Tribes and Territories In Transition
The central east Jordan Valley and surrounding regions in the Late Bronze and Early Iron Ages: a study of the sources

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It has been said before, many times, that for an author the best part of a book is the foreword. Writing the foreword means that the work is done, the book is ready for the printer and one can finally lean back and relax.

With the book that lies before you now the word ‘finally’ deserves a special emphasis, because it is the result of 12 years work. In those 12 years it has been through numerous ups and downs, it has several times been on the verge of being turned into a bonfire, always to be rescued at the last minute, by people who saw the value of it when I could no longer see it. It is largely thanks to those people, that the work is finally done.

In 1990 I was excavating as a staff member at Tell Abu Sarbut, an Islamic site close to Deir ’Alla in the Jordan Valley. At the end of the season Margreet Steiner, who was one of the directors, suggested that we should spend a few days surveying some of the sites in the region, that were mentioned by Nelson Glueck and in the East Jordan Valley survey. While surveying I began to wonder why there were so many Late Bronze Age sites in this area, since the Late Bronze Age was a period that was notorious for its lack of settlement. That was the beginning.

I turned this relatively simple question into a pilot study that was funded, during 11 months, by the Dutch Organization for Scientific Research, a time that was largely spent studying the available literature. Some of this literature had been collected by the Department of Anthropology of Yarmuk University, where I spent a month studying it. I also got permission from Prof. Mo’awiyah Ibrahim to study the pottery from the East Jordan Valley Survey, which was stored at the University of Jordan, Amman. The pottery from Nelson Glueck’s Explorations in Eastern Palestine proved to be less easy to find. After the Israel Antiquities Authorities had given me permission to study it, I spent two weeks with Alon de Groot from the IAA in real detective work, trying to locate the it. The good thing was that Alon became a good friend, and he still is.

The first part of the research for this thesis has been conducted at Leiden University, and I want to thank the staff of the department of Archaeology for the facilities they provided me with. The Archaeology department also funded part of the excavations of Tell el-Hammeh, as part of the Deir ’Alla project. Another part was funded by the Department of Antiquities in Amman.

Henk Franken taught me to look at pottery, and encouraged me to publish my analysis of the Deir 'Alla pottery, even though he disagreed with my conclusions.

The Walk through the Zerqa was made possible through a grant from the Foundation for Anthropology and Prehistory in the Netherlands. That four-day trip through the Wadi Zerqa in spring was an unforgettable experience, and I want to thank those who made it possible: the students Eva Kaptelyn, Carmen Harmsen and Ellis Grootveld; our guide from the Department of Antiquities, Ali el-Khayyat, who never lost his temper, and Ghazi Saudi, who offered us hospitality in his farm in Jal’ad.

At the beginning of the project I had asked myself a simple question: why are there so many Late Bronze Age sites around Deir 'Alla? When I started looking for answers, I stumbled upon another question, a much bigger one: to what extent does the tribal society of the eighteenth and nineteenth centuries reflect human behaviour in earlier periods, and what does that mean for the interpretation of the archaeological record?
That question opened a Pandora’s box of ideas and possibilities, that is yet far from exhausted. Over time it has influenced and changed my views, and consequently the original scope of the project, as it played an ever increasing role in the answers that I found. In places this process is still visible in the book: some chapters, such as chapter 5, reflect ideas that I had several years ago, but that have developed since then. Should I have to write that chapter now, I would write it differently.

Sometimes I feared that my ideas were far-fetched, but when I shared them with others, reluctantly, there were always people who believed in them. The first time that happened was in 1997, at the SBL conference in San Francisco. I was extremely nervous about what I was going to say, but after I had finished, Anson Rainey came up to me to tell me how much he appreciated my ideas. He has never stopped encouraging me since. Since that time there have been many more people who shared my enthusiasm and encouraged me to go on: Israel Finkelstein, Gloria London, Piotr Bienkowski, Mervyn Richardson, and last but not least, Prof. Ed Noort, my supervisor during the last stages of the research, without whose encouragement and occasional pushing there would not have been a book now.

Mervyn Richardson also kindly offered to correct my English and remove the Dutchisms from it, and he has been very thorough.

A special paragraph of thanks goes to Margreet Steiner. She has stood at the cradle of this project, just like she stood at the beginning of so many other episodes in my life. In the past 12 years we have not only shared our love for the archaeology of Palestine and Jordan, but the ideas, emotions, enthusiasm and frustrations that were the result of that love. She has given me the lion’s share of the feedback that I needed to finish it.

Eke Bakker and Kees Donkersloot proved to be invaluable friends, who were always there when I needed to unwind from too many potsherds and Bedouin.

Last but not least I want to thank my parents for their support, love and encouragement, and for making it all possible in the first place. This book is dedicated to them.

Leiden, October 2002
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Introduction

“In an effort to make archaeology an exact science, the New Archaeology tried to find general, “covering laws”. Such laws were hard to find, or are defined in such broad terms that they become meaningless. The heavy use of jargon was disturbing. Models often became an end rather than the tool for creating a more meaningful analysis. The new archaeology focused primarily on prehistoric phases and on cultural changes, and neglects historical cases. At least in its more dogmatic forms, it failed to discuss political borders in a satisfactory way, since it created a sharp dichotomy between pots and people – as if pots were independent beings.”

This rather harsh judgment, by Raz Kletter (Kletter 1999, 21-22), of the tools and the philosophy of New Archaeology, may seem a strange opening sentence for an introduction that deals with models, models being the flagship of New Archaeology. That is, of course, the reason why it is used here. The quote contains some useful warnings, puts the concept of model-building into perspective, and underlines the purposes of this study.

“... the new archaeology tried to find general, “covering laws”...”

Covering laws, or models that can predict human behaviour within a set of specified circumstances (such as climate, surroundings, population density) are indeed hard to find, basically because humans do not behave like numbers, or chemical substances that turn from solid to fluid to gas under specified pressure and temperature. We want human behaviour to be predictable. And it is, or can be, to a certain extent. But only to a certain extent; human reactions can be compared to those of other living creatures (Wilson 1975), and so ‘universal’ laws can be described in order to explain, analyse and ‘predict’ historical events and situations. But like other living creatures, humans and their reactions can never be completely predicted. On the other hand, deviations from the general laws do not invalidate them.

Any model that describes or explains human behaviour, should be based on reality. This may seem self evident, but as Kletter states: “Such laws were hard to find, or are defined in such broad terms that they become meaningless.” Even in general models for human behaviour, we must be aware that sometimes models may be valid, or represent reality for one situation, period or group, but not for another. We must be prepared to limit ourselves, in order to remain meaningful. The reality that I propose here, and that limits my model in a spatial sense, although hardly in a temporal one, is that the Southern Levant has always, at least since the Early Bronze Age, been a ‘tribal’ society.

The word ‘tribal’ has many connotations. In western society, and in New Archaeology, it is associated with a relatively low level of social organisation (Renfrew and Bahn 1991, 153ff, with references). In Near Eastern contexts it is often associated with economic behaviour, notably the herding of sheep and goats, and the breeding of camels. That, however, is not the essence of ‘tribalism’. Sometimes the word ‘tribal’ is replaced by ‘kin-based’ (Joffe 1993), or ‘ethnic’ (Kamp and Yoffee 1980), or ‘family’ (Stager 1985). The meaning of these terms, however, also covers only part of what Levantine society was about.

Much information has come down to us about tribal or Bedouin society in the southern Levant in the past centuries, both from western travellers and researchers and from the
Bedouin themselves. These nineteenth century and earlier sources define Levantine tribalism within a framework of characteristics that, together, can describe what I would call a ‘model’ for society in the Southern Levant, not only in the period under study, but that can be detected already in the Early Bronze Age (van der Steen 2002a), and the structural basis of which never ceased to exist. In some periods this structural basis became especially clear, particularly in periods of change and instability. In these periods, which may have been caused by external powers, or by climate changes, society had to regroup itself, re-divide territories, find new modes of existence and of cooperation. In those periods the tribal structure of society was decisive in the course of events and in determining the eventual new situation that evolved.

In periods of stability the tribal structural basis may have been less clear, ‘sleeping’ as it were, but it never died, because the next crisis always saw it reawaken and become the major force in restructuring society. This is what happened in the transition from the Late Bronze to the Early Iron Age, the period under study here.

Information from nineteenth century AD and earlier sources can be used to describe the characteristics that determine this structural basis. They are:

- loyalty. A person’s loyalty was always first to his family, to his clan, and to the tribe to which he belonged. On the other side, the tribe as a whole was responsible for the individual member: for his subsistence in case of emergencies (such as a raid by a rival tribe, which sometimes left members without anything to eat), for his protection, or, if that failed, for avenging him. This two-way loyalty was formalised by creating ‘family ties’ between the members of the tribes: patriarchs from which all members were supposed to descend. It is a well-known fact that these ties were created and could be changed easily in order to create new loyalties, should circumstances demand that. The term *khawa*, being a tribute paid by one tribe to another, or by an individual or group of individuals in order to be able to travel through a tribe’s territory, literally means ‘brotherhood’, and so denotes the fact that by paying it, the person became a temporary ‘brother’ of the tribe, a member of the family, and so shared in the ties of loyalty and responsibility.

Tribal loyalties, although they may have been meaningless to all practical purposes, did not cease to exist in periods of stability, or strong external power. They were always maintained, albeit on a low level.

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1 I am obliged to the staff of the department of Anthropology of Yarmuk University, Irbed, for giving me access to the archive of the Jordan Valley Project. This archive, which has unfortunately closed down now, contains publications, published and unpublished reports, photos and newspaper clippings, maps etc., providing information on geological, geographical, agricultural and climatological issues concerning the Jordan Valley, many of which have changed dramatically in the past fifty years, as well as ethnographic and demographic data.
Second is flexibility in economic pursuits. Tribes and their members had access to different, customised economic pursuits (Salzman 1980, 4). They could be herders of goats or sheep, professional camel breeders, agriculturalists or horticulturalists. The Howeitat, for example, were famous camel breeders for the Hajj and the regular trade and they had vast date palm groves around Aqaba. Besides, they controlled a number of agricultural villages in Edom, where members of smaller tribes grew tobacco and other goods for the benefit of the Hajj. According to Bocco (cited in Layne 1994, 46) “even archetypical camel-herding Bedouin were probably never exclusively pastoralists but relied on a multi-resource economy that included raiding, the collection of tribute (khawa) and trading for their subsistence”. It was because of this ability to adapt, that the Bedouin could control the economy of the region, and create a virtually independent society in the late eighteenth and early nineteenth centuries AD, even adapting to external influences such as the demands of the European trade with India.

The third characteristic is mobility, which directly involves the relationship of the tribe to the land. Most tribes are mobile to a certain extent. Sometimes they were part-time farmers, and had summer and winter quarters; sometimes segments of tribes had become sedentary, while other segments remained pastoral nomads. Many continued to live in tents as a symbol of mobility, even after they had become full-time farmers or otherwise sedentary. The tent was the symbol of their inheritance, and therefore had a symbolic status that was denied to a house. Honoured guests were, and sometimes still are, received in a tent, rituals and parties are still often performed in tents.

A tribe had its territory or territories, but could only assert rights to this, when actually present. It did not ‘own’ the land. Lancaster (1981, 121) describes the relation of the Rwala Bedouin to their land as based on “a prior claim of usufruct (a claim not a right)”. A person “only rules (the land) when he is there and he only owns it under the same circumstances”. They own it by right of dominance and not exclusively. Other tribes came into the territory when the Rwala had gone, or even when they were present, by right of tradition or strength. The continuing high symbolic status of the tent mentioned above shows that this flexible relationship to the land did not change, even in periods of stability and settlement.

The fourth characteristic is the interrelationship of different tribes. Tribes interacted, both in a positive and a negative sense. In a positive sense they crossed and used each other’s territories and wells, often according to a formalised system of khawa, they intermarried, they made alliances and formed confederations. Judges from associated tribes were sometimes called in to solve legal disputes.

Negative interaction consisted of ghazus, intertribal raiding, and sometimes even actual wars between tribes, usually over territory. These wars regularly led to a profound change in the balance of power, and changes in the traditional territories of tribes, leading to a ‘domino-effect’ that could eventually have repercussions over long distances, as uprooted tribes had to go and look elsewhere for new territories. The sources show that these changes in power balance usually coincided with international political crises: in the Islamic period (622-1918 AD) the changes from one government to another always resulted in a complete change in power balance and territorial division among the Near Eastern tribes (Oppenheim 1943, 6-12, with references).

This is the framework within which society in the Southern Levant has functioned ever since the Early Bronze Age. There may have been times when a strong external
government managed to subdue the power of the independent tribes, but they were never capable of extinguishing the tribal structure of the local population (Joffe 1993, 48, 61).

“The new archaeology focused primarily on prehistoric phases and on cultural changes, and neglects historical cases...”.

The problem with ‘historical periods’, i.e. periods for which written sources are available, is that these written sources cannot very well be ignored. In the past, before the time of the New Archaeology, archaeology was usually made subject to these written sources, and used to illustrate them. The Bible is a case in point, specifically for the region under study. The nineteenth century spirit of discovery was reflected in the realms of Christianity as well. The need was felt not only to ‘illustrate’ the Bible, but to prove it by identifying (and excavating) holy places. In 1865 the Palestine Exploration Fund had been established as “A society for the accurate and systematic investigation of the Archaeology, the Topography, the Geology and Physical Geography, the Manners and Customs of the Holy Land for Biblical Illustration” (PEQ 1968, frontispiece); the American School for Oriental Research, established in 1900 had as its main goal “to defend the Bible”. Numerous explorers travelled the ‘Land of the Bible’ and identified (sometimes with scant evidence) place-names mentioned in the Bible (Ben-Arieh 1979, with numerous references). The fact that they travelled through tribal territories, and therefore had to deal with the existing tribal system, and the meticulous accounts they left us of these travels, now gives us a rare insight in the tribal society of the nineteenth century AD.

With the rise of New Archaeology this situation was changed. Archaeological evidence came into its right as an independent source of information. That meant that written sources became a disturbing factor, since the evidence presented by them often disagreed with the archaeological remains. Hence the tendency of New Archaeology to turn to ‘prehistoric’ periods and situations.

However, both the written sources and the archaeological remains have a tale to tell, about the same period and the same people, so if the two diverge it is our task to explain why they diverge and to find a historical explanation in which both have their role (cf. Weippert 1967, 133-139). We cannot ignore one or the other because they do not fit in our hypothesis. If that is the case the hypothesis is wrong.

This study starts with an overview of the different available sources of evidence (part I). Chapter 1 reviews written sources dating from and/or relating to the period of the Late Bronze and Early Iron Ages. These sources play an important role in the hypothesis. Many of them come from an Egyptian, Late Bronze Age context. They are the accounts of Canaanite society by the conquerors and therefore very one-sided, although none the less valuable for that. They create a picture of the period from one point of view, that of the foreign ruler. The Amarna letters, an important source of information, add the dimension of the viewpoint of the local rulers. Their split loyalty, on the one hand to the foreign ruler that put them – and kept them– in their position, and on the other hand to their own people, provides a valuable insight in the social structure of the times. Finally the editors of the books of the Old Testament, writing much later, in the exilic or post-exilic period, give us an account of the Early Iron Age in Israel the way they saw it. Their view was coloured as well, by time and ideology, and reflected to a large extent society as it was in the Late Iron Age. If anything, this shows us that even in the Late Iron Age, society was still largely conceived of as tribal (LaBianca 1999, van der Steen, forthcoming). The world was ordered along lines of kinship and loyalties or enmities
based on legends of tribal feuds. As in earlier periods (Joffe 1993, 61) contact with the
great empires and their organisation could not wipe out this kin-based structure. It was
always there, dormant perhaps, but never dead.
The second chapter describes the physical world in which this society originated and
flourished: the soil and its fertility, the climate and the topography.
Chapters 3 and 4 give an overview of the available archaeological evidence, excavations
and settlement patterns. The importance of settlement patterns lies for a large part in that
they are often the only physical evidence of the presence of a non-settled population.
Nomads are notorious in that they leave no archaeological remains such as pottery,
ariculture and the like (see the discussion in Finkelstein 1995, 23 ff, with references).
The only indications of their presence in a certain society can be the way they influence
settlement patterns. In the first half of the nineteenth century AD in the East Jordan
Valley there were no settlements, and in the Belqa the only settlement was Salt. The
Adwan and the Beni Sakhr both claimed these territories and struggled over it. They
regularly robbed villages and eventually scared away the settled population (Burckhardt
1822, 349 ff; 368 ff). When the Ottoman government finally managed to subdue the
Beni Sakhr in the second half of the nineteenth century a power vacuum ensued in the
region, which was quickly filled up with small villages and farmsteads (Schumacher
1889, 22).

“...it failed to discuss political borders in a satisfactory way...”
The second section deals with the political borders of the nineteenth and early twentieth
century AD and the ways in which the different groups defined their territories in a social
and geographical sense, by loyalty, by positive or negative interaction and by mobility. It
is a period in which the tribal society of the southern Levant flourished, and that has been
described extensively by both western and eastern writers and researchers. The results of
this analysis are then used to understand the mechanisms that were at work in the
transition from the Late Bronze to the Early Iron Age. I have stated above that the
structural basis in the area of study remained the same from the Early Bronze Age to the
most recent past. This structural basis dictated the reactions of the population to the
changing society, both in the nineteenth and early twentieth centuries AD and in the
Late Bronze – Early Iron Age transitional period. The ethnographers and travellers in the
region tell us how the population of the nineteenth and early twentieth centuries reacted
and adapted to these changes, and therefore may give us an insight into how the
population of the Late Bronze – Early Iron Age transitional period reacted.

“...since it created a sharp dichotomy between pots and people – as if pots were
independent beings.”
Pots, obviously, are not independent beings, nor is any other artefact. They are the
precipitation of a culture, of a person, a group or a sequence of people who performed an
activity that created, made use of, and discarded the artefact that we now hold in our
hands. It is the people behind the pots that we have to find. Henk Franken used to say
that archaeologists tended to use potsherds as if they had fallen from trees, for them to
use as dating criteria (cf. Steiner 1994, thesis 8). We have to close the gap between pots
and people again, but in a meaningful way. We have to ask ourselves who the people
were that made the pots, who the people were that used and discarded them. We have to
ask what the meaning is of changes in the pottery, what it tells us about those people.
That is the essence of the two chapters of the third section.
In Chapter 7 an overview is given of the pottery that has been published from
evacations in the region under study and the surrounding area. In Chapter 8, using Deir
'Alla as a case study, I try to analyse what the actual meaning and significance is of changes in pottery shapes and functional repertoire, for the understanding of the history of a certain site.

The fourth section is devoted to the results of new research, some of which is published here for the first time. The first two seasons at Tell el-Hammeh in the Zerqa valley (Chapter 9) produced unexpected results. The remains of the oldest iron smelting site in the world found so far were excavated (Veldhuizen and van der Steen 1999). The excavations also revealed the existence of a number of Late Bronze Age layers, no traces of which had ever been found by any of the surveys on the site. These results went a long way to confirm the hypothesis of a trade route through the Zerqa valley, conducted by independent traders.

The Early Iron Age at Deir 'Alla has been published by Franken (1969) with the exception of one square, Square M. The material from this square was given to me by Henk Franken for study and publication. It is published here, in Chapter 10. The remains in this square, which include some heavy walls, may somewhat alter the outlook on the beginnings of the Iron Age of Deir 'Alla, and consequently the whole region. It mainly goes to prove that the 'squatters', or the seasonal transhumant groups that occupied the site in the earliest Iron Age phases, had a more diverse and complicated background than is usually assumed.

The region that this study focuses on in particular, the area between the watershed of the Wadi Kufrinjeh in the north and that of the Wadi Zerqa in the south, has been chosen because of its high concentration of Late Bronze Age sites (Leonard 1989) compared to the rest of the East Jordan Valley. This concentration is revealed by a number of surveys, as very few sites in the area had been excavated and even fewer published. In 1994 some of the sites that had been discovered by earlier surveys, such as those of Nelson Glueck, and of the Jordan Valley Survey, were revisited and pottery collected from them. In addition to this, the pottery from the Jordan Valley Survey was studied in Amman, and that of Nelson Glueck in Jerusalem. The results, and the conclusions that can be drawn in regard to the occupation history of the area, are presented in Chapter 11.

Finally, one part of the hypothesis, that of a trade route through the Wadi Zerqa in the Late Bronze Age, was tested in the field in 2000. A small expedition was organised to try and find the best route from the Jordan Valley, through the Wadi Zerqa towards Khirbet Umm ed-Dananir. A donkey accompanied us, to carry the luggage and to test whether the route we took could be walked by a loaded donkey as well. The results of this expedition are presented in Chapter 12.

"Models often became an end rather than the tool for creating a more meaningful analysis....".

In the exact sciences, the purpose of research is to find universal laws and to test whether these are really universally valid. The final purpose in historical sciences, such as history or archaeology, is arguable. In New Archaeology, as stated by Kletter, models became an end in themselves, and history and archaeology were used to test and refine the 'universal' models that were developed to predict human behaviour. That is, of course, a perfectly valid approach, provided that the models as such were adapted to fit the historical facts. This proved to be complicated, especially in historical periods; hence the tendency of New Archaeology to concentrate on less complicated, prehistoric periods. Of course, these periods were, or seemed, less complicated, only because we knew so much less about them. The other approach is to use the models as tools to explain and understand historical events and situations. Then they form the basis for a hypothesis, an analysis of a specific period, group or event.
Several efforts have been made to devise models for the Late Bronze and Early Iron Ages in the Levant. Some of these were broad models, encompassing the period in question in a long lasting development, usually starting in the Chalcolithic or the Early Bronze Age. Most of these models had a cyclical character. Other models, or hypotheses were developed explicitly to find an explanation for the Late Bronze – Early Iron Age transition, more specifically (most of them) to find an explanation for the beginnings of Early Israel. These hypotheses do not usually claim universal value, unlike some of the cyclical models.

Chapter 13 gives an overview of models and hypotheses that have been developed and used for the Late Bronze – Early Iron Age transition in the Southern Levant. Chapter 14 finally gives my own hypothesis for this period. This hypothesis is based on the model that I have outlined above, that of a society that has always remained essentially tribal. I have explained why I think that this model is universally valid in the Southern Levant, at least from the Early Bronze Age, until the twentieth century AD. There may have been periods in which it was more visible than in others, but the simple fact that it is applicable for every period of crisis or change in the history of the Southern Levant shows clearly enough that it was always present. I am tempted to state that it still exists to a certain extent. I will not expand on the validity of the model in periods other than that under study; I have done that elsewhere (van der Steen 2002b; id. forthcoming; Bienkowski and van der Steen 2000). This chapter is an integration of the historical facts and figures that have been outlined in the previous chapters, and the concept of a basically tribal society. The result, I think, is a more meaningful analysis and explanation of the archaeological remains that time has left us.

Finally, a word about terminology. Throughout this study I have used the term ‘Early Iron Age’, instead of ‘Iron Age I’. This is because the terms ‘Iron Age I’, or ‘Iron Age II’ imply more or less exact dates, and a sharp division between periods. I prefer to be ‘vague’ where these periods are concerned for the following reasons:
- The transition from the Late Bronze Age and the following period, Early Iron Age, or Iron Age I, was the end of an era and the beginning of a new one. However, when the first era ended and the next began is still a matter of debate, and dependent on what criteria we use for the end (or beginning) of an era, as well as on which particular part of the Levant we look at. The Late Bronze Age did not end everywhere at the same moment, as most people now agree.
- A political landslide ended the Late Bronze Age and eventually forced people to adapt themselves to a new economic layout, a new set of rules, a new society. The material precipitation of this new society is what we call the ‘Early Iron Age’. There is, however, no clear beginning, no date or place that we can lay a finger on and say ‘this is where it started’. All we have is a material culture: pottery, architecture and settlement patterns that differ from that of the preceding period. I cannot, by giving a name to that culture, define its margins in time and place. That is why I prefer a term that does not have clearly fixed dates attached to it.
I-1. Historical sources

The historical sources for the Late Bronze Age in the region have come largely from Egypt (Kitchen 1992, with literature). They will be discussed here in chronological order of writing.

The Topographical list of Thutmose III

The oldest text that directly concerns the period and region under study is the topographical list of Thutmose III (±1450) in the Amun temple in Karnak. It is a series of lists of conquests of the great Pharaoh. Every place name consists of an oval, representing a conquered city, accompanied by a representation of a bound captive. The interpretation of these lists as well as their value for the reconstruction of the history of Canaan has been the subject of much debate (Redford 1982 gives an overview). The identification of P-h-r, ring 33 in the list, with Pella (Simons 1937, 116; Smith 1973, 24) is generally accepted. It is followed by k-n-n-r-t, identified as Kinnereth, Tell Oremeh (Fritz 1990, 176).

Redford (1982) has suggested that the lists were composed from pre-existing itineraries for Western Asia, which were used by Egyptian couriers in the fifteenth century. He has interpreted rings 89-101 of this list as an itinerary describing a route from Damascus to Kerak across the Transjordanian Plateau. The following place names are involved:

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<td>89</td>
<td>Hykrym</td>
<td>94</td>
<td>Mkrpwt</td>
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<tr>
<td>90</td>
<td>Ybr</td>
<td>95</td>
<td>'yn</td>
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<td>91</td>
<td>Utra’a</td>
<td>96</td>
<td>Krmn</td>
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<td>92</td>
<td>Ybr</td>
<td>97</td>
<td>Btiy3</td>
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<td>93</td>
<td>Katwt</td>
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<td>Tpwn</td>
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Numbers 90, 92, 99, all Ybr, are identified as major wadis, in his interpretation the Wadi Yarmuk, Wadi Zerqa and Wadi Mujib. Nr. 93 is interpreted as a wine-press, nr. 94 as a 'fertile depression'. Nr. 95-96 is taken together and translated as a spring in a vine-bearing country. It is identified with Tell ‘Umeiri. Nr. 97 is identified with Jalul. Four sites have been identified on philological grounds: Hykrym, Utra’a, Tpwn and Yrwtw, but at none of these has Late Bronze Age occupation been found.

Redford’s hypothesis has been accepted by several scholars but with modifications: while Redford identifies Krmn (the Abel Keramin from Judges 11, 33), with ‘Umeiri, Kafafi (1985, 17) suggests that it is Sahab, and Knauf (1984, 119) thinks it is Jalul. All these sites have Late Bronze I remains. Yarut (Yarwtw, nr 100 on the list), has no Late Bronze pottery, but a site in the Wadi Fawwar, below Yarut, does (Worschech 1990, 127 n 16). Worschech thinks that Yarut should be identified with Yn(‘)d(w), mentioned by Ramses II. Hrkr (nr. 101) has been identified with Kerak by Redford, who assumes that there was an old road through Wadi Kerak. However, Kafafi thinks that the structure of the Wadi makes this unlikely. If the route suggested by Redford did indeed exist, it must have come through Wadi Fawwar to the Dead Sea. Based on Redford’s interpretation Kitchen (1992, 73) has reconstructed a trade route across the Moab Plains to Syria, largely following the later King's Highway, and passing most of the few Late Bronze Age sites between Wadi Zerqa and Wadi Kerak.

Although Redford identifies and/or explains every name, his explanations are not always convincing from an archaeological point of view (also Na‘aman 1994 n7). According to Redford (1982, 73) the fact that no Late Bronze Age occupation has been found on a site, does not mean that it does not exist: it may not have been recognised, or it may be somewhere else on the site. This is of course possible, but it seems improbable that it
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should be true for all the identified sites. Another possibility, according to Redford, is that the name refers to a region or wadi in which this site lay. However, if, as Redford states simultaneously, the three largest wadis on the route (Yarmuk, Zerqa and Mujib), have not been given names, but are simply referred to as ‘wadi’, this is an unlikely option.

Pella (Pihil, or Pihilu(m)) and Shechem are mentioned in the Middle Bronze Age Execration texts. Pella is also mentioned twice in inscriptions from Amenophis III (1411 - 1375): on a statue-socle from Thebes, and on the list from the Soleb temple in Nubia (Smith 1973, 25). The Soleb list may also have mentioned Moab for the first time (Timm 1989, 13), although the actual name was not preserved.

The Amarna Letters

The Amarna letters are a corpus of 382 clay tablets found at Tell el-Amarna, the capital of the Egyptian empire during the reign of Amenophis IV (Akhenaten). According to Moran (1992, xxxiv) they span the period between the 30th year of Amenophis III until the first year of Tutankhamun, when the court at Amarna was abandoned (1360-1333).

They are part of the official correspondence between the Pharaoh and the rulers of his vassal city states in Canaan. The language, obviously some kind of lingua franca, was a West-Semitic dialect of Akkadian. According to Moran (1992, xxii) 'The language can only be described as an entirely new code, only vaguely intelligible (if at all) to the west Semitic because of the lexicon, and to the Babylonian because of the grammar'.

Even though, with a few exceptions, only one side of the correspondence has been found, namely the letters to the Pharaoh, this correspondence is very informative about the political situation of the period and the interrelationships between the city-states. All the city-states are formally subjected to the Pharaoh in Egypt and to his commissioner or representative (his Rabu). Every letter from a city-state regent pledges this loyalty, before beginning its actual message. Many of the letters simply ask for the sending of troops to fight against the Hapiru. Often these demands are supported by accusations against the regents of other city-states, who are accused of conspiring with each other and with the Hapiru against the lands of the king. Notorious are Lab’ayu of Shechem and his sons, and Milkilu of Gezer and his father-in-law Tagi. Abdi-Hepa of Jerusalem is accused of being ‘a second Lab’ayu’ (EA 280), taking the cities of the king. The letters from these brigands themselves however, also to the king, are specifically written to assure him of their loyalty. They obviously are the victims of slander. Both Abdi-Hepa and Milkilu even accuse Ianhamu, the king’s Rabu, of conspiring against them (EA 270, 286). Often the city-state regents have to stand up against their own people, who tend to support the Hapiru, and who sometimes even kill their own regents (EA 138, 162, 248, 288).

The general impression that we gain from these letters is that there were a number of groups or factions, who, although legally subjected to the Egyptian king, were in practice mostly left to their own devices and to their own petty territorial fights over the hegemony of their city-states. Only occasionally does the king see fit to interfere. Rib-Addi from Byblos (EA 68-138) was left to fend for himself, surrounded by Hapiru and threatened by Amurru, until all his towns deserted him and he was expelled from Byblos. Amurru was the tribal state that was created by Abdi-Aširta and later taken over by his son Aziru. Starting somewhere east of present Tripoli, it expanded to the south, and eventually included most of the Lebanese coastal area (Finkelstein 2002). One gets the impression that the Egyptian king had little interest in this region and was not prepared to
invest in it like he (occasionally) did in the more northerly regions, such as Acco (EA 88). The sea-route along the southern coast is likewise neglected (EA 101, 105). The principles of ransom and ‘protection’ were well known among the different parties. Aziru of Amurru took prisoners for ransom (EA 55, 114). The siege of a city could be paid off (EA 91). A certain Addudani (EA 292) was being harassed by ‘the people from the mountains’, who were prepared to leave for 30 shekels of silver. Trade caravans also feature regularly in the correspondence. In letters EA 7 and 8 Burnaburiash of Karaduniash accused the šakin mati (regent) of several city-states, Acco among them, of having conspired to rob his trade caravans. Another caravan, consisting of 13 Egyptian merchants, was robbed in Palestine (EA 313). References to the trade route confirm that it probably went through Pella (EA 255) and the Damascus region. (EA 194, 199, possibly 226).

