician to Cambrian Umm Ishrin Sandstone with small occurrences of Abu Khushayba Sandstone and Late Proterozoic volcanic rocks. The bedrock of the western part of the survey area is formed of Wadi as-Sir Limestone, Wadi Umm Ghudran Limestone and Amman Silicified Limestone. Nodules and layers of chert and flint occur in several of the limestone layers (GMD 1995). The eastern survey area resembles the areas surveyed in previous seasons (see Frösén *et al.* 1999; 2000). The biggest alluvium in the area is at least partly artificially created by barrages or a combination of terrace walls and barrages built in Wādī as-Sādah and at the conjunction of this wadi and Wādī al-Farāsha. A small sounding was dug in a terrace located directly upstream of barrage No. 242. The sounding was dug to a depth of 1.3m — the level of the lowermost stones of the barrage, above



6. Survey areas 1998-9; 2000 (by K. Koistinen).

which the sediments have accumulated after the construction of the barrage. The horizontal, clearly undisturbed, strata indicate a sequential sedimentation of soil against the barrage, but the specifics of the sedimentation process as such remain unknown.

Southern Areas (I, J, H and W)

These areas contain several different types of barrages and terrace walls. The most massive hydraulic installations to date were found in the alluvium where Wādī as-Sādah and three tributaries from Jabal Hārūn run together. The barrage system in Area I was a continuation of that in Area C, implying a large and well-organized system for collecting rainwater (Lavento *et al.*, forth. 1, 2). In its lower course, Wādī as-Sādah runs out of Areas C and K into a deep gorge where almost all barrage structures have been washed away. Barrage remains are visible again in the upper part of Area I and their number and size increase in the lower part of Area I. Here the wadi widens out to an alluvium about 100 x 100m, in which the largest barrages have been built. There is also a circular barrage construction there (similar to one in Area C) where tributaries from different directions run into the main wadi. The largest barrage structures in the valley have been built just below this construction. The longest one (No. 246) is over 50m. The most massive structure (No. 248) is 4.5m high and over 2m deep. Its lower parts have been constructed of stone blocks about 0.7 x 0.7m in size. Areas H and W are the largest covered so far. In the southwestern corner of both areas, there are long and relatively low (less than 1m) terrace-barrages which are comparable to the structures documented in

Area U (Frösén *et al.* 2000: 418). Barrages in the beds of tributaries (particularly in Area H) are small and almost completely ruined, and often difficult to distinguish from naturally deposited stone concentrations.

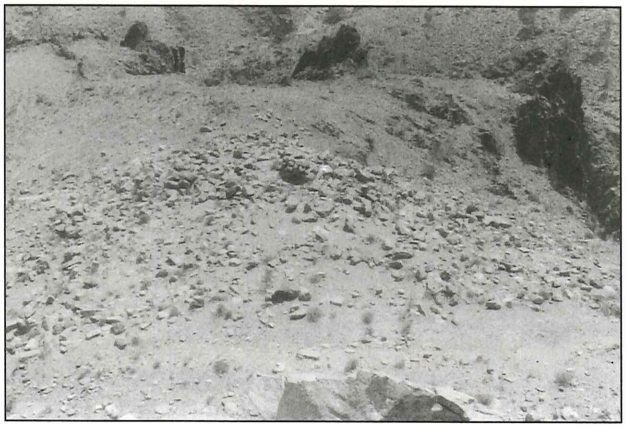
The lithics, treated in a separate report, are the largest type of artifacts collected in southern area of the survey. Also, around 2300 sherds (380 diagnostics) were collected there. Several sites with significant pottery concentrations were surface collected separately, yielding a total of 1200 sherds (170 diagnostics). The 2000 survey area contained noticeably less pottery than these from the previous two seasons, although possessing agricultural and hydraulic installations. Nabataean-Roman pottery was predominant, similar to the material from previous seasons (Frösén *et al.* 1999: 394; 2000), and mostly dated to Phase 3 according to the ceramic chronology developed at az-Zanṭūr, Petra (Schmid 1996: 165-209), i.e. the first century AD.

Additionally, Site 49 from Area T, surveyed in 1999, was revisited and intensively sherded. This site is a ruined building with an inner courtyard surrounded by small rooms. The site is located along an ancient caravan road leading from Petra towards Sinai and Egypt, close to the ruins of a watchtower (Zayadine 1992: 225), and it may thus have functioned as a caravan station. The site was very rich in ceramic finds: a total of 4700 sherds (830 diagnostics) were collected. The pottery was Nabataean-Roman common and fine ware. The painted fine ware from there mainly dates to the first half of the first century AD, or Phase 3a (Schmid 1996: 165-209).

