

The Vicissitudes of Life at Dayr 'Allā during the First Millennium BC, Seen in a Wider Context

Introduction

The excavations of Tall Dayr 'Allā in the Jordan Valley have revealed a site chosen for settlement during the Late Bronze Age and the Iron Age. This paper is concerned with the Iron Age, in particular the Iron II and III periods, represented at Dayr 'Allā in the phases X-III, as distinguished preliminarily by the Joint Expedition of the Department of Antiquities of Jordan, Yarmouk University and Leiden University, Holland¹ (TABLE 1).

These Iron Age periods were partly excavated by the Leiden Expedition (mainly in 1967), directed by Henk Franken, and especially by the later Joint Expedition, co-directed by the author and Dr. Moawiyeh Ibrahim, succeeded by Dr. Zeidan Kafafi since 1996. The excavated area dealing with this period is on the east-top, most of its northern half (totalling at maximum 1200m² at the lowest levels) and a 5x10m exploration trench to the south. In this area phase X is partly excavated, phase IX is stratigraphically best preserved and the other phases have suffered a lot from later disturbances.

The archaeological results indicate a wide variety of settlements during this period. Alternating intensive and weak uses are shown, with six wave peaks during the 600 years concerned (TABLE 1).

This paper presents a short preliminary result of the archaeological study of these phases and seeks to explain the short term alternating degrees of intensity of use through economic, but especially political forces that act in the wider region. This will be done in three steps:

1. Description of the vicissitudes of life at Dayr 'Allā and some neighbouring sites.
2. Archaeological explanation of this alternation, taking two basics: the environment and some explanatory models.
3. Historical connections.

1. Description of the Vicissitudes of Life at Dayr 'Allā and Some Neighbouring Sites during Iron Age II and III

Let us now look chronologically at the use of the site from the tenth till the fourth century BC (phases X-III). It should be kept in mind that the archaeological datings used are not yet very well fixed, but based mainly upon several carbon-14 analyses and a number of artifact chronologies.

Systematically reference will be made to the character of the settlements as well as to the beginning and end of each phase—it being abrupt or gradual.

The six peaks of more or less intensive use are the following:

(see FIG. 1 for a sample of the stratigraphy: “exploded view” of phases IX-III in square B/A8, see Van der Kooij, and Ibrahim 1989), using preliminary characterizations (for more details see the literature referred to in note 1).²

1. = *phase X*; it is still unclear in which way this settlement began on the site, which was already a *tall*, more than 20 m above the plain at that time;
 - the settlement was a village with relatively heavy mud brick building constructions, densely built; during its use some fire destruction with roof collapse occurred;
 - abrupt ending by a sudden destruction (partly with fire); 13 clay-closed jars filled with organic liquid were left untouched.
- = the phase was followed by no use of the site for some time;
- = finally a round pit was made, well constructed, with 12 m diameter and 5 m depth.
2. = *phase IX*: mud brick buildings were erected, probably as one activity, on only partly levelled ruins, and over the gradually filled large pit just mentioned;
 - the settlement consisted of complexes of lightly built

¹ A review of the excavations unto and including the 1987 season is given in G. van der Kooij and M. M. Ibrahim, (eds) 1989. The report of the 1994 season appeared in *ADAJ* 41 (1997); the report of the 1996 and 98 seasons is to be published shortly — short reports appeared in the 1996 and 1998 issues of the *Newsletter of the Institute*

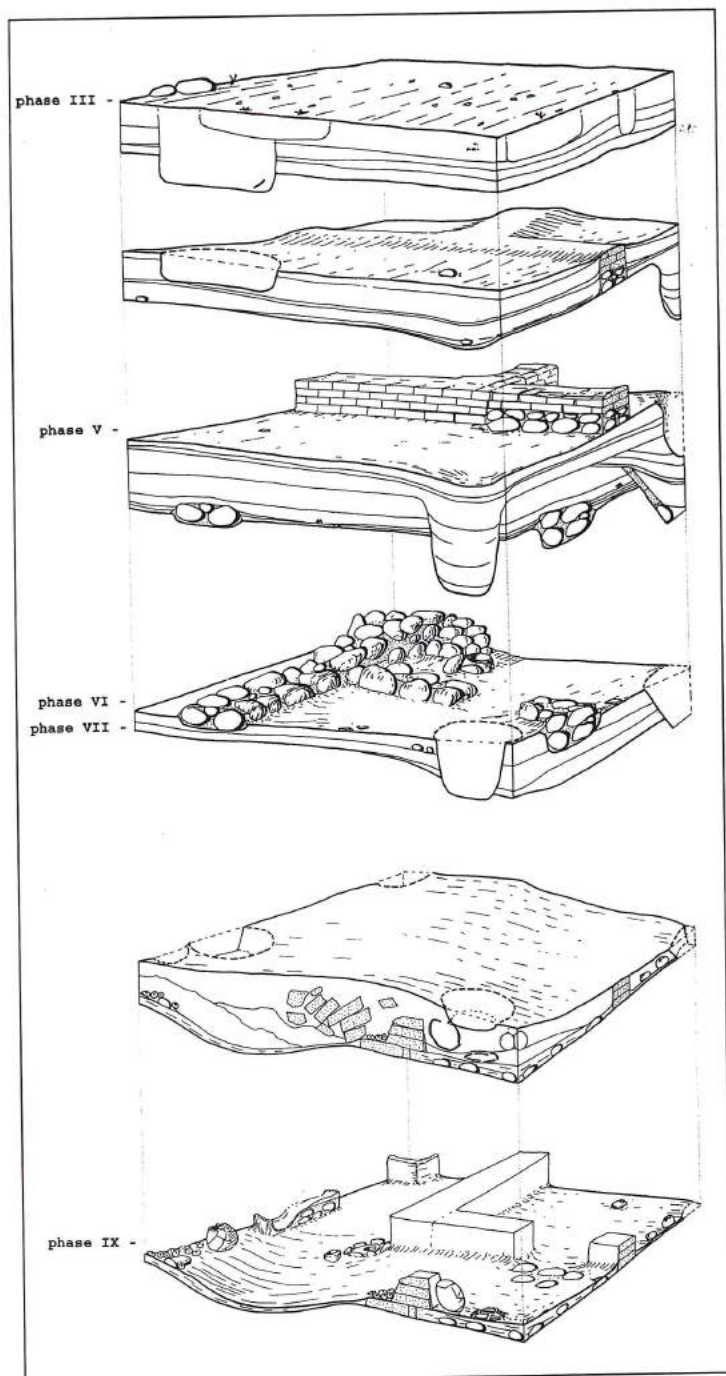
of Archaeology and Anthropology of Yarmouk University.
² It should be stressed, that the characterizations are preliminary here, because several of the systematic studies of the remains of the distinguished phases have not yet been completed. This is also valid for the botanical and zoological remains.

