

Settlement Patterns of the Late Bronze and Iron Ages in the Greater Amman Area

Any reconstruction of the Late Bronze and Iron Age settlement patterns in the Greater Amman area is fraught with difficulties and hence very hypothetical. The data base primarily consists of a small number of published tomb groups and single period sites (of debatable contemporaneity with better dated assemblages in neighbouring countries), stratified sequences (with occupational gaps and few absolute dating markers), and surveys (often done non-systematically).

The limited data base directly affects the temporal and geographical frameworks of this study. The Late Bronze and Iron Ages broadly date to c. 1550-400 B.C. A relative sequence of well-attested archaeological horizons is generally agreed upon, but, without better chronological controls, absolute dating is very approximate, viz., LB I (c. 1550-1400 B.C.), LB II (c. 1400-1200 B.C.), Iron IA (c. 1200-1050 B.C.), and Iron IIC/Persian (c. 650-400 B.C.). Iron IB-C and IIA-B are especially problematic for the Amman area, although well attested elsewhere in the country (e.g., the Jordan Valley and Edom). Some periods are already quite long and eventually will probably be divided into shorter phases. Yet, in at least one instance, viz. Iron IIC/Persian, further extension, down into the Hellenistic period, is not unlikely.

Massively constructed Late Bronze and Iron Age buildings, unique to the Amman area and distributed over an approximately 20km radius from the Citadel, provide a regional framework, at least to a first approximation. This area includes Saḥab, the Baq'ah Valley, and Tell al-'Umeiri, which today are outside the Greater Amman governorate (Hashemite Kingdom of Jordan 1987: FIG. 4.4).

Late Bronze Age Settlement Pattern

Tomb groups account for most of the published Late Bronze Age evidence, including the Citadel (Harding and Isserlin 1953; Ward 1966; Piccirillo 1978), Jabal an-Nuzha (Dajani 1966b), Saḥab (Dajani 1970), and the Baq'ah Valley (McGovern 1986). These tombs contained multiple burials, and probably span several generations. Based on

typological parallels with better dated contexts west of the Jordan River, LB I and late LB II materials appear to be best represented, with possible extensions of these periods back into the Middle Bronze Age and down into the Early Iron Age, respectively.

Late Bronze Age architectural remains and associated artifacts have been excavated at the Amman Airport in Marka (Hennessy 1966, 1970; Ward 1964; Hankey 1974; Herr 1983), Saḥab (Ibrahim 1974; 1975b), and in the Baq'ah Valley (McGovern 1986: 61-63; 1989). Nine Late Bronze Age sites were documented in the northeastern Hesban/Madaba Plains surveys, including Tell al-'Umeiri West, Umm as-Sarab, Jalul and Iktanu (Ibach 1981; Geraty *et al.* 1986: 125-126). Transitional MB/LB and LB/early Iron sherds were associated with Rujm al-Ḥenu East in the middle of the valley (McGovern 1980; 1983; 1986: 11-13). Fragments of 'Ajjul Bichrome and Egyptian-style blue-painted wares (Dornemann 1983: 22) and a unique jug (Bennett and Northedge 1977-78: 178) were also found on the Citadel in poorly stratified contexts.

Although extremely limited, the combined published LB evidence from excavation and survey cannot be explained as primarily due to a "nomadic" or pastoralist population in the area. Large burial deposits, in which males and females of all ages had been buried together with hundreds of whole pottery vessels and other artifacts, were common throughout Late Bronze Age Palestine. The similarities of the Amman burial assemblages with those of tomb groups (e.g., Lachish, Gezer, Megiddo, Pella) found along the coast and in the main inland valleys are especially noteworthy, since the latter were definitely associated with well-established sedentary communities.

The architectural evidence accords with a sedentary way of life. Saḥab (Ibrahim 1974, 1975b) and Tell Safuṭ (Wimmer 1987) had exterior fortification walls. The *Quadratbau* architectural layouts of the Amman Airport Building and structures in the Baq'ah Valley (Khirbet Umm ad-Dananir and Rujm al-Ḥenu East) conform to a courtyard type that had a long history in Palestine (Yassine 1983). The bone (human and animal, burnt and unburnt)

and artifactual remains (e.g., miniature and zoomorphic vessels, imported pottery) from the Amman Airport Building and the Khirbet Umm ad-Dananir structure argue strongly for their use in the cult (McGovern 1989). The buildings might have been located some distance from the main areas of occupation — possibly under the terminal at the Amman Airport and on a higher terrace at Khirbet Umm ad-Dananir, as were the Mount Gerizim *Quadratbau* structures near Nablus (Boling 1975).