Aspects of the correspondence suggest that the city-states of Canaan were essentially tribal. The word *bitu*, ‘house’, is often used with the meaning ‘family’ or perhaps ‘clan’ (EA 33, 38, 74, 89, 287). Family ties seem to determine loyalty, as in the case of Lab’ayu and his son Mutba’lu who ruled Pella; and in the case of Milkilu and his father-in-law Tagi.

Tribute consisted mostly of servants and slaves (EA 268, 288), but also cattle (EA 242, 301) were sent to Egypt, and weapons (EA 266) and building materials such as wood (EA 160) and stone (EA 314, 323).

One of the measures taken by the Egyptian king was to send for the regents to come to court and explain themselves. The letters show that this was an unpopular measure, perhaps partly because the regent in question never knew if and when he would return to his country (EA 59). The letters show that the regents tried with all sorts of excuses to avoid having to go (EA 165). Another measure was the taking of hostages: members of the ruling family of a city state (EA 187, 198, 296), who were brought to the court in Egypt. Already Amenophis II prided himself on having taken several hundred princes and ‘brothers of princes’ from Retenu. They were probably hostages, sons of kings and other leaders, taken to the Egyptian court in order to secure the loyalty of these leaders, and train their sons to become loyal subjects of Egypt once they succeeded their fathers (Redford 1992, 198 with references).

Lab’ayu of Shechem and Mutba’lu of Pella

The letters concerning Lab’ayu, lord of Shechem, have been analysed by Campbell (1965). In EA 244 Biridiya, lord of Megiddo, complains that Lab’ayu is set on taking Megiddo: “Look, Lab’ayu has no other purpose. He seeks simply the seizure of Magidda.” Another letter, probably also from Biridiya (EA 245) tells that a coalition of cities has delivered Megiddo, but that the ruler of Acco, Surata, let Lab’ayu off after he had paid a ransom. A second effort to capture Lab’ayu led to his death, according to EA 250, by the people of Gina, possibly Jenin: “The sons of Lab’ayu have made their purpose the loss of the land of the king, over and above the loss that their father caused..... The sons of Lab’ayu keep saying to me: “Wage war against the people of Gina for having killed our father....”. EA 249, among others, shows that there was a coalition between Lab’ayu and Milkilu of Gezer. Lab’ayu’s sons continued his policy of supporting the Hapiru (EA 246 from Biridiya): “The two sons of Lab’ayu have indeed given their money to the Hapiru in order to wage war against me...”. Lab’ayu himself never stopped to profess allegiance to the king, and to protest his innocence, putting the blame on others: “Here is my act of rebellion and here is my delinquency: when I entered

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1 The transliteration of proper names in these quotations is that of Moran 1992
Gazru, I spoke as follows: “The king treats us kindly”. “Now there is indeed no other purpose except the service of the king, and whatever the king orders, I obey.” (EA 253). “....Moreover, the king wrote for my son. I did not know that my son was consorting with the Hapiru. I herewith hand him over to Addaya.” (EA 254).

Multa'lu, lord of Pella claimed to be a son of Lab'ayu. In EA 255 Mutba'lu defends himself against accusations of having delayed a trade caravan on its way to Hanigalbat (Mitanni): “Who am I that I would not send on a caravan of the king, my lord, seeing that Lab'ayu, my father, used to serve the king, his lord, and he himself used to send off all the caravans that the king would send to Hanagalbat”. In EA 256 he has to defend himself again, this time against accusations that he has fled the city, after having hidden a rebel: “How can it have been said in your presence, ”Mutba'lu has fled, he has hidden Ayyab”? How can the king of Pihilu flee from the commissioner: sukini of the king, my lord?....Ayyab is not in Pihilu. In fact, he has been in the field for two months”.

An interesting inference from EA 255 may be that the crossing of the Jordan between Beth Shean and Pella was in the hands of the family of Lab’ayu and Mutba’lu.

**Hapiru and Šasu**

Hapiru and Šasu have both only been identified in texts. These are usually understood as referring to nomadic tribes (Šasu) or a mobile social class (Hapiru). Nomadic or mobile groups leave few or no material traces (see the discussion between Finkelstein and Rosen in Finkelstein 1995, 23 ff). That does not mean that they are not archaeologically detectable. Settlement patterns are determined, at least partly, by power structures, and as the Amarna letters among other sources demonstrate, the Hapiru were an important factor in the power structure of the region. The same can be said of the Šasu, as will be demonstrated below.

**Hapiru**

References to Hapiru in the Middle and Late Bronze Age literature are numerous. Bottéro (1981) has listed 235 cuneiform and 14 Egyptian references. Most references by far, certainly for the Late Bronze Age, come from the Amarna letters. As a matter of fact, Egyptian references to Hapiru are relatively few, and they depict the Hapiru as enemies of the Egyptian empire. One of the first references is by Amenophis II in Memphis, where he boasts of having taken 3600 Hapiru prisoner. There are regular references to Hapiru slaves in Egypt: two letters (Pap. Leiden 348 and 349, Loretz 1984, 39 and note 161) refer to the Hapiru who are carrying stones for the temple of Ramses Miamum. Other references, dated to the end of the Late Bronze Age, mention Hapiru as prisoners of war, and slaves, such as the list of gifts to the Amun temple in Heliopolis by Ramses III (Pap. Harris I, 31, 8; Loretz 1984, 39), or the list of prisoners of war from Ramses IV’s expedition in the Wadi Hammamat (Loretz 1984, 40).

In the Amarna letters the Hapiru are sometimes described as besieging and plundering cities: “The Hapiru have plundered and burnt Mahzibti, Giluni, Magdali, Ušte, cities of the king. They tried to take Hazi, but we beat them. And the Hapiru found refuge with Amanhatbi. He has become one of them” (EA 185). “When the Hapiru conquered Tushulti, true city of the king...and plundered it and burnt it with fire, and went before Amanhatbi, man of Tushulti, Amanhatbi...gave the Hapiru food and....” (EA 186).

More often, however, the populations of the cities threaten to join the Hapiru, deposing of their overlord, especially in the north (EA 73, 74, 76, 77, 81, 88, 111, 116, 117, 127). In some cases, all of which can be found in the south, the rulers of the city states themselves seem to have allied themselves to the Hapiru: Lab’ayu of Shechem and his
sons (EA 244, 246), Mutba’lu of Pella, and possibly Milkilu of Gezer and his father-in-law Tagi of Gintikirmil (EA 287). Abdi-Hepa of Jerusalem is accused of having become a ‘second Lab’ayu’ (EA 280). The Hapiru themselves are the steadfast allies of the Amurru, the large and powerful tribe or confederation in the north, that eventually managed to create an independent state.

One of the stelae found in Beth Shean, from the time of Seti I (ANET 255) mentions a skirmish between the Hapiru of Mount Yarmuta and the ‘Asiatics of Rehem’. In this inscription the king mainly seems annoyed that they dare to disturb the peace with their petty little conflicts, and so he restores order. The Amarna letters have no clear references to any ‘territory’ of the Hapiru. They seem to be found everywhere. One letter (EA 67) compares them to ‘runaway dogs’, who obviously have no home. A letter from the Pharaoh to the ruler of Damascus, from the time of the Amarna-letters, orders Zalaja, the ‘man from Damascus’ to send a group of Hapiru for resettlement in Nubia (Kaša) (Edzard 1970, 55-57).

The Sumerian logogram $LÚ-SA-GAZ$, or $SA-GAZ$, which in the Late Bronze Age is often used as a synonym for Hapiru, means ‘armed robber’ (Bottéro 1972-75, 22), and this is the meaning most often applied to the word. In the account of the taking of Jaffa, Papyrus Harris (ANET 22), from the time of Thutmose III, horses and chariots must be brought into the town to prevent them from being stolen by Hapiru. However, as Bottéro points out (1972-75, 24), this representation of them is always given by their enemies. Bottéro sums up occupations exerted by Hapiru according to the documents: servants of the Palace or of private persons; temple servants; messengers; jewellers; scribes (Bottéro 1972-75, 24). A prism of king Tunip-Teššup of Tikunani, a Hurrian king from the days of Hattušili I, lists a total of 438 Hapiru workers in the service of the king. They are organised as $sabe$ (ERIN$^\text{MES}$), workers or soldiers. Many of the personal names of the Hapiru are Hurrian, others are Semitic and others are of unknown origin. There is one Kassite name (Salvini 1996). In Theban graves 39 and 155 (Säve-Söderberg 1952, 5-6), which are dated to the eighteenth dynasty, reliefs were found depicting Hapiru straining out wine in a vineyard. The workmen depicted have no characterizing features, but as they are slaves, this may not be significant. If they were actually Hapiru, they may have been employed in wine-making because of their Canaanite background. Most of the references in the Amarna letters refer to the Hapiru as mercenaries (EA 71, 87, 195, 246), or simply as robbers or militant outlaws (EA 90, 91, 104, 264, 313, 318). Either they are being paid to fight, or they fight for themselves, siding with whoever is strongest (EA 73, 76, 79, 82). On one occasion a Hapiru is hired as a messenger, possibly because other messengers could not travel safely anymore in the Hapiru-infested country (EA 112). It is clear from the letters that the Hapiru were constantly rebelling against the king and the city-states of the empire, and some city-states, like Shechem, Gezer, and possibly Urusalim sided with them to further their own interests of power (EA 280).

The role that the Hapiru played in the decline of the Egyptian empire in Palestine is still a matter of debate. So is the question whether the Hapiru/Habiru/ ‘Apiru are in any way, etymologically, ethnically or sociologically related to the Ibr, or Hebrews of the Bible. These discussions will be summarised in Ch. V-13.
Šasu
In most inscriptions and depictions of Šasu they are enemies of Egypt. Apart from a very early – possible – reference to a town named Šasu in the Brussels Exe...
Šasu were involved in various economic activities. The ones in the letter from the time of Merneptah mentioned above were nomadic pastoralists. Papyrus Harris (Giveon 1971, 134), from the time of Ramses III, mentions the defeat of ‘the people of Seir among the Šasu, and I have pillaged their tents, their people and their goods, as well as their countless troops’, suggesting a nomadic lifestyle. However, the place names on the toponym list from Amenophis III in the Amun temple in Soleb show that there were towns, possibly strongholds, in the territory of the Šasu. An inscription from the time of Ramses II (Giveon 1971, 114) at Tell er-Rabati says: ‘...who made a great massacre in the land of the Šasu, who plundered their hills, killed them, and who built in their cities (?) in his name forever.... The translation of the last sentence is not entirely clear, but the word for ‘town’ is not doubted.

Giveon has tried to identify Šasu on reliefs in several tombs in Amarna (Giveon 1971, 31). Their characteristics, according to him, and based on the reliefs in Karnak from Seti I (Giveon 1971, 51) are a tasseled kilt, a head band, shoulder-long hair, a pointed beard and a pronounced profile, although the only exclusive Šasu attribute was the headdress. They are depicted as mercenaries in Egyptian service. If Giveon is right these depictions in the Amarna tombs would be the earliest depictions of Šasu as mercenaries in Egyptian service. Ward however (1972, 45-50) suggests they may be Asiatics rather than Šasu. In the Medinet Habu reliefs (Giveon 1971, 137), from the time of Ramses III, many Šasu are depicted, either as prisoners, or as mercenaries in the Egyptian army. The Karnak reliefs have numerous references to the Šasu. Here they are depicted as rebels: their chiefs have collected in the mountains of Kharu, they disregard the ‘laws of the palace’, and fight among each other. In the end, of course, Seti restores order. An episode in the account of the Battle of Qadesh (Giveon 1971, 65) tells how two Šasu tribe members came to the king offering that all the Šasu tribes desert from the service of the Hittite king, in favour of His Majesty. The inference here is clearly that there were Šasu mercenaries on the Hittite side as well. One of the reliefs of the Battle shows Šasu, distinguished by their headdress, defending the town. The reliefs of the conquest of Ashkelon in Karnak, from the time of Ramses II, likewise show Šasu being led away as prisoners.

Šasu could also be highway robbers, as demonstrated in Papyrus Anastasi I (Giveon 1971, 127): ‘You have never been to the region of the Šasu with the army....where the sky is darkened by pine trees....Lions are more numerous there than leopards and bears. It is surrounded by Šasu on all sides’. The famous passage about the road to Megiddo says: ‘...the narrow valley is dangerous with Bedouin, hidden under the bushes. Some of them are of four or five cubits (2-2.5 metres), (from) their noses to the heel, and fierce of face. Their hearts are not mild, and they do not listen to wheedling.’ (ANET 477).

Papyrus Turin B, from the time of Ramses II (Giveon 1971, 121) gives a list of merchandise from the Canaan region: several types of oil, unguent and wood, coverings for horses and chariots, and weapons. Šasu-unguent is among them, but without any indication as to its use or origin.

According to Ward (1972, 36 ff) the name Šasu eventually became an equivalent for Bedouin in general. He mentions an ‘early’ reference from the XXth dynasty, referring to the Šasu that lived in the Hijaz. Giveon (1970-71, 51-53) has suggested that this rather means a change in territory of the Šasu who lived in Edom, after their defeat by Ramses III. On the other hand, the Hijaz may have been part of the Šasu territory long before the XXth dynasty.
Rainey (2001) suggests that the early settlers in the western highlands, the groups that are identified with the later Israelites, may have descended from groups of Šasu, thus accepting a natural flexibility both in territory and economic pursuits.

Šasu are often identified by the dress in which they are depicted in Egyptian art (see above). Ward however points out that this dress was generally used to depict Asians, and therefore is not a sure way of identifying Šasu. According to Giveon (1971, 251) the headdress is the only exclusive Šasu characteristic. If Giveon is right, we may perhaps assume that other elements of dress, like the tasseled kilt, as opposed to the full length dress, denoted a lifestyle, nomadic versus urban, whereas the head dress was an expression of ethnic or political loyalty. Parallels to this can still be found in the modern ‘dress code’ of the Middle East, where the headdress is also used as a political as well as an ‘ethnic’ statement.

Taanach letters
At Tell Taanach a number of clay tablets were found, dated to the same period as the Amarna letters. Albright analysed four of these letters, addressed to the ‘prince of Taanach’, Rewašša (Albright 1944, 16-27). In one of the letters the writer complains that he has been ambushed in Gurra, located near Jenin (Albright 1944, 21 n 52), and that he holds Rewašša responsible for reparation. It seems thus that Gurra was part of the city state of Taanach. The letters are further concerned with corvée, military service and tribute, all stressing the vassal status of Taanach.

Moab in Egyptian texts
The name Moab occurred several times in Egyptian topographical lists. It was found on the base of a statue of Ramses II in Luxor (Kitchen, 1992, n 31, for references). Another topographical text from the forecourt of Ramses II in the Luxor proved to be a palimpsest. The original text, which apparently also dated from the reign of Ramses II, was plastered over. The original text said (Kitchen 1992, 27) "Town that Pharaoh's arm captured in the land of Moab: Btrt". In the second scene two place names are mentioned, Yn(?d in the mountain of Mrrn, and a "town that pharaoh's arm captured: Tbn". Kitchen has identified Btrt with Raba Batora, and Tbn with Dibon. However, his identifications have been attacked and the identification of both place names is still a cause for debate (Helck 1962; Görg 1978; Parker in Homès-Frédericq and Hennessy 1989:359; Knauf 1985; Worschech 1990:102 n 44; Miller 1992: 77; Kitchen 1992:28). Worschech most recently has identified Btrt with Jabal Batra (Worschech 1997, 231). According to him the identification of Tbn with Dibon (which he identifies with modern Dhiban) is obvious: 'the schematic drawing….of the fortified town of Tbn can clearly be identified as Dibon…., known also from the Meša inscription and the Hebrew Bible…'. This argument seems rather weak in the face of the several hundreds of years that lie between the 'schematic drawing' and the two sources mentioned. I have recently suggested (van der Steen 2002b; forthcoming) that Tbn of the Egyptian sources may have been a tribe, not a town, in which case the ‘town of (the) Tbn’ mentioned in the Luxor relief would be a tribal stronghold, that could be anywhere in the territory.

Other Egyptian texts
At the entrance to the hypostyle hall of the great Amun temple in Karnak is a topographical list of Ramses II. This list mentions "phr, hmt, bt šr, yn<w>m", Pella, Hamath, Beth Shean, Yanoam (Simons 1937, 160-161)
The large stele of Seti I, found in Beth Shean (ANET 253) describes the rebellion of Hamath: "The wretched foe who is in the town of Hamath is gathering to himself many people, while he is seizing the town of Beth Shean. (Then there will be) an alliance with them of Pahel. He does not permit the Prince of Rehob to go outside." Divisions are sent to Hamath, Beth Shean and Yanoam as a result of this rebellion. Strangely enough, no division is sent to Pella (Pahel). Rehob is identified with Tell es-Sarem, 7 km south of Beth Shean (Mazar in Stern 1993, 1272), Yanoam is probably situated somewhere in the Bashan (Liebowitz in Stern 1993, 1515), and Hamath has been identified by Albright with Tell el-Hammeh at the southern entrance to the Beth Shean valley (Cahill and Tarler in Stern 1993, 561).

The Balu'a stele derives its name from the site where it was found in 1930 (see Chapter 3). It consists of a slab of black basalt, with two panels: the top one with an inscription that is so worn as to be illegible, the bottom one with a low relief depicting what may have been a god and goddess handing a sceptre to a local ruler. It is generally dated to the twelfth or thirteenth century (but see H. Weippert 1988, 666). Ward and Martin (1964) extensively discuss the script used, as well as the stylistic implications of the relief. Their conclusion - still generally accepted - is that, although the text is illegible, the relief represents a Šasu chief (contra Timm 1989, 14, 33, and 92 n 1, who states that Šasu was mentioned in Egyptian lists as a separate country), identified mainly by his headdress, flanked on the left and right by a god and goddess, respectively. The representation is Egyptianising, probably made by a local artist who had knowledge of and used Egyptian iconography: the god wears the double crown of Upper and Lower Egypt, and the goddess wears a crown similar to the headdress of Osiris (Ward and Martin 1964, Mattingly 1992, 60). Ward and Martin suggest on the basis of the facial features that the god and goddess were Semitic, although an Egyptian background is usually assumed by most other writers, suggesting an Egyptian presence in Moab. Zayadine (1991, 37) actually suggests they were Amun-Re and Hathor. According to Dearman (1992, 71) the stele points to the presence of an administrative centre, controlling the passage through the Wadi Mujib.

The stele from Rujm el-'Abd, or the Šihan warrior stele’ is even more difficult to date, with dates ranging from the third millennium. BC down to the ninth - eighth century. Arguments for dating are based variously on stylistic details or circumstantial evidence (Mattingly 1992:60 with references). It depicts a warrior, or possibly a war god, dressed in a short kilt and holding a spear. The warrior has Egyptian as well as Hittite characteristics. Warmenbol (1983) dates it to the fourteenth-thirteenth century on the basis of artistic features. Mattingly reverses the argument, and says that it may date to the Early Iron Age, “since its Neo-Hittite and Syrian characteristics could reflect an actual movement of people from these areas to Moab at an early stage in Moab's evolution”.

Zayadine (1991:37) suggests that both the Balu'a stele and the Šihan stele may have come from the same place originally. Kitchen (1992:29) takes this hypothesis one step further and argues that these stelae point to the existence of an organised society. No arguments for either of these suggestions are given, however.

The victory stele of Merneptah, the 'Israel stele' (ANET 378), is one of the most important arguments in the discussion about early (or ‘proto’) Israel. It provides the oldest existing reference to the name ‘Israel’, in a list of conquered towns and regions in Asia:
"Plundered is the Canaan with every evil;
Carried off is Aškelon;
seized upon is Gezer;
Yanoam is made as that which does not exist;
Israel is laid waste, his seed is not;
Hurru is become a widow for Egypt!"

Israel is the only name that has a ‘people’ determinative. Both the name and the determinative have been subject to much debate (Hess 1993, 133 for literature) and are still important arguments in the various theories about the settlement of early Israel.

The central Jordan Valley: Deir 'Alla
The only written sources from the Deir 'Alla region have been found at Deir 'Alla itself: undeciphered clay tablets from the Late Bronze Age sanctuary. A cartouche of Queen Taousert (Franken 1992, 31 fig 3-9, 5) who reigned between 1198-1196, on a faience vase was found inside the cella, dating its destruction to somewhere after that date. Franken found several clay tablets in the rooms east of the cella (Franken 1992, 59;64). Knauf (1987) published three of them. In later excavations more tablets have been found, but these have not been published. Their script is probably alphabetic, but apart from that, nothing can be said for certain about the language or the contents of the tablets.

The discussion about the tablets and their contents is still continuing, as Knauf (1987, 14) rightly states: "These tablets are perfectly readable, but still untranslateable. A number of scholars have offered readings and translations, but they failed to convince their colleagues". Two parties can be recognised in this discussion: those that ascribe them to Aegean groups (e.g. J. Tubb, excavator of Sa’idiyeh), and those that ascribe them to Semites (e.g. Franken). The fact that the same arguments are used by both parties shows that it has become a discussion about Late Bronze Age economic and political relationships rather than a linguistic discussion. It seems clear that until they are deciphered the tablets cannot possibly be used as an argument in the debate.

The Bible
The Bible is the most prominent literary source for this region, but also the most controversial one. An important reason for this is the fact that although the traditions that lay at the roots of the existing text can be very old, the text itself is late, exilic to post-exilic, and edited with specific political and theological purposes.

The questions asked by archaeologists are determined partly by the nature of their finds, and the purposes of their projects. Partly they are determined by the (im)probability of a reliable answer. In the case of the history of the origins of Israel and its neighbours questions about the historicity of specific persons or events mentioned in the Bible are difficult or impossible to answer. More useful seem questions relating to the social and historical context of these events. The answers to these questions, which are the scope of Old Testament scholarship, are not straightforward either, but they do permit a glimpse (seldom more) into the society in which the traditions originated. Even here one has to tread with care, since the final 'version' of the stories that represented the events must have been coloured over time by the perception and the 'Sitz im Leben' of those that handed the stories down. They may eventually reflect the social background of the storyteller as much as that of the original story. The literature on the subject is vast, and cannot be treated extensively here (e.g. Otto 1979, Kaiser 1984, Donner 1984, Lemche 1988, 1996, Thompson 1992, with literature). A few examples will have to suffice. However, even from these few examples a picture emerges of diversity, of different backgrounds for different sources (Hess 1993, 132):

- Elements that probably originated in a semi-nomadic background are the stories of the patriarchs, the stories that underlined the traditional hostility between the Israelites and the Canaanites, and the formulation of some of the law codes (Kaiser 1984, 31, 65 ff,
with references). Donner (1984, 57) has suggested that these nomads originated east of the Jordan, in the Belqa, the homeland of the Aramaeans. Even though the credo in Deuteronomy 26, 5 ‘my father was a wandering Aramaean’ is very late, ties with the east side of the Jordan are unmistakeable, for example in the Jacob/Israel cycle (Otto 1979, 89-108; Kaiser 1984, 81).

- Other passages seem to come from a more agricultural, and therefore usually interpreted as Canaanite, background (Donner 1984, 75; Kaiser 1984, 33 ff): local traditions, etiological sagas concerning sanctuaries or natural phenomena (typical of agricultural communities), and different literary formulae. M. Weippert (1967, 19-20 and n 45) suggests that some Canaanite cities were accepted within the clan structure, at least in the tribe of Manasseh.

- Israel's religion is often seen as originating in Midian or Edom (the 'Kenite hypothesis', see M. Weippert 1967, 105 n.3). Weippert (1979, 33) concludes that the stories about the patriarchs originated in the mountains of the northern Negev as part of the Late Bronze Age nomadic population tradition. If the stories of the patriarchs are to be part of Israel’s proto-history, that can only mean that the Šasu population of Canaan, to which the patriarchs belonged, formed the later basis for Israel.

- The Exodus-cycle is often associated with slaves fleeing Egypt when the Empire began to disintegrate. Egyptian sources show that there were many Canaanite slaves in Egypt (Redford 1992, 221 ff, with references; contra Donner 1984, 91).

- Numerous passages can be found demonstrating that the editors of the Bible were well acquainted with the international literature of the age and used it. As the editors of these stories may have lived in the heart of Mesopotamian society, this is not surprising. On the other hand, Lemche (1996, 161-170) has argued for the existence of an epic literary tradition that can already be found in the Late Bronze Age, and that must have been widespread and largely oral. Themes from this tradition were used in the ‘historical’ monumental literature such as the Idrimi inscription, and found their way into the biblical stories about Jacob, Joseph and David. The find in Megiddo of a fifteenth century fragment of the epic of Gilgameš (Goetze and Levy 1959) demonstrates that the great myths of creation and flood that originated in Mesopotamia were known in Canaan in the Late Bronze Age. They may easily have passed on into the Israelite tradition.

- A strong sense of tribalism pervades the final editions of the biblical books. These final editions were written either during or after the Exile and influenced by the national feelings that the Exile had induced. It is clear that these national feelings were best expressed by laying a strong emphasis on the tribal structural basis of the group, by reminding them who they were and where they came from. This, however, was only possible if that tribal structural basis had always existed, and had been, and remained, an essential part of the national identity throughout the formative stages of Israel, the period of the United Kingdom as well as the periods of the divided kingdom, the Assyrian and the Babylonian periods. In that sense the Bible, even though, or actually because, it was written long after the actual events it describes took place, presents a strong case for the tribal structure of the origins of Israel in the Early Iron Age.
I-2: Ecology

**Jordan Valley**

About 50 years ago an unparalleled population influx, in combination with increasingly modern methods of agriculture and horticulture, changed the landscape of the Jordan Valley, possibly for ever. Before that time the general ecology and landscape were basically the same as they had been in the Late Bronze and Early Iron Ages. This chapter is therefore devoted to a description of the landscape, soils, climate and general ecology of the wider region in so far as they have not changed, or can be reconstructed for the Late Bronze and Early Iron Ages. Landscape, soil and climate obviously play an important role in the settlement history of an area, determining settlement patterns and systems, and food procurement strategies, among other things.

The region has been divided into four different areas: The Central East Jordan Valley, which is the central area of study, the regions that are traditionally named Moab and Ammon, and the Highlands west of the Jordan. These four areas, although closely connected, were culturally and politically separate not only as a result of their different geological and ecological lay-out, but also because of the natural boundaries that separated them.

**The Central East Jordan Valley**

The Jordan Valley forms a narrow trough between Lake Tiberias and the Dead Sea. Its length is about 100 km. Its width at Jericho - South Shunah is 25 km, at Kereimeh it is 8 km. At Lake Tiberias the bottom is 225 m below sea level; at the north end of the Dead Sea it has sloped down to -392 m. The Valley can be divided into four ecological zones:

- The Zor area: a low-lying, relatively wide flood plain in which the Jordan river flows, 40-50 m below the Valley floor.
- The Katarrh (bad lands): the transition between the Zor and the Ghor, cut by numerous gullies. It consists mainly of marl.
- The Ghor area: bench-like terraces flanking the flood plain.
- The foothills.

**The soil**

The Jordan Valley and Wadi Arabah are part of the 6000 km long Great Rift Valley. It cuts through and exposes formations from Precambrian upwards. The earliest exposed formations in the area are the (Triassic and early Jurassic) Zerqa and Kurnub formations. These are marine sediments, increasing in thickness as one moves north (the southern coastline of the Tethys Sea in this period ran roughly east - west, halfway across the present Dead Sea). These formations are exposed along the Wadi Zerqa, at the mouth of the Wadi el-Huni: Crystalline limestone alternating with shale, followed by 20-30 m of gypsum, argillaceous marly lime, shales and iron-rich stone and sandstone, rich in fossils (the 'Ma'in formation'). In the Wadi el-Huni and along the Arda road dolomitic, massive, crystalline limestone with marl, clay and sandstones are exposed (the 'Azab formation). These are followed by layers from the Early Cretaceous, exposed in the Wadi Zerqa: sandstone followed by multicoloured layers of sand, clay and marl with marine fossils. The Ajlun group (Cenomanian - Early Campanian) is exposed in the Wadi Kufrinjeh and Wadi Rajib, as well as in the Wadi Zerqa and along the Arda road: alternating nodular limestone, marl and dolomite layers, and flint.
During the Oligocene period part of the Tethys was closed off, and consequently evaporated, forming a layer of stone salts: the 'Sodom formation'. At the end of the Tertiary, the Great Rift Valley, to which the Jordan Valley and the Wadi Arabah belong, was formed, together with the large east-west wadis: Wadi Hasa, Wadi Mujib, Wadi Zerqa and on the west side Wadi Murabba'at, Wadi en-Nar and Wadi Far'ah. Samra, and later Lisan-deposits (Late Pleistocene), formed at the bottom of the Valley. These deposits are exposed at Damieh. They are composed of marl, silt, calcareous and gypsiferous clay, alternating with layers of sand, conglomeritic sand and gravel. Towards the top they contain more saline deposits caused by the evaporation of Lake Lisan. The Holocene layers covering these formations on the Valley floor consist of alluvial fluviatile and eolic deposits, interleaving with or super-facially covering the Lisan-lake deposits (Bender 1968, Negenman 1982, Naser 1991).

The east Jordan Valley contains 60,584 ha of land, of which 42,000 ha are considered irrigable and arable. In general the clay and clay loams of the Valley are calcareous in nature, with a deficiency in nitrogen and phosphorus (Sorenson 1978: appendix 3). Soils are either shallow or stony, or both. The texture of the soil changes from north to south, from fine-textured soil to silt loam and sandy loams immediately north of the Dead Sea. In the Deir 'Alla region the texture is described as 'silty clay loam'. Water infiltration in the soil is no problem, even with the fine-textured soils, but they are sticky and plastic when wet, and when they are too wet they cannot be tilled (Hazleton 1978:1-5).

The different zones in the Valley have different fertilities. The best soil is found in the Zor, because of the new layers of soil being regularly deposited (Hazleton 1974:9). They consist of red or greyish-brown marly soil with up to 6% humus (Bender 1968). A disturbing factor here is the salt-bearing Lisan marl, which underlies and interleaves with the alluvial fans. In the katarrh, the transitional zone between the low-lying Zor and the higher Ghor, the fertile topsoil has eroded away. It is a hilly strip, consisting mainly of rather infertile Cretaceous and Tertiary marl. The Ghor and the foothills consist of Yellow Mediterranean soil (see Appendix A), suitable for pasture and for dry or irrigated farming. At the mouths of the Jordan tributaries wadi-deposits are found: sand, silt and clay with pebbles and boulders of chert and limestone (Naser 1991).

Climate
Average temperatures in Deir 'Alla between 1975-1980 ranged from around 14° in January to around 32° in July and August, with maxima of 47° and minima of just over 0°. No frost was recorded between 1975 and 1989 (Dept. of Statistics, Statistical Yearbooks). Frost does occur occasionally however: between 1990 and 1994 banana crops in the Valley were destroyed several times by night frost.