TABLE 1. Phasing of Tall Dayr 'Allā; for the Iron Age II & III periods the rather intensive uses of the site are indicated.

strata	(sub)phases	kind of inhabitation and use of space	time & period
I		graveyard on top and slopes	13-16th c.AD
II		huge pit made and filled on E-top	4th c.BC
III *	buildings	building; storage pits	Iron Age III (Babylonian- Persian)
IV	courtyard- accumulation	top of tell used as sheeps' pen during and after slow disintegration of village of ph.V	
V *	2.rebuilding 1.building	village; courtyards with many pits for fodder	500BC
VI *	4.no bldng 3.no bldng 2.rebuilding 1.building	large yard; many pits mainly for fodder large courtyard; large constructed pits (5m diam.) new buildings, restored court-wall; fire destroyed farmhouses with fodder barn and heavy courtyard wall; fire destruction	Iron Age IIC
VII *	building	erosion and egalisation village; destroyed by earthquake and fire	(Neo- Assyrian) 700BC
VIII	building	large building with yard on ruins of IX/ deserted	Iron Age IIB
IX *	2.rebuilding 1.building built pit	village; destroyed by earthquake and fire living compounds with weaving; religious 'centre'	800BC
X *	erosion 2.rebuilding 1.building	village with solid buildings; large storage basement and rubbish-heap	Iron Age IIA 1000BC
(Iron A) E-L	L building K J H building G F E building	village village; rounded tower with wall some heavily built walls village; lightly built walls	Iron Age IB 1100BC
(Iron A) A-D	D some bldng C B some bldng A	some houses large ovens (metal); storage pits for fuel/fodder flimsy buildings and tents? seasonal use	Iron Age IA
(L.B.A) A-H	F-H reblndg E B,C,D reblnd A building	fragmentary rebuilding of walls fierce destruction by earthquake and fire reblndg:N quarter: temple with mainly store rooms S quarter: storage/trade, metal work city: S quarter with town wall N quarter: temple (only parts excavated) N quarter: artificial extension; temple terrace	Late Br. II 1200BC Late Br. I 1500BC
(M.B.A) I-IV	I building II III building IV building	(SE quarter+ E foot) walls; fire destroyed yard and pits some buildings; fire destroyed heavy walls; rooms; city; walls also to E, S and W natural hill of Lisan marl/clay + löss	MB-LB Middle Br. II 1700BC

* means: phase of rather intensive use (Iron Age II and III only)

NB: the indications of strata/phases are partly preliminary and not yet made uniform; only the Late Bronze Age and Iron Age I strata excavated in the 1960s, are published in a final way.



1. Stratigraphic sample: exploded view of the phases IX-III as appearing in square B/A8.

small rooms and few open spaces; intensive agriculture was practised and other local exploitation used; much weaving activity, religious text, etc.; partial fire destruction and rebuilding;
 - ending by an earthquake and fire destruction; c. 800 BC (14C);
 = some local rebuilding occurred (phase VIII), but hardly

³ The identity of the silica remains of thick layers of plant leaf material is not established: phytolith analyses are not done. The same applies to the limy remains of plant leaf material stored in pits and