As a working hypothesis, it may be proposed that small sedentary Late Bronze Age communities were distributed throughout the Greater Amman area and centered around a larger city-state on the Citadel. These communities were probably also integrated economically and socially to some degree. The large sectors of the area lacking Late Bronze Age remains are most likely the result of non-systematic surveying, deeply buried deposits, and/or misdating of the pottery; where intensive surveying has been carried out, a low density of small sedentary communities, close to springs and in the vicinity of arable land, has been noted.

Iron Age Settlement Pattern

The primary evidence for Iron Age settlement in the Greater Amman area is also derived from tomb groups. For Iron IA, burial caves at Saḥab (Dajani 1970; Ibrahim 1972; 1975a) and in the Baq'ah Valley (McGovern 1986) have been published. Numerous Iron IIC/Persian tombs can be cited: the Citadel (Harding 1951; Harding and Tufnell 1953), Jabal aj-Jofeh (Harding 1945; Dajani 1966a), Jabal 'Amman (Harding 1951), Saḥab (Harding 1948; Ibrahim 1972), Meqablein (Harding 1950), Khilda (Yassine 1988: 11-31), Umm Udheina (Hadad 1984), and Abu Nuṣeir in the Baq'ah Valley (Abu Ghanimeh 1984).

Most distinctive of Iron Age settlement in the Amman area are the many circular (*rujm malfuf* type) and rectangular (*qaṣr* type) buildings, constructed of huge boulders. Survey evidence is cited in Glueck 1937; 1939; de Vaux and Benoit 1938; Department of Antiquities 1973; Hashemite Kingdom of Jordan 1987; Gese 1958, Hentschke 1960, Fohrer 1961, Reventlow 1963, and von Rabenau 1978 for the western suburbs; Ibach 1978a, 1978b, and Geraty *et al.* 1986 for the northeastern Ḥesban and 'Umeiri region; and McGovern 1980, 1985, 1986 for the Baq'ah Valley. An unpublished survey of the Jubeiha and University of Jordan sector (Muheisen 1976) has recently been translated by K. 'Amr of the Department of Antiquities. A dissertation on the subject is being prepared by C. Cretaz (1986).

Some of these buildings are quite comparable to the LB *Quadratbau* type (above): Qaṣr at-Ṭabaqa (Gese 1958: FIG. 3), Jabal al-Akhḍar (Khouri 1988: 26, with plan), and al-Mabrak (Yassine 1983). Others have casemate rooms surrounding a large open courtyard — Khilda (Yassine 1988: 15, FIG. 2) and Rujm al-Ḥenu West (McGovern 1983: FIG. 3). Somewhat irregular layouts have also been noted (e.g., Hentschke 1960: FIGS. 8, 9, 11), and completely

isolated towers occur (e.g., Glueck 1939: 159). More rarely, the architectural types are combined together to form extensive complexes, e.g., Khirbet Muḍmar in the center of the Baq'ah Valley (McGovern 1983: PL. 19.2). They are often built upon exposed outcrops of bedrock, close to cultivatable land.

Early explorers were understandably intrigued by these "megalithic" buildings, and dated them to the "prehistoric" period (Mackenzie 1911: 39; Watzinger 1933: 22-24) or Roman times (Conder 1899: 193). Recent test soundings suggest that the majority of these buildings belong to the Iron IIC/Persian period. Excavations at Khirbet al-Ḥajjar (below), Rujm al-Malfuf South (Thompson 1973), Rujm al-Mekheizin (Thompson 1984), and Rujm al-Ḥenu West (McGovern 1983) support this dating. The preponderance of Iron IIC/Persian pottery sherds near many other structures implies that they also date to this period. Both Iron I and IIC/Persian surface sherds were found at Khirbet al-Ḥajjar in the western Greater Amman area. Excavation (Thompson 1972; 1977) revealed three phases of Iron I occupation, in association with three undefined walls. A gap of several hundred years followed before the circular tower was constructed in the Iron IIC/Persian period (seventh-sixth centuries B.C., according to the excavator). Many other such structures probably belong to some phase of the Iron Age (see Glueck 1937: 19; 1939: 157, 165-166; the western series of buildings investigated by the German Institute of Archaeology; Hashemite Kingdom of Jordan 1987: 4.62-72; Muheissen 1976), but test soundings have sometimes shed doubt on survey dating (cf. Boraas 1971 with Glueck 1939: 165-166).