The prevailing winds come from the north and northwest. In the spring the khamsin blows from the east. Deir 'Alla and its surroundings regularly get eastern winds, because of its position at the mouth of the Zerqa valley, which acts as a wind-tunnel. The Valley is a rain shadow area: it receives less rain than the mountainous areas surrounding it. Between 1938 - 1967 average rainfall in the Valley was:

<table>
<thead>
<tr>
<th>Region</th>
<th>Average Rainfall (mm)</th>
</tr>
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<tbody>
<tr>
<td>South</td>
<td>100-200</td>
</tr>
<tr>
<td>Central</td>
<td>200-300</td>
</tr>
<tr>
<td>North</td>
<td>300-400</td>
</tr>
<tr>
<td>Foothills</td>
<td>300-600</td>
</tr>
</tbody>
</table>
The rainy season runs from November to April. Average rainfall in Deir 'Alla between 1950 and 1970 was 267 mm, sufficient for dry farming on a marginal level. However, the wide variations in yearly rainfall make dry farming risky.

**Water**

The wadis in the region are partly fed directly by rainfall, partly through several aquifer systems. The Amman - Wadi es-Sir aquifer system is one of the largest in the region. It recharges mainly from rainfall, supplemented by indirect recharge from the basalt aquifer of Jebel el-Arab to the northeast. Discharge is mainly as base flow through the wadis, especially along their upper courses, and generally along the Valley escarpment. The Kurnub sandstone aquifers, below the Amman - Wadi es-Sir system, outcrop along the lower banks of the Jordan tributaries. Water from these aquifers contains salt (>3000 ppm), which dissolves out of the sandstone of the Zerqa and Kurnub groups. There is little direct recharge from rainfall (Naser 1991). This salt accumulation renders the Jordan river below Lake Tiberias of little value for irrigation (Hazleton 1974:9). All groundwater within a 30 km long and 3-6 km wide strip north of the Dead Sea is very saline (Bender 1968). Groundwater in the northern part of the Valley is of better quality. Depth to groundwater level ranges from about 100 m at the escarpment foothills to about 5 m in the Zor. Water level in the escarpment's wells is generally closer to the surface and varies according to the geologic structures and location relative to the wadis (Hirzalla 1973). But here also salinity is a problem. Wells drilled in the Zerqa region, and springs and seeps issuing from the Zerqa and Kurnub sandstone groups, have excessive salinities (>3000 ppm), especially at or near the Valley floor level.

60% of the total drainage of the Jordan is formed by the drainage areas of the Yarmuk in the north, and the Zerqa in the Deir 'Alla region. The other 40% come from smaller side wadis on east and west. The wadis in the Deir 'Alla region (Wadi Kufrinjeh, Wadi Rajib and Wadi Zerqa) all used to be perennial streams. The Zerqa has a drainage area of 3400 km² (111 and 84 for Wadi Kufrinjeh and Wadi Rajib, respectively). It receives 710 MCM rain annually (62 and 41). The Zerqa has an average stream flow of 70 MCM (6 and 4; Hirzalla 1973: table IV.1). Water for irrigation and drinking used to come mainly from these wadis.

In the Wadi Zerqa there used to be a hot spring. “There was formerly at the mouth of the Zerqa a large hot spring, or perhaps more than one.... the water was very hot. But in Ibrahim Pasha's time (AD 1832 - 40) a great canal, which is still in use, was dug near and above it to carry water from the river, and thus the spring was ruined. It is now nearly filled up and the water is merely tepid” (34.5º, according to Bender). “There is a tell near it, which retains the name tell el-Hamma, and also a level plain just about the spring is called Ard el-Hamma” (Merrill 1881, 193).

The salinity of the soil is one of the main problems in the Valley. The salty soil extracts water from the plant roots, and causes uneven plant growth. Native soils tend to be somewhat higher in salt than those which have been farmed and irrigated for several years (Hazleton 1978, III-1), because the excess water used in irrigation causes natural drainage, washing away the salt. 'Efficient' irrigation using a minimum of water, however, increases salinity, because the water used for irrigation usually contains some salt as well, while evaporation brings salt to the surface. The natural vegetation of the Valley is partly determined by the soil's high salinity: Euphrates poplar and tamarisk have a high tolerance for salt.
When there is little or no human interference, the Valley becomes covered with trees. In the 6th century Bishop Arculf described the Sea of Galilee as surrounded by thick woods (Boggis 1939:15). Merrill, in 1876, saw that “For six miles or more, up the valley north of the Zerqa, the plain is covered with trees...” (Merrill 1881:191). Tristram (1866, Ch 22) describes the Zor as “an impenetrable tangle of forest” with tamarisk, white poplar, willow, with an undergrowth of bushes. According to Tarawneh's informants (1989:18), until the 1940's the Deir 'Alla region was “a tropical forest consisting of huge cedar trees and dense bushes called botom”.

The climate in the Valley is conducive to malaria, which used to be endemic. Especially when the rains were late in the season people tended to stay in the Ghor longer and malaria increased. There usually was a period of 5 years between epidemics because of immunity (Lumsden and Yofe 1950).

**Conclusion**

Based on this information it has often been stated that the Jordan Valley is a marginal zone, compared to the surrounding areas. Living conditions are uncomfortable, and even used to be dangerous, especially in the summer. Farming conditions were hampered by the high salinity of the soil.

On the other hand, the climatic conditions, which are unique for the region, caused farming products, such as cereals, fruit and vegetables, to ripen several weeks earlier in the season than anywhere else in the region, which has always been an important economic advantage. In the winter, conditions in the Valley are generally better than in the highlands, because it is less cold. The valley therefore has always been popular with mobile groups, whether pastoral or farming.

**Moab**

'Moab' is the geographical name used for the region south of the area of study. It is bordered on the south side by the Wadi Hasa, south of which is Edom, on the east side by the Arabian desert, and on the west side by the Dead Sea and Wadi Arabah. The northern border has changed through time. In some periods it coincided with the Wadi Mujib. In other periods it was somewhere north of the Wadi Mujib. Moab's northern neighbours were Ammon and Israel. Usually Moab is subdivided into three subregions:

- North Moab - the part north of the Mujib
- Central Moab - between Wadi Mujib and Wadi Kerak
- South Moab - between Wadi Kerak and Wadi Hasa.

From west to east Moab can be subdivided into four zones:

- Wadi Arabah/Dead Sea valley
- the Foothills
- the Plateau
- the Eastern Desert.

**The soil**

(General information on geology, geography and ecology is taken from Bender 1968, with additions from Mattingly 1983 and Miller 1991 for the Kerak Plateau, and LaBianca 1986 for the Hesban region.)

The nature of the soil on the Plateau is dominated by upper Cretaceous to Eocene sediments, the Belqa series. These are marine (Tethys) sediments, Cenomane and Senonian, running up against the Nubian-Arabian shield of the Precambrian and
Cambrian eras. The sediments consist of marl, lime, chalk, and chert layers. Further to the south, around the south end of the Dead Sea, layers of the colourful late Nubian sandstone and clay are exposed. The westside of the Plateau is tilted up, forming the steep east ridge of the Arabah / Dead Sea valley, part of the Great Rift Valley. This ridge, together with the wadis that cut deep into the Plateau, forms the mountainous area that Bender (1968) has named the Transjordanian block. The highest ridge is found in the southern part of these mountains, to the north it slopes down. South of Kerak the difference in height is 1700 m over a distance of 13 km horizontally.

In Zerqa Ma'in, Wadi Hesban and the western Wadi Mujib there are Triassic formations of marine lime, with layers of shells and rich in marine fossils. They are followed by marl and volcanic ash layers. Early Cretaceous sandstone formations with chert and quartz layers are exposed in Zerqa Ma'in. They are followed by layers of nodular lime, rich in fossils, from Late Cretaceous formations. A thick layer of grey flint, with lime and phosphorite, and increasing concentrations of phosphate, can be found everywhere in the upper Late Cretaceous formations.

The deposits in the Wadi Arabah are formed by erosion from the hillsides and wadis and eolic deposits. The water of the Dead Sea is a saturated salt solution. This is the result of the disclosure of the saltstone layers of the Oligocene - Pliocene Sodom formation. Volcanic activity in this period resulted in the formation of layers of basalt in the north and on both sides of Wadi Mujib. There is a Pleistocene basalt volcano west of the spring area of Zerqa Ma'in, and a group on the south side of Zerqa Ma'in. A large field of Pleistocene basalt is found south of the Wadi Mujib around Jebel Šihan, there are small, isolated concentrations on the Kerak - Wadi Fihan rift, and another field on the edge of the Plateau immediately north of Wadi Hasa. On the hillsides and wadis is a layer of Yellow Mediterranean soil. A thin layer of fertile Red Mediterranean soil (terra rossa - see Appendix A) has formed on the Plateau. Further east, where there is less precipitation, the Red Mediterranean soil changes into Yellow Mediterranean soil, and still further east into Yellow (steppe) soil. Where the fertile soils have eroded away, mainly on hilltops and along wadis, nari (see Appendix A) can be found. In the lower parts and hollows of the Plateau mudflats have formed.

Water
Springs can be found wherever aquicludes are cut. Hot sulphurous springs are found in Zerqa Ma'in (Baaru on the Madaba map), with a temperature of around 60°. 4 km south of Zerqa Ma'in are the hot springs of Zara (Kallirhoe), with a temperature of around 40°. On the Kerak Plateau the only springs of significance are found in the Wadi Mujib, and in the Wadi Hasa. Groundwater level is too deep to dig pits. Agriculture is therefore mainly dependent on the five to six months of rain that fall every year.

Climate
Wet winters, with temperatures occasionally below zero, and warm, dry summers (but not as warm as in the Valley) are responsible for a relatively mild climate. The wind blows mainly from the southwest in winter and from the west in summer. On occasions in spring and autumn the khamsin blows from the east. From the valley a steep slope rises about 1300 m to its highest point. Because of the predominantly westerly wind this causes a drop in temperature and relatively high rainfall, about 350 mm on average, on the slopes and the western half of the Plateau. These are therefore suitable for dry farming. The central Plateau forms a transitional zone, and the eastern part is too dry for permanent settlement, since there are few natural springs on the Plateau, and groundwater is too deep to dig pits.
Conclusion

The Moab Plateau attracts settlement for a number of reasons: it consists of relatively flat country, which makes travelling easy, and it is fertile. The landscape is dotted with hills consisting of nari. These provide ideal spots for settlement because they are easily defended, do not take up valuable soil, and provide building material. It is not surprising that nearly every hill shows traces of settlement (LaBianca 1986).

Ammon

The region southeast of the area of study, here referred to as Ammon, forms part of the Biblical 'mountains of Gilead'. The region consists largely of a highland plateau, the northern continuation of the Transjordanian Plateau. On the west side this plateau has been tilted up, creating differences in height of up to 1400 m between the highlands and the bottom of the Jordan Valley. The Baq'ah Valley, located 15-20 km northwest of Amman, is a broad, flat valley, which stands in sharp contrast to the surrounding terrain of hills and deep wadis (McGovern 1986, 1-6 gives a description of the geology and ecology of the Baq'ah Valley).

The soil

Geologically the region can be divided into: the foothills and mountains, where Early and Late Cretaceous layers are exposed, and along the Wadi Zerqa Triassic and Jurassic formations, colourful and rich in fossils. These layers consist of hard limestone and sandstone, and have protected the relatively soft late limestone on the plains north and south of the Zerqa valley against erosion. On the Plateau occasional mudflats are found and nari layers with a thickness of up to 2 m.

The Zerqa valley forms a wedge between the northern and southern Plateau. Its floor is covered with fertile river sediments. The early formations of the Plateau, exposed in the Wadi Zerqa and Baq'ah, are basically the same as those of the Plateau in Moab, but the marine sediments of the Triassic, Jurassic and Cretaceous eras are thicker. The Baq'ah valley is situated in a bend in the Zerqa. Two wadi systems, the Wadi Umm ed-Dananir and the Wadi Shueib, encircle the valley and start the drop down into the Jordan Valley. The soil of the Baq'ah valley consists of Red Mediterranean Soil.

About 35 km northwest of Amman (at Mugharet el-Wardah, on the edge of the area of study) is a heavy layer of iron ore, mainly hematite and limonite, an early Cretaceous formation. According to Bender (1968, 150) this is the only exploitable amount of iron ore in Jordan.

The western side of the Plateau consists mainly of Red Mediterranean soil, with occasional nari hills. East of Amman there is a strip about 10 km wide consisting of Yellow Mediterranean soil, and east of that are Yellow (steppe) soils. On the transition between the Valley and the hills there is a strip of Yellow Mediterranean soils as well, because precipitation here is lower than it is further east. The western half of the Zerqa Valley has very fertile river deposits.

Water and Climate

The most important water source of the region is the Zerqa and its springs. The springs along the lower course are saline, but higher up the springs are good, and they contribute much to the yearly baseflow of 38 MCM (Hirzalla 1973, Table IV.1). The Baq'ah valley is surrounded by springs which come from the higher drainage system, the Amman – Wadi es-Sir aquifer system, and it is therefore the best watered area in the region, in spite of the relatively low rainfall of 400 mm.
The climate on the Plateau is moderate. Average day and night temperatures are 32-18° in summer and 12-4° in winter. In the winter northern winds occasionally lower temperatures, but the prevailing wind blows from the west. Sometimes in spring and autumn the khamsin blows, drying out the air and bringing dust from the desert. Precipitation varies from 600 mm in the north to 400 mm at Madaba, and decreases from west to east because of the westerly winds. Most of it falls in the winter, in the form of snow, rain and hail. The plain is suitable for dry farming.

The western Plateau is covered in forests consisting of Aleppo pine (*Pinus halepensis*) and varying foliage trees, mostly types of oak, as was, and for a part still is, the upper half of the connecting mountainous area. Towards the east as well as the west these forests change into a maqui-like growth, consisting of grass and varying shrubs (Zohari 1982).

**Conclusions**

In general the Amman Plateau offers reasonably good conditions both for settlement and for a more mobile, pastoral mode of life. Water is abundant, especially in the northern half where the Zerqa and its tributaries provide water. The Baq'ah valley offers particularly good conditions for settlement and agriculture, with fertile Red Mediterranean Soil and a number of good, perennial springs. The area is linked to the north and west through several valleys, and with the south, the region of Moab, by a natural continuation of the Plateau.

**West of the Jordan**

Much literature is available about the geology and ecology of this region. The following resumé is taken from Negenman (1982) with additions from Aharoni (1979), Karmon (1983), and Zertal (1991) for the region of Manasseh.

The region west of the Jordan that borders on the area of study stretches from the Beth Shean valley in the north to Shiloh in the south, and from the Jordan in the east to the beginning of the lowlands in the west. It is the region ascribed in the Bible to the tribe of Manasseh, together with the northern part of Ephraim, with which it eventually formed Samaria.

The eastern part of the region is part of the Jordan Valley. Mirroring the east side of the river, it consists of the Zor, the basin proper of the river, 1-2 km wide, which has cut deep into the Lisan marl; the katarrh further to the west, partly eroded hills of Lisan marl which bridge the 20-40 m difference in height between the Zor and the Ghor; and the Ghor. A number of streams flow into the Jordan here. Between the Beth Shean valley and the Wadi Far'ah 20 km south of it, the Ghor is narrow, less than 2 km wide.

**The soil**

The western Highlands were formed in the Cretaceous (Cenomanian and Turonian) era. They consist of marine lime, which is exposed in the northern part of the area. On top of this formation another layer of marine lime, with marl, chert and silicium is exposed in the southern part, between Nablus and Jenin. The mountains are cut by numerous wadis and gullies and contain many aquifers. The Beth Shean valley and the Wadi Far'ah were formed during the same events that formed the Great Rift Valley.

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3. For the sake of convenience biblical names of regions and sites will be used throughout if they are well known and generally accepted as geographical names.
The hills south and partly north of Shechem consist of Cenomanian lime, which makes good building material. The topsoil is Red Mediterranean soil. North of Shechem the lower hills consist of Eocene lime, with more or less the same qualities. The soil in the wadis and the Jordan Valley is formed by fluvial deposits, and is very fertile.

The mountains south of Wadi Far'ah are higher than those on the north side, and divided by two long valleys: a northeast-southwest valley cutting the area in two, and another valley cutting through the north-western half. The meeting point of these valleys forms a large plain, which is accessible from all sides (Campbell 1991:93). The broad valley is guarded to the west by Mount Ebal and Mount Gerizim, 940 and 881 m high respectively, and by Shechem, in the valley itself. This plain is a fertile agricultural area as well as an important crossroads for traffic from all directions. These factors have determined the importance of the Shechem plain through time.

Water
The Beth Shean Valley is one of the most fertile valleys in the country. It has a width of 20 km and a total surface of 178 km². The soil is fertile, and especially the western part has many springs, where the aquifers in the hard lime of the mountains are cut, providing 130 MCM of water yearly, part of which, however, is saline. Much of the soil is saline as well.

The Samarian mountains south of the Beth Shean valley are cut by several northwest-southeast wadis, the largest of which is the Wadi Far'ah. This wadi cuts several aquifers, and is therefore well provided with perennial springs. The smaller valleys are fertile, and most have good springs. The Jordan itself has never been suitable for irrigation: its course lies too low, and its water is saline. As noted above, the valley has always been very susceptible to malaria.

Climate
The mountains west of the Jordan have a lower precipitation than those on the east, first of all because the eastern mountains are higher, but also because of the predominantly western winds in the region.

The differences in temperature in the western area are determined mainly by differences in height. Average day and night temperatures in the highlands are in summer 30-18°, in winter 13-5°. Occasionally there is snow in winter. The Jordan Valley temperatures are 10° higher on average. Summer maxima in Beth Shean are 37-39°. On the other hand, night frost is still a regular phenomenon in winter. Precipitation is 600-700 mm on the mountains, diminishing eastward to 100-200 mm in the Jordan Valley. Practically all of it falls in the winter months.

The hills have a Mediterranean climate, with matching flora: Aleppo pine (Pinus halepensis), combined with oak and other trees like terebinth (Pistachia palaestinensis). On the eastern hills carob trees (Ceretnons siliqua) and mastic trees (Pistacia lentiscus) are found. The valleys were ideal for grazing, because the Tabor oak (Quercus ithaburensis) used to grow there, which permits little undergrowth.

The Zor vegetation consisted mainly of Euphrates poplar (Populus euphratica) and tamarisk, both trees that are salt-tolerant (Zohari 1982, 21), reed (Phragmitis australis) and papyrus (Cyprus papyrus); the Ghor, because of its lower level of precipitation, has a more steppe-like vegetation: low bushes, shrubs and grass (Zohari 1982, 28 ff).
Conclusions
Much has been written about the suitability of the western highlands for settlement, particularly in the context of the settlement wave at the beginning of the Early Iron Age, which is generally seen as the beginnings of ‘proto-Israel’. It is its variability that makes it suitable both for pastoral pursuits, and for agriculture and horticulture. Its most conspicuous phenomenon in this context seems to be the variability in the landscape, which limits every economic pursuit to a relatively small scale, thus creating a ‘small-scale society’ with the possibility of a high level of economic independence for its members.

Climate in the Late Bronze - Early Iron Age

In the past years it has been argued (Thompson 1992, 215-218) that the climate of the region under study changed to a drier and warmer stage during the last phases of the Late Bronze Age and Iron Age I, and that this may well have been one of the reasons for the economic and political decline in this period. The evidence for this, however, remains doubtful, and arguments against a deterioration in this period seem as valid as arguments for it.

Neumann and Parpola (1987) have summed up the evidence for a change in climate in Mesopotamia at the end of the Late Bronze Age:
- the existence of a dry, powdery soil under the destruction layer of Ugarit (1187) as noted by Schaeffer, which according to him indicated a hot, dry period (but this could just as well be explained as the result of a great fire).
- a peak-flow curve for the Tigris-Euphrates over the past 6000 years based on the combined results of pollen analysis in different areas, Lake Van levels and sedimentation rates (by Kay and Johnson in 1981) indicate a sharp rise in 1450, reaching its maximum in 1350-1250, a sharp decline in 1150 and a rise again in 950.
- a major period of salinisation of Babylonian agricultural soil in 1300-900 indicates a change in agricultural methods, using more efficient irrigation, and possibly less rainfall.
- an analysis of woods from charcoals from highland sites just north of the Negev (Lipschitz 1979, cited in Neumann and Parpola 1987) indicates a shift from a Mediterranean towards a Saharan vegetation at the beginning of the Iron Age.

Neumann and Parpola conclude on the basis of this evidence that around 1500 BC a relatively cool period started in the Near East, which lasted until about 1200 BC, when temperatures started to increase and a relatively warm and dry period started. This lasted until 950-900 BC when the climate again became cooler and wetter.

There is, however, also evidence suggesting that there was no change in climate in this period, certainly not for the worse. A study by Neev and Emery (1967), cited by Crown (1972), analysed the runoff/evaporation ratios of the Dead Sea. Their conclusions indicate a humid spell until ca 2300 BC followed by a dry episode, after which the climate remained stable until 0 BC, being 'mostly dry with some humid episodes'. A sudden increase in run-off around 500 AD was probably the result of the destruction of the Romano-Byzantine irrigation systems. The results of this study were confirmed by other studies in the area: Horowitz (1971, cited in Crown 1972) came to the same conclusions for the Huleh area. The results were modified later by D. Neev (cited in Neumann and Parpola 1987, 161): according to him the results suggested a rise in sea level starting about 2000 BC, with a stable sea level lasting until Hellenistic times.

Crown suggests that “alternatively, the Dead Sea pattern may be largely insensitive to any but the most drastic periods of change”, but he does not really seem to believe that.
He states very clearly that “a third cultural break between the Late Bronze Age and the Early Iron Age (ca 1300-1000 BC) has no parallel records in the sediments of the Dead Sea and is an obvious warning against too determinist an attitude (1972, 322).”

It is certainly difficult to accept that the Dead Sea level would be insensitive to major periods of drought and rise in temperature: its inflow is exclusively by water from wadis and aquifers which are all ultimately fed by rainfall in the area; its drainage is exclusively from evaporation. A warm and dry period would have at least as serious an impact as the destruction of the Roman/Byzantine irrigation systems had in 500 AD.

Shedadeh (1985, 27) states that maximum aridity in the second millennium BC in Jordan was reached between 1800 and 1300 BC. Around 1000 BC rainfall became more or less equivalent to rainfall in the first half of this century. However, he seems to base his conclusions at least partly on the fact that “sedentary life in the marginal areas of Jordan was not existent until the thirteenth century BC”.

According to Thompson (1992) the strongest evidence for a period of aridity and rise in temperature is a severe drop in sea level at the end of the thirteenth century (Thompson 1992, 218). Ritter-Kaplan has cited a (world-wide) severe drop in sea level around the late thirteenth - early twelfth century BC on the basis of the available literature (1983, summary p 14*).

Here Thompson seriously misinterprets the evidence. A world-wide drop in sea level points to a generally cooler (and usually wetter) climate, not a hotter and dryer one. The recent discussions about the effects on general sea levels of the greenhouse effect make that clear. Global warming melts the ice-caps on the north and south pole, effecting a rise in sea level. Alternatively a cooler and wetter climate would make the ice caps grow and bind the sea water, thus effecting a world wide lowering of the sea level.

So on the whole there is very little convincing evidence that there was a serious deterioration in climate towards the end of the Late Bronze Age, and this argument must be treated with distrust.
I-3: Material remains: excavations

Both east and west of the River Jordan numerous sites have been excavated, many of which have revealed remains from the Late Bronze and Early Iron Ages. Unfortunately only a relatively small number of these sites have been published, and many of these only partly. Only the published results are being presented here, as far as they are relevant for the period under study. The division into four different areas that has been introduced in Chapter 2 is maintained here. The boundaries between the regions were politically significant only in the Later Iron Age. However, both settlement patterns and material culture in these areas show that already in the Late Bronze Age each region had its own cultural, social and political history.

Moab

Moab’s northern neighbour was Ammon, but where exactly in the area north of the Wadi Mujib the boundary between the two ran is still not clear, although much research on it is being done currently and some of the mist seems to be clearing (Daviau 1997). It is evident that the northern border of Moab was disputed territory, and changed over time. In fact, in the period under study, the Late Bronze and Early Iron ages, there was no clear border, although the name Moab may have been used by Egypt as a designation for this region already in the Late Bronze Age (Ch. 1). Usually the area immediately north of the Wadi Mujib, where most of the sites are found, is considered to be part of Moab, and this convention is followed here.

All the sites in Moab that can be identified with a biblical place name lie north of the Wadi Mujib (MacDonald 2000, 171). So do most of the excavated sites, suggesting that this area was more settled than the Plateau south of the Wadi Mujib. This may be true, at least partly. The northern Plateau has always been more open to the outside world and was a bone of contention between Ammon, Israel and Moab (Miller 1997, 195 ff). These struggles over territory are likely to have left their traces in the material record. On the other hand, because of its associations with ‘biblical’ place-names this region has always received more attention from archaeologists and other researchers than the region south of the Wadi Mujib, and so may have distorted the picture.

Medeinet el-Mu'arradjeh
Medeinet el-Mu'arradjeh, south of the Wadi Mujib, was excavated by Olàvarri (1983). Its location is strategic, on the edge of the Kerak Plateau and the eastern half of the Wadi Mujib, where it is easiest to cross (Golding 1938, 325). On the top of the site was an enclosed area. The north and east walls of the enclosure, where the slopes are steep, were single, the west side had a double wall, with space between the walls. It had towers in strategic places, and a large gate with stone benches inside it. Inside the gate was a house with a courtyard and pillars. Olàvarri tried to interpret this as a four-room building, but the similarities seem superficial (contra Miller 1992, 78).
Fig. 3-1. Map of excavated and published sites
On the basis of the pottery (Chapter 7) this one-period site can be dated to the end of the Late Bronze and the beginning of the Early Iron Age. Near Medeinet el-Mu'arradjeh round structures were found, one of which was excavated by Menendez (1983). It was 18 m in diameter, built of standing stones, with a rectangular structure built against it. Some pottery was found in the rectangular structure, 90% of which was dated to the Early Iron Age. It was interpreted as a probable sheepfold. Miller (1991, 71, 74) believes that Medeinet el-Mu'arradjeh was a military post for the defence of the Kerak Plateau, because of its strategic location. It was certainly a well-defended site, possibly a stronghold, with an economy that was at least partly pastoral.

Medeinet 'Aliyah.
In his survey Miller (1989, 26-7; 1991, 71, 74) distinguished between Medeinet el-Mu'arradjeh and Medeinet 'Aliyah, about 4.5 km to the south, which he identifies with Glueck's site 141. Medeinet 'Aliyah overlooks the Wadi Lejjun, and it seems to have the same strategic advantage as Medeinet el-Mu'arradjeh, of sitting on the edge of the Kerak Plateau and the east side of the Wadi Mujib. The site has a total occupied area of 2.5 ha. (Routledge 1995a, 516). It was enclosed with a casemate wall and a moat. A gate, defensive towers and houses with pillars were found. The north-eastern central part of the site consisted of a large courtyard of a type that, according to the excavator, was paralleled in Palestine Iron Age I sites. He considers it a large agrarian settlement, with domestic, public and storage buildings, representative of a short-lived agrarian expansion in the Late Iron Age I.

It has also been suggested that Medeinet 'Aliyah was a military post, among other reasons because its location is not very well suited for agriculture. The pottery, which has not been published, is dated to the late eleventh century, but the settlement has been dated to the tenth century by the excavator (Routledge 1995b, 236). It is later than Medeinet el-Mu'arradjeh, and it may well have taken over that site's strategic function of controlling the eastern crossing of the Wadi Mujib.
Balu’a
Balu’a lies south of the Wadi Mujib, guarding the entrance of one of the tributary wadis on its southern side. Crowfoot (1934) was the first to dig a trench here. He found a casemate wall and pottery which he dated to the Late Bronze and Early Iron Ages. Worschech excavated a few squares in 1984 (Worschech et al. 1986, 1989) but he never reached the Early Iron Age levels. A survey on the tell, however, produced Late Bronze and Early Iron Age pottery. In 1997 Worschech started renewed excavations on the site (Worschech and Ninov 1999), and for the first time found some stratified Late Bronze – Early Iron Age transitional pottery, at the bottom of a pit dug in bedrock. There were many painted body sherds, none of which has however been published. If Crowfoot was right, and the site was a fortified settlement in the transitional Late Bronze – Early Iron Age, it may well have had the same function as Medeinet el-Mu’arradjeh, that of guarding one of the entrances into the Wadi Mujib. The dating on the basis of the pottery, however, is still inconclusive (Chapter 7).

Lehun
Lehun (Homès-Frédericq 1992, 1997) is situated on the edge of the Plateau north of the Wadi Mujib, 7 km east of the later King's Highway, and 3 km east of Ara’ir. A track leads west from Lehun, following the southern edge of the Plateau and passing Ara’ir and Aqraba. Lehun was occupied from Palaeolithic times until the Islamic period. The oldest remains in Lehun consisted of an Early Bronze Age burial (Homès-Frédericq and Franken 1984, 91). Late Bronze - Early Iron Age occupation has been found mainly on the southwest side of the tell. This part of the tell enjoys a natural protection on all sides, and at the same time provides a good view over the surrounding valleys.

A casemate wall was found here, the earliest phase of which is dated to the transitional Late Bronze - Early Iron Age. It consisted of a precinct wall following the contours of the tell, with houses leaning against it on the inside (Homès-Frédericq 2000, 180). In the centre of the village two groups of houses were excavated, grouped around two courtyards. In the rooms were ovens, silos and grinding stones, cooking pots and storage jars, suggesting an agricultural background. One of the houses that formed part of the casemate wall, and that was interpreted as a ‘pillared house’ by the excavator, has been published fully (Homès-Frédericq 2000). Although clearly domestic in function, it was richer and better built than the other houses of the village. One room, with no visible entrance, was paved with flat stones, and has been interpreted as a granary. This type of ‘granary’ has been found in other houses in the village as well. Homès-Frédericq points out the extreme fertility of the region, and suggests that the site may have been a storage station. In another house an imitation Egyptian scarab was found, dated to the twentieth dynasty. The village was divided into four quarters (Homès-Frédericq 1997, 65).
Homès-Frédericq suggests that there may have been a crossing of the Wadi Mujib between Balu'a and Lehun. Members of the expedition have followed the path that connects the two sites. According to them the distance can be covered by an average caravan in 5-7 hours, following the contours of the Wadi Balu'a. This path is still in use with the local population. Homès-Frédericq suggests this may have been part of the King’s Highway.

Somewhere during the Early Iron Age the doors of the houses were blocked and the village was abandoned by its inhabitants. In Iron Age II the remains of the houses were partly cleared to make space for a fortress.

Ara’ir
Olàvarri (1965, 1969) has conducted excavations at Ara’ir, on the north bank of the Mujib, generally identified with Biblical Aroer “which is upon the bank of the river Arnon” (Joshua 12, 20). No structures have been found from before the time of Mesha, but there was Late Bronze and Early Iron Age pottery. Both Ara’ir and Lehun may have guarded the northern passes through the Wadi Mujib, while Balu'a and Medeinet el-Mu'arradjeh guarded the south side. The pottery repertoire seems to confirm this (see Chapter 7).