used — in fact rather abruptly ending;
 = some time no use and erosion.
 3. = *phase VII*: building on levelled surface, probably as one activity;
 - many mud brick rooms; layout of the settlement preserved with many gaps, but probably densely built; a solid separate mud brick wall was made, funded deeply into the preceding ruins and bordering the settlement to the north; traces of a strong agricultural economic component;
 - abrupt ending by fire and probably also by earthquake;
 = some time no use; much levelling.
 4. = *phase VI*: building partly in stages on levelled surface;
 - the settlement is preserved with many gaps, but some domestic rooms with stone funded walls and a storage room for “fodder”³ are clear as well as much space for courtyards; a solid separate mud brick wall to the north; one partial collapse (with fire) occurred, followed by rebuilding;
 - abruptly ending by fire destruction; no rebuilding;
 (the following sub-phases are often referred to as phase V/VI in preliminary reports)
 = washed layers levelling the surface, and courtyard accumulation indicating use of space with life stock;
 = construction of several 5m diameter lined pits, without clear traces of use;
 - pits getting out of use and filled; washed layers and courtyard accumulations;
 = digging of many small pits, often bell-shaped and generally filled with “fodder” (see previous note);
 - getting out of use, some washed accumulation (from apparently some constructions or debris around on a higher level, of which nothing was found).
 5. = *phase V*: building (possibly in stages), but on unstable surface over the earlier small pits with their soft fill;
 - several mud brick built rooms with courtyards, and pits for fodder; not tightly built; some rebuilding;
 - gradual destruction or disintegration.
 = *phase IV*: courtyard accumulation continues, going over the slowly levelling ruins of phase V.
 6. = *phase III*: building with a probably abrupt start;
 - poorly preserved (surface erosion): some stone foundations, pits, and small parts of the living surface; not very tightly built settlement;
 - kind of destruction not clear, but probably sudden.
 Theoretically the periods of little or no use at the partially excavated eastern top may mean contemporaneous intensive uses of the lower western top. However no traces from stratigraphy indicate this, and only very few sur-

covering the bottom of them. In any case seeds are not involved. All this material is hypothetically taken as fodder.

face sherds from this part of the top and slope are to be connected with any of the later periods (mainly with the intensive phase III).

Taking the beginnings and ends of the intensive uses we see the following:

The intensive uses end abruptly by destruction with the phases X, IX, VII and VI and possibly III. In one case a rebuilding started, be it short living. Also in one case a fading out occurred: phase V to IV.

The start of more or less intensive uses is quite abrupt in a number of cases; with phases IX, VII (both: most intensive use), phase VI, possibly with phase V and probably with phase III.

How do we have to understand this fluctuation?

At first we have to assume that this fluctuation is not an autonomous process for the site only. However if we compare the Dayr 'Allā phasing with those of the few excavated sites in the neighbourhood we see only partially a probably synchronous parallelism.⁴

The synchronous parallel development seems clear, based upon artifact typology (mainly pottery), at Tall al-Mazār, 3 km north of Dayr 'Allā, excavated by Kheir Yassine (University of Jordan).

Its top phases are (see especially Yassine 1983 and 1988):

stratum V:	// DA VII
III+IV	// DA VI
II	// DA V+IV

The nearby Iron IIC cemetery (Yassine 1984) is (unexpectedly) not connected with just one of these phases, but possibly with all of them, unless the pottery added cannot be phased that strictly. It is possible to suppose a close but alternating use of Dayr 'Allā and Tall al-Mazār, but, especially in periods of intensive agriculture with irrigation (Dayr 'Allā phases IX and probably VII), a contemporaneous use is to be expected (see below).

A synchronous parallel development is also quite possible at Tall al-Hammah, at the az-Zarqā' hot spring, 2 km east of Dayr 'Allā, excavated on a very limited scale by the Joint Expedition of Dayr 'Allā, supervised by Eveline van der Steen (see her 1998). A contemporaneity of peaks of use is partly clear and expected, because of the hypothetical importance of the site for the irrigation system for the region of Dayr 'Allā and possibly Tall al-Mazār (see

below). Of course the site had reasons for existence beyond the irrigation system as well such as iron production (unpublished MA thesis, Leiden 1998, by A. E. Veldhuijzen), probably during the Dayr 'Allā phase VII, c. 700 BC.

On the other hand a synchronous parallel development is not clear at Tall as-Sa'idiyya, 7 km north of Dayr 'Allā, close to the Jordan River, excavated by James Pritchard (University of Pennsylvania) and Jonathan Tubb (British Museum), see especially Pritchard 1985 and Tubb 1988 mainly. The pottery assemblages of the phases are difficult to compare. The suggested difference of rhythm of use of the site may be — partly — explained by another agricultural situation, using the nearby Zor-lands with their high ground water table, and probably another crossing point of the Jordan River.

2. Archaeological Explanation

In order to explain this fluctuation we may consider some narrow local factors — both physical (e.g. bad building surface) and cultural (e.g. religious reason), but they may have an incidental effect only. In order to explain the short term, but strong fluctuation, and considering the geographic situation (see below), we better assume that this pattern is not a local autonomous development, but is embedded in or part of structures and processes in the wider region.

As a main basis for the structures and processes I like to take the *environmental situation*, with its impact on economic behaviour.

This middle part of the Jordan Valley is and was a steppe region, that extends further south, turning into a desert zone there (see Zohary 1982; Van Zeist 1985: esp. 203; Neef 1989). Partly the soil is and was good, but precipitation gives meagre, in any case unreliable, dry farming potential. To the west and to the east, however, in the woodlands of the mediterranean zone, dry farming could provide a reliable economic base.⁵

In this sense, and compared to other famous river valleys like Nile and Euphrates, one may call the Jordan Valley a reversed valley: agriculture based societies would not concentrate on this valley, but rather on its higher banks; furthermore the river cannot be used adequately as a means of transport and communication. On the other

⁴ As neighbourhood is chosen a small region in this middle part of the Jordan Valley. Only sites excavated or under excavation are selected, because survey data (mainly Ibrahim, Sauer and Yassine 1976; 1988) cannot show the detailed specifications needed for this study — "Iron II" not being sufficiently specified and "Persian Period" not being sufficiently defined for our purpose. On another occasion it would be useful to look for parallelism in a wider region, but too little is excavated to be specific enough. The exception is Tall Abū al-Kharaz at Wādī al-Yābis (22 kms north of Dayr 'Allā), under excavation by Peter Fisher, but so far the Iron II period is not sufficiently specified to be useful for this purpose (a.o. Fisher 1991; 1997).

