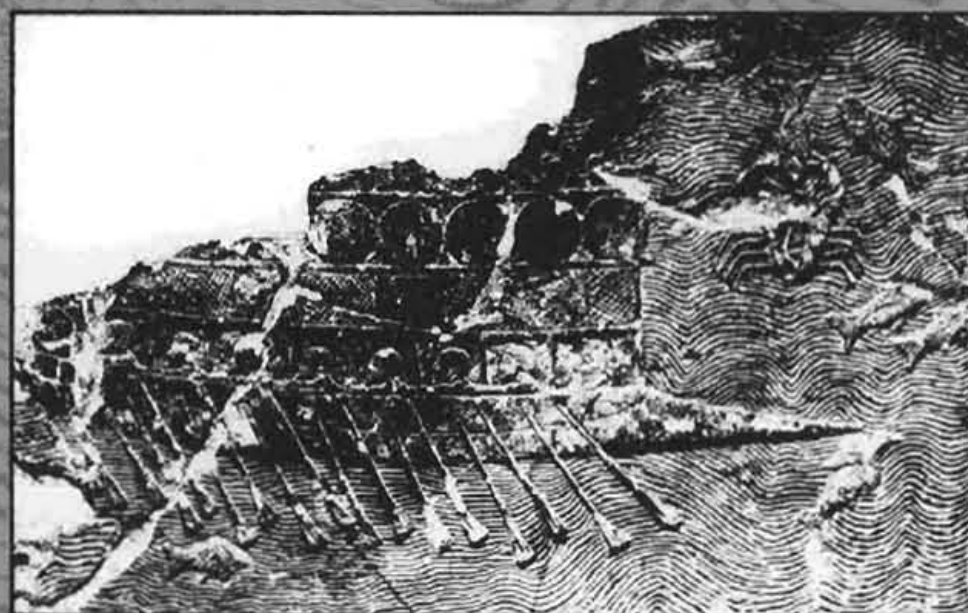




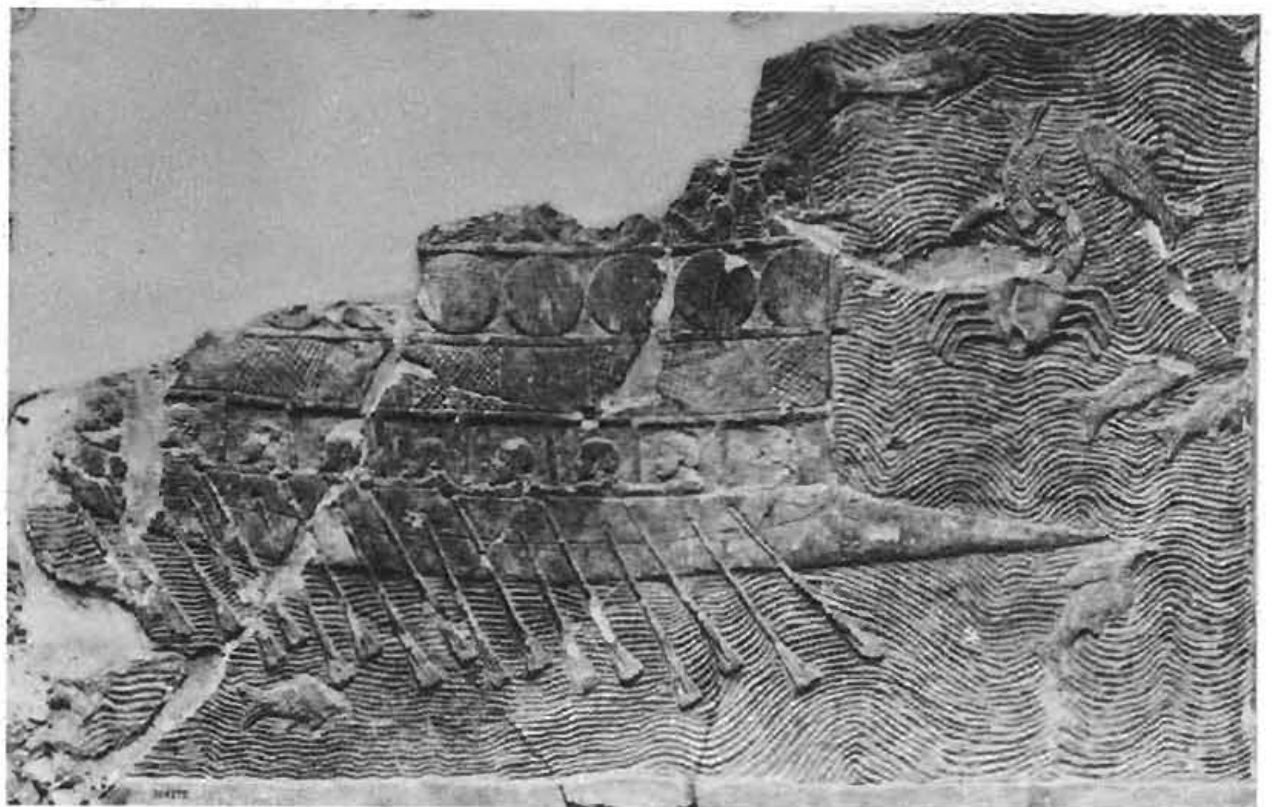
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Phoenician Warship from an Assyrian Relief