Dhiban
Dhiban was first excavated by Winnett and Reed (1964), and is generally identified with Biblical Dibon. The Mesha stele was found here in 1868. Dhiban lies north of the Wadi Mujib, on a natural hill, surrounded by fertile land, but with no dependable water supply. This fact has led Tushingham (in Homès-Frédericq and Hennessy 1989, 206-210) to conclude that the site must always have been relatively dependent on pastoralism. Although Dhiban lies on the route of the later King’s Highway, no conclusions should be drawn from this, as it is unlikely that this route already existed in the Early Iron Age (Bienkowski, in press). Excavations at Dhiban have revealed little from the Late Bronze and Early Iron Ages, but some possible Early Iron Age pottery has been found in fill layers, with no stratigraphic context.

MacDonald (2000, 76) sees Dhiban as the capital of Moab and therefore identifies it with biblical Ar-Moab, the city of Moab. There is however little evidence for occupation of the site before the time of Mesha.

Madaba
Two multiple burial caves were found in Madaba. Tomb A was published by Harding and Isserlin in 1953. It had an opening at the top, and it had been used in the transitional Late Bronze - Early Iron Age (1200-1160, according to the excavators). Harding considered the presence of iron bracelets and toggle pins to be typical for the Iron Age. Tomb B was published by Piccirillo (1975) and H. Thompson (1986), who concluded that this tomb had been in use from the beginning of the Early Iron Age until the tenth-ninth century. The quantity as well as the quality of the pottery from both tombs suggested a moderate economy: some imported, and good, but not top quality pottery. Multiple burial caves such as these are generally considered to be representative of the Canaanite mountainous culture (Gonen 1992, 6). The two tombs seem to have been in use contemporaneously, at least for a certain period. This suggests that they must have belonged to different families, clans, or possibly tribal groups.

Excavations on the tell itself were started by Harrison in 1995. So far the earliest levels found belonged to the Iron Age II (Harrison 1997, 53-4; 2000, 579-81, Harrison et al. 2000, 211 ff).
Jalul
Excavations were conducted at Jalul by R. Younker and D. Merling from Andrews University in consortium with the Madaba Plains Project. These excavations revealed mainly Iron Age II remains, underneath which were debris fills containing pottery from the tenth and ninth century, as well as some sherds from the Early, Middle and Late Bronze Ages. No occupation layers from these periods have been excavated so far (Younker 2000).

Hesban
Hesban lies on the western edge of the Transjordanian Plateau, 10 km north of Madaba. It is a prominent tell that has been described by passing travellers from the nineteenth century AD onwards, including Seetzen in 1806, Warren in 1869 and Musil in 1902. Excavations have been conducted since 1968 by Andrews University, directed by Horn and Boraas, and by Boraas and Geraty. The earliest remains were found in a cleft between two vertical bedrock faces: two stone cross walls, with Early Iron Age pottery, which has, however, not been published. Part of the floor between these walls was paved with small cobbles, with ash layers on top. The bedrock faces were partly plastered. Large amounts of pig bone were found here (Sauer in Boraas and Horn 1975, Boraas and Geraty 1976, 1978).

LaBianca and Ray (1999) have re-excavated part of the trench and found much Early Iron Age pottery, including some Manasseh bowls¹ (see Chapter 7), only one of which was published. According to Sauer the pottery from the earliest Early Iron Age layers in Hesban resembles that of Tell 'Umeiri (see below). It has been suggested that the trench was a defensive moat, since parallels for it have now been found in the vicinity at Khirbet Ayun Musa and Khirbet al-Mukhayyat, as well as south of Wadi Mujib, at Khirbet Al-Mudayneh al-Mraygha and Khirbet Medeinet 'Aliyah, which are dated to the Early Iron Age as well (LaBianca and Ray 1999, 120).

El-'Al
El-'Al lies about 1 km north of Hesban on a natural hill. It was excavated in 1962 by Reed (Reed 1972). Reed made four trenches on the westside. The lowest levels consisted of walls made of rough boulders, with Early and Late Iron Age pottery, none of which was published, however. Reed thinks the site may have been part of the King’s Highway (but see above).

Tell el-'Umeiri
This site has been excavated more or less continually between 1984 – 2000, by Andrews University, under the directorship of L. Geraty and L. Herr as part of the Madaba Plains Project (Herr et al., eds. 1991, 1997; Herr 2000). The excavation at 'Umeiri was preceded by a survey on the tell, using and testing Portugali's tell survey method (Portugali 1982).
All in all the site has revealed strata dated from the Early Bronze Age to the Persian period. Its importance may partly be due to the fact that the only water source between

¹ The Manasseh bowl acquired its name because of its frequent occurrence in the Manasseh area. It is a large open bowl, 40 cm in diameter, with a thickened, inverted, rounded rim (Zertal 1987, 125). Zertal considered it characteristic of early Israelite sites and postulated a Canaanite prototype, somewhat smaller in diameter, 10-15 cm. This type of bowl has now been found on several sites east of the Jordan as well (quite a large number of them have been found in Deir 'Alla), and seems therefore much more widespread, although its largest concentration is still the area of Manasseh.
Amman and Madaba is located at the base of the site. The site was abandoned at the end of the Middle Bronze or the beginning of the Late Bronze Age. It was resettled towards the end of the Late Bronze Age, with the new settlement covering a surface of 1.5 ha. On the northern slope much Late Bronze Age material was found, as well as some Early Iron Age material. Hard surfaces were found here, but also ash and soft soil, suggesting “extra-urban activities involving heavy burning” (Geraty et al. 1990, 270).

In the 2000 season an impressive Late Bronze Age building was found with walls of more than a metre wide (Clark et al. 2001, 439). There was no sign of a break between the Late Bronze and the Early Iron Age occupation. The phase immediately following that of the Late Bronze Age contained transitional Late Bronze – Early Iron Age pottery. Many collared rim jars were found, and cooking pots with everted triangular rims. A rampart and possibly a defensive wall were built during this phase, on top of the Middle Bronze II remains. This phase was destroyed by an earthquake, and immediately rebuilt in an impressive manner. A possible casemate wall was built, the earliest known so far in the region. The casemates were integrated in house plans, one of which was a four-room house.

The suddenness of the attack and destruction is demonstrated by the large amounts of food remains that were still found inside the settlement. This destruction is dated by Herr in the early twelfth century. Altogether the excavations have revealed one of the best preserved Early Iron Age towns in Jordan. It is also one of the earliest, dated on a par with Mount Ebal and Giloh in the west. The pottery repertoire is largely utilitarian (75% consisting of simple household wares) and has close parallels with that of Mount Ebal: the Manasseh bowl (see Ch. 7) is a common type at both sites, and identical potter’s marks appear on jar handles on both sites (Herr 2000, 176). East of the Jordan only Madaba tomb A and the Baq'ah valley have revealed remains that are contemporaneous with these phases in 'Umeiri. According to Herr remains from the same period have been found at Hesban, Jawa and Jalul (Herr 2000, 177), but these have not been published.

Herr interprets the village of 'Umeiri as belonging to nomadic tribal groups settling into towns and villages, suggesting that they may have belonged to the tribe of Reuben (Herr 1999).

In the immediate surroundings of 'Umeiri towers have been found, which were dated to the Late Iron Age, and which Younker (in Geraty et al. 1990, 179) interprets as guard posts in local vineyards. The analysis of the plant remains showed a high percentage of grapes (29%, which is more than the percentage of cereals). Younker refers to Redford’s identification of 'Umeiri-west with Abel Keramin (Keramin meaning 'vineyards') in the Late Bronze Age, and suggests a continuation of this function from the Late Bronze Age into the Late Iron Age. (see also Herr 1992).
Ammon

The region north of Moab corresponds with the later kingdom of Ammon, and forms part of the Biblical 'mountains of Gilead'. From the west it is approached through the Wadi Zerqa. The largest part of this region, the highlands, lies on the Transjordanian Plateau.

There are no contemporary literary sources mentioning the region in the Late Bronze Age. Redford (1982) has suggested that some place-names on the topographical list of Thutmose III may refer to places in Ammon, but his arguments are not convincing (Ch 1). This lack of sources does not necessarily mean that the region fell outside the Egyptian sphere of influence (Hübner 1992, 162), but it is unlikely that it was part of the Empire at any stage, although the archaeological record shows Egyptian influence.

Younker suggests that the Egyptian sources referring to Šasu, mentioning Syria, Moab, Edom and Palestine as their habitat, can be interpreted as indirect literary evidence that Šasu must have been roaming the Ammon region as well: “If the inhabitants of LB II A Ammon were not Šasu, they must have strongly resembled them” (Younker 1999b, 199). Biblical passages relating to the region are some geographical references in Deuteronomy 2 and 3, and the story of Jephta (Judges 11-12), which were composed much later (Kaiser 1984, 150).

According to Younker (1999b, 189-218, with references) there is little archaeological evidence for actual settlement in the first part of the Late Bronze Age. The evidence does show that the area was not devoid of human activity, but only the latter part of Late Bronze IIB witnessed a surge in occupation of the highlands. Twenty sites in Ammon are dated to the Late Bronze-Early Iron Age, as well as a number of tombs.

Sahab

Sahab lies 12 km southeast of Amman on the Plateau, in the transitional zone between the highlands and the desert. A multiple-burial cave, dated to the Late Bronze - Early Iron Age, was found: Tomb C (Dajani 1970, Ibrahim 1972). From 1972 onwards Sahab has been excavated by the Jordanian Department of Antiquities, under the directorship of M. Ibrahim (1972, 1974, 1987). In 1983 the excavations were supplemented by a survey in the area, also directed by Ibrahim.

In the Late Bronze Age the occupied area was larger than in the Middle Bronze Age. It had an oval-shaped town wall, with a deep stone-lined foundation trench, which may have served as a hidden passage, according to the excavator. A seal impression on a storage jar handle dates this wall to the time of Thutmose III, at the beginning of the eighteenth dynasty. A seal in tomb C was from the same period. The pottery confirms these dates. This makes it one of the first walled towns in the Late Bronze Age. A building with walls constructed of dressed stones was found which was dated to the fourteenth-thirteenth century on the basis of the pottery. The outer walls were 1.20 m wide and the east - west walls had a minimum length of 17 m. Outside one of the walls was a tower-like projection. The walls of the building were plastered with red clay, and it had clay floors, with a layer of occupation accumulation. Its function is not clear, but it seems likely that it was some kind of public building (Ibrahim 1974, 61). Relations with the Aegean can be seen in the presence of imported and imitation pottery.

No cultural break is attested in the transition from Late Bronze to Early Iron Age: the tomb remained in use, and there was no break in the repertoire of burial gifts (Ibrahim 1987, 78; Dornemann 1983, 32). Part of the town wall was re-used as a house wall. The occupied area in the Early Iron Age was larger than that in the Late Bronze Age, but the Iron Age town had no town walls. According to R. Younker (1999a, 13) this continuity
It is “of special significance….., since this is the period when the Ammonites emerge in the land”.

The settlement appears to have been destroyed in the twelfth century. The houses were rebuilt after the destruction, but the settlement remained smaller than before the destruction (Ibrahim 1972). Ibrahim (1987, 76) suggests that Sahab in the Late Bronze Age may have been a military post, possibly part of a *limes*, meant to counter attacks from the desert.

The tomb contained a number of double pithos burials using collared rim jars (Ibrahim 1972, 32). There were also two wooden coffins, older than the collared rim jar burials. Burial gifts consisted of oil lamps, small bowls, jars, locally produced alabaster ware, Egyptian objects (Ibrahim 1987), weapons, jewellery, and artefacts made of bronze and iron, all pointing to a date in the twelfth century. Seal impressions on some of the jars suggested Syrian influence (Ibrahim 1972, 34; 1987, 78). Some of the bones were burnt.

**Mabruk**

![Fig. 3-6. Plan of the Mabrak building.](image)

At Mabruk, 4 km southeast of the Amman Airport Building, a rectangular building was found, measuring 18 x 24 m (Yassine 1983), with a cistern. It had a central courtyard, accessible from most rooms. The outer walls were 2 m wide and constructed of large boulders. In the bedrock on which the building stood was a depression several metres deep, below the courtyard, that may have been connected with a depression outside the building, suggesting a use as cistern for the depression inside the building. The architecture of the building strongly resembled that of the Amman Airport Building (see below), although it is unclear whether it had the same type of foundation. There are also strong resemblances to the Rujm al-Henu building (see below). According to the excavator it was an unfinished residential building.

**Amman Airport Building**

Excavations at the Amman Airport Building were conducted in 1955 by the Department of Antiquities of Jordan, under the direction of Lancaster Harding (1958), in 1966 by the British School for Archaeology, directed by Hennessy (1966), and in 1976 by the American School for Oriental Research, directed by Herr, before the building was removed in 1978.
A square building was found, 15 x 15 m, with walls 2 m wide. According to Lancaster Harding it was a temple (1958, 10). It was situated centrally in an oval plain, 1 km east of the Zerqa river. There was much imported material: Mycenaean pottery, an Egyptian khepesh sword, bronze weapons and vessels, jewellery of gold and other materials, and scarabs and cylinder seals. The scarabs were of an Egyptian type, dated by Ward (1964) between 1900-1350, the seals were in the Syrian-Mitannian tradition.

Hennessy distinguished three occupation phases: The outer walls were built in the first phase, in a foundation trench. Inside these walls was a layer of yellow clay and red earth, 15 cm thick, in which were concentrations of burnt clay, ash and bones, interpreted by the excavator as foundation deposits. There were also personal luxury items: jewellery, golden objects, beads, Egyptian scarabs and Syrian-Mitannian cylinder seals, artefacts made of bone and ivory. The imported pottery has been analysed by Hankey (1974). It consisted of Mycenaean IIA - IIIB and Simple Style pottery, dated to the second half of the fifteenth century. The plan of the building consisted of a square central space with six surrounding rooms. In the centre of the central space stood two stone cylinders on top of each other in a separate foundation trench, in which many spear- and arrowheads were found. This structure was interpreted by the excavator as an altar. Its top was charred. On top of the fill of the foundation trench was a 2-5 cm thick accumulation. In this accumulation isolated remains of fires were found, and bone fragments.

The concentration of finds in the central space was striking, especially the concentration of spear- and arrowheads. Many fragments of Egyptian stone bowls were also found. A two metre wide strip on the northern and northeastern side of the building was covered with crushed limestone. (Hennessy in Homès-Frédericq and Hennessy 1989:167 ff).

The second occupation phase consisted of a pavement of large slabs inside the building. Everything above this floor was removed in the 1955 excavation.

The third phase saw a fundamental change in the lay-out of the building: the central space was divided into two rooms, and the ‘altar’ became incorporated in the division wall. The old entrance was closed, and a new one made elsewhere. Since in none of the excavations mention has been made of roof constructions, Hennessy suggests that the whole building may have been open to the sky (Hennessy 1985).

92 percent of the bone fragments found in the building were identified as human. They consisted of small, partly burnt fragments. Excavations outside the building on the north side (Herr 1983a, 22; 1983b, 226) uncovered a structure consisting of two parallel rows of stones four metre apart, the space between them filled with rubble and smaller stones. Many stones were discoloured by fire. This installation has been reconstructed as a square plateau, two rows high, with a flat top on which something has been burned. Many lamps were found around this installation, as well as a large amount of Egyptian stone bowl fragments, with traces of burning. Again many small fragments of partly
burnt human bone were found. Analysis of the bone material shows that most of the
burnt bones came from the upper part of the body, suggesting that the bodies were
articulated when burnt. Little (in Herr 1983a:47 ff) tentatively suggests the possibility
that they were Indo-Europeans.
Herr dates the building in the thirteenth century, on the basis of Hankey's pottery
analysis. The local pottery (Kafafi in Herr 1983a) suggests a later date, in the transitional
Late Bronze - Early Iron Age period.
The function of the building is a matter of debate. It has been alternatively described as a
temple for human sacrifice (Hennessy, among others), or a crematorium (Herr). Fritz,
writing before the bone material was analysed as human, argued convincingly against a
temple-function (Fritz 1971). Herr suggested the building might have been a
crematorium, possibly of a Hittite group (1983b, 228). Cremation was not unusual
among Hittites, although it is found among other groups as well (in Hamath, Azor and
Qasile in the Early Iron Age evidence of cremation has been found; see also Zwickel
1994, 77-78). The finds showed more affinity with Mesopotamia than with the west. In
the first phase of the building a cylinder seal has been found with a Babylonian text
relating to Marduk and Sarpanitu, the main deities of the Kassite pantheon in the time
the building was in use. Bodies were burnt on the outside installation, and the remains
and funerary gifts were kept inside the building, which was, therefore, fortified in order
to defend it against robbers and thieves. The bone material consisted of very small
fragments, which may well have come from a large number of different people (Little
gives only a minimum number of individuals, but the tiny fragments may have been the
remains of a large number of individuals as well). In general it is not unusual for the
remains from a cremation to be crushed after burning, in order to fit them into a
container of some kind. This would result in a residue of bone splinters from many
different individuals around the place where the bones were crushed. No containers have
been found, so they may have been taken by relatives, or have consisted of some organic
material which has disappeared. This would explain the fragmentary state of the bone
material, and still be an argument in favour of the crematorium theory. The presence of
(even then) very old Egyptian stone vessels (dated by Herr to the Early Dynastic period
in some cases) also point, according to Herr (1983b, 226), to a funerary function.

A site with related pottery was found several hundred metres to the east (Harding

Jebel Nuzha
In a burial cave at Jebel Nuzha, Amman, Late Bronze to Early Iron Age pottery was
found (Dajani 1966). According to Dornemann (1983, 31 ff.) almost every Early Iron
Age pottery shape that has ever been found has parallels in the Jebel Nuzha repertoire,
and its quality is better than usual in the twelfth and eleventh century. He dates the tomb
in the Early Iron Age, mainly because the repertoire lacked imported pottery.

Safut
Safut lies 12 km northwest of Amman, south of the Wadi Suweileh, on the south side of
the Baq'ah Valley. Excavations here started in 1982 and still continue, under the
direction of D. Wimmer (Wimmer 1987, 1997). According to him the site was already
occupied in the Middle Bronze Age. On the south side of the tell Late Bronze occupation
was found: a stone wall, that may have surrounded a sanctuary. A chalice was found
here, a large amount of charred two-row barley and a bronze, partly gilded statuette of a
seated male deity flanked by two terracotta pillar figurines. Elsewhere on the tell remains
of a Late Bronze defence wall were found, surrounding the acropolis. According to the excavator Safut was an ‘agricultural administrative centre, where fertility religious beliefs undoubtedly prevailed’ (Wimmer 1997, 449). This occupation continues uninterrupted into the Late Iron Age, according to the excavator. The Early Iron Age population seems less dense or prosperous than that of the earlier and later periods, but there is no break or substantial change in occupation. A curved mudbrick installation was found in which the mudbrick appeared to have been baked in situ (Wimmer in Homès-Frédericq and Hennessy 1989, 514), with a number of collared rim jars inside, suggesting that this was a kiln for the production of collared rim jars. The site was destroyed towards the end of the Early Iron Age.

Khirbet Umm ed-Dananir

The survey in the Baq'ah valley, northwest of Amman, revealed four sites with Late Bronze and Early Iron Age material, which have subsequently been excavated (McGovern 1986). Khirbet Umm ed-Dananir was the most important site in the region, situated on and against the Jebel al-Qesir, near the largest spring in the region. The site is located at the beginning of the Wadi Umm ed-Dananir, which leads into the Wadi Zerqa. Excavations uncovered a pit with Late Bronze II pottery and bone material. The pottery was domestic in character, but nevertheless the excavator sees a cultic function for the site, based on parallels with pits in Palestine “which are very often in the vicinity of cultic installations” (1986, 63). A building was found, which according to the excavator shows a strong resemblance to the Amman Airport building in layout and architecture. It had a central space with small rooms around, and walls of over a metre wide. In the centre of the central space was a heavy stone pillar (the base of the pillar was a hewn part of the bedrock itself), and opposite it against the back wall a square block, which may have been an altar. Bedrock was covered with a layer of earth about 60 cm deep, in which animal bones were found and broken and complete pottery, interpreted as foundation deposits. Trenches for the walls were dug into this layer. Most of the foundation deposits were found in the trenches. The pottery was dated to Late Bronze IB-IIA. It was destroyed in Late Bronze IIB. No remains of domestic occupation were found around this building, but pottery, as well as animal and plant remains point to a sedentary society. Pottery and bones have been found in pits in the destruction layers (McGovern 1986, 130).

Close to the site several burial caves were found. In Cave B3 pottery has been found of the same kind and ware as that from Khirbet Umm ed-Dananir. This was the only cave with exclusively Late Bronze II pottery. There were two layers of burials, with a minimum of 64 individuals, men and women of all ages. Three individuals lay around a bichrome painted bowl. Another individual was burned. There were also the usual burial
gifts. Remains of fish and wheat have been found. Cave A4, dated to the Early Iron Age, contained a minimum of 227 individuals. Burial gifts included 21 copper and 32 iron bracelets or ankle rings. According to Glanzman (1983, 168) the manufacturing techniques of the pottery in the two caves remain basically the same, although an improvement in techniques can be noticed in the Early Iron Age repertoire. According to Rast (1990) some of the pottery in the upper levels of this cave must be dated to the tenth century.

Rujm al-Henu

The excavation of Rujm al-Henu, east of Khirbet Umm ed-Dananir (McGovern 1986, 11-13), revealed a rectangular building, measuring 24 x 31 m, similar in architectural type to the Amman Airport Building. Dating of the building on the basis of the pottery is difficult, since the pottery varied from Middle - Late Bronze to Persian. However, analysis of the architectural features in combination with the results of a limited sounding have led the excavator to suggest a function as an isolated, fortified farm from the Late Bronze to Early Iron Age.

Fig. 3–9. Plan of Rujm al-Henu.

Khirbet el-Hajjar

Khirbet el-Hajjar is situated at a strategic location west of Amman, with a wide view to the north, east and south. According to the excavator it “stands at the headwaters of the Wadi Kefrein, which flows west to join the Wadi Rama (Hesban), forming the Wadi Abu Gharaba” (H.O. Thompson 1972, 1977). This forms a major route to the Jordan Valley, “a route followed today by the Amman-Naur-Jerusalem road” (H.O. Thompson 1972, 48). The excavations in 1972 showed that the site was first occupied in the Early Iron Age, as some walls standing on bedrock were dated to that period. No indications of violent destruction are mentioned, but the site was deserted for some 200 years, before being reoccupied again, after which a small rujm (fortress) was erected on the site. Sauer (in H.O. Thompson 2000, 483) dated the earliest pottery to the Early Iron Age (Iron Age IA and IC, according to him), but none of this early pottery has been published.

Rujm el-Malfuf South

This site was occupied in the Early Iron Age, as shown by the presence of pottery from that period. However, no architecture was found during the one season of excavation, and no pottery has been published. In Iron Age II a rujm was erected on the site (H.O. Thompson 1973;2000, 485).
A third tower, also excavated by H.O. Thompson, Rujm al-Mekheizin, north-east of Amman, also seems to have been built on the site of a former Early Iron Age site. A few Early Iron Age sherds were found on the site (H.O. Thompson 2000, 487).

Tell Jawa South
Tell Jawa was excavated, originally under direction of Daviau and Younker, and later under direction of Daviau (Daviau 1992). In the first season a probe was made in which Early Iron Age walls and destruction debris were found, on top of Middle Bronze Age layers. The following seasons concentrated on the later periods of occupation, in which a casemate wall was found, dating to Iron Age II. No pottery from the Early Iron Age layers has been published so far.

Jordan Valley

Pella
The site of Pella is situated in the foothills, close to two important trade routes: the north-south route through the Jordan Valley, and the west-east route from the coast through the Jezreel Valley. Pella consists of a complex of sites separated by valleys and wadis. Most significant are Tabaqat Fahl, the tell proper, and the natural hill of el-Husn. Excavations have been carried out in 1967 by Wooster College, directed by R.H. Smith (Smith 1973), and from 1979 on by Sydney University and Wooster College, directed by Hennessy, McNicoll and Smith, and later by Bourke (McNicoll et al. 1982; Bourke et al. 1994; Bourke 1997). On the south-east side of the tell of Tabaqat Fahl domestic architecture was discovered, in three occupation levels, which lasted throughout the Late Bronze Age. A multi-roomed structure was found with two phases, dated to the Middle Bronze-Late Bronze transition, and Late Bronze IB-IIA, respectively. The excavated part contained a number of plastered bins filled with pottery, and this has been interpreted by the excavator as a public temple/repository, where libation vessels were stored and purified (Bourke et al. 1998, 194). A second building was contemporary with the second phase of this temple / repository. This building, a multi-roomed courtyard building, had three building phases. The first consisted of neat mudbrick walls laid on stone foundations and plastered floors. In the second phase some new, poorly constructed walls were set inside the older structure, and a number of stone-lined pits constructed. The third phase (Late Bronze IIAB) shows evidence of semi-permanent structures within the courtyard areas. A street separated this building from a third building, labelled by the excavators a 'Governor's Residence' (following Oren 1985, 1992). The occupational history of this building matched that of its opposite neighbour. It went out of use at the end of the fourteenth century (Bourke 1997, 108). Although the architecture is indeed suggestive of an 'Egyptian residence', it is dated at least 200 years earlier than the other residence buildings described by Oren.

Elsewhere on the site recent excavations have uncovered a stone-built Migdol Temple, the largest that has been found so far in the Levant, with parallels at Megiddo, Shechem and Tell Hayyat (Bourke in Egan and Bikai 1999, 495). It was probably constructed around 1450, and went through a number of major rebuilding phases before it finally went out of use in the 9th century. West of the Migdol temple was a massive mudbrick building, with heavy walls. Its reconstruction was dated to 1300 BC, its destruction around 850 BC. The excavators suggest that this may be the “long sought after palace of the Iron Age rulers of Pella” (Bourke in Egan and Bikai 1999, 496).
I-3 MATERIAL REMAINS: EXCAVATIONS

The analysis of the zoological remains (Bourke et al. 1998, 203) shows an increase in sheep/goat bones in the second half of the Late Bronze Age, with a decrease of cattle and pig. A large number of Late Bronze Age tombs were found at Pella, many with rich funerary deposits. In 1964 a tomb was discovered with several anthropoid sarcophagi (Yassine 1975:60 n 11) in the ‘naturalistic’ (early) style. They have been dated to the Late Bronze IIA-B transition, but unfortunately they have disappeared without having been recorded (Bourke and Sparks 1995, 159). Pella “does not seem to have suffered any obvious economic or political eclipse” during most of the Late Bronze Age, but the end of the period sees a decline, and it ends with destruction and conflagration over the entire excavated area. Early Iron Age and Philistine material date this destruction to the beginning of the twelfth century. In the Early Iron Age some of the destroyed buildings were restored, but the quality was bad, showing the continuation of the decline. The excavated part was characterised by flimsy stone walls and refuse pits. Below the floor of one of the buildings were six lamp-and-bowl deposits (Bunimowitz and Zimhoni 1993), suggesting that the builders of this building had at least taken over cultural traits from their Egyptian former overlords. Analysis of the zoological material shows an increase in cattle again, and more cut marks on bones. The excavators interpret this as a difference in butcher’s practices, induced by the increased use of iron tools (Bourke et al. 1998, 203). This stratum was also destroyed by conflagration.

At Husn tombs were found with Early Iron Age material (the ‘eastern cemetery’: Smith 1973, 174 ff.).

Abu Kharaz
Abu Kharaz is situated north of the Wadi Jabis, and about 4 km east of the Jordan. It has been excavated since 1989 by a Swedish expedition team headed by P. Fischer (Fischer 1991, 1993, 1994).

A Late Bronze Age temple has been found that was in use during the fourteenth century. It was small, but well constructed. Its end was dated to Late Bronze Age IIA on the basis of the presence of a Cypriot White Slip II milk bowl. According to the excavator the temple gave the impression of “being hastily abandoned” (Fischer 1991, 80) at the end of Late Bronze Age IIA. Furthermore, a large wall was found which was interpreted as a possible town wall, dated to the Late Bronze I-II transition.
In the 1992 season Late Bronze and Early Iron Age remains were found on the top of the tell. Three phases of occupation were discerned, originating in the Late Bronze Age, but reused in Early Iron Age buildings. They consisted of stone-paved rooms and passages. During the Early Iron Age there was probably a citadel with a defence system.

A four-room building was found, with a rich assembly of household goods. It is dated as ‘Iron Age’ by the excavator, but the finds are not published, so nothing can be said about the date.

Deir 'Alla

During all of the Late Bronze Age there was a sanctuary on Deir 'Alla (Franken 1992). The last phases (E and F) of this sanctuary have been excavated most extensively. In these phases it was surrounded by 'treasuries' containing the pottery and other items used in the sanctuary, and also service rooms, the kitchens and storage rooms (Franken 1992, 163 ff). Objects included north Syrian cylinder seals and other objects, some Mycenaean pottery and Egyptian objects (Homès-Frédericq and Franken 1984, 140; Franken 1992). The first phase of the sanctuary was built on an artificial hill constructed over the Middle Bronze Age occupation (Franken 1992, 11-12). An additional platform for the cella was constructed on top of this hill. The sanctuary was destroyed several times, by earthquake and conflagration. Phases A-D were dated by Franken in the sixteenth-thirteenth centuries (1992, 1). Phase E followed Phase D immediately. Franken explains the significant differences in pottery with the time that lies between the destruction of D and that of E, in which the pottery may have changed gradually (but see Chapter 10). There are no indications of newcomers on the tell in Phase E (contra Frendo 1986). This phase was destroyed by an earthquake with conflagration (Franken 1992, 176). An effort to rebuild the sanctuary (Phase F) was interrupted by a second earthquake, after which no more efforts to rebuild the sanctuary were made.

Several undeciphered clay tablets have been found in one of the treasuries of the sanctuary. The next building Phase, G, has a plan that differs completely from the preceding ones. This phase, with walls, some of them consisting of two parallel rows of bricks, floors and courtyards, has been found east and west of the cella. A building constructed with double walls has been recovered west of the cella. This phase was destroyed by conflagration. The last Late Bronze Age phase, H, consisted of a tower-like building, set on Phase G remains west of the cella.

