

FOUR SEASONS OF EXCAVATIONS AT KHIRBAT AL-MUDAYNA ON WĀDĪ ATH-THAMAD, 1996-1999

by

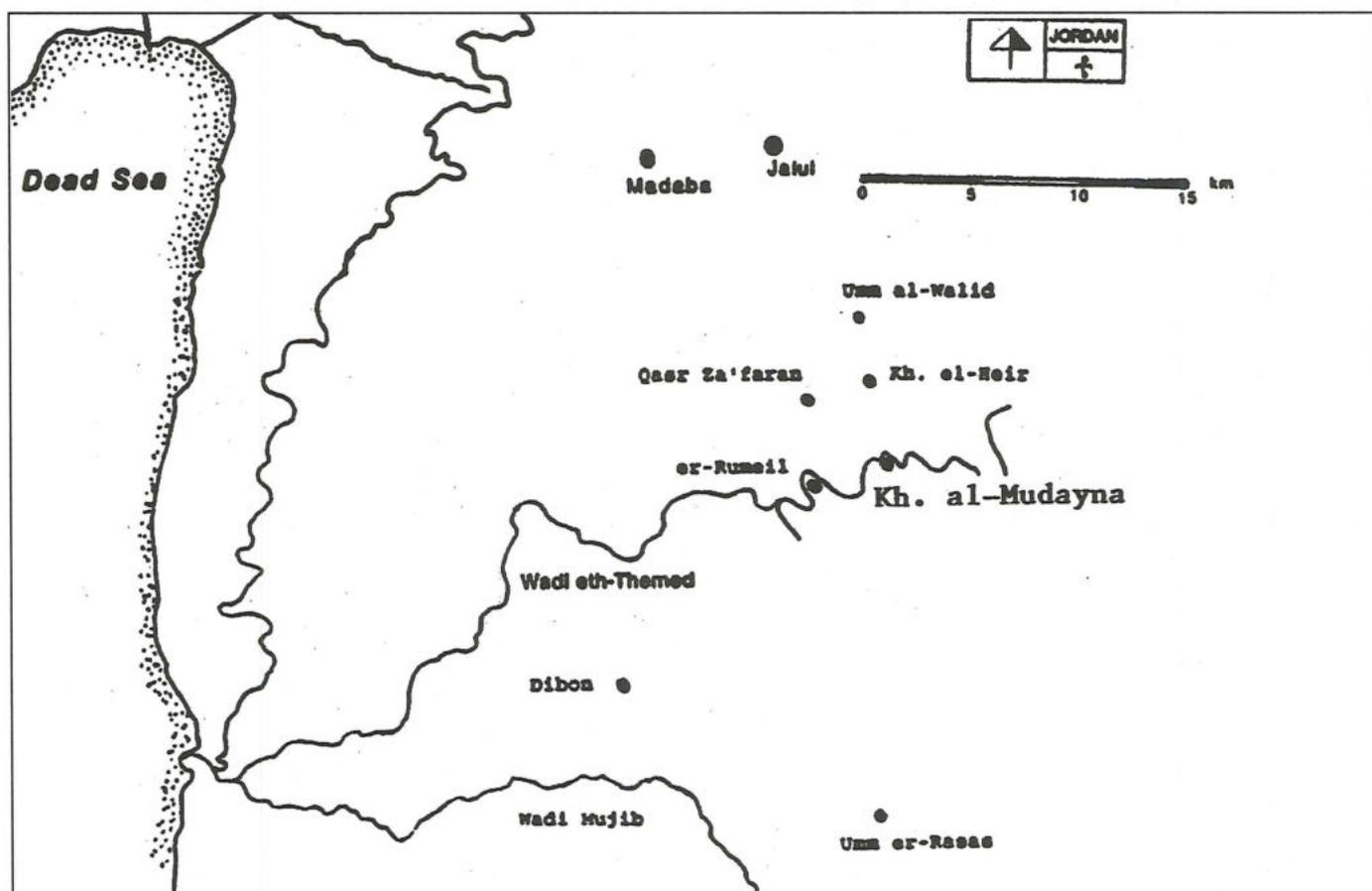
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Introduction

Wādī ath-Thamad is the designation of the eastern end of Wādī Heidan that flows south into Wādī al-Mūjib. A major river system in central Jordan, Wādī ath-Thamad is bordered by a number of interesting tells, none of which have not been explored since the time of Glueck (in 1933 and 1938; 1934:13-32). On the south bank are ar-Rumayl and Khirbat al-Mudayna (=Khirbet el-Medeiyineh, Glueck Site 68), while on the north, are Khirbat al-Heri and two fortresses called Qaṣr az-Zafaran (Fig. 1; Abel 1967: II, 38; Glueck 1934: Pl. 5). The site of Khirbat al-Mudayna

is located to the south of a loop of Wādī ath-Thamad, southeast of Mādabā and northeast of Dhībān. Its position on the Palestinian Grid is 236.2 east/110.9 north. The site is registered in JADIS as site 2311.014, with a maximum height of 629 m asl.

The Wādī ath-Thamad Project began in 1995 with a four day surface survey of Khirbat al-Mudayna.¹ The tell itself is oval, measuring 85 x 140 m inside a casemate wall system that is visible on the surface above an earthen embankment.² Known for its Moabite style pottery and figurines which were reported by Glueck (1934), Khirbat al-



1. Map of Wādī ath-Thamad region

1. This mound is the northernmost of six sites with the same name (Miller 1989).

2. The initial topographical map was prepared by R. Force, Land Surveyor, Oakville, ON, Canada.

Mudayna is a major Iron Age site in the region that had not been previously excavated. With this information, an excavation and survey project was designed to investigate the distribution of Iron Age sites and situate Khirbat al-Mudayna in its regional context.³ This report presents the results of four seasons of excavation of Iron Age remains on the tall;⁴ a preliminary report of the regional survey is in press (Daviau, in press/a, /b).