cover: A Phoenician warship as depicted in a panel showing Sennacherib's expedition to Phoenicia.



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WINTER 1979 VOLUME 42 NUMBER 1

Robert R. Wilson

Between "Azal" and "Azal": Interpreting the Biblical Genealogies The art of recognizing the various individual functions of genealogies in order to understand them. 11

H. Jacob Katzenstein

Tyre in the Early Persian Period (539-486 B.C.E.) The impact of Carthage gaining its independence, and Tyre's loss of preeminence to its twin city, Sidon. 23

Edward F. Campbell
J. Maxwell Miller

W. F. Albright and Historical Reconstruction A debate with rebuttals over the achievement and methodology of the late Professor W. F. Albright. 37

Bert De Vries

Research at Umm el-Jimal, Jordan, 1972-1977 Dependent on excellent water engineering, Umm el-Jimal was a prosperous desert city which flourished from early Roman times into the Ummayyad period. 49

David W. McCreery

A Tribute to Dr. James Leon Kelso A pioneer biblical archeologist and Old Testament scholar who emphasized interdisciplinary cooperation. 57

Letter to the Readers 4

op-ed 5

Polemics & Irenics 6

Notes and News 9

Book Reviews 61

Brackman, *The Luck of Nineveh* (Albenda);

Alon, *The Natural History of the Land of the Bible* (Baly);

Moore, *Iconography of Religions* (Fulco);

Matthiae, *Ebla, un impero ritrovato* (MacDonald).

Colophon 64

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RESEARCH AT UMM EL-JIMAL, JORDAN, 1972-1977

BERT DE VRIES

How can five to ten thousand people weather the dry winters of a semi-desert region? Archeologists at Umm el-Jimal found the remains of an excellent irrigation system which allowed the population of the city to survive prolonged periods of drought. Even more impressive than the numerous, massive architectural remains is the engineering of the excellent water system.

Umm el-Jimal, located 20 km east of Mafrq in the semi-arid lava region of the Southern Hauran, ranks behind Petra and Jerash in size and state of preservation among Jordan's archeological monuments. However, it differs dramatically from those two monuments because it is built entirely of somber-colored steel-gray basalt which gives it the appearance of a bombed-out and burned modern city from a distance. The great strength of the basalt stone lent itself to an unusual style of architecture: corbeling. The ancient builders were able to construct ceilings and roofs by laying stone beams 2 and 3 m long on cantilevered supports protruding from the walls. The application of cantilevering to the construction of stairways eliminated the need for cumbersome and costly support structures and increased usable living

space on the lower floors (fig. 1). The success of this building method impresses itself on the visitor by the fact that numerous buildings are still standing two to three stories high with some of their ceilings intact after 1500 hundred years.

The city was founded in the Early Roman period when it enjoyed considerable Nabatean influence, flourished as a frontier city of the Roman and Byzantine Empires, and continued to prosper in the Umayyad period, perhaps because of its proximity to the Desert Castles. Umm el-Jimal was destroyed by earthquake at the end of this period and was not rebuilt because the region of the Hauran lost its preeminence when the seat of



Fig. 1. Cantilevered stairway in the courtyard of House XX.

Fig. 2. City plan of the 1972 survey.