Other survey evidence is better controlled. The north-eastern Ḥesban/Madaba Plains survey, overlapping partly with the area covered by the German investigators, was very intensive and systematic. Consequently, more sites were located, and greater confidence can be placed in the pottery dating. Although the data is yet to be fully synthesized and published (see Ibach 1978a; 1978b; Geraty *et al.* 1986; LaBianca 1990), *qaṣr* and *rujm malfuf* type buildings predominated in Iron I and II, especially the latter period. Because of their proximity to arable land and associated installations (e.g., presses for olives or grapes and millstones for grinding), these structures are interpreted as "farmsteads" (Geraty *et al.* 1986: 123-124; LaBianca 1990).

The survey evidence from the Baq'ah Valley fits a similar pattern as that from the Ḥesban/Madaba Plains survey. The numerous *qaṣr* and *rujm malfuf* type structures throughout the valley date primarily to Iron IIC/Persian, although some earlier Iron II and Iron I sherds were also recovered (McGovern 1986: TABLE 1). Buildings were located close to arable land but not on it. The environmental setting of a large complex of buildings at Khirbet Muḍmar in the center of the valley, which were built on bedrock shelves in midst of fertile fields, points to it being a large farming community. Where soundings have been

carried out (e.g., Rujm al-Henu West — McGovern 1983), agricultural activities have been well substantiated. Some of the buildings might also have played a defensive role, although the standard watchtower hypothesis (Conder 1899: 193; Mackenzie 1911: 25-26; Gese 1958: 57; Landes 1964: 72-74; Glueck 1939: 163, 165-167; 1970: 183; Sasson 1979), in which the primary function of the buildings was to protect approaches to Amman, will probably require substantial modification.

Sahab provides the best excavated example of continuous sedentary occupation from the Late Bronze into the Iron Age (Ibrahim 1974; 1975a; 1975b). The Iron IA remains are particularly extensive, including houses and storage caves. A gap in occupation followed the destruction of the Iron IA town, after which a smaller but more carefully planned settlement with a complex of pillared and rectangular rooms was built in the Iron IIC/Persian period. The same periods emerge as the most important at Khirbet Umm ad-Dananir (McGovern 1989). Iron IIC/Persian architectural and artifactual remains are well represented at the Amman Citadel (Zayadine 1973: 28-35) and Tell al-Umeiri (Geraty *et al.* 1986). The fortification walls excavated at the Citadel by Dornemann (1983: 89-103) appear to belong to the tenth-ninth centuries B.C.

Comparable to the LB II settlement pattern, the available Iron Age evidence is best accounted for by a network of small, dispersed villages throughout the Greater Amman area, centered on the Citadel. The apparent gap or diminished occupation of the area in later Iron I and the early phases of Iron II may be due to the poorly established pottery chronology and/or limited surveying and excavation. The immediately succeeding period, Iron IIC/Persian, however, is one of the most intensively occupied episodes in Amman's history. Although irrefutable excavation evidence is lacking, the placement of sites near arable land and the increased subsistence requirements of what is evidently a much larger population (based on the number and size of buildings) indicate that agriculture was crucial to the economic prosperity of the period. Greater specialization, most often associated with more complex, hierarchical societies, is attested by the extremely well-made, wheel-thrown pottery and artistic productivity, including unique sculpture (Dornemann 1983: 153-164).

Broader Implications and Future Prospects

Up until the Iron IIC/Persian period, the number and sizes of settlements appear to be relatively constant throughout the area. Late Bronze Age remains are better attested than those of Iron I and/or Iron IIA-B in certain sectors of the area, especially when intensive survey has been followed up by excavation. Some Late Bronze Age sites were newly founded, such as Khirbet Umm ad-Dananir, Rujm al-Henu East, and the Amman Airport Building, and other sites (the Citadel and Sahab), which were occupied in both

periods, show no signs of destruction between the Middle and the Late Bronze Age. The implication is that sedentary occupation increased in the area during the Late Bronze Age and that transition from the Late Bronze to the Iron Age in the Greater Amman area was not marked by major military upheaval. Similar findings have been reported for the Jordanian plateau north of Wadi az-Zarqa and for Moab (Boling 1988: 13-18). In other sectors of the Greater Amman area, however, a decrease in Late Bronze Age sites, which moreover are in different locations than the Middle Bronze Age sites, suggests a divergent settlement pattern development (Boling 1988: 30-35). Whether or not the more general phenomenon of an increased number of Late Bronze Age settlements in Transjordan is inversely correlated with a decrease and a reduction in the size of sites west of the Jordan River (Gonen 1984) cannot be assessed until more intensive survey and excavation has been carried out in Transjordan.