⁵ See Zohary 1982 for a general survey of the vegetation in the southern Levant and Al-Eisawi 1985 specific to Jordan. Possibilities for agriculture in the Jordan Valley are studied in a number of development reports, see for example the voluminous Dar Al-Handasah and Nedeco 1969 report; Vol. III (Annex E), p. 34f gives the yield for 1965/66: irrigated wheat: average about 105-110kg per dunum (some regional differences), non-irrigated wheat (in the northern part of the East Valley only) 35kg per dunum (the 1965/66 season was a rather dry one); p. 38: the highest and lowest yields of wheat (taking all areas of the valley in the years before 1965) were reported to be 250kg and 30kg per dunum respectively; the difference was mainly depending on availability of rain and irrigation water, but also on diseases.

hand the Jordan Valley is very attractive for pastoral activities in winter and spring.

However, this middle part of the Valley could be made suitable for reliable agriculture by irrigation, using water from the nearby river *az-Zarqā'* and perhaps from *Wādī Rājib* (with Tall Ammata at the entrance into the Valley). We do not know the system that has been used, but the most profitable (and possibly best defendable) irrigation system might have been the one used until the 1950s: a system taking water from the *az-Zarqā'* somewhere east of Tall al-Ḥammah (possibly protecting this entrance) and bringing water to the north-west (as far as al-Mazār) and west, Dayr 'Allā.⁶

Considering this environmental basis we have to understand, on the one hand (A) the varieties of use of the site, and on the other hand (B) the developments that brought those results.

In order to systematize our thoughts we need models that make it possible to further describe and explain hypothetically the colourful variety of human existence at Dayr 'Allā.

The proposed models are based partly upon the local geographic and social situation, as ethnologically and ethnohistorically described (cf. summarizing Van der Kooij, Ibrahim 1989: 11-14, and ethnohistorically more detailed: Van der Steen 1995 and Tarawneh 1989), partly upon observations and abstractions from elsewhere, with comparable geographic and social situations.

A. At first a model of this variety of existence on a site, from little or no use to intensive use of site and region, should be formulated. It is useful to look at a.o. the models proposed by LaBianca 1990 (based upon food-systems theory) and Cribb 1991: both dealing with nomadization and sedentarization. Also for our case the different intensities of use should not be considered in steps, but rather measured on a "sliding scale" from one extreme end to the other; from little use till intensive use.

The extreme ends would be:

- lowest intensity: the use of the site is limited to grazing and resting grounds for life stock within the framework of pastoral nomadism, with people staying in the valley in winter and spring, alternating with the foothills and uplands; no fixed structures on the site. A slightly higher intensity would show some pits for fodder and pen structures.

- highly intensive use: permanent stay on the site with many fixed and densely built structures as well as intensive agricultural and horticultural exploitation of the surrounding fields, using irrigation.

At all stages on the scale some hunting and gathering of plants is included, as well as some trade, by both "unsettled" and settled people. This is especially true in this middle Jordan Valley area, which could be not only a border, but also a bridge between the two mediterranean zones, by its fords⁷ and access to the mediterranean zones through or alongside *Wādī az-Zarqā'* and *Wādī al-Farah*.

This model helps to describe (mainly economically) the different intensities of use.

B. Secondly we need a model for the processes that lead to intensification and to weakening of use, or the start and desertion of a settlement.

Two general models are proposed now for the situations at Dayr 'Allā, but we have to consider some specific backgrounds as well.

1. Processes of sedentarization of pastoral nomadic people, and those of (a return to) nomadization. In practice this means a group living seasonally in a region and deciding freely or forced to settle there, generally to promote agriculture and reach both a more complete subsistence economy and possibilities of varied trade. Sometimes — especially in case of gradual transitions — the structure of a house and a settlement reflects the nomadic customs and use of space (Cribb 1991), but in other cases another structure is adopted.

Nomadization may have the opposite cause and may occur for other reasons as well. If the process includes a complete giving up of settlement it has to do with security and stability in a wider region, or with a disaster.

At Dayr 'Allā the gradual intensification with phases VI and V, and the gradual release of use with phase V may be connected with these processes of sedentarization and nomadization respectively. However lack of knowledge about contemporaneous nomadic life ("tent" and camp) makes it difficult to be more precise, yet the presence of large courtyards with accumulations with plant remains is an indication of animal keeping and herding — dealing with sheep and goats according to the bone remains.

The abrupt endings observed may also have led to nomadization, but this is difficult to check.

2. The second model has stronger connections with a wide

⁶ Royal Air Force Levant photograph, published by Glueck 1951: fig. 101 (a copy of the RAF Levant-based map is printed in Van der Kooij and Ibrahim M. 1989: 11). The system is also visible on a German photograph from 1917/18 as published by Dalman 1925: Pl. 84, and indicated on 1918 topographic maps of the Survey of Egypt (see note 7). This system takes *az-Zarqā'* water 1 km east of al-Ḥammah at c.190m below sea level, close to Tall Mghanni West, which has traces from the Iron Age but mainly from Hellenistic and Roman times (survey Gordon, Villiers 1983).