Resumed excavations on the south side of the tell have proved that the Late Bronze Age occupation was not limited to the northern cella and its surroundings, as Franken originally thought (see also Zwickel 1994, 98). At the southern foot of the tell Late Bronze Age remains have been found, dated to the end of the Late Bronze Age. The pottery found, as well as the remains of heavy conflagration, date these finds to Late Bronze Phases E and F (Ibrahim and van der Kooij 1997). Some heavy walls were found, but no structures or buildings could be reconstructed, partly because of the limited
area excavated. More clay tablets have been found of the same nature as those found by Franken, and some collared rim jars. None of these finds have been published. A test trench in one of the gullies on the south slope has revealed the presence, on the south side of the tell, of earlier phases of the Late Bronze Age also (personal observation). The earliest Iron Age occupation on Deir 'Alla followed the latest Late Bronze Age phase almost immediately, according to the excavator. There are, however, no indications that the newcomers had caused the end of the preceding occupation. (Franken 1969, 20). The Early Iron Age occupation has been divided into two main periods: Phases A-D and Phases E-L. The excavator characterises the first period (Phases A-D) as follows:

- The tell may still have been used as a sanctuary, in line with older traditions (Coogan 1987). This has been suggested by the large numbers of incense burners that were found, and the presence of two heavy walls in Square M (see Chapter 10), which might have been part of a new sanctuary.
- The newcomers came from a semi-nomadic background: no houses have been found on the tell, only a few postholes, which may have been the remains of tents (but see Chapter 10).
- The walls found in this period belonged to furnaces or to courtyards. There were many pits. The combination of furnaces, courtyards without houses, and pits suggests an industrial function for the tell in this period. Franken related this to copper or bronze industry. A succession of thin layers of burnt clay would point to a seasonal industrial activity. Renewed excavations in the area of the Phase B furnaces have rendered the use of these furnaces for metal working highly unlikely (personal observation). The actual function of these furnaces has not been clarified so far.
- The site was occupied during winter, but deserted in summer. Agriculture was practised on a small scale, as is shown by the large number of flint sickle blades, and the presence of animal bones suggests pastoralism and hunting. A picture is painted of a semi-nomadic population living on the tell in winter, practising some agriculture and animal husbandry, and involved in some – so far unknown - industry, and moving back to the hills in summer.

Phase E sees the coming of a new population, but again, there are no traces of violence. Differences to be noted from the preceding population are:
- Heavy walls and town planning right from the beginning
- Pottery, although related to the pottery of the preceding period, was developed independently of that used by the semi-nomads. This pottery is not typically Palestine in nature, but suggests relations with the east.
- No wheel-burnished pottery is found.

This period is dated by Franken to the eleventh and tenth century.

Mazar
Tell Mazar is situated 3 km northwest of Deir 'Alla, and 3 km east of the Jordan. Excavations have been carried out here by Jordan University, directed by Yassine in 1977, 1979 and 1981. The Early Iron Age levels have not been published, with the exception of a building 220 metres northwest of the main tell, on a low hill. According to the excavator this was a temple (Yassine 1984). The building consists of three rooms with a forecourt, surrounded by a wall. The outer walls are made of mudbrick and 1.20 m wide. There is only one building phase, with a number of occupation phases. The finds from the earliest phase are contemporaneous with Deir 'Alla Iron Age Phase F. In the central room one half of the floor was paved with stones and the other half with mudbricks. The western room had low benches along two walls. A stone bowl was set in
the end of one of the benches. A large pear-shaped pit was dug in the floor. The eastern room contained much pottery: storage jars, two chalices, two kraters, two pilgrim’s flasks, an incense burner, all dated to the latest period of use of the building, in the tenth century. A shaft tomb was found in the forecourt, below the first level of occupation. It contained the remains of three men, all around 25 years of age, without burial gifts.

Five occupation phases have been established, each consisting of a layer of ash, with charcoal, sherds and animal bones. Dating is based on the Deir 'Alla pottery typology.

In the 'forecourt' bread ovens have been found belonging to several phases, and a stone 'table', 60 cm in height. Yassine interpreted this as an area in which ritual food preparation was carried out. He mentions parallels with Beth Shean Phase VI, and with Deir 'Alla Iron Age Phases A and B, the depression west of the Late Bronze Age sanctuary ruins. Yassine also names parallels for the storage of pottery within temple areas. There are, however, no parallels for the temple plan, and he does not substantiate his speculations about the specific function of the building. All in all it seems more likely that the building was a farmhouse, possibly with a house cult. As far as the pottery is concerned, only the incense burner is clearly cultic. The stone pavement in the middle room may have been related to some small-scale industry, or it may have been used as a stable in winter. By analogy with modern parallels, the eastern room may have been the women's quarters, with a household and storage function. In that case the western room would have been the men's quarters, where guests were received and the rituals of the house cult were performed. Bread ovens on courtyards are a normal feature in all periods. It is likely that most domestic activities were performed in the courtyards, at least in summer.

Tell es-Sa'idiyeh

Tell es-Sa'idiyeh is situated 12 km north of Deir 'Alla, 1.8 km east of the Jordan, on the south bank of the Wadi Kufrinjeh. It consists of an upper tell, 40 m high, and a lower tell west of it, 20 m high.

Between 1964 - 1967 excavations have been carried out by the University of Pennsylvania, directed by J.B. Pritchard. He excavated a succession of Iron Age II levels on top of the tell (Pritchard 1985). A staircase was found from the Early Iron Age, which led from the foot of the tell to the Iron Age city. It was built of stone, and had a mudbrick wall running along its centre which, according to the excavator, provided support for a roof of wooden beams. It was dated between 1200-900 BC. A cemetery was found on the lower tell, dated to the transitional Late Bronze - Early Iron Age period, and containing a number of rich burials. One grave contained a bronze wine-set, cosmetic boxes made of ivory, jewellery of gold and electrum, and much fine pottery.

Renewed excavations have been carried out since 1985 by the British Museum together with the Rijksmuseum van Oudheden in Leiden, directed by Tubb (Tubb 1988a, 1990; Tubb and Dorrell 1991, 1993).

The Late Bronze and Early Iron Age strata are dated as follows (Tubb and Dorrell 1991:69):

- XII: - destroyed c. 1150
- (XIB)
- XIA: 1040 - 970

A large building was found in Str. XII. This building had been destroyed by fire, after the doors had been blocked.
This is the building known as the 'Governor's Residence'. Along the western slope of the tell a 3.5 m wide casemate wall was found, set in foundation trenches into which pisé had been poured as a foundation matrix. The casemates were filled with rubble. Against the wall a large building was set, the 'palace', dating from the same period as the Governor’s Residence. Both buildings show Egyptian architectural traits: deep mudbrick foundations without use of stone, a pisé matrix, and double walls with a narrow space between them. A possible 'bath' was found in the palace, consisting of two connected basins with a drainage system, and a channel leading from the top of the staircase to the basins. Another basin may have served as a cooling system for wine, according to the excavator. The staircase was re-examined, and proved to descend to a spring. It had been in use from Str. XII or possibly earlier. Str. XIB has been encountered in a few places only, consisting mainly of hearths and grinding stones. It was probably the remains of nomadic squatter occupation in the ruins of Str. XII. The pottery from this stratum is the same as that from Str. XII. Str. XI A starts with the levelling of the Str. XII remains. On top of this a house was built, consisting of two rooms, with a niche in the wall of the smallest room. In this niche a flat stone was set, and in front of that was a fireplace, with a channel leading to a pit at the other side of the room. In front of the fireplace stood an incense burner. This has been interpreted by the excavator as a kind of sanctuary. West of this building stood a stone tower. A street has been found dated to the Early Iron Age, separating the upper and lower tells.

Tell es-Sa'idiyeh: Burials on the lower tell
On the lower tell the American expedition found 45 burials (Pritchard 1980). The British expedition excavated almost 400 additional burials in six seasons of excavation. Most of the burials had been dug through the underlying Early Bronze Age levels. The largest group of burials consisted of rectangular or oval pits, sometimes lined with stones or bricks from the underlying Early Bronze Age layers. Another group consisted of rectangular pits lined and covered with new bricks. A group consisting of two parallel rows of burial pits may have been dug in advance, because some appeared not to have been used at all. There were many jar burials of children, and a number of double pithos burials. A striking observation was that only this type of burial had been robbed in antiquity. According to Tubb this suggests that these were burials of an allochthonous
TRIBES AND TERRITORIES IN TRANSITION

group, possibly Sea Peoples, who were considered less inviolable by the local people. Some bodies had been covered with sherds and/or a pot had been put over the head. This, according to Tubb, would be a variant of the double pithos burial. Only one shaft tomb has been found, containing an adult and a child, and an imitation Mycenaean pyxis as a burial gift. There may have been more burials of this type, which were either not recognised, or have disappeared due to the intensive use that has been made of the cemetery. Most burials were single. Sometimes a child was buried together with an adult. There were some ‘secondary’ burials, possibly the result of the intensive use of the cemetery, when later burials cut the older ones, and the remains of the first burial were reburied in the new grave. The large number of bronze and iron burial gifts was striking. The pottery shows strong Egyptian influence. Some features suggest attempts at mummification: many bodies showed traces of textile, remains of Egyptian linen, in which the bodies, and sometimes also the burial gifts, had been wrapped; the position of the bones of one skeleton suggested that it must have been wrapped tightly; face and genitalia were sometimes covered with bronze or pottery bowls; traces of bitumen have been found on some of the bodies; and one skeleton had part of its rib cage removed, possibly an effort to remove internal organs.
The cemetery has been dated to the thirteenth-twelfth century, contemporaneous with Str. XII on the upper tell. Apparently Egypt created a fortified centre in Sa’idiyeh in the final stage of the empire. Reasons for this centre, according to Tubb, were mainly economic (Tubb and Dorrell 1990, 109): Sa’idiyeh is situated immediately east of of a ford in the Jordan, and therefore in a strategic position on the east-west trade route. At the same time this part of the Valley was a kind of bottleneck in the north-south route, so its position on that route was strategic as well.

Tubb considers the results of the Sa’idiyeh excavations, and the cemetery in particular, as an argument in favour of Pritchard’s hypothesis that a group of Sea Peoples, possibly Sherden, lived on the tell at the end of the Late Bronze Age. They would have come as mercenaries with the Egyptian army (Tubb 1988b), and remained after the Egyptians had left. They would have been responsible for the development of bronze industry in the region. According to him the burials in Sa’idiyeh produced more imitation Mycenaean than Canaanite pottery, which would argue in favour of the presence of Mycenaean potters, making their own style pottery with local materials. He considers the double pithos burials, a number of which were found at Sa’idiyeh, to be related to the anthropoid coffin burials, which he associates with the Sea Peoples. Tubb also argues for an increased use and production of bronze in the thirteenth - eleventh century in the Jordan Valley (Tubb 1988b, 255), as is shown by the finds in Late Bronze Deir ‘Alla, Mazar and Sa’idiyeh (ceremony), and in Beth Shean (ceremony). Tubb suggests that every site from this period on which bronze working was practised, was dominated by either Egyptians or Philistines, the coastal ones first by Egyptians, later by Philistines. He considers Sea Peoples (not the Philistines in this case, but another group, possibly Sherden) as the practitioners of a metal industry, originally under Egyptian supervision, but later independently.

Negbi (1991, 1998) attacks Tubb’s hypothesis, and argues convincingly that the Sa’idiyeh material culture points towards a strong Egyptian influence rather than one from the Sea Peoples. She suggests that the site was inhabited by Canaanites who tried to imitate their Egyptian overlords in their burial practices (single sarcophagus burials, attempts at mummification). This hypothesis is not very convincing. The material culture at Sa’idiyeh seems to point to an Egyptian outpost, probably military, where the Egyptian inhabitants tried to hold on to their own burial practices. Mummification was a
specialist's job in Egypt as well, so it is doubtful whether an Egyptian soldier would know how to perform it. The clumsy attempts at mummification may well have been performed by Egyptians who had some vague notion of what should be done, and did just that. Burial practices are related to conceptions of the supernatural. There are as yet no indications that the local inhabitants of the Jordan Valley adopted Egyptian religious concepts; moreover, Egypt never promoted that (Redford 1992, 198, but see Gonen 1992, 30). Canaanites traditionally buried their dead in multiple burial chambers. Single burials (sometimes with two individuals, but rarely with more) are encountered on the coast in the Late Bronze Age and penetrated inland only at the end of the period. (Gonen 1992, 35 ff). The use of mudbrick instead of stone for lining and covering the burials is typically Egyptian (Negbi 1991, 210). The artefact repertoire in the burials as well as on the tell, points to a strong Egyptian presence. The conclusion is obvious that the tell was inhabited at least partly by Egyptians, who tried to perform their burial rituals as well as they could in a foreign country. The double pithos burials, seen by Tubb as a conceptual parallel to anthropoid sarcophagi from Beth Shean (especially the grotesque ones), have far more convincing parallels in thirteenth century Anatolia, as has been shown repeatedly (Negbi 1991 n 6 lists the literature). It seems more logical to see these as burials belonging to people with a Hittite background than to one of the Sea Peoples. Noort (1994, 128 ff) has demonstrated on the basis of both the historical and archaeological sources that the impact of the Sea Peoples, certainly outside the coastal areas, was much less than is often assumed.

West of the Jordan

Shiloh

West of the Jordan, Shiloh (Khirbet Seilun) has been excavated in 1922-32 and in 1963 by Danish teams, and in 1981 by Bar Ilan University, directed by Finkelstein (1993). Shiloh is situated in the western Highlands, some 16 km north of Ramallah. It sits on the confluence of two wadis, and is surrounded by fertile land. The area was, and still is, particularly well suited for the cultivation of olives (Zwingenberger 2001, 183). On the top of the tell all earlier remains had been removed by Roman to Medieval builders. Nevertheless Finkelstein concluded that there must have been a Middle Bronze Age sanctuary, probably on the top. Middle Bronze Age IIC Shiloh had a glacis and a town wall. It was destroyed at the end of the period. Much pottery and other objects from the Late Bronze Age were found, but no architecture. Finkelstein concludes that the site must have been a nomadic sanctuary in this period. It was deserted before the end of the Late Bronze Age.

At the beginning of the Early Iron Age the site was reoccupied. Well-constructed buildings are found partly built into the glacis of the Middle Bronze Age defence wall, their construction techniques largely determined by the fact that they were built on a slope (see Zwingenberger 2001, 231-238 for a detailed analysis). Many silos, some still containing the charred remains of wheat, were found, as well as the seeds of grapes, olives, lentils and the like. Animal remains consisted largely of sheep/goat, while the cattle bones showed traces of having been used as plough animals (Zwingenberger 2001, 313). The Early Iron Age settlement revealed a higher percentage of cattle and a lower percentage of sheep/goat than the Late Bronze Age. The pottery repertoire is domestic, consisting of collared rim jars, cooking pots, deep bowls and kraters, and jars; it is dated to the second half of the twelfth and the beginning of the eleventh century. There is punctured and incised decoration on a number of handles, comparable to that of Sahab on the Amman Plain. A few Manasseh bowls (see Ch. 7) were found. The rim of a
collared rim jar with rosette-shaped seal impressions has been compared with collared rim jars from Sahab. In the archaeological repertoire there are no indications, either architecturally or in the smaller finds, for a sanctuary in the Early Iron Age. Still Finkelstein assumes that Early Iron Age Shiloh was a sanctuary, partly because of the Biblical tradition, partly because of his own interpretation of Shiloh as a sanctuary in the preceding periods. The buildings at the edge of the tell would have had a service function for the complex on the top. This hypothesis is not unequivocally accepted (Zwingenberger 2001, 451). Shiloh may just as well have been an unfortified, basically agricultural village.

Shechem
Shechem (Tell Balatah) sits on the lower slope of mount Ebal, at the eastern end of the Shechem pass. The site has been excavated by Sellin in 1913-14, in 1926-27 and in 1934. Unfortunately, all field reports and final report manuscripts were destroyed during WW II through Allied bombing. Some preliminary reports were published however (see Wright 1965, 23-34, with literature). Between 1956-68 a joint expedition was organised by Drew University and McCormick Theological Seminar, directed by G.E. Wright and Anderson. In 1972-73 Dever conducted a rescue excavation on the Middle Bronze Age layers (Dever 1974). According to the excavators the Late Bronze Age settlement at Tell Balatah was not occupied before Late Bronze IB (around 1450; Toombs 1972, 105), when a new fortification system was built on the ruins of the Middle Bronze Age fortifications. The Middle Bronze Age temple was rebuilt as a broad room temple, with a massabah on either side of the entrance and a large altar in the court. A bronze figurine of the god Baal was found here (but see Zwickel 1994, 83-85). The houses in this stratum have been laid according to a coherent plan, giving the impression of a developed centre. No traces of destruction are found at the end of the Late Bronze Age (Wright 1965:67). Str. XI, the first Iron Age stratum is dated to the early twelfth century. It is basically a continuation of the preceding stratum, but it is simpler and suggests diminishing prosperity. The massabah temple was rebuilt, but altar and massaboth were buried under a layer of plaster. Another room, found in 1964, was also interpreted as a sanctuary by the excavators (Bull et al. 1965, 11). Zwickel however (1994, 76) argues against such an interpretation. Artefacts from the destruction layer date the end of
Stratum XI around 1125 (Seger in Meyers 1997 vol. 5, 22). Little pottery has been published. The site was not reoccupied until the tenth century.

Mount Ebal site
The Mount Ebal site (Zertal 1987;1998; Zertal in Meyers 1997 vol. 2, 179-180) came to light during a survey of the region. The site, named el-Burnat, lies on the north-eastern slope of mount Ebal. It is very inaccessible. It has been excavated between 1982-1989 by Zertal, who identified it as an open cult place. The site is surrounded by an elongated stone rampart, with an extra partition inside, 75 m in length.

Two strata have been discerned, both of which were assumed to have a sacred function. The main structure in Stratum II, dated between 1240-1200 on the basis of the finds, was a building that was interpreted as a four-room structure by the excavator. The plan of the building does not entirely justify this interpretation however. The entrance is on the wrong side, and the architecture is very irregular. A silo stood in the entrance, and a collared rim jar was found in a hollow in the floor. South of this building a group of eight collared rim jars was found, arranged in pairs. A second group of structures or installations ascribed to Stratum II consisted of an enclosure divided into compartments. Inside was a stone-lined round storage bin with much ash and burned bones. A pit contained hammer stones and a decorated stone chalice.

Stratum I is subdivided into IA and IB. In Stratum IB a structure was found that has been described by Zertal as an altar for burnt offerings. It consisted of a rectangular structure, filled to a height of almost two metres with a fill of earth and stones, ash, burnt bone and pottery sherds, all arranged in neat layers, suggestive of a ritual cleaning and re-sanctifying of the old sacred area. Connected to it were two courtyards, each with a pavement of stones, on which installations were found containing ash, animal bones and...
pottery. They were separated by a double wall, ascending to the main structure. A broad ‘staircase’ was also considered part of the complex. Surrounding it, inside the enclosure, was an area with hearths, ashes, sherds and bones, apparently used for ceremonies or feasts. Further away were about a hundred circular, rectangular or irregular stone installations, 30 - 70 cm in width, containing much pottery, which seem to belong to both phases. These have been interpreted as places where people left their offerings. Zertal interprets the site as an open cultic place, comparable to the Bull site.

The bone material suggests a pastoral economy, based on sheep, goats and some cattle. Fallow deer must have been hunted (Horwitz 1987). At the same time olives and almonds may have been grown (Lipschitz 1987). In Stratum IA the structure was 'buried' under a layer of stones, possibly to prevent desecration. Zertal admits that there are no parallels for this type of altar in either Canaanite or Israelite culture (Zertal 1987:161), but according to him it is a forerunner of the altar in Jerusalem, and he suggests conceptual parallels with Mesopotamian altars (Zertal 1985, 35-37).

Zertal's interpretation is not generally accepted: Coogan, following his own criteria for cultic sites, sees it as a sanctuary, but disagrees with Zertal's reconstruction of the altar (Coogan 1987). Finkelstein (1988, 85) and Mazar (1990, 350) also agree with the interpretation as a cultic site, but not with the reconstruction of the altar. Kempinsky (1986) does not believe in a cultic function for the site either; according to him it was a fortress. Zwickel (1994, 204-207) agrees with Kempinsky. Fritz (1996, 88, 154) sees it as an agricultural site, that used terracing on the mountain slopes (although why farmers should settle on the top of a mountain, and resort to a complicated and labour intensive technique like terracing, in an area where good agricultural land was available in abundance, remains unexplained). Altogether, the explanation of an open cult site of some sort seems the most viable, both on the basis of architectural and other remains as well as that of the location of the site.

Tell Far'ah North
Tell Far'ah North has been excavated between 1946-1960 by the Ecole Biblique in Jerusalem, directed by R. de Vaux. A part of his excavations was published by Chambon (1984; see also Joffe in Meyers 1997 vol. 2, 303-304). The Late Bronze Age settlement is poorly preserved. A sanctuary was constructed above an earlier gate shrine, but this has later been reassigned to the Early Iron Age. Burials had Late Bronze Age material, containing Mycenaean and Cypriote pottery. In some of the houses jar burials of children were found. The date and circumstances of the abandonment of the site are unclear. In the first Early Iron Age stratum, in the twelfth century and directly on top of the Late Bronze Age ruins, a badly built residential building with two rows of pillars and an elevated rear room was found. Chambon (1984) interprets it as a domestic building, perhaps with a house cult (also Zwickel 1994, 208). Two buildings with a four-room-building plan have been found. The next Iron Age stratum is dated to the tenth century.

Bull site
The Bull site in North Samaria was discovered after the accidental find of a bronze bull, and excavated between 1978-1981 by A. Mazar (Mazar 1982). It consisted of a circular stone wall on top of a hill. There were no other traces of occupation, perhaps due to erosion. A large stone lying on edge has been interpreted as a massabah or altar. In front of it were found sherds, a scrap of bronze, animal bones and the corner of a rectangular pottery object, on a stone pavement. The pottery dates the site in the Early Iron Age (but see Finkelstein 1998; Mazar 1999c). Mazar sees it as an open cultic site, a bamah. A
I-3 MATERIAL REMAINS: EXCAVATIONS

Fig. 3-16. Plan of the Bull site

A regional survey (Mazar 1982:37, 39) has shown the existence of five Early Iron Age agricultural hamlets, forming a cluster with the Bull site. They remained occupied during the Early Iron Age. Open bowls found here have a thickened inverted rim, comparable to Zertal's Manasseh bowl. The bronze bull is unique in style, but its presence conforms to Canaanite traditions in for example Ugarit, Hazor and Ashkelon, and has also parallels in Cyprus, Hatti, Mari and Ebla (Mazar 1982:28). Mazar concludes that Israelites, probably from the tribe of Manasseh, were the builders of the Bull site, which therefore was an early Israelite cultic place. Wenning and Zenger (1986) think that it was a Ba'al sanctuary, and Ahlström (1990) suggests that the builders of the Bull site were Hittites, who had migrated from the north. Ornan (2002) has summarised the evidence of bull worshipping in the Levant, showing the complicated and varied religious concepts that were involved. Connecting the Bull site with any specific ethnic or religious group on the basis of the presence of the bull statue alone seems, therefore, impossible.

Dothan

Dothan is situated about 22 km north of Shechem, and has been excavated between 1953-1964 by J.P. Free, who published yearly preliminary reports (Free 1953;1954;1955;1956;1958;1959;1960). Between 1960-1960 three tombs from the Western Cemetery were excavated by R. Cooley (Cooley and Pratico 1994). Very little has been published of the excavations so far (Ussishkin in Stern 1993 vol. 1, 372-373 and Cooley and Pratico in Meyers 1997 vol. 2, 171 are still the main sources of information).

The site was occupied in the Late Bronze and Early Iron Ages, as can be seen from finds on the top of the tell. Among other objects, a small vessel was found containing pieces of metal, mostly silver, that might have been used as currency.

A shaft tomb was found in the Western Cemetery, with 300-500 individuals and some 3400 objects, some of which have been published (Cooley and Pratico 1994). In this tomb, tomb I, a unique figurine lamp was found (Cooley and Pratico 1994, 163-165).

Fig. 3-17. Plan of the shaft tomb at Dothan
Beth Shean
Excavations in Beth Shean have been conducted by the University of Pennsylvania Museum, directed by Fisher, Rowe and Fitzgerald, between 1921 and 1933 (Rowe 1930;1940). The Iron Age levels and the burials have been published (James 1966; Oren 1973). Renewed excavations in 1983, directed by Y. Yadin and S. Geva, concentrated on the Iron Age levels (Yadin and Geva 1986; see also McGovern et al. 1993; James and McGovern 1993). Most recently, in 1990-1996 excavations were carried out on the top of the tell by A. Mazar. During the Late Bronze Age the top of the tell was occupied by a temple, in which five building phases have been discerned, and several other monumental buildings. The dating of these phases remains problematic (McGovern 1985, 13; see also Zwickel 1994, 173-4). The first phase (R3), dated to Late Bronze Age IA, was a modest mudbrick structure, that was abandoned after a short period. In the next phase the ruins of this temple were levelled and served as a courtyard for the new sanctuary, in which numerous Egyptian objects were found, and which is dated to the time following the campaign of Thutmose III. In the time of Seti I the area surrounding the temple developed into a residential area. The next stratum, VII, is dated to the thirteenth century. Southwest of the temple, which may have been dedicated to Anat (Zwickel 1994, 185, who concludes that apparently the Egyptian inhabitants of Beth Shean worshipped local gods) was an administrative building, and a large circular silo. The two Seti I stelae and the Ramses II stele are thought to date from this period.

During the most recent excavations remains of a thirteenth century public building were found, with a granary, millstones and part of a collared rim jar, one of the earliest in the region. Opposite this building, on the other side of the street, a row of rooms with bread ovens was found. The first Early Iron Age stratum, lower Stratum VI, is a rebuilding of Stratum VII, without major changes. It is dated to the twentieth dynasty, the last stage of Egyptian supremacy on Beth Shean. The temple was rebuilt with minor changes, although it may have served a different – Egyptian - deity (Zwickel 1994, 190). Building 1500, the ‘Governor’s Residence’, was built on top of an Egyptian-style building, that bore a strong resemblance to the Egyptian citadel in Deir el-Balah (Mazar 1997, 72) in dimensions, building techniques and architecture. Both this building and the Governor’s Residence were built during the twentieth dynasty. The excavators found a rich
assemblage of luxury goods, containing many Egyptian or Egyptianised features. Most of the Egyptian pottery proved to have been locally produced (Mazar 1997, 71-72). McGovern et al. (1993) state that during the Egyptian supremacy in Beth Shean the majority of the population consisted of Canaanites in Egyptian service. Lower Stratum VI was destroyed by conflagration.

Upper Stratum VI, dated to the late twelfth or early eleventh century, is often seen as the first non-Egyptian stratum. Flimsy walls and rebuilt walls, many pits and functional pottery characterise this stratum. In the recent excavations many storage compartments filled with grain were found, as well as a group of bronze arrowheads. Building 1700, found during the excavations of Pennsylvania University, was redated by Mazar to the first post-Egyptian stratum: upper Stratum VI (Mazar 1997, 72). In the former temple area two buildings were found, also interpreted as temples, partly because of their location, and partly because of the many cultic stands found there (Coogan 1987). They have been dated to the second half of the eleventh and the tenth century. Garfinkel (1987) has suggested that the oldest Early Iron Age strata should be taken together and seen as one semi-nomadic occupation stratum, with re-use of older structures (sometimes with small additions), and many pits. The pottery of Stratum VI is a continuation of the Late Bronze Age repertoire. Small open bowls have straight or everted rims.

In the northern cemetery more than 50 fragments of anthropoid coffins have been found, five of which are of the 'grotesque' type (Dothan 1982; Oren 1973, 138). The dating of this type of sarcophagus is a matter of debate. Pritchard (1968, 108-109) dates them in the thirteenth century, on the basis of analogies in the burial gifts with the cemetery of Sa'idiyeh. Dothan (1982, 268-275) dates them in the second half of the eleventh century. Oren (1973, 148) considers them to be burials of mercenaries in the Egyptian army, and dates them to the 19th or XXth dynasty. The repertoire of burial gifts strongly resembled that of Deir el-Balah: including much pottery, Mycenaean bronze vessels, ushabti, jewellery, ivory and weapons.

Rehov

While Beth Shean was an Egyptian administrative and military centre in the Late Bronze Age, Rehov was the main Canaanite town in the region (Mazar 1999a, 2). Rehov is one of the largest mounds in Israel. It is situated 5 km south of Beth Shean. Excavations started here in 1997, directed by A. Mazar (Mazar 1999a). Several Late Bronze Age levels were exposed, but on a small scale. They consisted of a number of superimposed large buildings. In the third of these phases, dated to the twentieth dynasty (early twelfth century), two lamp-and-bowl deposits were found (see Bunimowicz and Zimhoni 1993). The pottery from this phase was similar to that of Beth Shean in the same period, but Egyptian forms were rare. According to the excavator the next phase was “an extremely disturbed area”, consisting of a rapid accumulation of flimsy walls and surfaces with thin layers of dirt and dust. Bread ovens and other installations were found there. The pottery was similar to that of the previous phase.

No fortification remains were found in the Early Iron Age layers (Mazar 1999b). The pottery from the Late Bronze and Early Iron Age layers has not yet been published.
I-4. Material remains: Surveys

Archaeological surveys have a meaning and a quality of their own. They can cover a large area in a relatively short time span, and therefore can provide information about archaeological sites much quicker than excavation can. At the same time they can give information about new, so far undetected, sites and archaeological features. Surveys are much more suited than excavations for the purpose of detecting settlement patterns in a certain region. Because they are basically non-destructive, they can be repeated, in order to check the results of earlier research. On the other hand, the results of surveys are not always reliable. Portugali (1982) has analysed the results of a site survey against those of an excavation of the same site, and found that, since chronologically later layers tend to lie over earlier ones, the pottery of the earlier layers can be underrepresented, and in some cases (like that of Tell al-Hammeh, see Chapter 11; also Gibson et al. 1991, 48) not be represented at all, distorting the historical picture. Generally surveys do not reveal anything about the nature of a given site. Even if there are visible remains of architecture, they can not be dated on the basis of the pottery, unless the site is a one-period site. Nevertheless, the value of surveys as a means to detect settlement patterns is invaluable. Many surveys have been carried out in the research area, starting at the end of the nineteenth century, and continuing until the present day. Originally surveys were site-oriented. The first surveys concentrated on major sites, mainly tells, that were already known and visible. Nelson Glueck’s survey of Eastern Palestine was more thorough than the earlier ones: not only did he investigate known and visible sites, but he also checked what the local population knew of the area he surveyed, and so amassed information and sites hitherto unknown. The results of his work are still widely used today. Although he wrote a major publication of his findings, describing and dating every site meticulously, he published only few of the sherds he found. In his days the knowledge of Transjordanian pottery was much less advanced than it is now. In the past 50 years it has become clear that many of his dates were actually wrong. He himself admitted that in his lifetime, and it has been pointed out since by numerous scholars. Sauer (1986) has re-evaluated Glueck’s results for the Late Bronze and Iron ages, and shown that Glueck’s conclusion that the region was practically unsettled in the Late Bronze Age is untenable.

Recent survey techniques no longer concentrate on visible landmarks, but scrutinise the ground on an either random, stratified random or covering basis. This means that either the whole area chosen for survey is walked systematically, or else squares or transects within a grid are selected, either completely random, or according to a selective system of preferences. These squares or transects are then walked, and any sherds picked up and any features recorded that may be of value archaeologically. This way the picture of human activity in the past is covered more completely than is possible by visiting only clearly visible concentrations of human settlement, such as tells. Often these surveys are conducted as a complement to excavation, in order to put the excavated site in context.

Surveys conducted in the research area are described below. Only surveys that have been fully published and contribute to the archaeological picture of the area are included, although others may be mentioned. Many surveys have been conducted, but not all of them have been published, or only preliminary publications have appeared. In these cases no contribution to the overall settlement pattern can be concluded from the results, and they are omitted here (see McGovern 1992, 173 for a list of surveys carried out in the Greater Amman area, for example). I have stated earlier (Ch. 3) that the ‘border’ between
Moab and Ammon was not clear-cut, certainly not in the Late Bronze and Early Iron Ages.