The unique architecture of the Amman area, including courtyard type buildings constructed of massive boulders, has a long history, extending from at least the Late Bronze Age to Roman times. Where intensive surveys and excavations have been carried out in the study area, however, the Iron IIC/Persian period clearly stands out as a "building boom". Whether single buildings or huge complexes, the structures are most often sited on bedrock outcrops close to arable land. The most plausible interpretation of the settlement pattern is that the buildings are primarily farming communities and/or associated agricultural installations. This hypothesis does not rule out their exclusive or concomitant use for defensive, political, religious, or other economic purposes. As more exact dating of these structures is established by excavation, it may be possible to reconstruct a gradual intensification process beginning in the early Iron Age and reaching a climax in Iron IIC/Persian (LaBianna 1990). Alternatively, some combination of political factors (alliances of Ammon with Assyria and Babylonia; movements of peoples from west of the Jordan River onto the plateau after the Babylonian devastation of Jerusalem and Judea) may explain the extraordinary build-up in Iron IIC/Persian.

Sadly, it may already be too late to recover an adequate data base for reconstructing settlement patterns in the Amman area. Thirty years ago, many ancient structures dotted the landscape; perhaps half that many remain today, as detailed in the comprehensive development plan of the Greater Amman Council (Hashemite Kingdom of Jordan 1987: 4.62-72). Intensive surveys in sectors as yet relatively unaffected by modern development may yield an archaeological/environmental sequence which has broader application to the area as a whole. Selected excavation of a range of sites of different sizes and types throughout the Amman area is particularly essential to the development of regional models.