⁷ The sub-recent situation is shown on two maps of the Survey of

Egypt, both from 1918 (scale 1 inch to mile, 1:63,360; I am grateful to Dr Edward LaGro for showing them to me). Two roads passing Dayr 'Allā are crossing the river Jordan, one going west and crossing at "a good ford" at Abū Sidrah; the other one going south-west and crossing at Dāmiya with a ferry or bridge. Opportunities to cross the river Jordan must have changed a lot during time, because certainly its curves did change considerably. Possibly however the existence of Tall Abū Sidrah close to the spot may indicate an early use of this crossing point. The crossing at Dāmiya is taken to be part of an old road system.

er regional process. Social or economic over-population or over-exploitation in the mediterranean ecological zones may guide parts of the population to exploit agriculturally (especially) the marginal areas, including the steppe border zones, and live there permanently. This process may be labelled expansion or migration; the word "colonization" would be sometimes applicable as well.

A special kind of expansion is the one that leads to exploitation of the region for a specific economic product as is historically and archaeologically known about for example the Mamluk period: promotion of sugar (cane) production in the Jordan Valley by the Egyptian Mamluks (cf. Hamarneh 1977-1978, a.o.), also close to Dayr 'Allā: e.g. Tall Abū Šarbūṭ (De Haas, LaGro and Steiner 1992).

The decrease of intensity and remigration to the mediterranean zones will take place during or after a decrease of population or a disease (malaria in this region), and also when a protecting organization in this marginal zone has weakened — often after the first hostilities are experienced!

In the case of Dayr 'Allā this model is especially applicable to phases IX and VII, but also possible with phases VI, V and III.

3. Other factors for settlement or abatement could be abstracted into models as well. For example religious forces: the settlement at Abū 'Ubaydah (3.5km north of Dayr 'Allā) started because of the effect of the existence of the famous general's tomb there.

Or the abandonment of a site after being made desolate by a natural force (earthquake, disease) or by human hostilities, because this was seen as an act of divine powers and as a punishment. This may be applicable to phase IX with the abortive rebuilding of phase VIII.

These factors could be a reason by themselves or a catalyst for the two processes mentioned earlier.

3. Historical Connections

The final step is the connection of these proposed archaeological processes with historical information and chronology. For this purpose we have to find compatible archaeological and written data.

At first the archaeological data from Dayr 'Allā have to be taken out of isolation and connected with a wider context - with other sites and regions and more or less also with a chronological framework.

Next the processes have to be connected with historical information.

In the following the two stages of the approach will be introduced and synthesized into a (still preliminary) integrated view of situations and chronology.

A. The archaeological information includes some 14C dates for a first indication, but here mainly the cultural identities of the peak phases of Dayr 'Allā will be dealt with (in a limited way and mainly concerning pottery and some other artifacts), showing connections with wider cultural units.⁸

B. Written information about the region has to be found through some topographical identifications. This middle part of the Jordan Valley has to be identified with the "valley of Succoth", or the region of Makir, as part of Gilead, in the Old Testament (cf. Lemaire 1981). The specific identification of the site of Dayr 'Allā has not yet been definitely settled.

In the period of concern written sources with information about the small region are rare. A survey of the sources concerning Trans-Jordan is given by Bienkowski 1992, for many details and discussion relating to northern Trans-Jordan see Hübner 1992 (cf. also MacDonald 1994).

Roughly the following references should be given:

- Egyptian source) Pharaoh Shoshenk's list dealing with his campaign into the region (c. 925 BC);
- (Old Testament) importance of Jeroboam I and Jeroboam II (787-747 BC), kings of Israel, that included the East Bank of the Jordan into their state (cf. Donner 1986);
- Neo-Assyrian sources refer to the wider region and population groups, like Ammonites, concerning tribute, etc.

Avoiding on this occasion many of the historical details and problems, my proposal is now to equate hypothetically the periods of intensive use of Tall Dayr 'Allā and close surroundings with periods of some political stability and some wealth. Often with some independence as part of a wider region, but with the obligation to pay tribute to the main lord.⁹ This tribute demands extra efforts for surplus production of any kind. The stability and surplus production would give respectively the possibility and necessity to expand to this part of the Jordan Valley.

The following connections between archaeological and historical data are now proposed.

Phase X: the pottery partly consists of the group of 14 vessels, 12 of which being liquid containing store jars and one jar with false spout as well as a spherical "pilgrim's flask"; these last local ceramic objects had "Cypro-

⁸ Apart from the usual reference works the publications of a.o. Dornemann 1983 and Routledge 1997 (especially in connection with Dayr 'Allā phases VII-IV) are useful for this purpose.

⁹ It has been made clear for several tribute paying vassal states, that the main lord (i.e. the Assyrian King) not only demanded a lot of wealth for himself, but also tried to guarantee the influx of tribute

by promoting the economy of the state concerned. This is clearly applicable to the Phoenician cities (cf. already Röllig 1982) and also to some south Levantine regions, especially that of the Edomites (see e.g. Weippert 1982: 295; Knauf-Belleri 1995 and Na'aman 1993; cf. also Bienkowski 1992).

Phoenician" decorative motives.¹⁰ This pottery (especially that with the decorative motives) is easily connected with (a.o.) the assemblage uncovered by Jane Cahill and David Tarler at the large Tall al-Ḥammah (23km north of Dayr 'Allā, west of the river Jordan near the edge of the Valley plain along the road to Baysān), from Terrace L (rooms 129-117) dated to the tenth century BC (see Cahill *et al.* 1989).

