

Ancient Settlement Patterns in the Northwest Arḍ al-Karak

The Northwest Arḍ al-Karak has been the object of several intensive reconnaissance surveys which were carried out by the author from 1983 to 1986 (Worschech 1985 a, b; 1986 a, b). The area investigated was initially the Central Moabite Plateau with its slopes toward the Dead Sea. This area was later enlarged due to the discovery of a secondary Roman road system which connected the agricultural hinterland west of the *Via Nova Traiana* with the main cities during Nabataean-Roman and Roman-Byzantine times. The roads could be followed down the slopes to the Dead Sea shore, thus linking the Jordan Valley with the plateau. Of the area surveyed between Wadi al-Mujeb and Wadi al-Karak, about 85% has been explored and about a hundred ancient sites were discovered, dating to almost all the known periods of Palestinian archaeology. During the surveys it was observed that the slopes of the Moabite Plateau are characterized by micro-climatic regimes depending on elevations between 1000m above sea level down to -300m at the Dead Sea shore. Since the sites are widely dispersed over this region of different soils and micro-climates in bands dependent on elevation, I will first give attention to these different ecological zones in central Moab and to the slopes toward the Dead Sea.

I. The Geographic and Climatic Zones of the Slopes in the Northwest Arḍ al-Karak

Moab or the Central Moabitis is understood by most scholars to refer to the Central Moabite Plateau. For this reason, N. Glueck was primarily concerned with the sites on the plateau, ignoring the area of the slopes to the Dead Sea which is almost as large as the fertile land of the plateau. The surveys proved that the slopes were also inhabited at all times and must receive as much attention as the territory of the Jordanian plateau. Although studies about the ecology and climate of the central Moabite slopes are very few, it is possible, by analogy, to sketch a brief outline of the most important climatic and ecological features of the area under discussion (Al-Eisawi 1985).

1. The Semi-arid Mediterranean Bioclimate

The central plateau of the ancient Moabitis has always had

a favourable climatic situation: Hot and dry summers, cold and rainy winters. The average annual temperature is around 18°C. There can be extremes in the annual rainfall over several years, ranging from only 101.9mm to as much as 661mm a year. The average rainfall is around 400mm per year. The fertile soil is the typical Mediterranean *terra rossa* (Bender 1968: 179) which today grows wheat, barley, tomatoes, melons, grapes and olives. Although the Cenomanian limestone is very porous and absorbs much of the water, the vegetation stores some of the humidity and loses it during the hot summer. This is enough to grow some grain and vegetables without irrigation even during that season.

There are many sites on the plateau dating to all archaeological periods. This indicates a continuous occupation of the plateau with some small gaps which, however, were not necessarily caused by climatic, but rather by political changes and influences (see section III below).

2. The Arid Mediterranean Bioclimate

The slopes toward the Dead Sea are characterized by the "arid Mediterranean bioclimate" which averages c. 22°C annually. The area receives about 150-250mm of rain per annum which is the minimum amount for growing crops in the dry farming system and for sheep herding in the area. The "Yellow Mediterranean Soil" (Moormann 1959: 13-25; Bender 1968: 181; Baly 1964: "Typus der syrischen Steppe", 142f) can be found starting below the first escarpment of the Moabite Plateau at c. 700m and going down to about 300m above sea level. The banks of the larger wadis cutting through the slopes (i.e. Wadi Ibn Hammad, Wadi aj-Jarra, Wadi ash-Shuqeiq) are particularly used for Alpine-like pasture land and for agriculture. The area to the extreme northwest on the slopes to the northern part of the Dead Sea and towards Wadi al-Mujeb is, however, very difficult to explore and just as difficult to use agriculturally.

Despite its hotter climate and less fertile soil, the ecological zone of the slopes between 300-700m above sea level was still favoured in all known archaeological periods as proved by the numerous ancient sites discovered there.

3. *The Saharan Mediterranean Bioclimate*

Despite its hot annual average temperature of c. 30°C in the southern Jordan Valley, this type of climate and its Sudanian-type vegetation (Al-Eisawi 1985: 51) allows extensive agriculture and sheep herding under very favourable climatic conditions, especially during the winter months. The 'Yellow Soils' of the elevations from c. 250m below to 300m above sea level are still good for agriculture because of the typical "Soil Complex of the Jordan Valley" (Bender 1968: 185), which is a mixture of red-brown vegetable mould with yellow-white marl soil. Under favourable climatic conditions these soils are good for various types of agriculture. In this particular ecological zone we found a number of sites which date back to the Early Bronze periods and, with a long gap, to the Roman-Byzantine epochs. Evidence for Late Bronze and Iron Age occupation is very scarce, if present at all.