Bibliography

- Abu Ghanimeh, K. 1984. Abu Nseir Excavation. *Annual of the Department of Antiquities of Jordan* 28: 305-310.
- Bennett, C.-M. and Northedge, A. E. 1977-78. Excavations at The Citadel, Amman, 1976: Second Preliminary Report. *Annual of the Department of Antiquities of Jordan* 22: 172-179.
- Boling, R.G. 1975. Excavations at Tananir, 1968. Pp. 24-85 in G.M. Landes (ed), *Report on Archaeological Work at Şuwwanet eth-Thaniya, Tananir, and Khirbet Minha (Munhata)*. Missoula, MT: Scholars Press.
- , 1988. *The Biblical Community in Transjordan*. The Social World of Biblical Antiquities Series, 6. Sheffield: Almond.
- Boraas, R.S. 1971. A Preliminary Sounding at Rujm el-Malfuf, 1969. *Annual of the Department of Antiquities of Jordan* 16: 31-45.
- Conder, C. R. 1899. *The Survey of Eastern Palestine*. Vol. 1. London: Palestine Exploration Fund.
- Cretaz, C. 1986. Les tours Ammonites. *Le Monde de la Bible*, Nov.-Dec.: 21.
- Dajani, A. K. 1966a. An Iron Age Tomb from Amman. *Annual of the Department of Antiquities of Jordan* 11: 41-47.
- , 1966b. Jabal Nuzha Tomb at Amman. *Annual of the Department of Antiquities of Jordan* 11: 48-72.
- , 1970. A Late Bronze-Iron Age Tomb Excavated at Sahab. *Annual of the Department of Antiquities of Jordan* 15: 29-36.
- Department of Antiquities, Hashemite Kingdom of Jordan. 1973. *The Archaeological Heritage of Jordan*. Part I: *The Archaeological Periods and Sites (East Bank)*. Amman: Department of Antiquities.
- Dornemann, R. H. 1983. *The Archaeology of the Transjordan in the Bronze and Iron Ages*. Milwaukee: Milwaukee Public Museum.
- Fohrer, G. 1961. Eisenzeitliche Anlagen im Raume südlich von Nā'ūr und die Südwestgrenze von Ammon. *Zeitschrift des Deutschen Palästina-Vereins* 77: 56-71.
- Geraty, L. T. et al. 1986. Madaba Plains Project: A Preliminary Report of the 1984 Season at Tell el-'Umeiri and Vicinity. Pp. 117-144 in W.E. Rast (ed), *Preliminary Reports of ASOR-Sponsored Excavations 1980-84*. BASOR Supplement, 24. American Schools of Oriental Research.
- Gese, H. 1958. Ammonitische Grenzfestungen zwischen Wadi es-Sir und Nā'ūr. *Zeitschrift des Deutschen Palästina-Vereins* 74: 55-64.
- Glueck, N. 1937. Explorations in the Land of Ammon. *Bulletin of the American Schools of Oriental Research* 68: 13-21.
- , 1939. *Explorations in Eastern Palestine III*. *Annual of the American Schools of Oriental Research* 18-19.
- , 1970. *The Other Side of Jordan*. 2nd ed. Cambridge, MA: American Schools of Oriental Research.
- Gonen, R. 1984. Urban Canaan in the Late Bronze Period. *Bulletin of the American Schools of Oriental Research* 253: 61-73.
- Hadad, H. 1984. Umm-Uthainah Tomb. *Annual of the Department of Antiquities of Jordan* 28: 7-14 [Arabic].
- Hadidi, A. 1970. The Pottery from the Roman Forum at Amman. *Annual of the Department of Antiquities of Jordan* 15: 12.
- Hankey, V. 1974. A Late Bronze Age Temple at Amman. *Levant* 6: 131-178.
- Harding, G. L. 1945. Two Iron Age Tombs, 'Amman. *Quarterly of the Department of Antiquities in Palestine* 11: 67-74.
- , 1948. An Iron-Age Tomb at Sahab. *Quarterly of the Department of Antiquities in Palestine* 13: 92-102.
- , 1950. An Iron Age Tomb at Meqabelein. *Quarterly of the Department of Antiquities in Palestine* 14: 44-48.
- , 1951. Two Iron-Age Tombs in Amman. *Annual of the Department of Antiquities of Jordan* 1: 37-40.
- Harding, G. L. and Isserlin, B.S.J. 1953. A Middle Bronze Age Tomb at Amman. *Palestine Exploration Fund Annual* 6: 27-47.
- Harding, G. L. and Tufnell, O. 1953. Four Tomb Groups from Jordan: The Tomb of Adoni Nur in Amman. *Palestine Exploration Fund Annual* 6: 48-72.
- Hashemite Kingdom of Jordan 1987. *Greater Amman Comprehensive Development Plan*. Report 4: *Pre-Final Report*. Vol. 3: *Urban Planning*. Amman: Municipality of Greater Amman and Dar al-Handasah Consultants.
- Hennessy, J. B. 1966a. Excavations of a Late Bronze Age Temple. *Palestine Exploration Quarterly* 98: 155-162.
- , 1966b. Supplementary Note to G. R. H. Wright's Mitteilungen: The Bronze Age Temple at Amman, with a note by J. B. Hennessy. *Zeitschrift für Alttestamentliche Wissenschaft* 78: 358-359.
- , 1970. A Temple of Human Sacrifice at Amman. *The Gazette* (University of Sydney) 2 (20): 307-309.
- Hentschke, R. 1960. Ammonitische Grenzfestungen südwestlich von 'Amman. *Zeitschrift des Deutschen Palästina-Vereins* 76: 101-123.
- Herr, L. G., ed. 1983. *The Amman Airport Excavations, 1976*. *Annual of the American Schools of Oriental Research* 48, ed. J. A. Callaway.
- Ibach, R., Jr. 1978a. Expanded Archaeological Survey of the Hesban Region. Pp. 201-213 in R.S. Boraas and L.T. Geraty (eds), *Heshbon 1976: The Fifth Campaign at Tell Hesban, a Preliminary Report*. Berrien Springs, MI: Andrews University.
- , 1978b. An Intensive Surface Survey at Jalul. Pp. 215-222 in *Heshbon 1976: The Fifth Campaign at Tell Hesban, a Preliminary Report*. Berrien Springs, MI: Andrews University.
- , 1981. The Hesban Region Survey. Prepublication manuscript, Grace Theological Seminary, Winona Lakes, IN.
- Ibrahim, M. 1972. Excavations at Sahab, 1972. *Annual of*