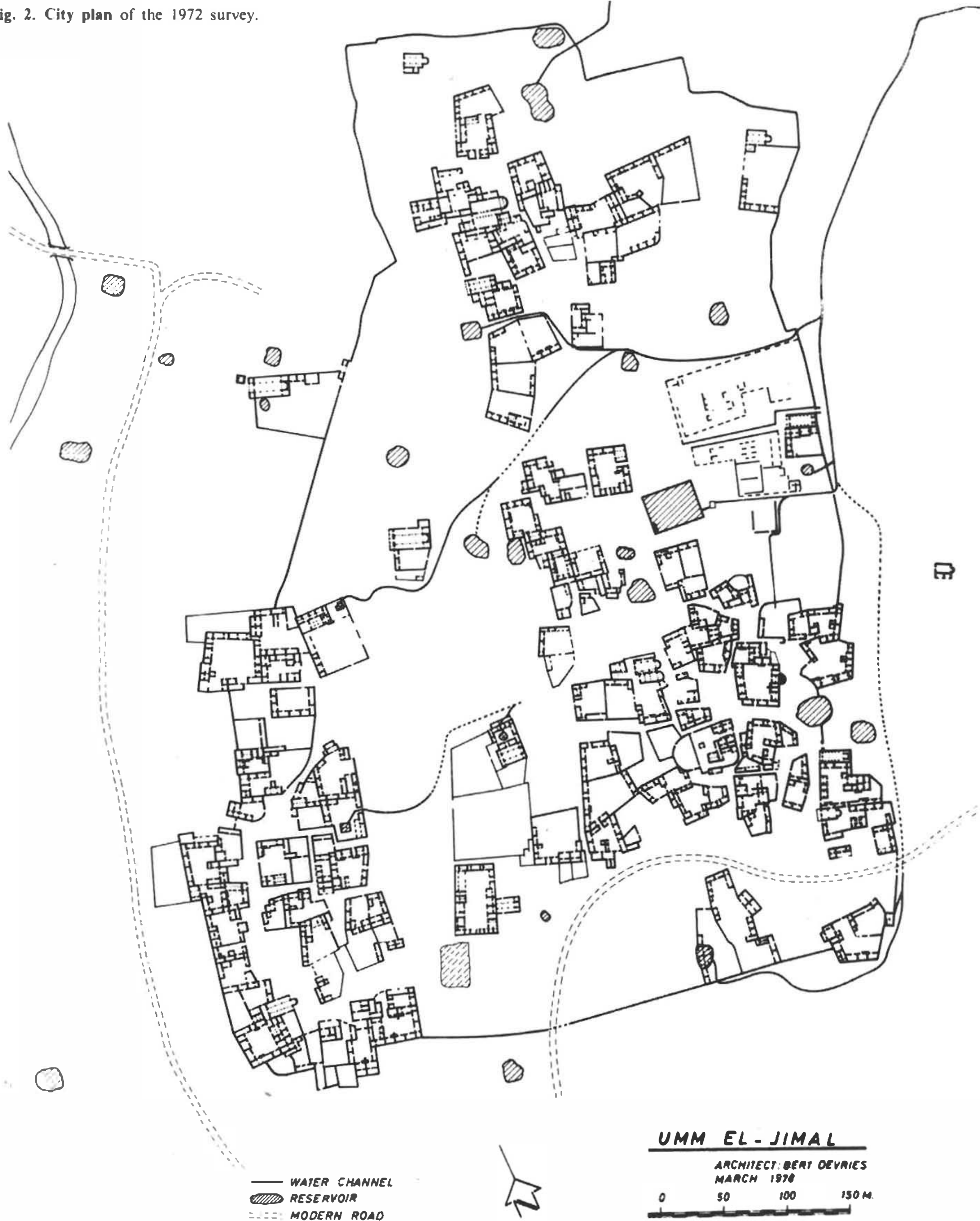