Egyptian sources show that there was a region named Moab in the Late Bronze Age (Ch. 1), but give no indication where it was to be found, and certainly not where its northern border was. References to this border from the Bible are all much later than the period to which they refer, and should therefore be treated with care. The overall survey map (see below) shows concentrations of sites south of the Wadi Mujib and along its northern bank, around and east of the Wadi Hesban, and on the banks of the Wadi Dananir, a southern contributary of the Wadi Zerqa. Of course these clusters of sites tell us more about which areas have been surveyed most intensively, than about the actual settlement pattern of the region. Therefore it is hard to say whether these regions were part of Moab or part of Ammon, and in which period. This is the reason that the artificial division that has been made in the previous chapters between Moab and Ammon has not been followed here. Comparison of the pottery, as well as an analysis of the nature of the different sites, whether they were or were not defensive in nature, and in which period, is the only way to decide whether we are actually dealing with territorial borders. Therefore the regional denominations ‘Moab’ and ‘Ammon’ have been omitted here, and the area treated as one region.

The Explorations in Eastern Palestine by Nelson Glueck

Glueck's surveys (1934, 1935, 1939, 1951) led him to the conclusion that there was little sedentary occupation in the regions of ancient Moab and Ammon in the Middle and Late Bronze Ages. This conclusion has later been modified by Glueck himself and others (Harding 1967, Sauer 1986) when new important sites were found and the dating systems for pottery improved. However, for the region south of the Wadi Mujib, his conclusions still stand, at least partly. Glueck found a number of small settlements, which he dated to the Early Iron Age, on strategic places (usually isolated hills) with identical general features: a rectangular (casemate) structure built of large, roughly dressed stones laid in header-stretcher fashion, sometimes with a dry moat, towers, a rectangular fortress 15-20 m in length, and houses against the inside of the outer walls. Sometimes there was only a fortress (fig. 4-1). According to Glueck these settlements formed a 'string of fortifications' that was to protect the borders of Moab (see also map IIIb in Glueck 1939). His 'string', from north to south, consisted of:

- Khirbet el-Mudayneh on the Wadi eth-Themed (G 68);
- Er-Reimeil (G 176), about 15 km north of Ara’ir, on a wadi;
- El-Al (G 150) south of Wadi Mujib. On the hills surrounding el-‘Al Glueck found towers, from which he concluded that this was a key site in the system;
- Khirbet el-Balu’a (G 110), where the Wadi Balu’a and the Wadi Qurri join, controlling the access routes to the Wadi Mujib;
- Khirbet el-Mudayneh, ‘which overlooks Wadi Lejjun’ (G 141) on the point where the Wadi Lejjun and Wadi Mujib join, overlooking the southern entrance to the Wadi Mujib;
- El-Mahri (G 135), about 20 km southeast of Kerak;
- Mdeibi (G 132), 5 km south of el-Mahri;
- El-Muhayyi (G 69), about 8 km south of Mdeibi;
- Khirbet el-Mudayneh on the Wadi Hasa (G 71), where the King’s Highway climbs out of the Wadi Hasa on the north side;
- El-‘Akuzah (G 78), also on the Wadi Hasa, about 7 km northwest of Khirbet el-Medeiyyineh, on a spur from the Plateau, and also on the King’s Highway;

1 The numbers refer to the numbers in Glueck’s publication.
- Khirbet Medinet er-Ras (G 94), about 15 km northwest of el-'Akuzah, 5 km north of the Wadi Hasa, overlooking the Wadi Hasa, the Ghor and the southern part of the Dead Sea;
- Meidan (G 115) southwest of Kerak, halfway between Kerak and the Dead Sea, overlooking the southern part of the Dead Sea and Lisan;

![Map of Tribes and Territories in Transition](image)

**Fig. 4-1. ‘String of Early Iron Age fortresses’ according to Glueck.**

This 'string of fortifications' continues south of Wadi Hasa into Edom. Some of the settlements are also found in Miller's survey (1991, see below). Miller however, rejects the 'string of fortifications', as well as the dating of some of the 'fortresses' (Miller 1992:87).

**The Northwest Kerak Plateau Survey**
The Northwest Kerak Plateau, which is the northern half of the region south of the Wadi Mujib, has been surveyed by Worschech (Worschech et al. 1990). He made no distinction between Late Bronze II and Early Iron Age material. He found Late Bronze/Early Iron Age pottery on five sites. Worschech, like Glueck, describes a 'string of fortifications', meant to safeguard the Plateau against intruders from the desert or the northern wadis (fig. 4-2). His 'string' consisted of (east to west): South Mudayneh (Medeinet 'Aliyah), North Mudayneh (Medeinet el-Mu'arradjeh; together Glueck's site 141), Balu'a, Mudayneh on the Mujib, Tedun (Khirbet Faris), Jarut and ed-Deir. Early Iron Age pottery was found on all these sites. Worschech concluded on the basis of his results that an early Moabite state had already formed at the end of the Late Bronze Age (Ch. 13).
The archaeological survey of the Kerak Plateau
This was executed by Miller in the 1980's (Miller 1991), and it covered the whole region between the Wadi Hasa to the south and the Wadi Mujib to the north. 443 sites were surveyed, 109 of which had Late Bronze material, and 72 Early Iron Age material (fig. 4-
According to Miller’s survey results settlement both in the Late Bronze and the Early Iron Age was concentrated on the western edge of the Plateau, and on the slopes of the Dead Sea basin and Wadi Arabah. A smaller concentration is found in the Wadi Kerak. The Wadi Kerak forms a natural border between the southern and the northern halves of the Plateau, with Late Bronze Age settlement concentrated south of Wadi Kerak on 73 sites, whereas there were only 34 sites north of the wadi. In the Early Iron Age settlement was distributed more equally: both north and south of the wadi were 35 sites. Many sites were occupied in both periods: The number of sites with material from both periods was 13 in the north and 24 in the south.

The results of Miller’s survey have been subject to heavy criticism, especially the pottery dates (see below). Therefore, in order to rule out the most doubtful identifications, only sites with five or more sherds from the period in question have been included in fig. 4-3. This sifting has generally diminished the numbers of sites from both periods, but the resulting map shows clearly that it has not influenced the general pattern that has been described above: the number of sites from the Late Bronze Age is still much higher than expected.

The Hesban survey
(Ibach 1987) The Hesban survey has been carried out over an area with a radius of roughly 10 km around Hesban. The area has been adapted to local geological features. It was a site-oriented survey, concentrating on known sites and sherd scatters. One of the aims of the survey was to collect information relating to the dating of the Exodus (Ibach 1987, xiii), therefore extra attention was paid to the nature and intensity of the Late Bronze settlement. LaBianca's 'food system theory' (1990) was developed later, in order to incorporate the results of the combined projects into one system (see below, Madaba Plains Project Survey). Late Bronze and Early Iron Age material was found on the following sites:

7. El-'Al. Earliest material is Early Iron Age, continuing into the Persian Period;
26 Jalul. Pottery shows continuous occupation from Middle Bronze II onwards;
29. Khirbet Umm el-Qanafid. Earliest pottery is Early Iron Age (Ia);
39. part of the Wadi Hesban bed west of site 40. Early Iron Age, but nothing earlier;
40 part of the Wadi Hesban bed close to Qanafid. Early Iron Age was dominant, nothing earlier;
44. Rawda. Site on a hill close to Qanafid, surrounded by tombs and caves. Early Iron Age dominant, one excavated cave had large storage jars;
45. Abu Silan. Hill north of upper Wadi Hesban. Early Iron Age dominant;
47. upper Wadi Hesban. Pottery from the wadi-bed, probably washed from the slopes of Qanafid, Early Iron Age dominant;
54. Umm es-Sarab. On a hill just south of Qanafid. Early Iron Age pottery present, but a test trench revealed only Roman;
95. Rama. Prominent tell on the west edge of the survey area. Sometimes identified with Beth Haram, or Beth Ramtha, Beth er-Ram, or Beth Rama. Early Iron Age present;
97. Iktanu. Prominent tell, close to Rama, with Early Iron Age and possible Late Bronze Age sherds. Excavation at the site (Prag 1989, 40; 1991) has so far not revealed any Late Bronze or Early Iron Age strata;
101. Samik. On the plain south of Qanafid. Early Iron Age pottery;
102. Umm el-Amad. Tell south of Qanafid. Early Iron Age pottery;
103. Umm el-Basatin. Large tell, about 5 km southeast of Qanafid. Early Iron Age pottery;
108. 'Ayun Musa. Small site, with a number of powerful springs, about 10 km west of Hesban. Foundations of a stone tower, with Early Iron Age pottery dominant, although there was Iron Age II-Persian as well;
114. Manja. 2 km north of Jalul. Several robbed tombs. Early Iron Age pottery;
129. small site, about 3 km north of Qanafid. Early Iron Age (Ia) pottery;
146. Jebel el-Fahud. Small site on a natural hill, on the eastern edge of the survey area. Early Iron Age sherds are dominant;
147. Rujm el-Fahud. Tower on a high hill just north of site 146. Early Iron Age, as well as later material;
149. Tell el-'Umeiri. The survey here revealed Late Bronze and Early Iron Age pottery;
150. 'Umeiri. Site just to the north of 149. Early Iron Age pottery was found here, but no Late Bronze Age;

![Map of Hesban survey, part of the Madaba Plains Project](image)

Late Bronze Age sites are rare: 6 out of 148, or 4%, of which only Jalul has clear Late Bronze II material, and possibly 'Umeiri and Iktanu.

Early Iron Age material has been found on 30 sites, or 20% of all sites. Eight of these can be seen as centres, according to Ibach (1987, 160): Rama and Iktanu in the Jordan Valley, 'Umeiri, Hanafish, el-'Al, Amad and Jalul on the Plateau, and Umm el-Qanafid in the Wadi. It should be noted that Prag never found Early Iron Age occupation at Iktanu (Prag 1991). Jalul must have been an important centre: it had more Early than Late Iron Age material. Umm el-Qanafid sits on a hill in the wadi system, near a spring at the beginning of the wadi. It is surrounded by four sites: the wadi bed surrounding the spring; the wadi surrounding the site itself; and two hills connected with the site. This complex may have been one large site, or it may have been a cluster of “suburbs dependent on a fortified town”. Early Iron Age Jalul and Qanafid must have been activity centres.

As for the smaller sites: Early Iron Age pottery dominates in 'Ayun Musa at the foot of Mount Nebo, but no related settlement has been found, only two springs below a rather large (15.5 x 16.2 m) tower. Site 146 and 147 face each other on both sides of a wadi.
Site 146 was a settlement surrounded by a wall and fertile soil; site 147 had a more military outlook: a central 14 x 14 m structure with a tower or fortress, on top of one of the highest hills in the area, less than 3 km from 'Umeiri.

**Madaba plains project**

Two surveys have been carried out in the Madaba Plains, both as part of the Madaba Plains Project (Herr *et al.* 1991; Boling 1989). The surveys followed different methods, and had different aims. Their results also differed considerably. The first was a random square survey, in an area around 'Umeiri with a 5 km radius. 38 randomly chosen 200 x 200 m squares were surveyed: 2% of the total survey area. No Late Bronze Age remains were found during this survey, but six squares had Early Iron Age pottery (fig 4-5).

The second survey was site-oriented, and investigated 55 known sites. Three sites had ‘possible’ Late Bronze Age pottery: They have not been specified on the map, because their Late Bronze Age occupation is very uncertain. Sites with Early Iron Age pottery were (fig. 4-6):

2. the first hill south of 'Umeiri: Early Iron Age on the slopes;
4. the fields and irrigation system below Tell 'Umeiri on the south and west produced a few Early Iron Age sherds;
19. remains of a stone wall and a tumble of stone; there were some Early Iron Age sherds;
22. remains of a rectangular structure (tower) northwest of Tell Rufeisa. Caves. Iron Age pottery dominated, both Early and Late Iron Age;
23. site on a low hill, with a rectangular structure, possibly overlying another structure, both built of boulders. Only Early and Late Iron Age pottery was found here;
25. circular hilltop with heavy sherd scatter. Both Early and Late Iron Age pottery was found here;
28. Buniyat N. A very low hill, with an elaborate, rubble-filled tomb. Some Early and Late Iron Age pottery was found;
29. Tell Jawa. The first large tell to the east of 'Umeiri. Many architectural remains are visible on the top. Iron Age II dominates, but there is Early Iron Age as well;
30. a perimeter wall encircling remains of structures and walls. Early and Late Iron Age pottery were found here;
37. Buneiyat S. a square tower with recent additions, and traces of a possible ancient perimeter wall. There was Early Iron Age pottery, as well as one possible Late Bronze sherd;
43. remains of a square structure with a perimeter wall adjoining it. There was Early and Late Iron Age pottery;
The results of both surveys combined give the following picture:

<table>
<thead>
<tr>
<th></th>
<th>Random Square Survey</th>
<th>Site Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Late Bronze</strong></td>
<td>-</td>
<td>3? (5.5%) sites</td>
</tr>
<tr>
<td><strong>Iron Age I</strong></td>
<td>9 (23.7%)</td>
<td>12 (21.8%) sites</td>
</tr>
</tbody>
</table>

The results confirm that during the Early Iron Age the number of small settlements increased. The random square survey did not produce any Late Bronze Age sherds, but the site oriented survey shows the possible presence of Late Bronze Age sites. These results agree with those of the Hesban survey. Analysis of the ecology of the region, and integration of the results with the results of the surveys shows that there was a varied landscape with forest and fertile soil, with most settlements on the boundary between the two.

The Archaeological Survey of Greater Amman
This covered an area of over 570 km\(^2\) in the municipality of Amman (Abu Dayyah et al. 1991, fig. 1). Part of the area was walked in transects; another part of it was more or less ‘site-oriented’, trying to find the sites recorded by Glueck in 1938. Part of the pottery has been published, and the recorded sites have been listed (Abu Dayyah et al. 1991, table 2). Only very few sites with either Late Bronze or Early Iron Age material has been found, and no conclusions can be drawn from the results, at least not for the period in question.

Sahab survey
As part of the Sahab excavations an area of 192 km\(^2\) was surveyed, east of the site, in 1983. Three wadi systems cut through the area, which is considered by the surveyors as a transitional area between ‘the desert and the sown’. Only three actual tells were identified in the survey area. The Late Bronze – Early Iron Age witnessed a decline in occupation, with only minor occupation. Later in the Iron Age (although it is not clear from the report how much later) three possible secondary sites related to Sahab itself have been identified: Zumlat al-'Aliyah, Abu al-Hajjat and ad-Dabayba. According to the surveyors a network of forts and hilltop watchtowers seems to have been introduced in this period (Gustavson-Gaube and Ibrahim 1986). The area was abandoned at the end of the Iron Age.
Baq'ah valley project
Between 1977-1981 McGovern and others carried out a regional study in the Baq'ah valley (McGovern 1986). The Baq'ah valley lies 15-20 km northwest of Amman. It forms an elliptical plain, surrounded by hills and wadis. Wadi Umm ed-Dananir and Wadi Shueib run to the west, to the Jordan Valley. The soil is *terra rossa* with a layer of clay underneath. It is assumed that there used to be a lake, which was drained when the Wadi Umm ed-Dananir cut through to the west. Many perennial springs surround the plain, fed by a large aquifer on the south-eastern side, with a total amount of three million cubic metres of water yearly. Average temperatures are 9° (January) - 28° (July). With irrigation two harvests per year are possible. The plain was therefore ideal for settlement, and has indeed been settled ever since the Neolithic. In Late Bronze I and II burials bones of sheep/goat, cattle, donkey and dog have been found.

The valley is accessible from all directions, through the wadis, and over the easily accessible foothills. It is probable that the later King’s Highway ran though it, along the northern branch of the Wadi Umm ed-Dananir to the Wadi Zerqa, and from there to Wadi Jerash. The valley supplied raw materials: it held a large kaolin bed, and much wood. About 10 km away, at Mugharet el-Wardeh, there is iron ore. Until recently the valley saw spring migration, and Bedouin carried out small-scale agriculture in summer. According to McGovern this symbiotic relationship between Bedouin and the settled population may mirror comparable situations in the past, which is one of the reasons why the region around Khirbet Umm ed-Dananir was chosen as the target for an extensive survey. In this area of 52.5 hectares, four sites produced Late Bronze II and Early Iron Age material (fig. 4-7).

Excavations have subsequently been carried out on these sites (Chapter 3). More than 30 caves also produced Late Bronze and Early Iron Age material. Three of these tombs were excavated.

In the transitional Late Bronze - Early Iron Age period there is a concentration of large massive buildings around Amman: Sahab, 'Umeiri, Baq'ah, the Amman Airport building. Sahab and Safut had defence systems. Around these large sites small settlements have
been found, usually close to water and fertile soil. According to McGovern (1992) this points to an increase in the settled population in the Late Bronze Age. He suggests the existence of a city state concentrated around Amman in the Late Bronze Age. Hübner, while agreeing with the suggestion of the existence of city states, postulates that there must have been several of them concentrated around Sahab, Amman and Khirbet Umm ed-Dananir (Hübner 1992, 159-160).

A comparable development was suggested for the Plateau north of the Zerqa, and for Moab. In other parts of the Amman region, however (Boling 1988:30-35), the number of sites was found to have diminished. McGovern suggests that an increase in sites east of the Jordan coincided with a decrease west of the Jordan (see also Gonen 1984).

The Iron Age shows a pattern of smaller, more dispersed settlements, still centred around the Amman citadel. The transition to this new settlement pattern has been a gradual process. There was, however, a clear break in occupation between the Early and Late Iron Age (McGovern 1989).

The most striking result in this summary of surveys in the plains east of the Dead Sea is that of Miller’s survey. Partly this is due to the fact that the surveys covered different areas: Miller’s the area south of the Mujib; Ibach’s and Boling’s the area north of the Mujib. But apart from that Miller’s results deviate from the expected pattern of relatively little sedentism in the Late Bronze Age, followed by a strong increase in small settlements in the Early Iron Age. Miller explains this, at least partly, with the pottery dates: most of the Late Bronze pottery is Late Bronze II, and he assumes a gradual transition from pastoral/nomadic to sedentary occupation which already started in the Late Bronze Age. However, recently his pottery dates have been doubted (Bienkowski 1998, 164), and it seems that much of the pottery which he dates in the Late Bronze Age belongs to other periods such as the Roman or Islamic period. The reliability of his results is therefore doubtful.

A general conclusion that can be drawn from the survey results is that Glueck’s original statement that the area was largely uninhabited, or at least not settled in the Late Bronze Age, was not invalidated by the later surveys. Very few sites have been found with Late Bronze Age material; only Jalul has clear Late Bronze II pottery.

On the other hand, the results from the excavations (see Chapter 3) have shown that there was Late Bronze Age occupation on a number of sites, which has not been found by the surveys: Meedineelt el-Mu’arrajdeh, Balu’a, Lehun, Ara’ir. Survey material from ‘Umeiri and Jalul contained Late Bronze Age material. The Late Bronze tomb at Madaba can be seen as a special case, as cave tombs generally are not covered by surveys. Therefore, although survey techniques are now much advanced since the days of Glueck, it seems that we still have to be careful about the conclusions we draw from them.

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2 An examination of the survey material has shown that in a number of pottery drawings the stance has been wrong, producing a completely different shape from the one intended (P. Bienkowski, personal communication)
Surveys in the Jordan Valley

Jordan Valley Survey
The Jordan Valley Survey was undertaken in 1975-1976 by M.M. Ibrahim, J.A. Sauer and Kh. Yassine (Ibrahim et al., 1976, 1988), as a co-project of Jordan University, Amman, the Department of Antiquities of Jordan, and the American Center for Oriental Research. The survey aimed at collecting as much information as possible about known sites in the Jordan Valley, and detecting new sites, between the Yarmuk river in the north, and the Dead Sea in the south. It was, therefore, a site-oriented survey. One of the goals of the survey was to create awareness of the archaeological potential of the Valley, which was (and still is) under threat because of increasing development of the region. It was hoped that the survey might “produce conclusions which could eventually be of use to the Jordan Valley Commission in planning the present and the future economic development of the valley” (Ibrahim et al. 1976, 163). The survey results have been published, but not extensively, and no pottery drawings were included in the publications. In total the survey revealed 20 Late Bronze Age sites, and 31 Early Iron Age sites. No distinction has been made between Late Bronze Age I and II. In the north, all the sites that produced Late Bronze Age material also had Early Iron Age material. In the south the number of Late Bronze Age sites was higher, actually higher than the number of Early Iron Age sites, and there was less overlap between the two periods.

The site list with pottery dated according to the surveyors is as follows:

6. Tell el-Meqbereh: LB, IA I
7. Tell Abu Kharaz: LB, IA I
19. Tell Abu Qamel: IA
33. Tell el-Qeseibeh: IA I
34. Tell el-‘Arba’in: IA I
47. Tell er-Refeif: IA I
61. Tell el-Ma’ajajeh: IA I
65. Tell Abu Habib: IA I
77. Tell Hejeyjeh: IA I
81. Tell Abu el-‘Aqarib: IA I
82. Tell Abu Dahnum: IA I
92. Tell es-Sa’idiyeh: LB, IA I
93. Tell el-Kereimeh: LB, IA I
94. Tell el-Qelaya: IA I
102. Tell el-Qos: IA I
103. Tell el-Mazar: LB, IA I
104. Tell ‘Ammata: IA I
105. Khirbet Buweib: IA I
108. Tell en-Nkheil South: LB
109. Tell Ghazaleh: LB
110. Tell el-Kharabeh: LB, IA I
115. Tell el-Hammeh East: IA I
116. Tell Qa’adan: LB
117. Tell Qa’adan South: LB
119. Tell Deir ‘Alla: LB, IA I
122. Tell er-Rabi: LB, IA I
123. Tell Abu Nijrah: LB
125. Tell el-‘Arqadat: LB
Fig. 4-8: The Jordan Valley Survey: Late Bronze and Early Iron Age sites
TRIBES AND TERRITORIES IN TRANSITION

126. Kataret es-Samra I and III tombs: LB
127. Ain el-Bassah: LB
129. Tell el-Bashir: IA I
132. Tell Umm Hamad esh-Sharqi: IA I
135. Tell Zakari: IA I
137. Tell er-Remalah: IA I
151. Tell Damieh: IA I
183. er-Rashidiyyeh: IA I
189. Tell el-Tahuneh: LB
190. Tell el-Hammam: IA I
191. Tell Iktanu: IA I
193. el-Jazayir: LB
200. Tell Mustah: LB

Wadi Zerqa Survey
In 1982 a survey was carried out in the Lower Zerqa Basin by Gordon and Villiers, on behalf of Yarmuk University, Irbed, examining in particular the southern environs of Tulul edh-Dhahab (Gordon and Villiers 1983). It was an intensive survey of an area of roughly 5 by 10 km south of Tulul edh-Dhahab, covering all habitable ground. Some sites were found with possible Late Bronze Age sherds, but no certain Late Bronze Age occupation was found. A number of sites was discovered with Early Iron Age material though (fig. 4-9), concentrated along the banks of the Zerqa or its tributaries.

Mittman’s Northern Jordan Survey
The main purpose of Mittman’s survey (1970, 3) was to complement Nelson Glueck’s survey in the region between the Wadi Yarmuk and the Wadi Zerqa. The difficulties that arise from Glueck’s work have been mentioned, and need not be stressed again. Unfortunately Mittmann did not revisit Glueck’s sites, therefore a comparison between his findings and those of Glueck cannot be made. Mittmann’s descriptions of the sites visited by him follow the method of his predecessor, and, although this is not stated explicitly, apparently so does his survey method. The sites that lie within the area of research (Mittmann’s sections ‘Der Westen’ and ‘Der Süden’) are the following:
fig. 4-10. Mittman’s Northern Jordan Survey.

101. Deir Abu Sa'id. Late Bronze IIB and Early Iron Age (twelfth – tenth century);
103. Deir Qequb. Late Bronze II – Early Iron Age (twelfth – tenth century);
104. Khanzire. Early Iron Age (eleventh – tenth century);
115. Khirbet ez-Zuqeq. Early Iron Age (twelfth – tenth century);
116. Tell Jebel es-Saqqa’. Some Early Iron Age (twelfth century);
128. Khirbet es-Sir. Early Iron Age (eleventh – tenth century);
132. Umm Hamde. Early Iron Age (twelfth – tenth century);
133. Khirbet el-Hussa. Early Iron Age (twelfth – tenth century);
134. Zubya. Early Iron Age (twelfth – tenth century);
138. Khirbet Mahrama. Early Iron Age (twelfth – tenth century);
140. Khirbet Fara. Early Iron Age (twelfth – tenth century);
141. Deir Burak. Early Iron Age (twelfth – eleventh century);
142. Tell Kharabeh. Early Iron Age (twelfth – eleventh century);
147. Khirbet Sofara. Some Chocolate-on-white pottery, Early Iron Age (twelfth – eleventh century);
155. Khalawe. Early Iron Age (twelfth – tenth century);
156. Osara. Some Early Iron Age (twelfth – eleventh century);
159. Khirbet Suwwan. Early Iron Age (twelfth – eleventh century) dominant;
161. Khirbet el-Hedamus. Early Iron Age (twelfth – tenth century) dominant;
166. Khirbet el-Keleban. Early Iron Age (twelfth – tenth century);
168. Khirbet el-Beida. Chocolate-on-white, Early Iron Age (twelfth – tenth century);
170. Khirbet el-Muslimani. Early Iron Age (twelfth – tenth century);
182. Deir Merwan. Early Iron Age, not further specified;
183. Khirbet Hattin. Few Early Iron Age, not further specified;
185. Sahra. Some Late Bronze I-II, Early Iron Age (twelfth – tenth century);
193. Khirbet el-Mzeibile. Chocolate-on-white, Early Iron Age (twelfth – tenth century);
194. Zahr el-Khirbe. Early Iron Age (twelfth – eleventh century) dominant;
TRIBES AND TERRITORIES IN TRANSITION

196. Khirbet Hamid. Some Late Bronze I, Early Iron Age (twelfth – tenth century);
198. Khirbet Kedade. Early Iron Age (twelfth – tenth century);
202. Khirbet er-Ruweis. Early Iron Age (twelfth – tenth century);
204. Khirbet Safit. One chocolate-on-white sherd, Early Iron Age (twelfth – tenth century) dominant;
206. Khirbet Amriye. Early Iron Age (end of period);
207. Debbet Kanaš. Early Iron Age (eleventh – tenth century);
210. Khirbet el-Mansura. End of Late Bronze and Early Iron Age;
211. Khirbet el-Mšerfe. Early Iron Age (twelfth – tenth century);
212. Khirbet el-Gubb. Early Iron Age (twelfth century);
215. Khirbet el-Hammam. Early Iron Age (twelfth – tenth century);
223. Tell Kharabe. Early Iron Age (not specified);
228. Sahne. Early Iron Age (twelfth – tenth century);
237. Khirbet Umm Joze. Early Iron Age (twelfth – tenth century);
238. Khirbet Umm Jalud. Early Iron Age, little. Not specified;
240. Suf. Chocolate-on-white, Early Iron Age (twelfth – tenth century);
247. Khirbet Abu el-'Asafir. Early Iron Age (eleventh – tenth century);
252. Jeraš. White-slip ware, Early Iron Age (twelfth – tenth century);
259. Remun. Early Iron Age (eleventh – tenth century);
262. Khirbet el-Hemer. Early Iron Age (twelfth – tenth century);
282. Ras el-Kwem. Late Bronze I and II; Early Iron Age (eleventh – tenth century);
290. Tell Jen'abe. Chocolate-on-white, Early Iron Age (twelfth – tenth century);
295. Tell el-Merame. Early Iron Age (eleventh – tenth century);
297. Khirbet el-Qneye. Some Early Iron Age, not specified;
307. El-Hute. Some Early Iron Age, not specified;

Mittmann’s conclusion is that the concentration of new Early Iron Age sites in this region points to the presence of newly arrived Israelite tribes (Mittmann 1970, 218). This conclusion seems far-fetched, and is based more on other considerations than on the results of the survey. The results of this survey however, stress the fact that Late Bronze Age II sites are extremely rare in the region, and therefore it helps to locate the limits of the concentration of sites from that period in the region around Deir ‘Alla and Sa'idiyeh.

Wadi el-Yabis survey
A survey has been carried out in the Wadi el-Yabis, 15 km north of Wadi Kufrinjeh, and 7 km south of Pella (Mabry and Palumbo 1988, Palumbo et al. 1990 and Palumbo 1992). In the Zerqa area the Valley is 12 km wide, narrowing to the north. Between Wadi Kufrinjeh and the Sea of Tiberias its width is about 5 km. Climate, soil, ecological zones from west to east and vegetation are the same as those in the research area. The Yabis flows from the highlands, 1200 m above sea level, into the Jordan. Its springs are found in the highlands and the upper part of the foothills, and the area gets 600 mm rainfall. It flows through three vegetation zones: the highlands, with red Mediterranean soil and rendzina, and woods of pine and oak; the foothills, with fluvial deposits, and bushes and shrubs; and the ghor, with mostly acacia and different grasses. Along the wadi one finds cypress, tamarisk, oleander, reeds etc, which are typical for wadi banks in this region and which also appear along the Zerqa and in the Zor.
The area has been surveyed by Glueck (1951:210-231), by de Contenson and by the East Jordan Valley Survey (Ibrahim et al. 1976). However, most of the sites were found during the Wadi el-Yabis surveys. A stratified random survey was conducted on a number of transects from north to south, covering the three ecological zones. Sites known from earlier surveys were revisited (fig. 4-11).
Late Bronze II pottery has been found on three sites only: two in the Valley and one in the highlands. The number of Early Iron Age sites is much larger. These are found mostly along the wadi banks (as were the three Late Bronze II sites), often on former Early and Middle Bronze Age sites. The Late Iron Age sites seem more dispersed over the region. Mabry and Palumbo (1988:291) think that a number of terraces that are still visible in the hills were constructed in the Iron Age, but they give no arguments. From the results of the surveys, in combination with a few test trenches, They draw the following (hypothetical) conclusions (Mabry and Palumbo 1992):
- In most periods the settlement pattern was determined by independent settlements, occupying every possible ecological niche. This 'natural' process was sometimes overruled by external political pressure, resulting in a different settlement pattern with a network-like character.
- Periods of stable central government often resulted in intensification of agriculture, construction of terraces in the hills and irrigation works in the lowlands. The collapse of that government resulted in dispersion of settlements and neglect of the land. Overexploitation could also result in erosion and flooding, and decline of agriculture.
- In periods of stability and settlement nomads were not found in the region. Repeated attacks by nomadic pastoralists often followed disintegration.
- The settlement pattern in the Wadi Yabis serves to show the fragility of the natural equilibrium between the people and the soil, and the limits of its potential to recover.

Fig. 4-11. Wadi Yabis survey, Late Bronze and Early Iron Age sites.

The high concentration of sites in the Late Bronze Age in the central east Jordan Valley is striking (Leonard 1989 and fig. 4-8). Leonard warns that the nature of these sites is not clear, and therefore one must be careful to draw conclusions about settlement patterns. However, it seems inevitable that this high concentration of sites was related to the presence of Deir ‘Alla and Sa‘idiyeh. It would be premature to draw Tell Mazar into this discussion, since the Late Bronze Age levels have not been published.