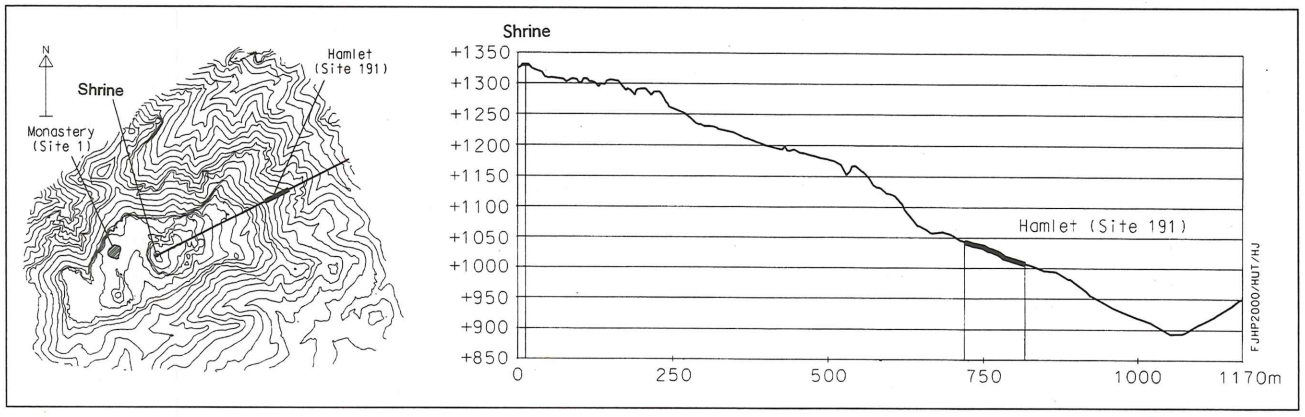
Northern Area (V)

The topography in Area V is very steep and dominated by a 50-70m high cliff wall that falls down from the plateau where the monastic complex is located. The lower part of the cliff wall is dominated by very soft and highly eroded sandstone. All the formations in the wall, such as rock shelters and caves, are geologically very recent. Higher up on the cliff wall, the sandstone is harder and it breaks into large boulders which cover the higher slopes below the cliff wall. The higher slopes end in a lower cliff wall that drops down for about 30-40m and marks the border zone between the sandstone and the Bayda Quartz-Feldspar Porphyry formation of the late Proterozoic Ahaymir Volcanic group. Below the wall, large talus formations stretch down to the bottom of the deep wadi between Jabal Hārūn and the ad-Dayr plateau. The talus has been cut in several locations by water running down the slopes from the Jabal Hārūn plateau.

The most significant site documented in this area is a small hamlet (Site 109), ca. 162m SE-NW and 80m S-N (**Figs. 7, 8**). It is located on a promontory with steep slopes between two ravines. The promontory has three natural terraces. There are seven shelter-like structures and four terrace walls on the upper terrace, as well as the remains of a flight of steps leading up to it. Most of the structures seem to be quite recent. Remains of two houses (B and C) and one possible house founda-



8. Site 109, looking northwest (by M. Mustonen).



7. Location of the hamlet (Site 109) in Area V (by K. Koistinen and H. Junnilainen).

tion (D) were found on the middle terrace while only one house structure (A) was found on the lower terrace. Nabataean pottery was dominant in House A, with some Byzantine and Islamic period ceramics also present, while the opposite was true on the upper terraces.

Site 110 is a terraced route up to the peak of the mountain, reaching the Islamic shrine from the east. The lowest visible remains of the route are located on the slopes above Site 109. The path has been terraced in many parts. In some places, massive stair-like constructions, currently much damaged by erosion, have been made in order to reach the next ledge or terrace formation. No diagnostic artifacts were found there, and thus the age of the route cannot be determined. However, this path is certainly a part of a route network associated with the ancient and more recent travels to the top of Jabal Hārūn. Some petroglyphs found there are clearly connected to the path as they occur on all routes up to Jabal Hārūn. Especially the carved footprint motif occurs in several locations. This motif is a very common feature, associated with sacred monuments and holy places of pilgrimage (e.g. Lindner 1997), as well as more profane places (Nehmé 1995: 431). The feet vary in shape and may occur as a single foot, a pair, or a grouping of several carvings with the same motif. Different motifs were located on a rock shelter floor formation, ca. 20m from the path. There, the group of petroglyphs is approximately 0.40m in diameter. It contains one frontally portrayed human-shaped figure holding a club or other weapon in his hand. To the left of the figure is a dog, and below an image of an animal with a rider. These petroglyphs probably relate to hunting activities. For example, similar motifs have been found in the Wādī al-Ḥafīr area (Jobling 1985: 214).