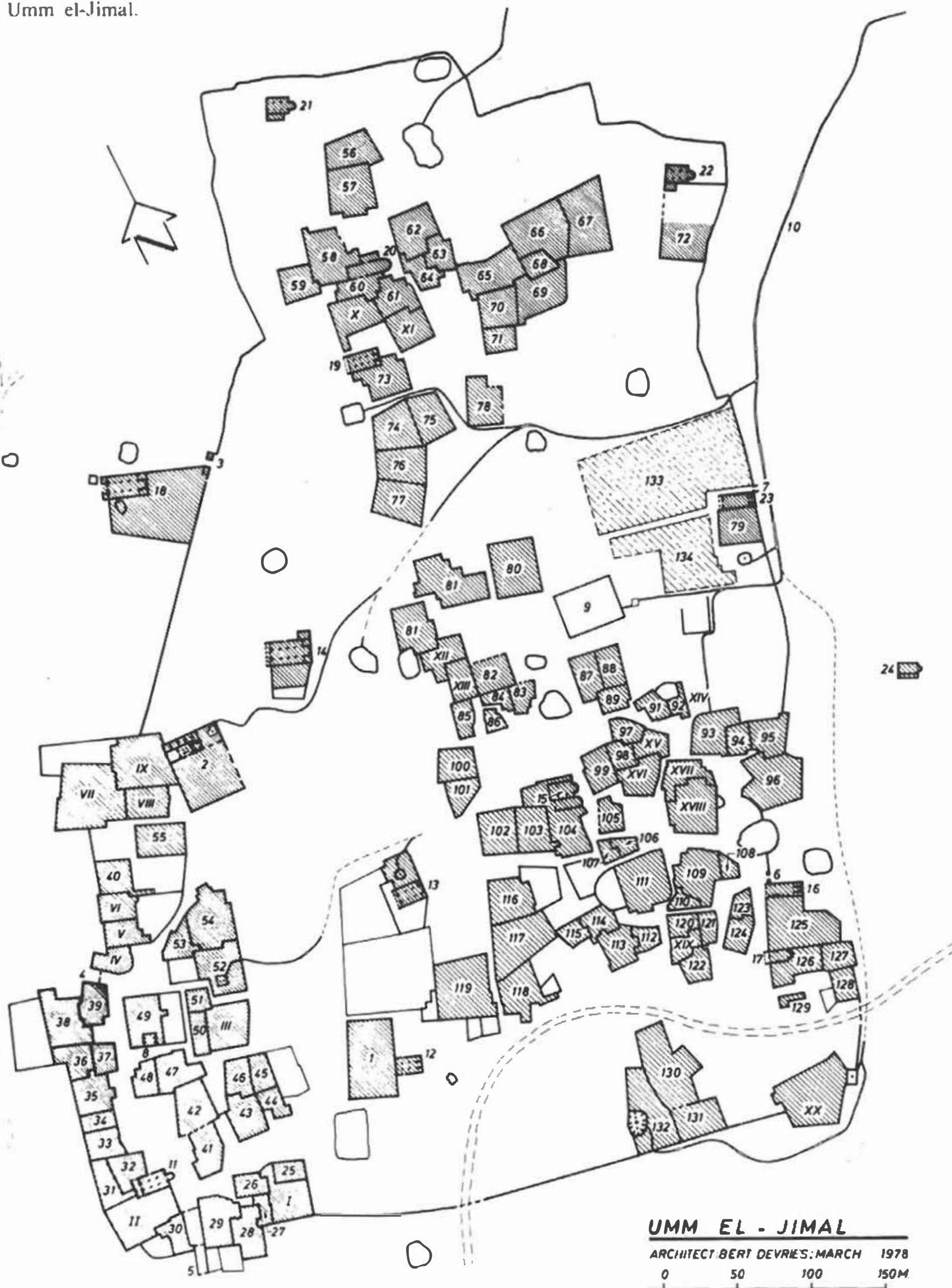