The North Gate Complex⁵

Introduction

Excavation began at the north end of the mound where three walls, visible at ground level, suggested the presence of a monumental structure. During the first two field seasons, all six rooms of a large (15.80 x 16.35 m) gate were uncovered (B100; Daviau 1997). Excavation reached foundation level in four of the six rooms, while the remaining two rooms were completely exposed during the 1999 season (Fig. 2). In 1998, all excavation concentrated on the street running through the centre of the gate complex, including the north entrance. The strategy for 1999 was to completely expose the central street and to locate an outer roadway that connected the gate to the surrounding plain, 25.00 m below.

The 1996 Season

Excavation began in a north-south trench in Field A (Squares A13-A20; Fig. 2), which

contained the foundation of a tower (1013), a front bastion (B1000), and the three eastern gate rooms (R101-R103). Tower 1013, a nearly square structure (4.00 x 4.20 x 4.20 x 4.30 m), was attached to the north face of Bastion 1000 by a short wall, 1.60 m long. Because the slope of the mound increases in this area from 5° to 20°, Tower 1013 was constructed on a stone foundation that appears as a series of stepped, quarter circles which served as fill to compensate for the changing level of the underlying bedrock. Collapsed mud brick on the north and east sides of the tower suggests a brick superstructure.⁶

Bastion 1000 and north pier Wall 1001 were integrated into a single, massive, stone unit 3.65 m thick.⁷ The four principal (pier) walls (W1001, 1003, 1004, W1005) of the eastern gate rooms, as well as Bastion 1000 and Tower 1013, were all formed of small to large, unhewn limestone boulders, measuring on average 0.40-0.60 m, that were dry laid in boulder-and-chink style. The corners of the pier walls were formed of large (0.50-0.75 m) semi-hewn cherty limestone boulders, with a few large boulders up to 1.40 m in length. These pier walls measured 1.50-1.65 m thick, and were bonded to the back walls of the gate rooms (W1002, W1010). Of special interest was the presence of Wall 1006, only 0.50-0.70 m thick, that closed Room 103 on the west, with only a small doorway into the street that was capped by a stone lintel. Here the walls were well preserved up to the second storey level.⁸ All

3. Preliminary studies of the settlement patterns in Wādī ath-Thamad were presented at the 1st International Congress on the Archaeology of the Ancient Near East, Rome (May 19-22, 1998; Daviau, in press/b) and at the First International Conference of Studies on the Nabataeans, Petra (June 21-23, 1999; Daviau, in press/a).

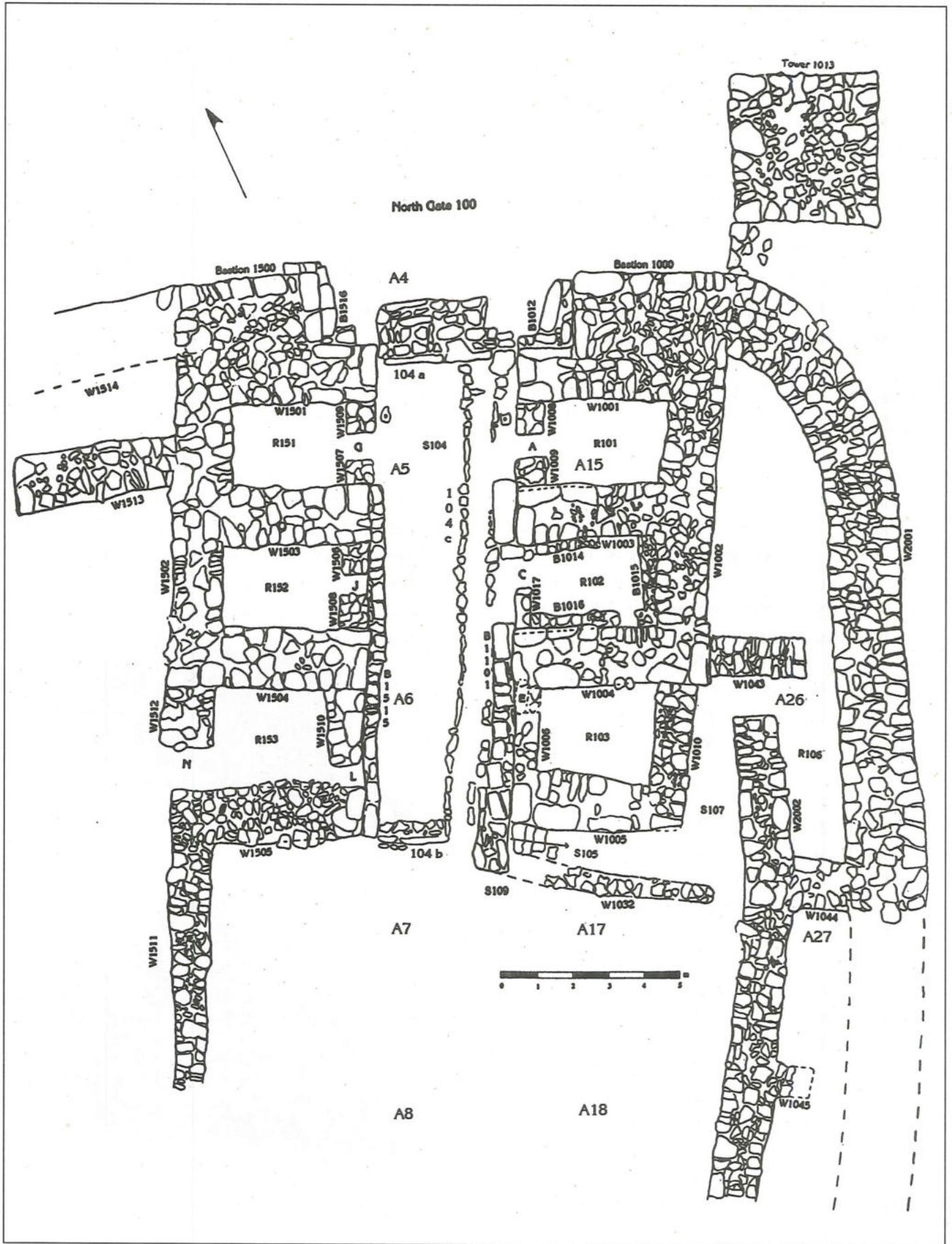
4. A report of the excavations of Nabataean/early Roman period remains at the foot of the tall are reported elsewhere.