Surface collection in the northern survey area provided approximately 680 sherds (160 diagnostics). Many are types not represented in the southern survey area. These include the coarse reddish-orange-brown ware, thick with organic inclusions, and with dark brown geometrical patterns, such as lines and diamond shapes. Parallels suggest that this pottery may be Late Islamic in date (Hendrix *et al.* 1997: 289-306). However, the geometrical decoration also resembles that of Ayyubid/Mamluk pottery found at Rujm al-Kursī (Khadija 1992: 345-356), although the color of the ware is different. Similar pottery has also been found in the Petra area (Vannini and Tonghini 1997: 380; Vannini and Vanni Desideri 1995: 535) and Wādī Mūsā ('Amr *et al.* 2000: 251), where it has been dated to the Ayyubid/Mamluk period.

IV. CONCLUSIONS

(Z.T. Fiema and R. Holmgren)

The 2000 fieldwork season has provided a plethora of new data which will require the incorporation into the already existent chronological scheme for Jabal Hārūn. Notably, this season turned out to be particularly fruitful in terms of information pertaining to the earliest and latest periods of occupation at the site. The Nabataean presence at the site was already indicated by the great abundance of sherds, and by some architectural elements reused in the church construction. Now, the podium or platform-like, solid stone structure in Trench K appears to be the first building which originated in the pre-Byzantine period at the site. Its masonry type, unlike any other at the site, the evidence of plaster on the exterior, probably an inner layer for stucco decoration, and the overall appearance would all strongly indicate a monumental Nabataean design. So far, the function of the structure is uncertain, both in the Nabataean period and when it was incorporated into the Byzantine monastic complex. But the elaborate character of the structure appears to suggest more than a simple observation or defensive tower. Furthermore, the structure is located in a very conspicuous place — on the plateau of the most prominent mountain in the Petra area, and overlooking the area of Wādī 'Arabah — which may suggest a sacral character. There might originally have been a superstructure on top of the podium, and if so, it is now entirely gone. One should also not exclude the possibility of an elevated, open-air sanctuary platform accessible by staircases; a kind of a Semitic *motab*, on top of which were located baetyls or other cultic installations.[1] Evidently, this possible function of the structure must have ceased in the Byzantine period.

Another significant find was the baptismal font associated with the earliest phase of occupation inside the chapel. The font belongs to the cruciform type which is usually masonry-built and generally earlier in date than the monolithic fonts (Ben-Pechat 1989: 173-174; 1990: 510; Piccirillo 1985: 355). A close parallel is the large canopied cruciform font found in the baptistery of the Petra church (Fiema, forth.). Although cruciform fonts are unknown in Jordan in the area north of Mādaba-Mt. Nebo, these were popular in southern

1 For the motab design in Nabataean sacral architecture, see Villeneuve and al-Muheisen 1988: 476-477; al-Muheisen and Villeneuve 1994: 742-744.

Palestine and especially in the Negev where such examples include fonts in the East Church at Mampsis, the North Church at Oboda/Avdat, and the North and South Churches at Sobata/Shivta; the first two masonry-built (Ben-Pechat 1989: fig 1; Rosenthal-Heginbottom 1982: 174-200, for full presentation). With the proposed dating, i.e. the later fifth century, for the beginning of Phase I of the church and the chapel at Jabal Hārūn, the baptismal font there should be considered, together with that at the Petra Church, as one of the earliest known structures of this kind in Jordan.