Fig. 3. Schematic plan identifying the buildings at Umm el-Jimal.



- | | | |
|----------------------|-----------------------|----------------------------------|
| 1 BARRACKS | 10 MAIN WATER CHANNEL | 19 KLAUDIANOS CHURCH |
| 2 "PRAETORIUM" | 11 SOUTH WEST CHURCH | 20 "JULIANOS" CHURCH |
| 3 GATE OF COMMODUS | 12 BARRACKS CHAPEL | 21 NORTH CHURCH |
| 4 WEST GATE | 13 NUMERIANOS CHURCH | 22 NORTH EAST CHURCH |
| 5 SOUTH WEST GATE | 14 CATHEDRAL | 23 EAST CHURCH |
| 6 EAST GATE | 15 DOUBLE CHURCH | 24 CHURCH |
| 7 NORTH EAST GATE | 16 MASECHOS CHURCH | 25-132 HOUSING COMPLEXES |
| 8 "NABATAEAN TEMPLE" | 17 SOUTH EAST CHURCH | 133,134 BADLY RUINED INSULAE |
| 9 MAIN RESERVOIR | 18 WEST CHURCH | I-XX HOUSES MAPPED BY H.C BUTLER |

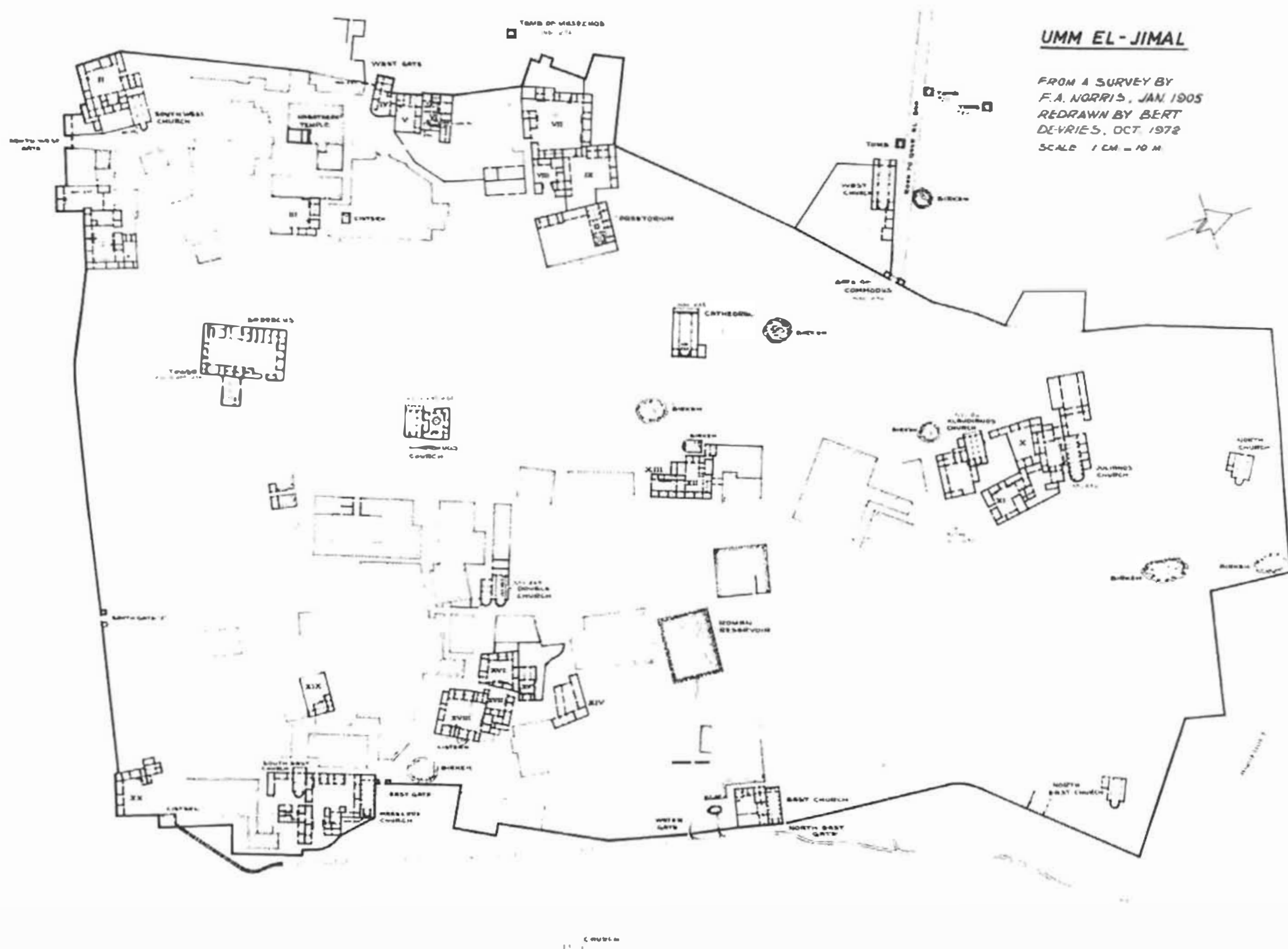


Fig. 4. Map of the Princeton University Expedition.

government shifted to Baghdad under the Abbasid Caliphs.

Most visitors to Umm el-Jimal are surprised to learn that its ancient citizens were not Roman or Greek, but Arab. Numerous grave-stones, although written in the Latin and Greek scripts, have given us a catalog of names of the inhabitants which indicates that the residents were local Arabic nomads who settled in this region and built Umm el-Jimal under the security provided by the Roman Empire — a process that has been repeated by their modern descendants under the security of the Jordanian government.