5. Funding for excavation of the gate and fortification system was provided by Wilfrid Laurier University in the form of annual short term grants and student training funds.

6. The presence of building stones with Iron Age chisel marks in the Nabataean buildings at the foot of the tall indicates extensive stone robbing. As a result, the original extent of the stone construction in Tower 1013 cannot be determined.

7. The Bastion actually begins 1.60 m east of the west end of Pier Wall 1001, forming an inset along the north face of W1001. Bastion 1500 on the west is similar in size and construction.

8. The topography of the mound is such that the east end of each gate room was close to the eastern edge of the tall. Both the back walls of the gate and the casemate walls suffered severely from collapse and erosion, due to their position on the slope.



2. Gate Building 100.

the interior wall faces of Room 103 were plastered with yellow plaster (10 YR 8/2), containing organic inclusions.

Although only one of the three eastern chambers (R103) was excavated below floor level during the 1996 season, it was clear that all three rooms contained substantial quantities of fallen ceiling material, wall plaster, calcined wall stones, and charred beams (of olive, carob, and possibly carob; personal communication, Dr J. Hansen, July 1996), indicating severe burning. The most interesting find from room R103 was a large limestone basin (MT 160), 1.60 m long by 0.70 m wide. Wooden beams and ceiling material found both above and below the basin indicate that it fell from the second floor.

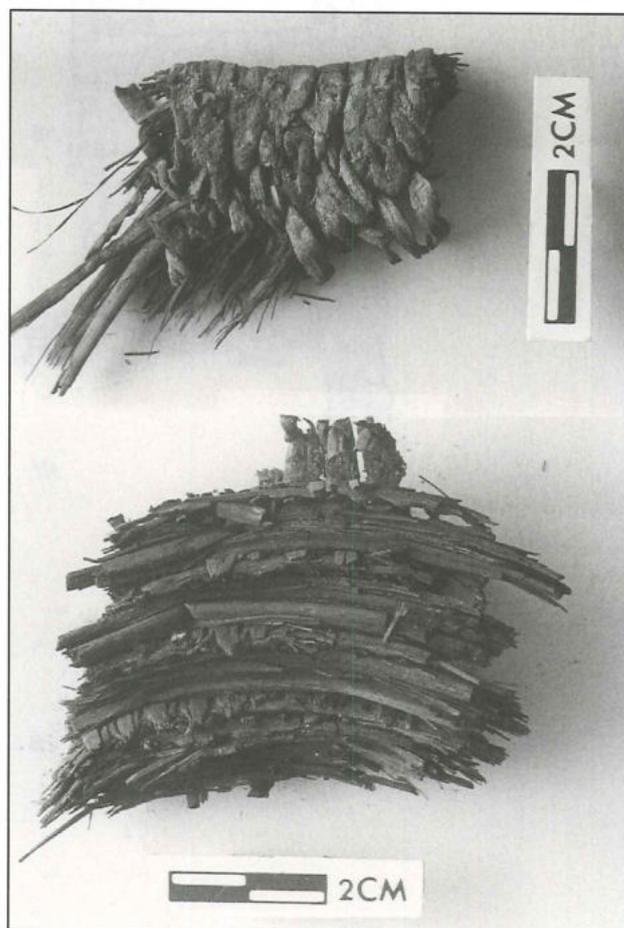
Along the east side of Gate 100, the outer casemate fortification wall (W2001) was bonded with the northeast corner of Bastion 1000, at the point where the wall turns sharply to the south. During the 1997 season, a similar casemate wall system was located on the west side, although here Outer Wall 1514 abuts the western face of Bastion 1500, and Inner Casemate Wall 1513 abuts north-south gate Wall 1502.

The 1997 Season

The strategy for the 1997 season was to excavate Bastion 1500 and the three western rooms (R151-153) of Gate 100. Here, the major pier walls (W1501, W1503, W1504, W1505) were footed on bedrock. Where bedrock was not level, cobblestones and small boulders were used to fill the depressions and create solid foundations. The narrow (0.80-0.85 m wide), eastern walls of Rooms 151 and 152 were constructed of small (0.25-0.50 m) boulders and cobble size chink stones. These wall units flanked narrow (0.65-0.75 m) doorways (G and J) that led out into the central street. A layer of hard plaster floor surface extended across most of Room 151 and into the opening of Doorway G. The interior walls had traces of

the same type of yellow plaster (10 YR 8/2) found in Room 103 on the east. In Room 151, there was a limestone basin (1.26 m long, 1.00 m wide, and 0.45-0.58 m deep) in the upper storey collapse, along with unfired clay loom weights.