This brief sketch of the three different ecological zones characterizes the central Moabite territory occupied during all known periods of the Middle East. There have been, of course, shifts in the density of occupation in certain areas. These occurrences will now be discussed in connection with possibly related historical or other events.

II. *The Location, Topography and Chronology of the Ancient Sites in the Northwest Arḍ al-Karak*

Certain difficulties arise when one considers the survey data gathered as absolutely fixed. Chronological and historical verification cannot be reached from only a few sherds picked up during surveys. Hence, statements concerning historical and sociological circumstances which may have caused a site to be founded or abandoned can only be preliminary and the historiographical observations can only be tentative.

1. *Sites of the Late Acheulian, the Middle to Late Palaeolithic and the Neolithic*

The specific areas where prehistoric artifacts were found are located on the rim of the western plateau of Arḍ al-Karak. Two sites were found on the plateau below the first escarpment of the slopes (Rollefson 1985; 1986). Another site is located at the Dead Sea in the vicinity of al-Buleida. This site is of special interest since it yielded samples of a mixed nature dating back to the Late Acheulian, the Late Palaeolithic and the Neolithic. The geographical gap between the sites of the plateau and this one does not necessarily imply the non-existence of other sites on the slopes. The soil deposits in the better-vegetated Moab plateau explain the low incidence of probable sites in contrast to Edom where prehistoric sites are more exposed due to heavy erosion and drought-denudation of the landscape (Rollefson 1985: 81-82).

2. *The Late Chalcolithic and Early Bronze Age Occupation of Arḍ al-Karak*

Up till now there is no evidence for specific Chalcolithic

settlements in Arḍ al-Karak. Unsolved is the problem of the date which should be assigned to the tumuli which are so frequent in the survey area, particularly on the slopes and, more extensively, at the Dead Sea. A systematic research of these tomb-structures is still needed. Some of them may indeed date back to the Chalcolithic or even the Neolithic, others may be more recent (McCreery 1977-78: 155; Clark 1979; Worschech 1985a: 28-34).

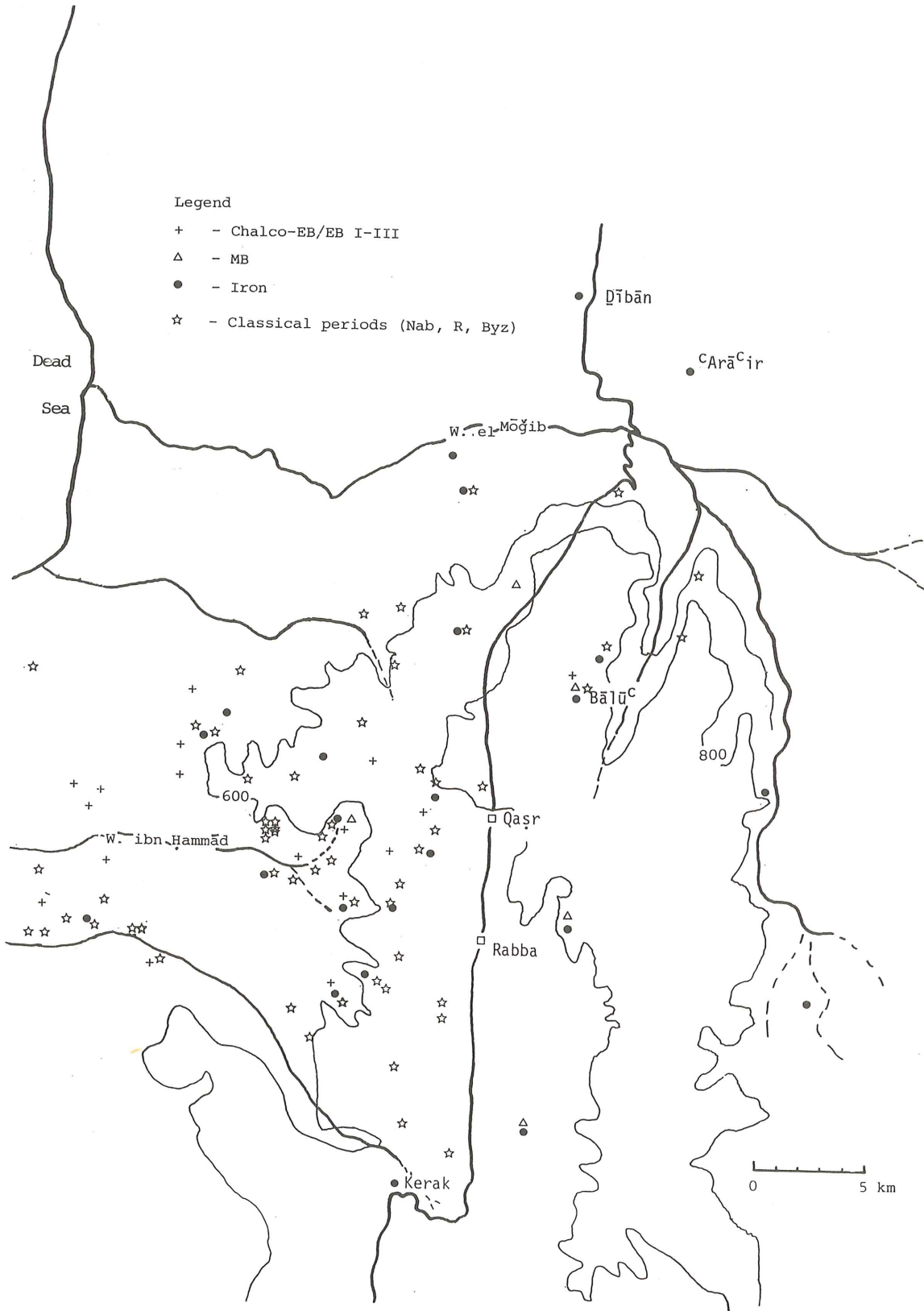
The Late Chalcolithic-Early Bronze transition period is only represented by pottery and flints continuing into the EB periods. According to the survey material the Chalco-EB sites are scattered all over Arḍ al-Karak with particular concentration on the slopes between 700m down to the *aghwar* below sea level. The sites dating to EB I-III are mostly located alongside the wadis, especially Wadi Ibn Ḥammad, near dried-up springs, and north and northeast of Bab adh-Dhra'. The intensive Chalco-EB occupation of the area under discussion in contrast to the very few, indeed almost non-existent Neolithic sites in the Northwest Arḍ al-Karak, has raised some questions with regard to the cause of the sudden appearance of Chalco-EB sites and their possible contacts between the sites in the Jordan Valley and those of the plateau. Tentative answers are that there must have been a more favourable climate than today, in the Ghor and the slopes making it possible for the settlements to spread throughout the areas north of Wadi al-Karak. Small settlements, isolated buildings and campsites were established, through which contact between the Jordan Valley and the plateau of Arḍ al-Karak was made possible for trade and commerce (Worschech 1986a: 40-51).