- The archaeological information does not yet allow a close historical connection, although Cahill *et al.* (1993) suggest a destruction by Sheshonk, but leaving other possibilities as well.¹¹

Phase IX (14C-cal. century 800 BC) shows pottery traditions general in Palestine, as well as some apparent Trans-Jordanian elements (Mādabā tomb-group, see Thompson 1986), but also some traded pottery (containing plant and shell products) from the Phoenician coast (for a short comparative study see Ibrahim and Van der Kooij 1991 and a detailed evaluation by Wenning and Zenger 1991).¹²

- Thus the phase could be connected with the Aram-Damascus expansion of Hazael (842-800 BC) into Trans-Jordan, but too little is known about the situation (and Damascene archaeology!) to be sure about a period of peace and prosperity and about connections with Phoenician cities.

On the other hand such circumstances may be assumed with the incorporation of this part of Trans-Jordan into the northern kingdom of Israel by its king Jeroboam II (787-747), who was benefitting from some military power vacuum from the north.

However, attribution to this period is not the only possibility, because those favourite circumstances cannot be excluded from earlier ones.

Phase VII shows the continuation of local elements as well as a very strong presence of so-called "Neo-

Assyrian" pottery, with its well thrown jars, bowls and cooking pots (see Ibrahim and Van der Kooij 1997: 101; for a generally applicable discussion of "Assyrian influence" on pottery from Jāwa, see Daviau 1997; cf. also Gitin 1995, for Tel Miqne stratum IC). Also other "foreign" artifacts are represented in this phase, such as an iron dagger with complex handle.

- Thus the phase has to be connected with circumstances of Assyrian supremacy, which was valid since Tiglath-Pilezar III's campaign to the west till Egypt in 735-732 BC, demanding tribute from Ammon, Moab and Edom.¹³ Assyrian policy to transplant elements of population (a.o. craftsmen) to elsewhere in the empire may be behind the strong presence of foreign culture. The "two-way" deportations occurred especially under Sargon II and Esarhaddon (see Na'aman 1993; cf. also Hübner 1992: 187f).

Phase VI has also quite a variety of pottery,¹⁴ like phase VII, though less sharply distinguished, and now with the cosmopolitan elements of the "Neo-Babylonian" situation, as well as "seventh/sixth century Ammonite" materials, including script (see preceding note).

- Thus the two building phases could be connected with the seventh century Ammonite state as it was a loyal vassal, paying tribute, and using interregional contacts; the sixth century is less clear, and apparently more problematic economically (cf. Hübner 1992: 197, 207 a.o.).

The following interruptions of the rather intensive use of the site may have to be connected with the release of Assyrian power, the Egyptian supremacy and Nebukadnezar's establishment of power in the Levant in 605 BC.

Phase V (with IV) continues with Ammonite materials (black and white bands and other decorations), but also fifth century BC Aramaic script on ostraca showing the influence of Persian central administration.¹⁵

¹⁰ Only some of the pottery is to be seen in publications; see Van der Kooij and Ibrahim 1989: reg. no.14, p.81f for context, p. 41 for ants from one of the jars; see also Ibrahim and Van der Kooij 1997: 103.

¹¹ Recent surveys in the Jordan Valley, west of the river Jordan, have some interesting results concerning (probably?) the tenth century BC in this region, including the discovery of some "fortresses" (see Zertal 1995).

¹² The pottery of phase IX has some exceptional elements. The burnished askos (see Van der Kooij and Ibrahim 1989: cat. no. 42, fig. 53, Ibrahim and van der Kooij 1991: fig. 2f) is a rare jar, in this region connected with Phoenician pottery traditions. The red slipped and burnished type is often connected with tenth-ninth century BC dates (see Gal 1992: 17f, with references). The spherical jugs (o.c. cat. no. 32 - with short Aramaic text, 39, 46 and fig. 2e) are hardly found elsewhere, as are the two bowls on high foot (Franken 1976: 15, Pl. 16b), cf. 'Ammān tomb C. For other types see the same literature and Ibrahim and Van der Kooij 1986; and especially Vilders 1992.

¹³ It is interesting to connect the activities of iron production at Tall

al-Ḥammah (through the pottery assemblage probably connected with Dayr 'Allā phase VII) with the tribute that was listed by the Assyrian king Tiglath-Pilezer III (list for 738) as provided by the Levantine kings (including the three of the Trans-Jordanian kingdoms): besides gold, silver and tin, iron is included.

¹⁴ Some pottery is published in Ibrahim and Van der Kooij 1979; 1983, and in Van der Kooij and Ibrahim 1989: cat. no. 117, 118 and the thick "carrot" bottle 119 (the narrow carrot occurs only in phases V and IV). One of the ostraca (reg. no. 2755) is published (partly) by Hoftijzer and van der Kooij 1989: cat. no. 123, see pp. 66 and 69, and in Ibrahim and Van der Kooij 1983: Pl. 128.2. For palaeographic dates see Van der Kooij 1987. It is interesting to compare some types from the assemblage with those from the chronological key-site Tall ad-Duwayr/Lachish, especially Level II, decanters (see Zimhoni 1990/1997).

¹⁵ Little of the pottery has been published so far; characteristically the long narrow "carrot" bottle occurs. See a.o. Van der Kooij and Ibrahim 1989: cat. no. 149. One of the ostraca is cat. no. 151 (DA reg. no. 2600, see also Franken and Ibrahim 1977-8: Pl. 29, below), cf. Van der Kooij 1987 for some palaeography.