Within Room 152, the pattern of collapse was similar, consisting of tumbled wall stones from the first and second storeys, hardened mud roofing material, chunks of yellow and red wall plaster, charred beams and ash pockets, all of which attest to intensive fire damage in the room. Charred remains of a woven mat were found scattered across a yellow sand floor (C96: 30) with concentrations along the base of the wall and in the corners (Fig. 3), indicating that the mat had been made specifically to fit the interior dimensions of the room. The charred fragments retained the pattern of weaving. Enough organic material was recovered to obtain C14 samples which gave a date of

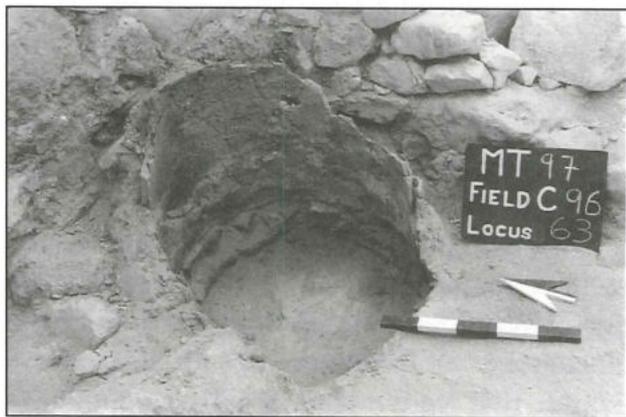


3. Pieces of woven mat from Room 152.

790 BC.⁹ This corresponds closely with the 810 BC date obtained from a ceiling beam sample from Room 103. Other finds include six heavily corroded iron arrow heads found on the floor. Walls 1503 and W1504 were still standing to a height of 2.54-2.85 m above bedrock which was fully exposed.

Room 153 contained the most complex deposition in the western half of the gate. West Wall 1512 and east Wall 1510 abutted the south face of pier wall W1504. East Wall 1510 also framed Doorway L, while on the west side, Wall 1512 framed Doorway N.

Bedrock was exposed across the entire room and served as the base of south Wall 1505, while the north and west walls (W1504, W1512) were built on a foundation of fill stones. A soil and cobble layer filled depressions in the bedrock, and formed the base of several hard packed floor surfaces. Built into these surfaces were two superimposed ovens (C96:81; C96:25) against south Wall 1505, and one large oven (C96:29; 45 cm in diameter) against north wall 1504 (Fig. 4). Along with a number of cooking pot sherds, there were two restorable ceramic vessels, a bowl and a jug (Daviau, in press/b, Fig. 3).



4. Hand built, clay oven C96:29; interior includes ash C96:63.

9. The radiocarbon date intersects the dendro calibration curve at 790 BC. The 68.3% confidence interval (1σ) is 795-765 BC; the 95% confidence interval (2σ) is 810-755 BC. Samples were analyzed by R. P. Beukens, "Radio Carbon Analysis

The 1998 Season

Excavation was carried out in six squares (A4-A9) between the eastern and western gate rooms, beginning with Square A4, between Bastions B1000 and B1500. Prior to excavation, the surface of Square A4 sloped downward 10-20° from the gate. The debris in the gate entrance was more than 1.00 m thick and consisted of collapsed and calcined wall stones and ceiling material. Continuing north from the entrance area, the debris included concentrations of ceiling material and wall plaster, 0.01-0.02 m thick, with clear impressions of organic temper, most likely straw. The wall plaster varied in colour; some of the plaster was yellowish in colour (10 YR 8/2), and was typical of the wall plaster used throughout Gate Complex 100.¹⁰ When the gate burned, much of the yellow wall plaster was heated and turned a reddish-brown colour. There were no significant finds in this collapse except a few Iron Age sherds. Mixed in with the wall collapse, particularly in the threshold area (A4:23), were large charred beams, located approximately 0.65 m apart. The pattern of their deposition suggests that they were the support for a roof over the entryway, between the two bastions. In the entrance proper, the pier walls flanking the central roadway remain standing 2.25-2.50 m in height. It is estimated that a little less than half of the original walls are still standing, and that Gate Complex 100 was probably a two storey structure that stood 6.00-7.00 m high during Iron Age II.

The Entrance Ramp and Doorsill

Immediately in front of the gate entrance was a ramp (A4:23) paved with several dozen cobbles and boulders, each measuring from 0.25-1.00m in length. The ramp sloped

Report," March 18, 1998, Isotracer Radio Carbon Laboratory, University of Toronto.

10. A similar type of mud wall plaster can still be seen on the exterior walls of some family dwellings in the surrounding rural countryside.

at a 15° angle and filled the space (3.20 m wide) between the western Bastion (B1500) and a stone-lined drain (104a) that ran out of the gate alongside the eastern Bastion (B1000). The stone ramp was oriented in an east-west direction (110-290°) and extended north from the gate entrance for 1.55 m. An impressive arrangement of three large stones (0.70 m, 1.35 m, and 1.70 m in length) formed a solid doorsill embedded in the street surface. The lip of the sill extended 0.25 m above the paved entrance ramp. The doorsill stones were placed on their sides, and ran perpendicular to Street 104. The middle doorsill stone was L-shaped; it was trimmed so that one surface was vertical, forming part of the lip of the sill, and the other edge was sloping away from the entrance so that it conformed with the slope of the entrance ramp.

The gate entrance was closed by two large wooden doors which in the Iron Age would have shut from the inside against the threshold stones. Evidence for the western door consisted of a layer of charcoal, 0.15m thick and 2.00 m wide, which extended for approximately 2.75 m south of the threshold on the surface of Street 104. In this charcoal concentration were the remains of the planks and beams used to make the door. A similar concentration was found for the eastern half of the gate (see below). This material indicates the position of the main gate doors when they burned and fell onto the street surface. From the size of the charred remains, it is estimated that the doors were from 2.50 to 3.00 m high.

Street 104

Street 104, flanked by three gate rooms on either side, was 4.00-4.10 m wide and 13.40 m long. Squares A5 and A6 extended over most of the street area and contained

deposition similar to that found in the rooms. Ceilings over the street, which served as the floor surfaces for upper storey rooms, were 0.20-0.25 m thick and contained quantities of lime, sand and small pebbles which were added to bind and strengthen the material. Many fragments of this roofing material had linear imprints of reeds, 0.01-0.02 m wide. The reeds, which served to hold the mud roofing material had decomposed, but the impressions they left were similar to the Oleander stalks¹¹ that grow in the nearby Wādī ath-Thamad, 150m away. The reeds would have been placed at right angles over poles 0.03-0.05 m thick. The stalks, mud and poles would in turn have rested on the main roofing beams, which spanned the width of the rooms and the central street of the covered gate structure.