3 In 2000 J. Kamlah has published the results of the Zeraqon survey, conducted in 1989-1994. Unfortunately the publication was not available in time to be included here.
Four Late Bronze sites are found on the border zone between Katarrh and Ghor: Abu Nijrah, Nkheil, Kharabeh and Sa’idiyeh. One lies in the Katarrh, Kataret es-Samra, but this was basically a burial site, according to Leonard (1985). Most of the sites are found in the Ghor, and Meidan is the only Late Bronze site on the Zerqa. Kereimeh, on the Wadi Kufrinjeh lies nearest to the foothills.

There seems to be no preference for settlement near the wadis. In the Iron Age the situation is the other way round: 17 out of 24 sites are found along the wadis. They are more or less equally distributed over the ecological zones, with an understandable preference for the Ghor. The Late Bronze Age sites that were abandoned at the end of the period were all situated in the inlands.

Surveys in the Western Hill Country

The highlands of Palestine have been surveyed repeatedly, and most of these surveys have been published. Unfortunately many of these publications are in Hebrew, and therefore not readily accessible to the general public. The extensive publications by Zertal of his survey of Manasseh are a case in point.

The survey of the west bank by Kochavi, between 1968-1972, was also in Hebrew (1972). The results of this survey have been re-examined through several other surveys: among others the one that was done by Finkelstein (1988), reproduced in the Southern Samaria Survey (Finkelstein et al. 1997).

Ephraim survey.

Finkelstein (1988) conducted a survey in the highlands, the region of Ephraim, as part of the Survey of Southern Samaria (Finkelstein et al. 1997). His survey covered an area of 1050 km². The north-eastern part of this area is relevant to our study: the Desert Fringe (DF) and the Northern Central Range (NCR) (Fig. 4-12).

Only three Late Bronze Age sites were found: Khirbet Seilun (identified with Shiloh, and excavated by Finkelstein, see Chapter 3); Khirbet El Urma; and Tell Abu Zarad. The difference in settlement density between the Late Bronze Age and the Early Iron Age,
although not unexpected, is still striking when seen on the maps of the Ephraim Survey. 57 sites have been recorded in the relevant area, which is the most densely occupied in this period. Most of the sites are smaller than 0.3 ha, ten are between 0.3 and 1 ha, and four are between 1.1 and 2 ha. The three sites occupied in the Late Bronze Age were also occupied in the Early Iron Age. Both Shiloh and Tell Abu Zarad grew from a very small (0.3 ha) site to a 1.1-2 ha site; Khirbet El-Urna remained 0.3-1 ha in size.

Finkelstein has drawn several conclusions from the results of his own survey, in combination with other surveys (mainly the Manasseh survey, see below):

- 90% of the earliest Early Iron Age sites (twelfth and early eleventh century BC) were located in the eastern part of the survey region (Finkelstein 1988, 191); according to Finkelstein these are the areas best suited for cereal crops and pastoralism.

- The distribution of ‘large’ and ‘small’ villages was such that there was ‘no more than one large site in each of the intermontane valleys of the northern central range. The pattern of settlement was thus one of prominent central sites with a peripheral populace connected to it...’ (Finkelstein 1988, 193).

Tell Abu Zarad has been identified with Tappuah by several scholars. It is a large tell, with a group of 14 agricultural towers. The tomb of sheikh Abu Zarad gives it its present name (Finkelstein et al. 1997, 606-7).

R.D. Miller (2000) has resurveyed some of the sites surveyed by Kochavi and added information concerning the redating of Kochavi’s results. He found five additional sites with late Bronze Age material, two of which fall outside our research area. The other three were Khirbet Er-Rama (3), Khirbet Anakhum (8), and Khirbet Brijmeh (18). All sites were found to the west of a north-south line through Nablus. Miller also found seven Early Iron Age sites, four of which were also occupied in the Late Bronze Age.

The discrepancy of the results of Miller’s renewed surveys with those of Finkelstein et al., rather suggests a difference in dating of the sherd material than a difference in actual settlement patterns. It is likely that Finkelstein dates certain types of pottery to the very earliest Iron Age, which Miller still dates to the Late Bronze Age. Therefore this discrepancy may be less significant than it seems at first, except to confirm that this was an area that was settled very early in the Early Iron Age, and that a better label for it may be ‘transitional’.

Shechem survey

A site-oriented survey was carried out as part of the Shechem excavations in 1965-68 (Campbell 1991). Assuming that the area - the valley and the surrounding hills - formed an ecological unit the survey aimed to provide a better insight in the functioning of this system. Fourteen Late Bronze II sites were found, two possible Late Bronze sites and two sites from the transitional period. There were eleven Early Iron Age sites, and three possible Early Iron Age sites. Eight sites were occupied in both periods. The survey confirmed the results of the Shechem excavations, that there was no occupation before 1450. Very little pottery has been published from this survey. According to the list of ‘periods attested’ (Campbell 1991, 9-10) in the Late Bronze Age, six sites were found to have been settled in Late Bronze IIA, four of which also had Late Bronze IIB sherds. Three sites had only Late Bronze IIB sherds.

Based on the survey results Campbell has suggested a hypothetical reconstruction of the region in the Late Bronze Age (fig. 4-13): The valley had seven points of entrance, everyone controlled by a village or guard post, and some by two, on either side of the entrance. Tel Sofar and Kumeh controlled the entrance from the west, while Shechem itself controlled the entrance from the east. The other passes were controlled by Khirbet.
el-Urmah (Arumah) together with Shurrab, Beth Dajan, Khirbet Tana el-Foqa with Khirbet Tana et-Tahta, Beth el-Khirbeh, Khirbet Maqneh el-Foqa and Kefr Kuz.

Fig. 4-13. Survey of the Shechem region

The Shechem pass was part of an important route from the sea to the Jordan Valley. Lab’ayu, lord of Shechem in the Amarna period, recognised this importance and used it to strengthen his position. Campbell’s reconstruction therefore makes good sense. Outside the valley were fortified towns, which Campbell relates to Shechem: Tell Miskeh; Tell Sheikh Abu Zarad; Tell el-Far’ah; Khirbet edh-Dhuq; Tubas; Dothan; Shiloh; and Bethel. No traces have been found of unfortified sites outside the Valley. Lab’ayu's stronghold was isolated and protected, and the other settlements within his protection were fortified.
At the end of the Late Bronze Age the population of Shechem seems to disperse, forming satellite villages in the valley (Campbell 1991:94). This dispersion coincides with Level 1 at the Mount Ebal site. Occupation stops in Shechem ca 1125, and in the valley ca 1100. Eleven sites with Late Bronze and Early Iron Age material have been brought to light by this and other surveys. Furthermore there is a number of exclusively Early Iron Age sites. Based on these Campbell assumes:

- continuation in occupation in the thirteenth-twelfth century;
- gradual transition in pottery shapes;
- a number of new sites coming into existence around 1200;
- discontinuity on all sites at the end of the twelfth century. He suggests that there was a symbiosis between Canaanites living in the region and new settlers, possibly Israelites.

**Manasseh survey**

Zertal (1987, 1991) has conducted a survey in the Manasseh area, the northern half of the central hill country. The survey area, with a total area of 2000 km², is situated between Beth Shean and Gilgal, opposite the Deir ‘Alla region. 116 Middle Bronze Age sites, 39 Late Bronze Age sites (22 of which had Late Bronze II material) and 136 Early Iron Age sites were found. The distribution of sites over the region is significant: 43% of the Middle and Late Bronze sites, but only 19% of the Early Iron Age sites, were situated in and around the valleys. 13% of the Middle and Late Bronze Age sites and 38% of the Early Iron Age sites were situated on the terra rossa of the highlands. In the hills themselves 15% of the Middle and Late Bronze Age sites were found and 53% of the Early Iron Age sites.

Based on his analysis of the material culture of these sites Zertal draws several conclusions:

- The newcomers of the Early Iron Age were of one origin. He recognises three stages in the settlement process:
  1. Semi-nomads grazing their flocks between Wadi Far'ah and Wadi Malih.
  2. Permanent settlement and the beginning of cultivation in the valleys. Based on the pottery shapes he thinks that there was a shift to the west in this stage.
  3. The end of the twelfth century sees the beginning of cultivation of olives and grapes, and occupation of the southern and western hills.

- He has reconstructed an economy based on pastoralism and agriculture. The presence of cattle points to sedentarisation, as does the presence of olive groves and vineyards.

- Material culture on these sites is the same as that on Mount Ebal. The combination of a large cultic site (Ebal) with settlements surrounding it suggests a relatively high degree of organisation on a tribal or multi-tribal basis, according to him.

The settlement pattern suggests a symbiosis between Canaanites and early Israelites. In this reconstruction the Canaanites held the springs in the valleys, while the newcomers had to buy the right-of-use of these springs. Only the spring-system of the Wadi Far'ah and Wadi Malih was too complex and large for the Canaanites to control, and here a relatively large number of Early Iron Age settlements of the “transitional pastoralism-settlement” type was found.

- The high concentration of sites in Manasseh and Ephraim, compared to other parts of the country (Judah had 20 Early Iron Age sites, Ephraim and Manasseh 200 in an area twice as large), together with the fact that the earliest cultic traditions (Ebal and Shiloh) were situated in this area, all seem to point to this area as the ‘cradle’ of early Israel.
Zertal's hypothesis is based for a large part on his dating of the cooking pots, the presence or absence of the Manasseh bowl (Zertal 1987) and a certain type of decoration on handles (also found in the Deir 'Alla region: Franken 1992:5.15:25). 30% of the pottery from the hill sites consisted of collared rim jars.
II-5: Aspects of nomadism and settlement

The nineteenth and twentieth centuries AD were a period of change in Transjordan. International developments had their impact on a largely rural and pastoral society, changing it completely. In this section these changes and the mechanisms that lie behind them will be examined, with special reference to the Central Jordan Valley. A picture is painted here of a changing society, which may, to a certain extent, reflect changes that took place in the same region in the transitional period between the Late Bronze and the Early Iron Age. The material remains of this period have been described in the preceding chapters: literary sources, archaeological remains and surveys, and the ecological context. Ethnoarchaeology relates human behaviour to these material remains, so that “explanatory hypotheses may be thereby fruitfully constructed as predictions of the past which can be verified (or falsified) by the recovery of new data or better (more inclusive, parsimonious and internally consistent) explanations” (Kamp and Yoffee 1980, 86). The recent history of the Transjordanian Plateau and its interactions with the Jordan Valley can provide some of the explanations for the transition from the Late Bronze to the Early Iron Age, and although the picture that emerges is far from complete or even coherent, it gives a perspective on the socio-economic backgrounds of society in those periods.

The use of ethnographic analogies in order to reconstruct ancient societies has its dangers. Ancient societies were different in many ways from modern society. Therefore, in order to make a valid comparison that adds to our knowledge of how those societies functioned, it is essential to make a distinction between behaviour that is related to modern society and concepts, and behaviour that is timeless, and based on unchanging, Darwinian (sociobiological) motives. These motives are the production and procurement of food, the protection against enemies and against nature, and the acquiring of status and power (Wilson 1975, 547-76). The economic and social strategies that a tribal society resorts to can vary within a continuum that involves complete settlement at one end, and complete mobility at the other (Salzman 1980). Within those extremes almost any economic activity is possible, whether it be pastoralism, agriculture, robbing and raiding, protection or trade, provided that it is profitable within the specific circumstances that make up the economical or ecological niche of the moment. This conforms to what LaBianca (1990: 13-14) has described as a ‘resilient system’, which functioned within the Hesban region in the Iron Age, as reflected in the archaeological record.

The theory

Until the very recent past nomadism was often seen as part of a cyclic process in which Braudel’s ‘longue durée’ concept played an important role. Periods of dense settlement alternated with periods in which the population returned to a largely nomadic way of life as pastoralists, herding sheep and goats, and forming the ‘pool’ from which the settlers came when resettlement started again. That this, for a number of reasons, is an oversimplification has been made clear by several scholars. The distinction between nomadic, pastoralist groups and settled populations is still taken for granted in many studies about Levantine society, both relatively recent and relatively ancient (e.g. Rowton 1973a, 1973b, 1974, 1976, 1977). Steve Rosen has taken this argument further and states that both groups not only always leave traceable remains, but also that these remains, by their very nature, can be ascribed to one or the other. So if there are no archaeological traces of nomads, there simply were no nomads (Rosen 1988, 1992). He bases this views on Rowton’s model of the dimorphic society, the sedentary versus non-sedentary
population (Rowton 1974, 1976, 1977), each, according to Rosen, with their specific archaeological repertoire. However, as Salzman (1980) and others have shown, the concept of a dimorphic society can be replaced by a more convincing one, that of a continuum between two extremes, and groups of people moving constantly within this continuum. They adapt themselves time and again to the prevailing circumstances, and move from one economic activity to another, if that proves profitable. Their niches are not fixed in any way, economically, ecologically or geographically. Even in periods of dense settlement, towns and cities with stratified societies, nomadic pastoralists played a role, if only as providers of meat, dairy products, wool and leather (Finkelstein 1995, 26; Rowton 1974). Their social and economic importance can be determined by the presence of ample remains of sheep/goat in towns and cities, which must have been provided by a nomadic or transhumant population, due to the nature of the animals. Their role in the trade and economy must have been considerable, and their territorial needs and claims are bound to have influenced the settlement pattern. That means that it is not as easy as Rosen suggests, to ascribe material remains to either a sedentary or a non-sedentary population. We can, at the very best, only pinpoint remains to a specific activity, at a specific time. The group that left them, may have been involved in other activities as well, at the same time, or a few days later, activities that leave different traces, or perhaps no traces at all (cf. Finkelstein 1995, 37).

In the past a number of possible explanations have been analysed by several scholars and presented as models to explain the fluctuations between ‘the desert and the sown’, between the settled and non-settled components of society over time. Factors like climate, disease, population pressure, economic decline or its opposite, economic revival, international politics, have all been used as possible explanations, but not one of them can claim to provide the final answer. Which of these, or which combination of them, is valid may differ with every event.

Humans, like every living being, are primarily driven by the need to procreate, to pass on their own genetic material (Wilson 1975, 547-76). In practice this means:
- Procurement of food that contains all the basic nutrients to feed oneself and one’s offspring.
- Protection against nature and against human enemies. This can be provided by the building of fortifications or by making alliances. Alliances can be made with possible protectors or confederates, or with possible attackers, in order to disarm them.
- Status and power provide better chances for oneself and one’s offspring to procure food and protection, and also put one higher in the mating hierarchy.
- Mating strategies are designed for men to produce a maximum offspring, for women to provide the best chances of survival and procreation for her offspring. In practice this usually means polygyny for men, and for women a high-status marital attachment. These can be seen as basic human motives, irrespective of time, place or circumstances. They leave few tangible traces in the archaeological record; nevertheless they must have influenced this record considerably, as they determine interhuman relations as well as man’s relation with nature. They can however be translated into conditions for human behaviour that do leave traces, like settlement patterns, town planning and strategies for procuring and storing food. How basic motives like the quest for food, or the need for status and power can influence settlement patterns, modes of life, and social relations, for example, is outlined below.
Bedouin in the 19th and 20th century

The most significant aspect of Bedouin society in the past two centuries was its flexibility. Abujaber et al. (1987, 41) have described the Bedouin as exploring a multitude of resources. Sheep and goats, but camels especially, gave prestige. The Bedouins’ income originally came from camel-trade, robbing and raiding, caravan-escort etc. When these resources dried up with the coming of the modern state, they became smugglers, cultivators of their land, or they found employment with oil companies or in the army of one of the new states.

Lancaster has described the same process for the Rwala Bedouin (Lancaster 1981, 97 ff). The process started in the second half of the nineteenth century, and is, in fact, still continuing (Lancaster 1981, 139 ff). There are several reasons for the shift in economic pursuits. First the Bedouin lost some important sources of income due to the introduction of the railway, and later that of the automobile, which gradually replaced the camel (a main source of income for large groups of Bedouin) as the main form of transport (Hourani 1991, 293, 334; Abujaber et al. 1987, 41). Secondly, in 1858 the Ottoman authorities, in an effort to develop agriculture, introduced the Land Laws (Hourani 1991, 287). These laws made the Bedouin tribes de facto owners of their territory, with the obligation to pay taxes. As the sheikhs of the tribes were made responsible for the collection of the taxes, they gradually entered into formal relations with the state. At the same time the authorities began to take action against raiding and robbing practices, which eventually had its effects. Robbing and raiding had been a substantial source of income for the Bedouin, either directly, or indirectly, by providing ‘protection’ for villages and travellers.

The human factors involved in the change may be subdivided into 1) the quest for food; 2) local and international political factors; 3) population pressure. The different aspects of these factors, and their impact on the society of the nineteenth and twentieth centuries are worth looking at more closely.

The quest for food

In societies where the availability of food is the key factor for survival the quest for food is often the primary motive for human action (LaBianca 1990). There are different ways of looking at this quest for food. We can look at the actual strategies used to obtain food, like hunting, gathering, pastoralism, or different forms of agriculture. In Near Eastern society, at least since the domestication of plants and animals, all these strategies have, to a certain extent, always existed side by side.

Another way to look at the quest for food, is from the point of view of social relations. Here two different strategies can be discerned: 1) direct production, and 2) obtaining food from the direct producers. While direct production is only concerned with the primary necessities of life, the second strategy also determines the relations of power in a region, as will be made clear in the next section.

In the Jordan Valley food production in the second millennium BC (as well as in the second millennium AD) was mainly by farming and pastoralism, although hunting and gathering never completely stopped (van der Kooij and Ibrahim 1989, 41). Most of the mammals formerly living in the Jordan Valley are now extinct, mainly as a result of hunting.
Bedouin and pastoralists
In the early nineteenth century AD the southern Levant, although officially part of the Ottoman empire, was in practice ruled by a number of Bedouin tribes: the Beni Sakhr in northern Transjordan, the Uhedat in the Negev and Sinai, and the Howeitat in southern Transjordan were the largest and most powerful of them. The Beni Sakhr had conquered the territory of the Transjordanian highlands and the Jordan valley on the Adwan. The continuing territorial struggles between the Adwan, the Abbad and the Beni Sakhr, as well as the tyranny of the Beni Sakhr themselves, left the region rather desolate. There was no settled occupation in the Jordan Valley. In the Belqa Salt was the only inhabited town (Burckhardt 1822, 167). “People of local Arab tribes camped at some of the ancient sites, made use of old buildings as store houses and sowed a little wheat or barley round about, but the only extensive area of regular cultivation was around Salt.” (Lewis 1987, 23). The town was controlled by several tribes, and paid protection to the Beni Sakhr. Other villages and towns were deserted, left in ruins, after their inhabitants had fled. And as long as the Beni Sakhr ruled the area, this situation remained unaltered. Efforts at farming were frustrated by nomadic raids, travellers had to pay khawa (protection money) and even the Hajj was not safe, in spite of the large sums that were paid to the Bedouin in order to ‘protect’ (i.e. ‘not to rob’) the pilgrims (Doughty 1908, 1-3; Oppenheim 1943, 233).

The Ottoman government undertook several efforts to regain control over the region. In 1810 the Ottoman army confronted the Beni Sakhr, and lost. It was not until halfway through the nineteenth century that the government managed, by various measures, to finally break the power of the Beni Sakhr. This resulted in a break-up of the tribe, some families of which moved to the west of the Jordan and put up their tents around Beth Shean. With the power of the Beni Sakhr broken, the area became quickly settled. Villages sprang up through the highlands and in the Jordan valley. The inhabitants came partly from some smaller tribes, that had been controlled by the Beni Sakhr, and partly they came from elsewhere. The government settled Circassians in the region (as part of the strategy to keep the tribes under control), and farmers came from the west side of the Jordan, fleeing political unrest (Oppenheim 1943, 180). The Land Laws of 1858 had given ownership of the land to the Bedouin, with the obligation to pay taxes. The sheikhs of the Beni Sakhr now hired Palestinian fellahaen, and forced some of the smaller tribes to work the land, and so contributed to the settlement of the region (Oppenheim 1943, 235; Tarawneh 1989, 30).

Kerak, a town further south, had for a long time been in the power of the Beni Amr tribe who extorted so much from the town that it was reduced to beggary. But around 1750 AD the sheikh of the town allied himself with the Howeitat tribe and together they defeated the Beni Amr, who then retreated to the Belqa where they joined the Adwan. But they were driven out from there as well, and then moved to Jerusalem. Later they returned to Kerak and threw themselves upon the mercy of the sheikh of Kerak, who turned them into an advanced guard for the town. That way Kerak gained complete mastery over the region and considerable influence in the affairs of the Belqa. The inhabitants of Kerak were of varied origin, some originating from the Jebal, others with roots in the north. There were traders from Nablus and Hebron, and a group of descendants of the Turkish Janissars. The townspeople intermarried with some of the Bedouin tribes, like the Anazeh. The sheikh of Kerak had influence as well as the right of judgment in the whole district down to the Wadi Hasa, and received tribute from some of the smaller tribes. On the other hand, Kerak paid tribute to the Howeitat and the Beni Sakhr.
TRIBES AND TERRITORIES IN TRANSITION

Officially Kerak belonged to the Pashalik Damascus, but efforts from the government to control Kerak were never successful. Only Ibrahim Pasha held the place for a while, but after he was defeated, the town remained in tribal hands until 1896. The fields around Kerak were worked by townspeople and members of some of the allied tribes. The main commodity was corn, which was traded with the wandering tribes and transported to Jerusalem, but there were gardens and orchards as well.

The River Jordan was not depleted and running low because of extensive irrigation, as it is now. Especially in the winter and spring crossing the river was a dangerous undertaking. Several travellers (Seetzen 1854-59, 301, 320, 374, Porter 1891, 104) have described the difficulties people encountered when they tried to cross. That was in the days before there were bridges in the south, when only the tribes of the Jordan Valley were able to cross the river and maintain the trade with the west (Boggis 1939, 29; Burckhardt 1822, 345). Certainly in the first half of the nineteenth century in the eyes of western travellers the Jordan was a border between relatively ‘civilised’ Palestine and ‘wild’ and dangerous Transjordan (Kinglake 1879, 154;157; Rogers 1862, 177).

Nomadism is often associated with pastoralism, although the two are far from identical (Cribb 1991:17). Farmers had and still own livestock: sheep, goats, chickens and cows. In the Valley these were kept for private consumption, with eggs, dairy products and one or two lambs for ritual and festive occasions (Layne 1994, 45). They therefore continued to play an important social, and perhaps also symbolic role in the daily life of the Valley farmers. However, if sheep and goats (or camels) were a main source of income, they were moved from pasture to pasture, on a nomadic, semi-nomadic or transhumance base (see also Cribb 1991, table 3.1a and b), spending only the winter in the Valley. Until the seventeenth century the Jordan Valley had been a flourishing agricultural region, but from the seventeenth century onward pastoralists increasingly dominated the area (Layne 1994, 38). In the nineteenth century AD the Valley was the exclusive territory of pastoral - camel - Bedouin. Lynch (1849, 199) describes the lower Ghor as “a perfect desert, traversed by warlike tribes”. According to Tristram (1866, 572) the Ghor north of Pella was uninhabited, and in the power of the Beni Sakhr (whom he calls the ‘S’hoor’ i.e. Sukhur). Merrill, in March 1876, noticed many Bedouin tents between Wadi Yabis and Pella “scattered at different points”. By the Zerqa he saw “multitudes of black tents, and the fields covered with camels”. These were the Beni Sakhr, who had come down to pasture their flocks. “The Jordan Valley, from the sea of Galilee as far south as the Zerqa we have found to be full of Arabs: flocks, herds and tents. They came from the Moab plains and the Hauran....They will soon, however, begin to move up into the mountains, ascending a short distance at a time, until they reach the plains again in early summer” (Merrill 1881, 194). According to Steuernagel, in 1901 the Ghor was ‘Bedouin territory’.

Until very recently tribes came to the Valley to graze their flocks every winter. In bad times they even came from as far away as Saudi Arabia (Hazleton 1978, 29). Farmers in the Valley used to buy all their manure from Bedouin (Maandag and Macksoud 1969, ch.4). The Abbadi tribes used the Valley in spring to sow their crops, and profit from the

1 The high prices for all kinds of meat in Jordan at the end of 1993 immediately resulted in an increase of privately kept animals of all kinds: chickens, geese, goats, rabbits etc., in the village of Deir ‘Alla.
early spring pasturage for their flocks. In summer they moved up to the hills east and west of the Valley. They sold or traded wool and dairy products in Jerusalem, Nablus and Salt in exchange for coffee, tea, sugar and other supplies. According to Oppenheim (1943, 227) the Abbadi flocks, in the first half of the twentieth century amounted to about 20,000 sheep.

Dry farming and irrigation farming
The need for cereals as a basic nutrient has been a major factor in the sedentarisation-nomadisation processes in the area in every period. Bell described how even the most 'excluded' or the poorest Bedouin had bread or rice (although there are instances where Bedouin lived solely on camel milk for months on end). If it was not possible to buy or rob grain, they would have to grow it themselves (Bell 1907, 16, 119). The Jordan Valley is well suited for farming. Between 200 and 300 mm rainfall (Hirzalla 1973, 26: average rainfall in Deir 'Alla between 1950-1970 was 267 mm) permit dry farming, but with high risks involved. When cultivation was on a rain-fed basis the amount of land under cultivation varied yearly depending on the amount of rainfall; the risk of crop failure was high. Among the crops grown in rainfed areas wheat was the most important. In drier areas barley was grown rather than wheat. There was a maximum of one crop per year. Sometimes crop rotation was practised with wheat and lentils, but a wheat-fallow crop rotation was more common (Aydin 1985, 13).

Most farming in the Valley, however, has always been irrigated farming. It is often taken for granted that irrigation farming requires a complex society, with a highly developed hierarchical structure. Examples are usually taken from Mesopotamia. In the Valley, thanks to the physical landscape, there seem to have been no such restrictions. The physical features of the Valley are such that small-scale irrigation does not necessarily involve a complicated hierarchical structure. In fact, the Jordan Valley is ideal for irrigated farming on a small scale: it slopes down on both sides to the river Jordan. Perennial streams, or what used to be perennial streams, come down from the slopes of the mountains and the foothills, and can easily be diverted into small irrigation canals that also follow the slope down into the Jordan.

Lynch (1849, 203) noticed cultivated patches of wheat and barley in the Galilee Zor, almost ripe, although the only occupants of the region he could see were a number of Bedouin tents scattered over the Zor. Tristram (1866, 527) found small-scale irrigation farming in Kufrein, in the southern part of the Central Jordan Valley: “...cultivation in irregular patches and a small party of semi-nomad dependents of the ‘Adwan had erected their huts and were reaping and threshing their barley”. Merrill, in 1876, saw wadis between the Yabis and Menadirah diverted into irrigation canals. The different users had arranged a division in which each user had one day on which he irrigated his land. He also noticed large fields of grain, between the tents of the Beni Sakhr north of the Zerqa (Merrill 1881, 191). The Bedouin in the Central Jordan Valley organised their own irrigation agriculture. “Through cooperation of members of a tribe, irrigation works were brought back into operation on all the main side wadis. A type of agriculture appeared which, though still heavily dependent on grazing, included the growing of irrigated crops”. Where water rights were not clear they were claimed by force (Watson 1961, 135). A dam in the Zerqa, constructed in earlier centuries, was repaired when agriculture restarted in the Deir 'Alla area in the nineteenth century, and three main canals, that also functioned as territorial boundaries branched off from it. Minor canals in their turn branched off from these. Clan leaders gathered daily, to distribute the water, and organise repairs if necessary (Tarawneh 1989, 46).
Subsistence-based farming versus market-based farming

Schumacher (1886, 1888) has described a number of small villages in the Hauran and the Jaulan. Most of these hamlets and villages were subsistence-based. They were usually small, about 150 inhabitants on average. Most of them had vegetable gardens, beside a spring or stream, sometimes communal, sometimes private. Powell’s study comparing a subsistence-based with a market-based farmers’ village shows that in the subsistence-based village all but six of the families had a haqura, a small private vegetable garden (½ - 2 dunums in size) near their home. The market-based village had six haqura’s altogether (Powell 1987). Mundy and Smith have studied a village in Beni Hassan territory (Mundy and Smith 1990). In the first half of the twentieth century the people here lived from agro-pastoral production, on a subsistence base. After the first rains the land was sown. Until the harvest people lived in caves, and the animals grazed on communal land. After the harvest, which was stored in the caves, the animals grazed on the harvested land, fertilizing it.

In the 1930s sheikhs in the Deir 'Alla region occasionally tried to introduce market-oriented agriculture, sometimes with disastrous results. The production of surpluses resulted in the destruction of large parts of the harvest, because there was not enough manpower to harvest all before the rains started. The sheikhs tried to trade the surplus on the market in Nablus, but since the Zor woodlands were full of outlaws, only well-armed expeditions had a chance of passing to the west. A large part of the surplus was also spent on banquets and guest meals, in order to establish and maintain the social relations on which the sheikh’s status depended (Tarawneh 1989, Ch 3; Lancaster 1981, 140). In the end outside influences brought about the change from this subsistence-based economy to a real market economy. These external forces were the Palestinian influx, international capital and the introduction of merchant capital.

The influx of Palestinians led to an increasing need for agricultural products. New terrains and techniques were exploited, which needed capital. On the one hand this came from foreign aid, and on the other hand from merchants and moneylenders, who thus acquired large plots of land. The capitalist market economy proved a vicious circle: the farmer became dependent on the market as well as on the people who provided him with capital, and fell deeper and deeper into debt. “Until the mid-1960s usury in the Jordan Valley worked as a mechanism for land transfer from fellahaen and their traditional leaders to the merchants” (Tarawneh 1989, 75).

Schumacher (1886, 22, 87-89, 91) demonstrates that already in the nineteenth century some of the larger villages were dependent on moneylenders from Damascus, which suggests they had been experimenting with market-farming. The same development has been described by Kippenberg (1978) for the Judean hill country in the Persian and Seleucid periods (Kippenberg 1978, 42-106). The Persian system of taxing forced the farmers to produce a surplus, and so created an underclass, dependent on foreign merchants. Nehemiah’s reforms changed this situation, but the continuing tax demands now led to a division within the community: an upper class, and those dependent on them. The Seleucid tax system, based on crop sharing, increased the social differences.

Obtaining food from the direct producers

Market-based farming, and therefore trade, was one way in which food was transferred from the producer to the consumer. The Bedouin had regular trade-relations with the sedentary population, as can be seen in the cases of Salt and Dera’a. Around 1800 Salt was a regional market town. Bedouin pastoralists, from the Beni Sakhr and the Belqa tribes came to the Salt market to exchange their pastoral products for grain and other things. Bell’s description of the selling of corn to the Sherarat by Namrud, a trader from
Tneib, is a beautiful example of this trade (Bell 1907, 40-41). The Bedouin also functioned as middlemen for markets in the Nablus and Jerusalem districts, as well as for the eastern tribes (Abujaber 1989, Ch 4). Likewise Dera'a, a village of 4000-5000 inhabitants, described by Schumacher (1886) as the capital of the region, functioned as a regional market; it was surrounded by the tents of Damascene merchants. So there existed a network of markets covering the region, maintained by Bedouin merchants.