- the *Department of Antiquities of Jordan* 17: 23-36.
- , 1974. Second Season of Excavation at Sahab, 1972. *Annual of the Department of Antiquities of Jordan* 19: 55-61.
- , 1975a. Excavations at Sahab. *Jordan* 6 (3): 14-23.
- , 1975b. Third Season of Excavations at Sahab, 1975 (Preliminary Report). *Annual of the Department of Antiquities of Jordan* 20: 69-82.
- Khouri, R. G. 1988. *Amman: A Brief Guide to the Antiquities*. Amman: Al Kutba.
- LaBianca, O. S. 1990. *Sedentarization and Nomadization: A Study of Food System Transitions at Hesban and Vicinity in Transjordan*. Hesban, vol. 1. Berrien Springs, MI: Andrews University.
- Landes, G. M. 1964. The Material Civilization of the Ammonites. Pp. 69-88 in E.F. Campbell, Jr. and D.N. Freedman (eds), *The Biblical Archaeologist Reader*, Vol. 2. Garden City, NY: Doubleday; Anchor pb.
- McGovern, P. E. 1980. Explorations in the Umm ad-Danānir Region of the Baq'ah Valley, 1977-1978. *Annual of the Department of Antiquities of Jordan* 24: 55-67.
- , 1983. Test Soundings of Archaeological and Resistivity Survey Results at Rujm al-Henu. *Annual of the Department of Antiquities of Jordan* 27: 105-141.
- , 1985. Environmental Constraints for Human Settlement in the Baq'ah Valley. Pp. 141-148 in A. Hadidi (ed), *Studies in the History and Archaeology of Jordan II* Amman: Department of Antiquities.
- , 1986. *The Late Bronze and Early Iron Ages of Central Transjordan: The Baq'ah Valley Project, 1977-1981*. University Museum Monograph 65. Philadelphia: University Museum.
- , 1987. Central Transjordan in the Late Bronze and Early Iron Ages: An Alternative Hypothesis of Socio-Economic and Transformation and Collapse. Pp. 267-273 in A. Hadidi (ed), *Studies in the History and Archaeology of Jordan III*. Amman: Department of Antiquities.
- , 1989. The Baq'ah Valley Project 1987: Khirbet Umm ad-Dananir and al-Qešir. *Annual of the Department of Antiquities of Jordan* 33: 123-136.
- Mackenzie, D. 1911. The Megalithic Monuments of Rabbath Ammon at Amman. *Palestine Exploration Fund Annual* 2: 1-100.
- Muheisen, M. S. 1976. A Report on the Archaeological Survey of the Jbeiha and University of Jordan Area, 1976 [Arabic]. Unpublished ms. held at the Department of Antiquities Registration Centre, trans. K. 'Amr.
- Piccirillo, M. 1978. Una Tomba del Bronzo Medio ad Amman? *Liber Annuus* 28: 73-86.
- von Rabenau, K. 1978. Ammonitische Verteidigungsanlagen zwischen Hirbet el Bisara und el-Yadude. *Zeitschrift des Deutschen Palästina-Vereins* 94: 46-55.
- Reventlow, H. G. 1963. Das Ende der ammonitischen Grenzfestigungskette? *Zeitschrift des Deutschen Palästina-Vereins* 79: 127-137.
- Sasson, V. 1979. The Citadel Inscription as an Oracle Promising Divine Protection. *Palestine Exploration Quarterly* 111: 117-125.
- Thompson, H. O. 1972. The 1972 Excavation of Khirbet al-Hajjar. *Annual of the Department of Antiquities of Jordan* 17: 47-64.
- , 1973. Rujm al-Malfuf South. *Annual of the Department of Antiquities of Jordan* 18: 47-50.
- , 1977. The Ammonite Remains at Khirbet el-Hajjar. *Bulletin of the American Schools of Oriental Research* 227: 27-34.
- , 1984. The Excavations of Rujm El Mekheizin. *Annual of the Department of Antiquities of Jordan* 28: 31-38.
- de Vaux, R. and Benoit, P. 1938. Chronique: Exploration de la région de Salt. *Revue Biblique* 47: 417-422.
- Watzinger, C. 1933-35. *Denkmäler Palästinas: Eine Einführung in die Archäologie des Heiligen Landes*. 2 vols. Leipzig.
- Wimmer, D. H. 1987. Tell Safut Excavations, 1982-1985: Preliminary Report. *Annual of the Department of Antiquities of Jordan* 31: 159-181.
- Yassine, K. 1983. El Mabrak: An Architectural Analogue of the Amman Airport Type? *Annual of the Department of Antiquities of Jordan* 27: 491-493.
- , 1988. *Archaeology of Jordan: Essays and Reports*. Amman: University of Jordan.
- Zayadine, F. 1973. Recent Excavations on the Citadel of Amman. *Annual of the Department of Antiquities of Jordan* 18: 17-35.