As excavation neared the street surface (A5:25), there was a sharp rise in the amount of charred material consisting of reeds (0.01-0.02 m in diameter), poles (0.02-0.05 m) and beams (0.10-0.20 m in diameter), mixed with soil. There was also an increase in the number of animal bones, and artifacts; debris layer A5:16 yielded three badly corroded iron projectile points, while A6:10 produced a nearly perfectly preserved bronze trilobate projectile point. Along with the mass of burned material found throughout the structure, projectile points indicate that Gate Complex 100 was destroyed as the result of an armed attack.

The evidence that Street 104 was covered with a permanent roof is undeniable since there were many pieces of charred and even uncharred roof beams, up to 1.50 m in length, that were mixed in with wall collapse and mud roofing material. Charred roof beams rarely exceeded a preserved thickness of 0.15m. Nevertheless, when allowing for

11. *Nerium oleander*, an evergreen, poisonous plant, with lanceolate leaves and red, purple or white flowers, is native to the Levant. In warm cli-

mates, it grows to a height of 6.00 m (Wyman 1971:731).

shrinkage, burning and decomposition, these beams were probably up to 0.25-0.30 m thick and 5.00-6.00 m long at the time of construction. Such beams would have spanned the 4.00 m street and adequately supported the load of the second story.

The Benches

The most unique feature of Gate Complex 100 are the stone benches that run along the east and west sides of Street 104.¹² The western bench (B1515) is a single 9.25 m long unit. The eastern bench (B1011) is divided into 3 sections; the southern section is 5.85 m long with a 2.40 m long break in front of Room 102. This coincides with the location of a large 2.00 m long "pillar" of white lime which represents the remains of W1017. It is likely that the bench in front of room R102 was subjected to the same intense heat of the fire that calcined the wall. The next preserved section of bench is formed of a single large limestone slab (1.70 m long), positioned in front of the west face of pier Wall 1003. Plaster sealed the stone to the supporting bench stones and to the wall behind it. This stone was incised on its upper surface with three gaming designs which may be associated with the dozens of limestone discs, probably gaming pieces, which were recovered in adjoining loci. Benches on both sides of the street sit on top of two or three courses of dry laid stones, and vary in width from 0.40 to 0.60 m. On the west, the bench system ends 3.80 m from north Threshold 104a, and on the east 3.30 m (Fig. 5). This was done to enable the two halves of the gate door to swing freely into the street area.

Street Surface and Stairs

The street surface running through squares A5 and A6 was formed in part by



5. North entrance to Gate 100, showing Street 104, north Threshold 104 a, and Drain 104c.

bedrock, especially along much of the western half of the street, where there was no beaten-earth surface. Instead, the bedrock under the benches extends east for approximately half the width of the street and continues for a distance of 10.00 m north-south. At this point the bedrock drops below the street level. The eastern half of the street surface is leveled with beaten earth and cobbles and contains the drain (104c). Here, the south end of Bench 1011 (A6:22) consists of a 2.10 m long section of stones and plaster that forms the first two steps of a stairway. The foot of Stairway 105 consisted of a large stone (A7:22; 1.10-1.30 m), that curved around the corner of wall W1005 and led to the upper floor. Only a few steps were preserved, each in the form of a semi-hewn, rectangular stone. Above the level of the uppermost stone step was packed earth that suggests a wooden or mud brick superstructure.

Courtyard 150 in Squares A7 and A8

The area immediately south of the gate functioned as a public space between Gate Complex 100 and a depression (ca. 4.00 m in diameter) that was probably a water storage system, located 15.00 m further south. The main feature of Squares A7-A8 was the beaten earth and cobble floor surface

12. Although other gate complexes such as Megiddo, Gezer (Dever *et al.* 1971:115; Figs. 1, 8), and Beer Sheba, contain benches in some of their side chambers, none of them have benches in the

main roadway. At Gezer, there is a row of smaller stones, probably a curb that extends in front of the central room on each side of the street (Holladay, personal communication, March 9, 2000).

(A7:13) that covered much of the courtyard. Deposition included 2,000+ animal bones, zoomorphic figurines, and Iron Age II pottery. In the 1999 season only a small area of an earlier phase of the courtyard was excavated yielding a few Iron Age and Late Iron Age II sherds, a figurine leg, a bronze trilobate point, and an iron point. There was little burned wall plaster or roofing material in the courtyard, and only a few pieces of burned beam were found near the southern threshold (A7:20), indicating that less burning and destruction took place here. The western perimeter of the court was Wall 1511, which continued south for more than 7.00 m. Like Wall 1010 to the east, Wall 1511 was built on a slightly different axis (6° east of the north-south wall line of W1502) than the back wall of the gate because of topographical changes in this area.

The 1999 Season

The goals of the 1999 season were to complete Rooms 101 and 102, as well as the eastern half of Street 104, and to locate the exterior roadway that was used to gain access to the town. To implement this strategy, three squares (A3, A2 and A12) were opened to the north of the gate, and six squares excavated in previous seasons (A4-A7, A15, C94) were reopened.