- Thus phase V can be easily connected with the Achaemenid-Persian hegemony, starting in 539; the region being part of the fifth satrapy and of its province Ammon (cf. Hübner 1992: 210-216 and Herr 1992).

Phase III characteristically has some Attic ware, including the fish bowl; no Hellenistic diagnostics are found.

- Thus phase III would be the result of a flourishing period under Ammonite and Persian hegemony of the fourth century BC.

During later peaks of intensive use of the place the high tall of Dayr 'Allā was no longer settled. Nearby spots were chosen for villages: Tall Qa'dān (or Tall Dayr 'Allā-East) during the Ayyubid-Mamluk period (in order to exploit the Valley for sugar production) and the area south of the tall for the 20th century village, when irrigation agriculture had started as well.

Conclusion

It may be said that the proposed general models to interpret the fluctuation of use-intensity of the site of Dayr 'Allā are helpful by providing a framework for understanding the archaeological data. However many more archaeological data have to be brought into the discussion in order to get a clearer picture of the characters of the different uses and of the cultural, chronological and historical connections and thus give a more firm basis to the interpretation.

Yet it may be added, as a working hypothesis, that this agriculturally marginal region of the "reversed valley" can be considered a measure of political and economic stability in the surrounding mediterranean zones.

Bibliography

- Al-Eisawi, D. M. 1985. Vegetation in Jordan. Pp. 45-57 in *SHAJ II*. Amman: Department of Antiquities.
- Bienkowski, P. 1992. The beginning of the Iron Age in Southern Jordan: A Framework. Pp. 1-12 in P. Bienkowski (ed.), *Early Edom and Moab*. Sheffield.
- Cahill, J. et al. 1989. Tell el-Hammeh in the Tenth Century BCE. *Qadmoniot* 22: 33-38.
- 1993. *NEAEHL* s.v. Hammah: 561-2.
- Cribb, R. 1991. *Nomads in Archaeology*. New Studies in Archaeology. Cambridge.
- Dalman, G. 1925. *Hundert deutsche Fliegerbilder aus Palästina*. Gütersloh.
- Dar al-Handasah & Netherlands Engineering Consultants (Nedeco) 1969. *Jordan Valley Project; Agro- and Socio-Economic Study*. Beirut/ The Hague.
- Daviau, M. 1997. Technological Change and Assyrian Influence at Tall Jawa, Jordan. *Bulletin* 32 (The Canadian Society for Mesopotamian Studies) March: 23-32.
- Donner, H. 1986. *Geschichte des Volkes Israel und seiner Nachbarn in Grundzügen* 2. Göttingen.
- Dornemann, R. H. 1983. *The Archaeology of the Transjordan in the Bronze and Iron Ages*. Milwaukee.
- Fisher, P. M. 1991. Tall Abū al-Kharaz; the Swedish Jordan Expedition 1989; First Season Preliminary Report from Trial Soundings. *ADAJ* 35: 67-104.
- 1997. Tall Abū al-Kharaz; the Swedish Jordan Expedition 1995-1996; Sixth and Seventh Season Preliminary Excavation Report. *ADAJ* 41: 129-144.
- Franken, H. J. 1976. Archaeological Evidence Relating to the Interpretation of the Text. Pp. 3-16 in J. Hoftijzer and G. van der Kooij (eds), *Aramaic Texts from Deir 'Alla*. Leiden.
- Franken, H. J. and Ibrahim, M. M. 1977-8. Two Seasons of Excavations at Tell Deir 'Alla, 1976-1978. *ADAJ* 22: 57-80.
- Gal, Z. 1992. Hurbat Rosh Zayit and the Early Phoenician Pottery. *Levant* 24: 173-286.
- Gitin, S. 1995. Tal Miqne-Ekron in the 7th Century B.C.E.: the impact of economic innovation and foreign cultural influences on a Neo-Assyrian vassal city-state. Pp. 61-80 in S. Gitin (ed.), *Recent Excavations in Israel; A View to the West*.
- Glueck, N. 1951. *Explorations in Eastern Palestine IV*. Part I: text (*AASOR* 25-28). New Haven.
- Gordon, R. L. and Villiers, L. E. 1983. Telul edh Dhahab and its Environs Surveys of 1980 and 1982; a preliminary report. *ADAJ* 27: 275-289.
- Haas, H. de, LaGro, H. E. and Steiner, M. L. 1992. Second and Third Seasons of Excavations at Tell Abū Šarbut, Jordan Valley (preliminary report). *ADAJ* 36: 333-343.
- Hamarnah, S. 1977-8. Sugarcane Cultivation and Refining under the Arab Muslims during the Middle Ages. *ADAJ* 22: 6-18 (Arabic), 19 (English summary).
- Herr, L. G. 1992. Two Stamped Jar Impressions of the Persian Province of Ammon from Tall al-'Umeiri. *ADAJ* 36: 163-166.
- Hoftijzer, J. and Kooij, G. van der (eds), 1989. Inscriptions. Pp. 62-76 in G. van der Kooij and M. M. Ibrahim.
- Hübner, U. 1992. *Die Ammoniter; Untersuchungen zur Geschichte, Kultur und Religion eines transjordanischen Volkes im 1. Jahrtausend v. Chr.* Wiesbaden.
- Ibrahim, M., Sauer, J. A. and Yassine, K. 1976. The East Jordan Valley Survey, 1975. *BASOR* 222: 41-66.
- 1988. The East Jordan Valley Survey, 1976. Pp. 189-207 (Part Two), in K. Yassine (ed.).
- Ibrahim, M. M., Kooij, G. van der 1979. Excavations at Tall Dayr 'Allā, Season 1979. *ADAJ* 23: 41-50.
- 1983. Excavations at Tell Deir 'Alla, Season 1982. *ADAJ* 27: 577-585.
- 1986. Excavations at Deir 'Alla, Season 1984. *ADAJ* 30: 131-143.
- 1991. The Archaeology of Deir 'Alla Phase IX. Pp. 16-29 in J. Hoftijzer and G. van der Kooij (eds), *The Balaam text from Dayr 'Allā Re-evaluated*. Leiden.
- 1997. Excavations at Tall Dayr 'Allā; Seasons 1987 and 1994. *ADAJ* 41: 95-114.