3. *The Middle Bronze Age Occupation in the Northwest Arḍ al-Karak*

The decline of the Early Bronze Age culture and the "Period of Transition" (EBIV) into the Middle Bronze Age in Jordan was observed by N. Glueck (1934: 81f.). His observation holds true for the small territory covered by the Arḍ al-Karak survey. There are indeed no MB settlements on the slopes or north of Bab adh-Dhra' as far as Wadi ash-Shuqeiq. The only significant MB settlements found on the Central Moabite plateau are in a straight line running from Mes'ar to al-Balu', al-Maṣna' and 'Ader. There are, however, MB tombs on the slopes, indicated by occasional finds. The number of MB sites compared with the quantity of sites at the beginning of the EB period — only about four MB sites as compared to fourteen Chalco-EB sites presently known in the survey area — strikingly indicates a sudden decline of the urban centres in the Northwest Arḍ al-Karak during that period.

4. *The Late Bronze Age in the Northwest Arḍ al-Karak*

There is very little evidence of any large scale Late Bronze Age occupation in the Northwest Arḍ al-Karak. During the surveys LB pottery was only found at four sites, but in rather small quantities. Nevertheless, it does prove the



Settlement Patterns in the Northwest Arḍ al-Karak (Central Moab) All periods (except Islamic).

existence of some LB settlements (?); but without excavations no definite statement can be made concerning the nature of the LB occupation in central Jordan.

5. *The Iron Age in the Northwest Arḍ al-Karak*

The Iron Age I-IIIC is well represented throughout the survey area. In addition to the known sites identified by N. Glueck and J. M. Miller (Glueck 1934; Miller 1982), some 13 more sites must be added so that the number of Iron Age sites in the northern Arḍ al-Karak now totals 39. Of the 13 sites discovered in the Northwest Arḍ al-Karak, only five have Iron I pottery. It is worth noting that on these sites, LB sherds were also collected. The remaining eight sites have a good representative corpus of Iron IIA-C pottery.