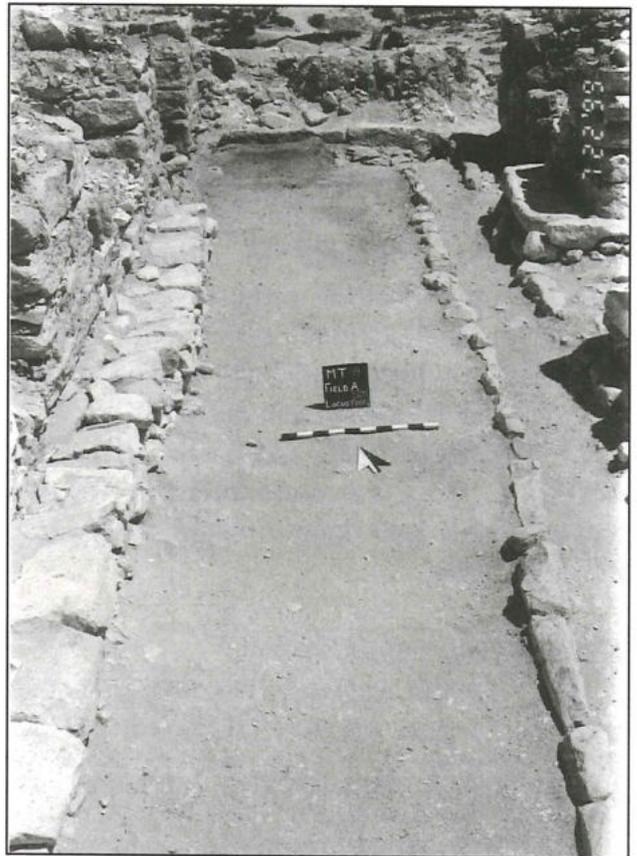
Under the soil and rock fall layers that were in place outside north Threshold 104a (=A4: 23) were a beaten earth and pebble surface (A4:30) and two benches; Bench 1516 follows the north face of Wall 1051 and Bastion 1500, and Bench 1012 follows the face of Wall 1001 and Bastion 1000. The benches reflect the tradition of providing ample space for pedestrians to rest after the long climb up the mound from the valley below.

The Drain in Street 104

The most interesting discovery of the 1999 season was Drain 104c, in the east half of Street 104. This feature begins at the

south end of the gate, just north of the southern threshold (104b), and runs north 13.18 m before passing under Threshold 104a (see Fig. 5). At the south end, the water channel of the drain was the bedrock itself. The floor of Drain 104c, under the sill of Threshold 104a, dropped 0.35 m from its lip to its base. At the north end, there was no channel or sump for disposing of the water. Since there is no evidence of water channelling or erosion on the pebble surface of the plaza, the water must have been absorbed into the 0.30 m thick layer of limestone pebbles underlying the surface.

Each side of the drain was flanked by a curb consisting of a single row of stones (Fig. 6). For most of the drain's length, the curb stones sit on bedrock and are supported on their exterior sides by the build-up of soil in the street. The upper road surfaces, both east and west of the drain, consisted of soft, powdery, waterborne surface material (10 YR 6/4, light yellowish brown) stained with black ash. Under this were earth and pebble



6. Central Street 104, Bench 1515, and Drain 104c.

layers of a much harder consistency that formed the solid undersurface of Street 104.

The Gate Doors

Collapsed on top of Drain 104c were the carbonised remains of the eastern panel of the wooden gate door (see below).¹³ Like everywhere else in the gate complex, there was evidence of burning with charred wooden beams¹⁴ and lumps of charred wood, mixed with accumulations of soil and small boulders and cobbles. The charred wood remains of the eastern half of the gate door (A5:43) were found lying across the street surface (A5:44) in an east-west (110-290°) direction. Thin remains (0.02 to 0.05 m) of door planks were visible over an area varying in width from 0.50 to 1.25 m, starting at the inner edge of the north doorsill stones and continuing south for 2.00 m. These charred door planks were crossed at right angles by portions of two vertical beams (0.10-0.12 m thick; and 0.80 m-1.10 m in length). These beams most likely held the thinner planks in position, although no nails or other means for attaching the planks were found. In the eastern corner of the street surface, at the base of pier Wall 1001, another beam fragment, also 0.10 m thick and 1.20 m in length, was located. This beam was at the extreme eastern edge of the door, and may have been part of the vertical pole that fit into the door socket. The rounded end of the pivot beam and planks from the western door were recovered in 1998. Unfortunately, the socket stones were not found.

Inside the gate on both sides of Street 104 were doorstep stones (A5:51, A5:59); these stones measured 0.35 x 0.35 m and 0.47 x 0.32 m respectively. Each stone was placed

level with the street surface and when the two halves of the doors were opened, pegs could be placed vertically in the small rectangular holes in the center of each stone to hold the doors open. Each peg hole was positioned 0.30 m from the wall surfaces giving some indication of the thickness of the wooden door, probably around 0.20-0.25 m thick.

The major architectural feature at the southern end of Gate Complex 100 was a large stone doorsill (104b) and ramp (A7:19), running nearly east-west (110-290°) across the south end of Street 104. Ramp A7:19 consists of one row of 11 flat lying stones that measured 1.98 m in width and 0.30-0.42 m deep. Both the ramp and the sill extended east to the last stone in the western row of curbstones in Drain 104c. The doorsill consisted of two rows of long narrow stones, placed on edge (in a similar construction fashion as the northern doorsill stones). The stones of the sill were from 0.12 to 0.28 m wide and rose to a height of 0.35 m above the stone ramp. It appears that this doorsill was constructed as part of the drain system to channel water through the gate area.

Rooms 101 and 102

In two eastern rooms (R101, R102), floor levels were reached and the walls along the street were clarified. In Room 101, there was a central Doorway (A) between north-south wall units W1008 and W1009. These walls were formed of small limestone boulders and small cobble chinkstones and abutted pier walls W1001 and W1003. The interior wall surfaces in Room 101 were coated with plaster (10YR 8/2, yellow). Although

13. It appears that there was only one set of doors. This was the case with the gate at Gezer where the only set of doors was at the outer entrance (Dever *et al.* 1971:115). This is of note since six chamber gates are also called "four entryway" gates, in view of the number of pier walls that form the three chambers on each side. Clearly,

this designation does not imply that there were four sets of doors (see the discussion of south Threshold 104b, below).