- Knauf-Belleri, E. A. 1995. Edom: The Social and Economic History. Pp. 93-117 in D. V. Edelman (ed.), *You Shall not Abhor an Edomite for He is Your Brother; Edom and Seir in History and Tradition*. Atlanta.
- Kooij, G. van der 1987. The Identity of Trans-Jordanian Alphabetic Writing in the Iron Age. Pp. 107-121 in *SHAJ* III. Amman.
- Kooij, G. van der and Ibrahim, M. M. 1989. *Picking up the Threads...; A Continuing Review of Excavations at Deir 'Allā, Jordan*. Leiden.
- LaBianca, Ø. S. 1990. *Sedentarization and Nomadization; food system cycles at Hesban and vicinity in Transjordan (= Hesban I)*. Berrien Springs.
- Lemaire, A. 1981. Galaad et Makir; remarques sur la tribu de Manassé à l'est du Jourdain. *Vetus Testamentum* 31: 39-61.
- MacDonald, B. 1994. *Ammon, Moab & Edom; early states/nations of Jordan in the Biblical Period (end of the 2nd and during the 1st millennium B.C)*. Amman.
- Na'aman, N. 1993. Population Changes in Palestine Following Assyrian Deportations. *Tel Aviv* 20: 104-124.
- Neef, R. 1989. Plants. Pp. 30-37 in G. van der Kooij and M. M. Ibrahim (eds).
- Pritchard, J. B. 1985. *Tell es-Sa'idiyeh; Excavations on the Tell 1964-1966*. Philadelphia: University Museum Monograph 60.
- Röllig, W. 1982. Die Phönizier des Mutterlandes zur Zeit der Kolonisierung. Pp. 15-28 in H. G. Niemeyer (ed.), *Phönizier im Westen*. Mainz.
- Routledge, B. 1997. Mesopotamian "Influence" in Iron Age Jordan: issues of power, identity and value. *Bulletin* 32 (The Canadian Society for Mesopotamian Studies): 33-41.
- Steen, E. J. van der 1995. Aspects of Nomadism and Settlement in the Central Jordan Valley. *PEQ* 127: 149-158.
- 1998. Archaeological Excavations at Tell el-Hammeh. *Ocident & Orient* 3.1: 12-14.
- Tarawneh, M. F. 1989. *Aspects of Rural Transformation in the Jordan Valley: The Case of Dayr 'Allā*. Irbid (unpublished MA thesis).
- Thompson, H. O. 1986. An Iron Age tomb at Madaba. Pp. 331-363 in L. T. Geraty and L. G. Herr (eds), *The Archaeology of Jordan and other Studies Presented to Siegfried H. Horn*. Berrien Springs.
- Tubb, J. N. 1988. Tell es-Sa'idiyeh: preliminary report on the first three seasons of renewed excavations. *Levant* 20: 23-88.
- Vilders, M. M. E. 1992. The Stratigraphy and the Pottery of Phase M at Deir 'Alla and the Date of the Plaster Texts. *Levant* 24: 187-199.
- Weippert, M. 1982. Edom und Israel. *Theologische Realenzyklopädie* Bnd 9. Berlin: 291-299.
- Wenning, R., Zenger, E. 1991. Heiligtum ohne Stadt - Stadt ohne Heiligtum? Anmerkungen zum archäologischen Befund des Tell Der 'Allā. *Zeitschrift für Althebraistik* 4: 171-193.
- Yassine, K. 1983. Tell el Mazar, Field I; preliminary report of Area G, H, L, and M: the summit. *ADAJ* 27: 495-513.
- 1984. *Tell el Mazar I: Cemetery A*. Amman.
- 1988. *Archaeology of Jordan: Essays and Reports*. Amman.
- Zeist, W. van 1985. Past and Present Environments of the Jordan Valley. Pp. 199-204 in *SHAJ* II. Amman.
- Zertal, A. 1995. Three Iron Age Fortresses in the Jordan Valley and the Origin of the Ammonite Circular Towers. *IEJ* 45: 253-273.
- Zimhoni, O. 1990/97. Two ceramic assemblages from Lachish Levels III and II. *Tel Aviv* 17 1990: 3-52; repr.: O. Zimhoni, *Studies in the Iron Age Pottery of Israel*. Tel Aviv 1997.
- Zohary, M. 1982. *Vegetation of Israel and Adjacent Areas*. TAVO Beihefte A7. Wiesbaden.