It is striking that the Iron Age sites are spread over the entire survey area. They are found in all the ecological zones from the plateau to the Dead Sea. The localization of these settlements is very similar to that of the Chalco-EB sites. Although the Iron Age settlements did not re-use the same locations, they are similarly found near wadis and springs, and on mountain spurs.

During the Iron Age, central Moab was encircled by a chain of fortress-like settlements which included Mudeinet al-Mu'arrajah and Mudeinet 'Alya, al-Balu', Mudeinet al-Mujeb, Tadun (?), ad-Deir, and possibly Karak. With the exception of Mudeinet al-Mu'arrajah, which was abandoned in the Iron I, all other sites continued into the Iron IIA-C periods. Particularly in the valley of Wadi Ibn Ḥammad and on the rim of the western Central Moabite Plateau, new settlements were founded in the Iron II, as can be concluded from the absence of any Iron I pottery on these sites.

Up till now the Iron IIC/Persian archaeological remains are only evidenced by the excavations at al-Balu'. From the little information we have from there (Worschech 1986b: 305-310) it can be gleaned that, after the Iron IIC occupation, the country experienced another non-urban phase which in central Moab lasted well into the late Hellenistic-Early Roman period.

6. *The Nabataean, Roman and Byzantine Periods in the Northwest Arḍ al-Karak*

The sites occupied during these periods in the Northwest Arḍ al-Karak are numerous. They have been found in all the ecological zones from the Central Moabite Plateau down to the shores of the Dead Sea. However, the larger settlements, such as villages or small towns, were founded on the plateau (i.e. al-Qaṣr, ar-Rabbah, Karak), while the sites on the slopes and at the Dead Sea were mainly isolated buildings with central courts, fort-like walls, sometimes with towers at all four corners. There were also tower-like structures (measuring between 5×8m to 8×12m) which could be interpreted as tower-houses as they are known from earlier and also later periods in Palestine (Worschech 1985a: 66-88). Most of these tower-houses and

fortified farms have been located near or within sight of the newly discovered road system west of the *Via Nova Traiana* (Worschech and Knauf 1985).

Since the Roman roads follow the topography of the slopes by the easiest ascent or descent, the Roman and Byzantine sites are only by chance on or near Iron Age and EB settlements. The village- or town-like settlements are along the *Via Nova Traiana* with only a few isolated buildings east of it (i.e. al-Balu'). And although Nabataean, Roman and Byzantine pottery can be found at almost every site in the Northwest Arḍ al-Karak, the main concentration of settlements dating back to these periods is along the 'King's Highway' with the Roman *limes* running further to the east.

7. *The Islamic Periods in Northwest Arḍ al-Karak*

There is very little evidence for Umayyad occupation in the Northwest Arḍ al-Karak. This may be due to the fact that the Ayyubid/Mamluk settlements were built on top of the earlier Islamic sites. However, there is more evidence for village-like Mamluk settlements, which are dispersed all over the northern Arḍ al-Karak. Settlements of this kind were independently founded in the Byzantine or Roman period. Entirely new open settlements sprang up, especially in the Islamic Middle Ages, but the tradition of isolated farms and tower-houses continued from Roman-Byzantine times. These buildings were primarily found in Wadi Ibn Ḥammad but they also exist on the Moabite Plateau and on the slopes. They are more recent, dating back c. 200 years. But at that time or shortly thereafter, the country experienced a time of more or less intensive "nomadism".

III. A Brief Summary of the History of Settlements of the Northwest Arḍ al-Karak

The following observations concerning the history of settlements in the Northwest Arḍ al-Karak are only based on survey material. Hence, all statements relating to possible historical events in the history of the settlements in this territory are only tentative and preliminary. However, since the Northwest Arḍ al-Karak has never before been the subject of any detailed studies with regards to over-all Jordanian archaeology and history, although specific research has been done at Bab adh-Dhra' and at al-Lajjun, for the sake of furthering studies in the much neglected Central Moabitis it is necessary to present a few hypothetical statements for further discussion.

The above-mentioned prehistoric periods (from the Acheulian to the Neolithic) are only evidenced by a few artifacts not associated with architectural remains dating to these periods. In addition to this limitation it is not certain whether *all* of the prehistoric sites in the Northwest Arḍ al-Karak have been found and mapped. For these reasons it is better to refrain from making any statements concerning the patterns of settlement pertaining to prehistoric sites in the area (Rollefson 1985: 82).

A clearer picture emerges at the end of the Chalcolithic

and at the beginning of the Early Bronze Age. The Chalcolithic is marked by rural communities which lasted partially into the Early Bronze Age, as can be shown by the campsites or open air stations with late Chalco-EB pottery. However, within the EBI there is an increase in the number of villages and small fortified towns all over Palestine. This also holds true for the small territory of the Northwest Arđ al-Karak. In addition to the known EB settlements (particularly Bab adh-Dhra' and al-Balu'), another 14 sites were discovered during the surveys. The sites are located in all of the three ecological zones described above.