14. The longest beam (A5:40) consisted mainly of a charred exterior with some traces of darkened wood at the core. A section of this beam 0.62 m in length and 0.12 m thick was recovered.

bedrock was never reached, the supporting surface for the floor was composed of pebbles, small cobbles and flat-topped small boulders and flagstones packed with soil. All three loci continued under the walls that formed the perimeter of Room 101. The floor (A15:45), consisting of silt-like soil (10YR 7/6, yellow), sealed against all five walls. This floor surface contained no pottery or bones; it was covered by a series of superimposed layers of rock fall and soil, which also included burnt mud brick, ceiling plaster, charcoal bits and shattered limestone. In the southwest corner of Room 101 were the remains of another limestone basin that had fallen from the second storey. In the northeast corner, there were numerous pithos sherds as well as sherds from a red-slipped and burnished bowl. Additional finds include iron arrowheads and a bronze trilobate point, bringing the total number for the gate complex to more than 30.

The unique feature of middle room R102 were three mud and cobble benches (B1414, B1415, B1416; 0.25 m high; 0.30 m wide) that ran along the sides of the three interior walls (W1003, W1002, W1004). Floor and sub-floor construction was similar to other gate rooms and the floor surface material (A15:57) was also formed of the same material as that in Rooms 101, 151-153, a soft, silty soil layer (10 YR 7/6, yellow). In Room 102 were a large quantity of animal bones, several large pithoi smashed in place, iron arrowheads and small (2.00-3.00 cm) limestone sling stones.

Originally, it appeared that Room 102 did not have a north-south cross wall, but remained open directly onto the street. However, a 1.50 m thick and 2.00 m long burned lime deposit, visible immediately below top-

soil, continued down to street level on the western edge of the room, and spilled out into the street; this was most likely the calcined remains of the original cross wall (W1017).

*Gate Construction History*¹⁵

The uniform size of building stones, of room dimensions and wall thickness, indicate that the two northern chambers and the bastions on each side were built as a single unit. In the southern portion of the gate, the walls of Rooms 103 and 153 abut the two northern units respectively. At the same time, it is clear that the foundations for the pier walls and for the cross walls (or sleeper walls) along the street, and the benches themselves were a single construction. This was seen most clearly in a small probe beneath the roadway surface in square A5 which revealed a 0.02-0.03 m thick plaster layer that continued uninterrupted from the roadway up and over a sleeper wall running underneath cross walls W1008 and W1009 and into Room 101.¹⁶ Apparently, all six rooms were part of a six-chambered master plan that was constructed in several stages beginning with the four northern rooms. The anomaly of the southern rooms, which abut the four-room unit, may be the result of topographical considerations, including the slope of the underlying bedrock and the limited space available to the builders.

The length and width of the four northern rooms are the same, in the range of 3.25-3.35 x 2.30-2.40 m. The southern rooms are very close to the same length, but Room 103 is slightly wider at 2.50 m, while Room 153 is noticeably wider (2.75 m). The exterior wall of room R103 (W1010) is aligned a noticeable 8° toward the west from east Wall

15. For previous discussions of six chambered gates see the following: Herzog (1986; 1992: 844-852; 1997: 325-326); Tufnell (1953:93-102); Yadin (1963:364); Yadin *et al.* (1989:30).

16. A similar construction sequence is seen in the Gezer gate, where the builders had to construct a

sturdy foundation to stabilize the gate in the deep fill of the tall. Here too, "original floor surfaces either ran over the tops of the 'rafts', as we called them, or utilized them as thresholds" (Dever *et al.* 1971:115).

1002. In similar fashion, south Wall 1511 of Room 153 on the western side of the gate is also misaligned by 6° toward the east from west Wall 1512. This deviation was apparently made for the same reasons, a lack of sufficient space.

After four seasons of excavation, the gate structure at the north end of the mound of Khirbat al-Mudayna is completely exposed. Pottery, artifacts, and Carbon 14 dates have established a number of reliable chronological benchmarks that place this structure firmly in the Iron Age II period (810-760 BC).

The Casemate Fortification System

Beginning at the northeast corner of Bastion 1000, the Outer Wall (W2001) of the casemate fortification system curves sharply south to run parallel to the back (eastern) wall of the gate rooms R101-R103 (see Fig. 2). Excavation in the 1999 season was located in Square A26, adjacent to Room 103 in order to expose the inner (W2002) and outer casemate walls of the city's fortification system. The goals in this area were threefold; 1) to completely expose one casemate room and determine its function, 2) to study the construction of the casemate walls, and 3) to find the point at which the inner casemate wall (W2002) ended near (or joined) the east side of the gate complex. In addition, continued clearing of outer Wall 2001 toward the north (in Squares A24-A25) exposed its upper courses for ca. 20.00 m.

Excavation first took place within casemate Room 106, and extended into Alleyway 107, between the inner casemate wall (W2002) and the back wall (W1010) of eastern gate Room 103. Within Room 106, the founding level of the casemate wall system was exposed, 1.72 m below the floor surface. It consisted of bedrock (A26:28), packed clay, and cobbles (A26:26), which ran up to and over a layer of unhewn, cherty limestone boulders (A26:27) that served as the foundation for the outer Casemate Wall

and for cross Wall 1044.

The Outer Wall (W2001) is constructed of three rows of small and medium sized limestone boulders (0.25-0.75 m), semi-hewn and chinked with pebbles and small cobbles. This wall measures 2.00-2.25 m thick, the heaviest wall in the fortification system. Although the soft limestone and chert boulders exposed on the west face of this wall are of poor quality, 8 courses remain standing to a height of 2.30 m. The Outer Wall bonds with cross Wall 1044 which in turn bonds with the Inner Casemate Wall (W2002), suggesting a single construction. Cross Wall 1044 consists of two outer rows of medium and large boulders with a rubble core for a total thickness of 1.40 m; it remains standing 9 courses high (2.74 m), and its northern face was coated with plaster (A26:14). A second, east-west cross wall (A26:19), located midway in Room 106, appears to be a support wall that was below floor level, linking the Outer and Inner Casemate Walls.