Baptismal fonts are not uncommon in the monastic context and, in fact, they tend to occur in the monasteries associated with a holy place or a pilgrimage center, and often in a non-urban location (Ben-Pechat 1990: 501-2). But the location of the font in the western part of the chapel, and the overall function of the chapel during Phase I remain puzzling, even if the western wall of the chapel was located farther west in that phase. In baptisteries with no apse, the font was usually located toward the eastern end of the room (Bagatti 1984: 305; Ben-Pechat 1990: 508-509), as to emulate the relationship between the community and the altar, symbolized by the font. A good example is provided by the cruciform font near the eastern end of the apse-less Old Diaconikon at the Memorial of Moses on Mt. Nebo (Piccirillo 1976: 305-312; 1989: 156-157; Michel 1997: 405). Examples of more western locations are known although rare, e.g. the hypothetical baptismal font outside the eastern part of the cave church in the Khirbat ad-Dayr monastery (Hirschfeld 1999: 32-34, 164). However, the Jabal Hārūn chapel in this phase had an apse (and an altar?), yet the font was located far away from it. Presumably, some — still not exposed — installations or partitions existed between the font and the apse of the chapel during Phase I. On the other hand, the Phase I architectural arrangement at Jabal Hārūn well reflects the requirement that the baptismal rooms should be attached to the church and provided with direct communication with it (Ben-Pechat 1990: 508-509). An elevated section of the bedrock beyond the door leading from the north aisle of the church to the chapel was left *in situ* during Phase I. This bedrock section would certainly have risen above any estimated floor level in the Phase I chapel. If the church-chapel connection through that door was not intended during that phase, the bedrock would have been levelled out. In Phase II, the raised floor level in the chapel had hidden this bedrock segment.

Equally puzzling is the abandonment and backfilling of the font, apparently following the disaster at the end of Phase I. The chapel's apse area was substantially remodelled in Phase II, and it received a formal bema upon which a large altar masonry base or pedestal was erected. This base has an internal compartment, and it has been suggested that relics could have been deposited inside such bases (Michel 1998: 394). It should be remembered that the summit of Jabal Hārūn, which currently houses the Islamic shrine, appears to have been the location of another church or a chapel the traces of which were recorded (Wiegand 1920: 141-145). It is impossible to establish its construction date but nothing prevents this upper church being considered coexistent with the early monastery in Phase I. If the upper church originally housed important relics, its possible damage or destruction at the end of Phase I could have caused the translation of the relics down to the newly remodelled chapel of the monastery. As such, the chapel during Phase II would have become a memorial chapel and with that new function it might have been considered unsuitable to retain the baptismal installation and practices there. Unfortunately, this hypothesis cannot be tested as the remains at the summit of Jabal Hārūn are not accessible for exploration.

As for the later phases of the complex's existence, both ceramic and glass material support the continuity of occupation throughout the seventh century AD, the extension into the early eighth century appears to be attested by certain glass types (see separate reports), and even later eighth century may be considered through the presence of some ceramic lamps found in the previous seasons (A. Karivieri in Frösén *et al.* 1999: 389-391). This dating is also supported by the evidence of the careful obliteration of human and animal motifs in the narthex mosaic, since this kind of iconoclasm, characteristic of some churches in Palestine, is generally dated to the late Umayyad-early Abbasid period. However, the spatial variations in the occupation character throughout the complex are also notable in the later periods. While destructive, the presence of iconophobic damage in the mosaic would still indicate a continued use of the sacral structure (Piccirillo 1998: 261). The ecclesiastical occupation in the Jabal Hārūn church appears to be much reduced in space during later periods, yet some parts of the church seem to have continued in that capacity. But other, non-ecclesiastical (?) structures at the site, feature considerable differences in the intensity and character of occupation (e.g. in Trench J), often reduced to a casual/temporary character. What is distinctive in

almost all structures, including neglected or functionally modified parts of the church, are concentrations of material such as broken marble and glass fragments and glass and limestone tesserae. Some of these concentrations may be interpreted as dumps of disused material but other as caches of material for re-melting or burning for lime. In this respect, the late periods at the monastic complex at Jabal Hārūn feature practices also noted on other Late Byzantine-Early Islamic ecclesiastical sites in Jordan, e.g. at the Petra church; post-ecclesiastical Phase IX, dated to the early seventh century (Fiema, forth.). Even more elusive are later periods when the ecclesiastical occupation can no longer be confirmed. Dating of late partitioning walls, simple enclosures and campfires cannot be fully established. But certain phenomena are of particular interest, such as the presence of Red Sea parrotfish (*Scaridae*) among these late remains. Notably, *Scaridae* appear common in some monastic contexts with a strong pilgrimage character, e.g. at Dayr al-Qaṭṭār (Holmgren and Kaliff 1997: 324). Also, parrotfish appear in the earlier deposits at Jabal Hārūn. It all may indicate the continuity of the pilgrim traffic to Jabal Hārūn, and the preservation of a traditional diet, even in late periods when the monastic/ecclesiastical structures there were no longer in use. Undoubtedly, a better understanding of the late periods of occupation at Jabal Hārūn will remain one of the FJHP priorities.

Acknowledgments

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