Several factors led to the fall of the urban centres at the end of the Early Bronze Age: Overpopulation, ecological destruction and a most likely change in climate (Ritter-Kaplan 1984; Tubb 1983: 57). The EBIV (MBI) and MBIIA periods in central Jordan are well attested, particularly at Bab adh-Dhra' (Rast 1981: 31-34). However, archaeological evidence is too scant for any detailed discussion regarding the development and situation of central Moab at that time. No significant sites dating to the MB periods have been found on the slopes toward the Dead Sea, except for a few sherds of doubtful character. Still, there were four large Middle Bronze Age villages on the plateau (see above), al-Balu' being one of them. Evidence for the continuation of at least four MB settlements in Arđ al-Karak does not militate against the general observation of the discontinuation of urban centres in Palestine at that time. But however well attested, the Middle Bronze Age in Arđ al-Karak did not gain any significant heights during the MBII-B periods as compared to sites in Palestine.

Despite the finds of a number of sherds dating to the Late Bronze Age, there is no conclusive evidence for a strong LB culture in central Moab. It is also not known whether the MB villages lasted into the LB periods, since there is no evidence for LB occupation following the MB periods on the respective MB sites.

While in Palestine the Late Bronze Age urban centres declined, the village-like unfortified settlements increased due to new populations out of which new nations grew. The deteriorating LB settlements continued side-by-side with the increasing rural-type centres of the early Iron Age I. This generally accepted development in the LB and Iron I is attested to in Palestine but does not hold true, for instance, in central Moab. As surveys have shown, there is no evidence for a considerable number of truly urban Late Bronze Age sites in Arđ al-Karak. As in Palestine, the newly founded Iron Age I villages were not built on the sites of the Middle and Late Bronze Age tells, but near or not far from Early Bronze Age tells. At Khirbet al-Balu', however, the considerable water supply during the Early Bronze to the late Iron Age periods resulted in continuous settlement at Wadi al-Balu'. The Early Bronze Age settlement is situated on the plateau north of the wadi. A considerable concentration of Middle Bronze Age sherds and wall lines can be found on the south bank immediately

above Wadi al-Balu', while the Iron Age (I-III) settlement is located high above the wadi on the plateau stretching along the southern ridge of the escarpment for around 500m from 'Ain al-Balu' towards the east. It is remarkable that other Iron Age settlements spread to all ecological zones in Arđ al-Karak, which were not occupied in the MB periods but were in the Chalco-EB epochs.

During the Iron Age II the number of towns and villages increased in Arđ al-Karak, on the plateau, on the slopes and at the Dead Sea, although the evidence here is still evasive. However, Assyrian, Babylonian and Persian domination in the Iron IIC period have left their traces and the transition from one to the other was probably smooth since Moab did not fight the mightier, foreign powers. Arđ al-Karak continued with urban centres well into the Persian period. It appears that shortly after the end of Persian rule the Central Moabites also fell prey to the migration of Arab tribes into Moab. It is likely that, as elsewhere in Transjordan, nomadic Arab tribes migrated into Arđ al-Karak and mixed with the Moabite population there. We do not know if there existed any form of rulership in Moab between c. 400-150 B.C.

This 'interim period' lasted into the late Hellenistic period, which is attested in Arđ al-Karak together with the Nabataean and Early Roman periods. The c. 200 years of non-urban populations in central Moab does by no means suggest that the country was depopulated. Rural communities may have existed there continuously until the Roman period. However, there is no evidence of any larger settlements in the Early Hellenistic period.

Early Roman and Nabataean building remains, as well as late Roman, Byzantine and the much later Ayyubid/Mamluk settlements are, of course, well attested to by architecture and pottery in all of the Northwest Arđ al-Karak. Already in Nabataean times settlements had spread all over the ecological zones in Arđ al-Karak, and continued there during the later above-mentioned periods. The land must have been fairly secure with the Roman *limes* running further east. The valleys and plains below the Moabite Plateau were more heavily populated than today. Secondary roads connected the plateau with the Dead Sea and possible harbours there, as the Madaba map implies. The Northwest Arđ al-Karak never reached a high standard of living in comparison with the land north of Wadi al-Mujeb. Central Moab was a 'backwater' but may have been important for shepherding and farming from Roman times until the end of the Islamic Middle Ages, when a large village called 'Shiḥan' was built west of al-Balu'.

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