The western side of Room 106 is formed by the Inner Casemate Wall (2002), which bends to the north at the point where it meets cross Wall 1044, forming a room that measures 1.50-1.85m in width, and 4.90 m long. At the northern end of Room 106, there are two doorways, one (V) leading north into a space between the Outer Wall (W2001) and the eastern wall (W1002) of Gate 100, and a second doorway (U) leading west into Alleyway 107. The Inner Casemate Wall (2002) is the best preserved wall, standing to a height of 3.12 m (9 courses), due in part to the steep eastern slope of the mound that contributed to the collapse of the Outer Casemate Wall.

The north end of Room 106 is formed by Doorway U and Wall 1043 which extends east from Wall 1002 at the point where Wall 1010 abuts the northern unit of Gate 100. The east end of Wall 1043 constitutes the west frame of Doorway U and is constructed of well dressed limestone boulders. The

eastern frame is simply the west face of outer Casemate Wall 2001.¹⁷

The principal floor surface was laid on a makeup (A26:17) of crumbly soil and cobble size stones that covered a series of fill layers consisting of soil, limestone boulders and random, cobble sized stones. The lack of artifacts supports the interpretation of these layers as deliberate fill, rather than earlier collapse. The makeup layer was in turn sealed by a sub-floor layer of soil (A26:16), with significant amounts of plaster, and a small number of sherds. On this sub-floor, a mud plaster surface (A26:11) was installed that sealed against and ran up the face of the surrounding walls.

In the northwest corner of Room 106, Doorway V opened into Alleyway 107, which is located between the Inner Casemate Wall (W2002) and the back wall (W1010) of Gate Room 103. This Alleyway was excavated to the point where it turned west and led out to Courtyard 150 through Alleyway 109. The shape of Alleyway 107 is quite irregular, measuring 1.00 m at the north end, and 1.65 m at the south. Within this space, the west face of the Inner Casemate Wall (W2002) and the east face of Wall 1010 were exposed, and their construction techniques documented. Here it could be seen clearly that the east Wall (W1010) of Room 103 abutted the southeast corner formed by Walls 1002 and W1004. At this point, Wall 1010 was inset ca. 0.25 m to the west in order to leave sufficient space for Inner Casemate Wall 2002 and Alleyway 107.

The floor surface (A26:30) in Alleyway 107 was formed of hard-packed clay or mud plaster. On the surface was a small concentration of ash (A26:29) and fragments of a *ṭābūn*. Only a small number (37) of sherds was recovered here. The association of Alleyway 107 with Alleyway 109 was not fully exposed in the 1999 season, because the balk was left in place to support the north

wall of Sanctuary 149 and the south wall of stairway 105. Nevertheless, it appears that these two alleys were connected and that Alleyway 107 continued further south, along the Inner Casemate Wall (W2002).

Alleyway 109 runs east-west, parallel to Stairway 105, along the north wall of Building 149. Complete excavation of the point at which the alley opens into Courtyard 150 will be undertaken in 2001. At present, the importance of Alleyway 109 is the position of Doorway P that led into Building 149 on the south.

Building 149

At the west end of Alleyway 109, there was a doorway (P) with two steps leading down into a small structure (B149), which was built up against the west face of inner Casemate Wall 2002. Building 149 consisted of two rooms (R108, R110) with benches lining its outer walls (Daviau and Steiner, in press). This structure is identified as a sanctuary on the basis of its finds, which includes 6 lamps, several broken figurines and three limestone altars, one of which bears a label inscribed in Moabite (Dion and Daviau 2000). At the same time, there is no completely restorable pottery in this building which gives the impression that it was emptied before its final collapse. This may have occurred at the time when the gate was under attack. Even vessels deposited in a central pit were incomplete and appear to be sherds gathered up from the floor and buried. Future excavation in Courtyard 150 to the west and in an adjoining room to the south may shed more light on the function of this building.

Acknowledgments

The Wādī ath-Thamad team is grateful for the generous support of the Department of Antiquities of Jordan and its then director, Dr Ghazi Bisheh, during these four excava-

17. The room north of Cross Wall 1043 was not excavated in 1999.

tion seasons. The Project, under the direction of Prof. P. M. Michèle Daviau, was fortunate to have the technical assistance of Romeo Levesque (1996, 1997), and the support of Profs. J. A. Dearman (1996, 1997) and C. M. Foley (1998, 1999) as Directors of the regional survey.¹⁸ Prof. J. P. J. Olivier of the University of Stellenbosch, South Africa, and three South African team members joined the project for the 1997 field season. Bob Mittelstaedt was principal photographer for the 1996-1997 seasons.¹⁹ Department of Antiquities representatives at Khirbat al-Mudayna included Mr Sami Rab-badi, Adeeb Abu Schmees, Ms. Huda Kiani, and Reem Shahir.

The Project is sponsored and was funded in part by a Short Term grant from Wilfrid Laurier University.²⁰ The team lived at

ACOR during all four seasons; we are grateful for the generous support of the director, Dr Pierre Bikai, and of the entire staff.

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18. During the 1996-1998 seasons, the Project was affiliated with ASOR.

19. Funding was provided by the Centre for Research Development of the Human Sciences Research Council of South Africa.

20. Funding from Wilfrid Laurier University was in the form of a Short Term Research Grant, along with a Research Equipment Grant. Additional

support came from Austin Presbyterian Seminary, from the individual participants and from generous gifts by P.-E. Dion and R. Levesque. The Project is grateful to Kodak Canada which donated film for the 1998 and 1999 seasons. In all four seasons, Royal Jordanian Airlines was our official carrier.

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