Perhaps even more impressive than the building skill of these people was their excellent water

engineering. Because rainfall is minimal and sporadic in the region, it was necessary to collect and store every drop of winter rain to see the population of five to ten thousand people through the long dry season. A dam in the adjacent wadi provided irrigation water for the surrounding fields, while a ground-level aqueduct many kilometers long collected the runoff from the sloping terrain to the north. A number of branch channels directed the water into large open pools throughout the city as well as to smaller roofed-over cisterns adjacent to nearly every house and public building. The supply thus created should have been ample for the people and their numerous domestic animals except

in a succession of extremely dry winters. Study of this ancient water system leads one to believe that similar systems could easily be designed and built to support the growing populations and increasing agriculture in the village settlements of Jordan's semi-desert regions today.

The author began his work¹ in 1972 with an architectural survey that involved the mapping of the entire city, including its numerous buildings, defensive walls and water reservoirs (figs. 2 and 3). This survey was designed to complete and update the mapping done by the Princeton University Expedition directed by H. C. Butler in 1905 and 1909 (fig. 4; see Butler 1913).



Fig. 5 The barracks viewed from the north.

In July, 1974, the author and James Sauer, Director of the American Center of Oriental Research, conducted a preliminary excavation in order to verify the periods of occupation of the city as they appear in the architectural remains above the surface. The four 1 m x 2 m soundings yielded Roman, Byzantine, and Umayyad pottery in successive strata of occupation. This pottery collection is the first from the Southern Hauran

region that has been studied systematically.

In July, 1977, the author returned with a team of fifteen American archeologists and students to excavate some of the key structures at Umm el-Jimal. These included the Barracks (fig. 5), the Pretorium (fig. 6), a private house (figs. 7 and 8), the so-called Nabatean Temple, and two segments of the city wall, all located in the southern half of the city.

In general, the dates of construction and occupation of these buildings proved to be later than

has usually been thought. The 5th-century A.D. building date of the Barracks was confirmed; both the Pretorium and the private house contained good Byzantine and Umayyad occupation levels, and the two city wall segments were built in the Late Byzantine period. The entry porch of the Nabatean Temple (thus identified by Butler in 1905) was founded on debris dated to the Byzantine period (fig. 9). In spite of the discovery of a good Late Roman

Fig. 6. View of the praetorium from the south.





Fig. 7. East facade of House XX.

occupation layer in the 1974 soundings, the 1977 excavation uncovered Roman and Nabatean artifacts only in loci which also contained later (Byzantine and Umayyad) objects.

Perhaps the most surprising result of this excavation was the discovery that Umm el-Jimal was not only a Nabatean, Roman, and Byzantine city (as previously thought), but also a significant Umayyad city. Because several Umayyad occupation levels were found (fig. 10), it is expected that the study of the pottery from these will contribute significantly to a refinement of the distinction between the cultures of the Early and Late Umayyad periods.

Fig. 8. Double window of House XX at Umm el-Jimal.



From September 1 to December 8, 1977, the author worked with the Department of Antiquities of Jordan on the consolidation of the walls of the Barracks. This involved the force-filling of its rubble core walls with cement in such a way that it does not show on the exterior of the walls. The Department plans to continue this work at the rate of one building complex per year (a formidable task, considering that over 150 buildings have walls one or more stories high).

Fig. 9. Stub wall and stone sill which H. C. Butler identified as the porch of a Nabatean temple, but which were actually founded on a Late Byzantine soil layer.



Fig. 10. Umayyad cobble stone floor in the atrium of the Pretorium (Square B.1).



NOTES

¹Detailed reports on the research described below will be included in a monograph on Umm el-Jimal scheduled for publication in 1979. Two additional seasons of fieldwork to be completed by 1982 are planned to finish the author's current investigation of the site.

²The core staff included Tom Parker, stratigrapher and ceramicist; Robyn Brown, stratigrapher; Hugh Haggard, pottery registrar; Jennifer Groot, object registrar; Mike Toplyn, physical anthropologist; and Paul McDermott, epigrapher. Seven students participated for course credit given at Calvin College. The project was done jointly with the Department of Antiquities of Jordan and in affiliation with the American Schools of Oriental Research. Grateful acknowledgment is due these individuals for the quality of their participation and these organizations for their technical, logistic, and financial support.

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