Raiding and protection as economic pursuits

The world of the Bedouin in the nineteenth century was based on the principle of survival of the fittest. It consisted of the tribe, and those bonded or allied to them. Everybody else was considered an enemy. Raiding and robbing one's enemies was perfectly legal, as a display of strength, as well as a source of income. Therefore ghazus (raids) were regularly undertaken on other tribes, with the sole purpose of robbing each other's sheep, goats and camels (Bell 1907, 65). The inhabitants of Dana and Buseirah in Edom regularly stole each other's cattle (Burckhardt 1822, 410). In 1811, in a famous ghazu, the Beni Sakhr robbed the Howeitat of 1200 camels (Burckhardt 1822). Raiding villages, trade caravans and travellers therefore was also justified, especially as this took place in what the tribe considered its territory. It could be bought off by paying khawa. Khawa literally means ‘brotherhood’, and payment of it provided protection by creating a temporary ‘kinship relation’ with the tribe. Lancaster describes khawa as a mutual agreement between the Bedouin and the villages, “the necessary regulatory mechanism for symbiosis in a system where coercion is not possible” (Lancaster 1981:123).

If the khawa was not paid, the Bedouin effectively stripped the village or trade caravan of everything worth taking. Especially in the early nineteenth century, when the government was powerless to protect them, life was difficult for the settled population, as well as for traders and travellers. In 1802, when the Egyptian government refused to pay the Howeitat for their job as carriers for the Hajj, they replied by robbing an Egyptian trade caravan of several thousand camel loads of coffee. Following this raid, coffee became so cheap among the Bedouin that it was traded for wheat on a one to one basis (Burckhardt 1822, 413). Even the Hajj itself was not safe: although the government paid the Bedouin tribes along the route a generous khawa, they still would occasionally attack stragglers (Palmer 1871, 429; Schumacher 1886, 110). Numerous nineteenth century travellers in the Valley have described this practice and the effect it had on the population. Lynch (1849, 182) describes the ruins of the villages of Delhemiyyeh and Buk'ah on either side of the river. Here the Bedouin robbed the fellahin of their harvest, forcing them to leave their villages, or live off whatever they could find, until the next “harvest and the robber”. Tristram described the village of Dibbun: “once a Christian village, now a desolate heap of mouldering walls....and so the Bedouin are laying waste village after village”(Tristram 1866, 546). Even some of the villages belonging to the Beni Sakhr in the Southern Ghor were robbed occasionally. Sedentary population in the Valley had virtually disappeared before 1850, chased away by the Bedouin’s continuous raiding and robbing. Lewis (1987, Ch 1) has described the same process for Syria and North Jordan.

The villages and hamlets in the mountains were better protected against robbing than those in the valley, as can be seen by Schumacher’s description of the Hauran and Jaulan (1886), because the terrain was difficult for the horse-mounted Bedouin (Abujaber 1989, 30). Still they always feared attacks, and for that reason the villages were built on hilltops. People also tended to cluster in larger villages for safety, deserting the small ones. Esh-Shajarah in the Jaulan consisted largely of immigrants: fellahin from other villages who sought protection against raiding practices, and Bedouin “who make their
first essays in town life” (Schumacher 1886, 86). Tristram (1866, 572) described the region north-east of Pella as a region “studded with villages, containing from 500-1000 inhabitants each, few of which are marked in the maps, and which are utterly unknown beyond their own neighbourhood”, concentrated around the village of Tibneh. The inhabitants were not Bedouin, and all the villages were situated on hilltops, for safety. The presence of a sheikh from an important tribal family provided some protection against raiding (Schumacher 1886). Abu Obeidah in the central Valley seems to have had reasonably effective protection from its well (a Muslim saint, whose grave had protective power). The same has been noticed by Merrill, for a hamlet a mile south of Wadi Yabis in the Valley, around the grave of a Muslim saint. It was not permanently inhabited, but served as a storage-place for grain, and according to the people it was not robbed, on account of the protection of the saint that was buried here. (More examples of the protective power of wells can be found in Sonnen 1952:102 ff).

An important extra source of income came from the khawa which villages paid to the Bedouin, to prevent them from raiding. Schumacher describes how the 'Anazeh had absolute power in the Hauran until about 1850, where they either 'protected' or raided villages (Schumacher 1886). The farming clans in Deir 'Alla in the nineteenth century paid khawa to the 'Ajlun clans (Tarawneh 1989:53).

The protection money that nineteenth century travellers and caravans paid for the right to travel though the territory of the different tribes, was also called khawa. Upon payment they were provided with a rafiq, a guide whose presence guaranteed their safety with the tribe and all allied tribes in the territory. Stories about these guides can be found in every nineteenth century travel account. Boggis (1939:29) tells the story of Th.H. Molyneux in 1847, who was travelling with a boat down the Jordan river. From Beth Shean to Abu Obeidah he had a rafiq from the Beni Sakhr, but then he entered the territory of the Beni Amr. Negotiations over the new rafiq did not go very well, and Molyneux went on without a guide - but not very far. The expedition was attacked and robbed of everything they had, and forced to flee back to Tiberias.

**Social relations of production**

The social relations of production in agriculture are determined by the extent to which different parties have an interest in the produce from a certain plot of land. At the beginning of the nineteenth century some tribal lands were already subdivided between individual households, first on the Plateau, but later also in the Valley, as a result of the beginning of a tendency among Bedouin to start agriculture. This type of division of land is still called tribal division (Abujaber 1989, Ch 4).

In the 1850s the Ottoman government began actively to encourage agriculture in the tribal territories. The people who worked the land of the tribal owners were often farmers from Palestine, but there were also members of the tribe of the tribal owners, or of other, subjected tribes who worked the land. This was already common practice in Edom, for example, where the Howeitat had control over several villages that were inhabited by subjected tribes, who performed agriculture and horticulture for trading purposes (Burckhardt 1822, 403, 407). The Howeitat themselves owned large date plantations in the Aqaba region (Oppenheim 1943, 291).

In the Jordan Valley the 'Adwan also employed slaves (Abujaber 1989, 69 ff). The Ottoman Land Laws of 1858 did not change the existing social relations of production; in the Valley they were more or less a confirmation of the status quo. Their main effect was that they brought the landowners, the Bedouin, into the sphere of influence of the state. Different tribes reacted differently to the need to cultivate the land, but in most cases the tribal owners did not live in the Valley. Sometimes the land was worked by hired
labourers, tenants or sharecroppers. In other cases members of the family worked the land. They came to the Valley in the sowing and harvesting seasons. In some cases this eventually led to permanent settlement in the Valley (Steuernagel 1925, 216). Between the First and Second World Wars farming in the region north of Deir 'Alla was mainly carried out by the owners and their families, with the aid of retainers and employees. Tenant farming was rare (Watson 1961, 137). In the south most of the land was in the hands of relatively few people, mainly tribal families or moneylenders who did not live in the valley. There were few owner-producers.

In 1942 a few people lived in the Valley throughout the year, carrying out small-scale cultivation and irrigating the land in summer. Most of the cultivated land was owned by people in the hills, who came down to cultivate it in spring, and who stayed until the harvest in midsummer (Lumsden and Yofe 1950, 65).

After the first influx of Palestinian refugees in 1948 the government redistributed the land, creating a large number of family farms, each with a minimum size of 30 dunums. However, some of the traditional owners, the tribal families, managed to keep large plots for themselves, using their extended family ties. This land they hired out. A UNRWA study on East and West bank shortly after the land reforms shows that 54% of the farms was owner-occupied, 30% was fully tenanted, 15% was of mixed tenure (Anbar 1984). A study by the Dept. of Statistics in 1961 again shows an increase in sharecroppers, at the cost of owner-occupants and tenants:

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<th>avg. size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share croppers</td>
<td>56 %</td>
<td>39 %</td>
<td>43 dunums</td>
</tr>
<tr>
<td>owner-occupied</td>
<td>25 %</td>
<td>33 %</td>
<td>81 dunums</td>
</tr>
<tr>
<td>mixed tenure</td>
<td>13 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was also a small number of cash-renters and rent-free occupants. The small family-farm, either owned or tenanted, was not strong enough for the competitive market-economy that now developed in the Valley. The farmers had to borrow money, either from professional moneylenders or from their landlords, who thereby strengthened their hold on the land and its produce. After the construction of the East Ghor canal 60% of the cultivated land and holdings in the East Jordan Valley was sharecropped.

With the influx of Palestinian refugees came the need for more land. New lands were cleared of brushwood. In the Zor and along the banks of the Jordan tens of thousands of dunums were opened up. Between 1953 and 1965 the area used for farming increased from 280,000 dunums to 380,000 dunums, mainly at the cost of grazing land, and therefore of sheep and goats.

In the case of owner producers, only one interested party holds the means of production, and is therefore entitled to the entire produce. At the other end of the scale is the slave who works someone else’s land. The landowner owns everything, including the slave’s labour, and is therefore entitled to the whole produce, from which he only has to give the slave enough to keep him fit to work. Between these extremes there is a continuum, and the existing agricultural social relations of production are found somewhere within this continuum.

The means of production are: land, water, mechanical equipment, seeds, fertilizers, insecticides, irrigation modes and labour (Pollock 1983, 15). Except in the case of the owner-producer, the landlord owns the land, while ownership of the other items varies. According to Pollock the division of the produce was as follows:

<table>
<thead>
<tr>
<th>tenant</th>
<th>landlord</th>
<th>shared</th>
<th>division</th>
</tr>
</thead>
<tbody>
<tr>
<td>labour</td>
<td>land, water</td>
<td>other</td>
<td>50% - 50%</td>
</tr>
<tr>
<td>labour</td>
<td>other</td>
<td></td>
<td>33% - 67%</td>
</tr>
<tr>
<td>other</td>
<td>land</td>
<td></td>
<td>85% - 15%</td>
</tr>
</tbody>
</table>
The last case comes close to cash-tenancy.

**Social relations of production in the Deir 'Alla region**

The Ottoman Land laws divided the land into a number of categories. The most important in the Deir 'Alla region was *miri* land, which was owned by the state, and leased for a restricted period. By custom it could pass from father to son, but there was no legal right of inheritance. In the Deir 'Alla region settlements were raided regularly by the 'Adwan until the 1920s. Some of the cultivators therefore returned their *miri* land to the government in exchange for protection. This transaction turned them from owner-producers into state-sharecrommers (Tarawneh 1989, Ch 2).

For the tribal lands the sheikhs, the heads of the tribal families, were given official right of appropriation and expropriation in the service of the state. They distributed the land among the producers according to certain rules and appropriated the surplus. The land was redistributed every two years, and divided among the married males, the size of each plot being determined by the distance to water. The sheikhs were also appointed *multazim*, state tax collectors for their territory. Eventually this resulted in the ‘*kharrath* - economy’, a society in which someone’s status depended on clan membership. There was a basic division into three levels (Tarawneh 1989, Ch 3). The *khurr* clans formed the traditional Bedouin clan structure. These clans had relatively few members but held most of the land. The *ghawarnah* clans had many members, but relatively little land. The *beed* families were descendants of the slaves that had been brought into the Valley from the Sudan in the preceding centuries to work in the sugar industry. They had no clan structure and no land and were either servants or *kharratheen* (ploughmen). Only the *khurr* had political influence.

The usual social relation of production in *khurr* territories was that of landowner-*kharrath*. Officially the *kharrath* was a sharecropper, but since the landowner determined the production, and provided land, water, working animals, and food for the *kharrath* and his family during the production cycle, with three quarters of the produce going to the sheikh, the social relation of production was one of complete one-sided dependency. Expiring contracts were automatically renewed.

Within the *ghawarnah* territories the *kharrath* was found as well as the sharecropper. In this relationship a sharecropper usually had kinship ties with the landowner, since both were members of the same clan. His relationship with the landlord was on a much more equal base than that in *Khurr* territories. The sharecropper kept most of the produce, and decided what he wanted to produce. In the Deir 'Alla region the end of the *kharrath* economy only came with the land reforms of the 1950s.

**National and international political powers**

The Ottoman empire of the nineteenth century stretched from the Euphrates in the East to the Danube in the West, Egypt in the South to Russia in the North. But by the end of the eighteenth century it had seriously weakened. In 1798 Napoleon conquered Egypt. This was the first serious challenge to the empire, and immediately exposed its military and strategic weakness. The Ottoman empire was crumbling through ages of inertia and neglect. The west, on which it had always looked down, was now in power.

As so often happens, the attacks from outside awoke a slumbering uneasiness inside. Powers began to stir. The Wahabi, a religious movement from the south, took hold, and in a few years it threatened the empire from inside. It started as a strictly religious movement but soon became a political revolt, aimed against the Ottoman government. Its followers were mainly Bedouin, and its success can partly be explained by the rigid
standards of justice imposed by the Wahabi leaders, and by the peace that reigned in the areas ruled by them, a stark contrast to other parts of the Ottoman empire. The central government was too weak to do anything to stop it. The only chance came from the side of Egypt. In 1815 Mohammed Ali, Pasha of Egypt, undertook the task. Eventually he succeeded and broke the power of the Wahabis. But he did not stop there. He, and later his son Ibrahim, continued north, moved up to Acco and Damascus and Aleppo, and challenged the empire itself. He would have finished the Ottoman empire if foreign forces, England and Russia, had not prevented it and driven him back to Egypt.

It was vital for the leading trading countries of Europe, England, France and Germany to have peace and quiet in the Near East and open and safe trade routes. They pursued these interests not only by interfering with internal troubles like those caused by Mohammed Ali and Ibrahim Pasha, but they had also been establishing trade houses and consulates in the main cities. Now they created and safeguarded ports along the coast and created railways. The first railway was opened in 1856 in Egypt. In 1863 the French created a port in Beirut, and a carriage way from Beirut to Damascus. In 1869 the Suez Canal was opened. The Turkish government, seeing that it could not stop this development, tried to keep up with it, in order to keep control, and started building the Hijaz railway, from Damascus to Medina, and the Baghdad railway, with the financial and technical support of England and Germany.

With the west came new ideas, of nationalism and democracy, which led to internal unrest and the initiation of national movements (Lewis 1995, 307-308; Hitti 1970, 745 ff). At the same time, however, the powers of the west declared the Ottoman Empire bankrupt and a danger to their interests. European conflicts were reflected in the Middle East. Towards the end of the nineteenth century Germany cultivated ever closer ties with the Ottoman empire, to the discomfort of England and France. These two countries started a policy aiming for the overthrow of the Ottoman government. They used Arab nationalism to fight the Turks – and incidentally Germany - organizing an Arab revolt in Hijaz in 1916, where the Bedouin aided the British forces against the Turkish/German forces, in exchange for promises of independence and material aid. The promised independence was deferred, however. This, in its turn, led to a series of nationalist movements involving religious and nationalist feelings. Eventually these led to independence.

After WW I Palestine came under British Mandate. Large scale Jewish immigration in western Palestine, which had begun by the end of the nineteenth century, continued and was encouraged by the British. The growth of national socialism in Germany, with its anti-Semitic policy resulted in an enormous influx of Jews. By the early 1940s Jews owned some 20% of the cultivable land. After the end of WW II a new influx of Jewish survivors of the war ensued. The creation of the State of Israel in 1948 was immediately followed by a war, in which two-thirds of the Arab population of Western Palestine left their homes and became refugees, completely upsetting the balance of the Transjordanian population.

The 1967 Israeli occupation of the West Bank caused a second influx of Palestinian refugees into Jordan, an acute overpopulation of the region, and a radical change in the division of water sources.

Population pressure

Population pressure can be caused either by an increase in population, through immigration or natural growth, or by a diminution of the available space, for which
climatic changes are often responsible. According to several sources the settled population in the Valley in different years was as follows:

- 1900: 3580 (Steuernagel 1925, 137)
- 1940: 8000 (Tarawneh 1989, 19)
- 1952: 29833 (Watson 1961, 138)
- 1953: 33767 (Watson 1961, 138)
- 1967: 97000 (Hazleton 1978, 24)
- 1973: 64012 (Dept. of Statistics 1973)
- 1978: 75000 (Sorenson 1978)

Steuernagel counted the number of houses in the Deir 'Alla region around 1900 (Table I).

<table>
<thead>
<tr>
<th>Region</th>
<th>Permanent</th>
<th>Temporary</th>
<th>Inhabitants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zerqa</td>
<td>76</td>
<td>23 (11A)</td>
<td>380</td>
</tr>
<tr>
<td>Rajib</td>
<td>131</td>
<td>17</td>
<td>655</td>
</tr>
<tr>
<td>Kufrinneh</td>
<td>511</td>
<td>7</td>
<td>2555</td>
</tr>
<tr>
<td>Ghor</td>
<td>-</td>
<td>55</td>
<td>-</td>
</tr>
</tbody>
</table>

Table I. Number of houses and their inhabitants in the Deir 'Alla region according to Steuernagel.

He stated that there was a general increase in the number of settled houses between 1885 and 1900, although he had no numbers for the Deir 'Alla region. In the Ghor around Deir 'Alla there was no settled population in the 1940s (Tarawneh 1989, 19). The structures that can be seen on aerial photographs from those days, like those in Glueck 1951, were used for storage or temporary shelter (Layne 1994, 40 and note 4). The people lived in goat-hair tents or in caves in the foothills.

There had been some immigration already in the nineteenth century. Tribes came from the east, like the Beni Sakhr (Abujaber 1989, Ch 4), the Bashatwah, the Balawneh, the Ghabbad, and the Dayyat (Watson 1961, 134). From the west came farmers. They often named the new places where they settled after their places of origin. They came from the Nablus region, the Jerusalem region and Ramallah (Abujaber 1989, 96). The two main flows of immigration came after 1948 and after 1967. Until the mid-1960s lack of irrigation water limited the population of the Valley to about 37,000. The construction of the East Ghor Canal, combined with a malaria control program, increased the population to about 90,000, in 53 settlements (Dajani et al. 1980, 20). During the 1971 war most people fled the valley, and the infrastructure disintegrated. However, after the war, thanks to an active settlement policy from the government, settlement increased again, and it has, ever since.

The population of the Jordan Valley can be divided into two different groups (Hazleton 1978, 24):
1. “members of formerly nomadic tribes who gained legal title to the land in the valley during the British Mandate”;
2. “individuals organised along family lines who migrated to the Valley after 1948. The first group consists largely of landowners, the second of farmers (tenants and owner-producers), and commercially active individuals”.

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Settlement patterns

The farmers who came from the west in the nineteenth century settled mainly in the highlands, among the local fellahaan, and those former slaves from the Sudan who had settled there. The Valley, as stated above, was Bedouin territory and often confronted the refugees with the same situation from which they had fled. Villages were usually homogeneous, each village consisting of people from one region, and often named after that region.

In 1948 the situation in the Valley was different. It was now cultivated, the acute menace of the Bedouin tribes had abated, and it had a relatively low population. When the first influx of refugees came, eleven refugee camps were built by UNRWA workers, but this was not enough. People began to squat in the Valley. In the early 1960s an agricultural irrigation scheme was planned, in order to settle the refugees. It did however not involve housing schemes. The result was much illegal squatting on private and governmental land. The squatting pattern is revealing. It was clear that the squatters avoided good agricultural land; on the other hand, they wanted to be close to water and roads. This resulted in a linear settlement pattern, which is still characteristic of the Valley housing: people “squatted linearly along the main valley highway and parallel to the canal” (Grava 1985, 1). When the East Ghor Canal was extended to the south so was settlement. Settlement maps (Grava 1985 map 2) also show linear settlement patterns on the badlands between Ghor and Zor, especially in the southern half of the Valley, and along the banks of the Zerqa. In 1967 the next influx of refugees came, and six new refugee camps were built, the largest near Kereimeh (25,000 inhabitants).

After 1967, when the Valley was the scene of frequent fighting, most people fled to the mountains and 60% of the dwellings were destroyed, either by the war itself or by the results of abandonment. Less than 5000 people remained in the Valley. After 1970 most of the people returned (Grava 1985, 1).

Until 1948 settlement was primarily in the north and south of the Valley. Between 1947 and 1951 people settled equally throughout the valley, but after that there was again a tendency to settle in the north and south (Watson 1961, table 45). A survey carried out at the end of the 1950s shows that in the south of the Valley the tendency was to a less ‘settled’ way of living than in the north: few stone or cement houses, more wooden huts, tents and caves (Watson 1961 table 50). Houses of mudbrick or mud and stone were divided more or less equally over the Valley.

In the Deir 'Alla region settlement tended to be dispersed, not concentrated in villages (Watson 1961, 74). One of the problems the Jordanian government had to face when they introduced education programmes was the fact that in the southern valley “...a large proportion of the population is ‘semi-nomadic’ ... moving from permanent houses in villages to temporary shelters on farm lands during the period of planting and harvesting” (Watson 1961, 74). In 1985 89% of the Valley population lived in recognisable settlements. The others lived on farms, scattered over the countryside. A village consisted (and often still consists) of a core of dwellings, surrounded by garden plots for fruit trees and vegetables, around which were the orchards; still further away the cultivated fields and on the periphery the grazing fields. These tendencies can already be seen in Schumacher’s description of the Hauran and the Jaulan in the 1880s (Schumacher 1886;1888).
TRIBES AND TERRITORIES IN TRANSITION

The link with the past

Because of its climate the Ghor is often considered a marginal area, in relation to the surrounding areas. That means that in times with little agricultural settlement the Ghor will be the last to be permanently settled. Its climate is, however, very suitable for a (semi)-nomadic or transhumant way of living; in winter it is mild, compared to the highlands. Nomadic pastoralists used to visit the Valley in winter, returning to the highlands in spring.

Coexistence of farmers and pastoral nomads is rare in the Valley, whereas it is the norm in the highlands (Mundy and Smith 1990, Abujaber (1989, Ch 4). The Plateau, and places like the Baq'ah valley are ideal for agriculture, which means that at most times pastoralists and farmers shared the land and cooperation would be profitable for both groups (Lancaster 1981, 99 ff). Since the Valley is a marginal area, it is only densely settled in periods that see intensive settlement in general. These tend to coincide with a decline of pastoralism, so coexistence of both modes of life would rarely occur in the Valley. Whenever a combination of both economic pursuits was encountered, they proved to be in the control of (although not necessarily practised by) one and the same tribe.

Agriculture and settlement was one of the Bedouin's answers to a changing society. Salzman recognizes this adaptive strategy as “the assertion of societal continuity in changing or new circumstances” (1980, 6), a general mechanism that allows for any strategy, or mode of existence that is the most profitable in specific situations. The circumstances that triggered settlement in the Valley in the nineteenth century were pressure from the government, as well as population pressure in the highlands. Territorial divisions in the Valley, which had been created in the previous period remained intact in this process of settlement.

Although rain-fed farming is possible in the Valley, the risk involved is high. On the other hand, the structure of the Valley is such that small-scale irrigation is easy and can be done without complicated hierarchical structures. Small-scale irrigated farming would result in a linear settlement pattern along the wadis. A more highly organised society would be able to dig and maintain larger irrigation systems, resulting in a more dispersed settlement pattern, but still concentrated on the wadis, as can be seen in the case of Deir 'Alla, where the canals that were reopened were the remnants of an earlier, more organised society. Its maintenance already involved a relatively complicated organisation, which developed consequently.

The Jordan Valley in the Late Bronze - Early Iron Age Transition

Until the building of the Ghor Canal, which made large-scale irrigation in the Valley possible, the ecological context of the region was basically the same as in the Late Bronze and Early Iron Ages. Settlement in the Late Bronze Age in the area of study was high compared to other regions in the same period (Map fig. 11-2; Leonard 1989).

The Late Bronze Age settlement pattern in the region of Deir 'Alla and Sa'idiyeh suggests the presence of an organised society and a reasonably strong government that stimulated settlement. Most of the sites were settled towards the end of the Late Bronze Age (Ch. 11). Only a few sites were settled early in the Late Bronze Age, and most of these were deserted towards the end of that period. The significance of this settlement development will be discussed in Ch. 11. The most important aspect of it in the present context is the concentration of Late Bronze Age sites in a period that was notorious for its lack of settled occupation outside the large towns.
Most of the sites that were settled towards the end of the Late Bronze Age are found along the wadis; most of the sites that were deserted towards the end of the period are found on the plain, away from the wadis. This tendency, to settle alongside water is comparable to the situation in the Valley after the construction of the Ghor canal and the influx of large groups of refugees. Most of the sites are found in the Ghor, the area preferred for agriculture.

**Pastoralists and farmers**
The Valley used to be a winter station for pastoralists because of its mild winter climate and fertility. The nineteenth century Bedouin considered their winter pastures in the Valley part of their territory, and this was acknowledged by the Ottoman and British authorities in their land divisions. The Bedouin of the nineteenth century had managed to drive away most of the farmers. The few that were left were regularly robbed, and the Bedouin themselves also practised some agriculture on a small scale. This situation was made possible because government was weak and did not interfere with the affairs of the Bedouin. The same situation may be found in the Late Bronze Age, north and south of the area of study, where (apart from the city state of Pella) virtually no settled occupation was found. Historical arguments for the existence of nomadic robber bands in this region have been touched upon in Chapter 1 and will be discussed in Chapter 14.

At the same time a different kind of pastoralism may have existed in the area under study. McGovern (1986, 6) mentions the spring migration that until recently took place between the Jordan Valley and the Baq'ah Valley, through the Wadi Zerqa, and assumes the existence at the end of the Late Bronze Age of a symbiotic relationship in the Baq'ah Valley between the settled population and a semi-nomadic population, which migrated to the Valley in winter.

The settlement pattern that evolved in the Early Iron Age shows some of the same characteristics as that of the period after 1948: close to water (Wadi Zerqa, Wadi Rajib and Wadi Kufrinjeh all used to be perennial streams), and close to fertile soil, but not on it. It seems that at the end of the Late Bronze Age the inhabitants of the region moved to sites closer to water, which resulted in the new settlement pattern. The ethnographic material, however, suggests that a group of newcomers from elsewhere were partly responsible for the new settlements. So does the fact that the number of settlements at the end of the Late Bronze Age and in the Early Iron Age is much larger than that in the earlier Late Bronze Age. The settlement pattern indicates that these newcomers practised farming. Most of the new sites were found along the Zerqa. The Zerqa valley is one of the main routes from the Valley into the highlands, and the very fertile Baq'ah valley. Comparison of Deir 'Alla final Late Bronze and Early Iron Age pottery with that of the Baq'ah region shows a similarity in household vessels that strongly suggests a relation between the two regions (van der Steen 1997; Chapter 7).

**Reasons for settlement**
Sedentarisation of (semi)nomads may have different causes. First there is the basic difference between 'falling out of the nomadic cycle' at the top, or at the bottom (Barth 1961, 105 ff; Cribb 1991, Chapter 4). Examples of rich tribe members that fell out 'at the top', because of too much wealth, are given by Abujaber for the process of sedentarisation on the highlands at the end of the eighteenth and in the nineteenth century. They still had considerable influence in the dealings of the tribe. Falling out 'at the bottom', because of lack of resources, also leads to settlement, as shown above, but in the marginal areas and/or in the service of the rich pastoral nomads.
Although used by Bedouin as winter pasture in the nineteenth century, the Valley was only settled by people who had fallen, or rather been driven, out of the nomadic cycle on the highlands, usually in the service of those Bedouin. The scale of these movements was never large; the settled population in the Valley around 1900 was still only about 3600 people. It was population pressure in other areas, the highlands and western Palestine, that led to maximum settlement in the Valley, only limited by the available amount of water, and this not exclusively by settling nomads, but by a mixed population of settling nomads, farmers and artisans. MacDonald (1992) has suggested that population pressure is usually the main reason for settling in a marginal zone. Reasons for the shifts into the Valley of settlers were territorial struggles, in the nineteenth as well as the twentieth century, which were the result of population pressure. The same development is being suggested here for the beginning of the Early Iron Age in the Deir 'Alla region. The reasons for population pressure in the transitional period should most probably be sought in the international developments which also caused the Sea Peoples to move north together with the breakdown of the Egyptian empire. The archaeological record suggests that in the Amman region and the Baq'ah valley in the Late Bronze Age a complex social structure existed, possibly a city state structure (Hübner 1992, 159; McGovern 1986). It has been suggested, on the basis of the archaeological record, that (trade) relations existed between the Amman region and regions in Syria. Among other things, the pottery repertoire strongly points in that direction (Dornemann 1983, 31 ff). The Amman region, as a trade centre, had a complex socio-economic structure and a high population. When international trade was disrupted, the social and economic structure of the region collapsed. According to the mechanisms described in Renfrew's 'Dark Age model', which is used by McGovern to describe and explain the events in the transitional period (see also Chapter 13), the collapse of this structure would lead to: “the establishment of small outlying village communities...a transference of Late Bronze technologies (notably coil building of large vessels and iron industry) to the Early Iron Age frontier villages” (McGovern 1986, 343 ff). As the areas were already in contact, these outlying village communities may well have formed in the Valley, along the lower course of the Zerqa.

**Tribalism and territoriality**

Tribalism, although well attested in the recent history of the region as well as in contemporary literature of the Bronze and Iron Ages, is hard to detect archaeologically. It has been stated repeatedly that tribes, or, as Kamp and Yoffee prefer to call them, ethnic groups, are not by definition nomads or pastoralists; they can be found in all sociocultural levels in society, and furthermore membership of an ethnic group is on pragmatic grounds, for political or military interests, sometimes around a strong leader. Groups can attach themselves to tribal communities, or detach themselves from them. Kinship relations are then formulated to 'legitimise' membership and strengthen loyalty to the tribal group (Kamp and Yoffee 1980, Cribb 1991, 52 ff, among others). Historical sources stress the importance of this legitimisation: Rowton (1973) has extensively analysed the Mari texts relating to Amorites; Egyptian and other texts concerning Šasu have been analysed by Giveon (1971); numerous passages in the Bible show the importance of ethnicity for Israelite ideology in the Iron II period. Kamp and Yoffee do not want to relate ethnicity to any territorial contiguity; Cribb, however, lays a clear link between territory and tribalism, defining a tribe as an organisation for the control of territory, a territorial system. In times of unrest territorial fights can occur, resulting in shifts in territory which are consolidated in the following period. The history of Jordan in the nineteenth century, as well as the historic sources that concern the Levant, seem to
confirm this link with territory, at least in situations where the tribe has a reasonably strong pastoralist component.

In the case of the Jordan Valley in the transitional period, the archaeological evidence is still very sketchy. Still, some suggestions can be made. It has been proposed above that a group of transhumant pastoralists from the Baq'ah Valley used the region around the Zerqa as winter pasture in the last phase of the Late Bronze Age. With the decline of the social structure in the Baq'ah valley they came down the Zerqa, possibly with other people from the Baq'ah Valley, and settled along the Zerqa, and possibly the Wadi Rajib as well. They may have already considered this region part of their territory. The earliest Iron Age phases at Deir 'Alla have been interpreted as pastoralists in the process of settling (Franken 1969). The settlement pattern (see above) as well as the material culture suggest a mixed society: pastoralists, farmers and artisans (the pottery repertoire has similar traits to that from the Baq'ah Valley, see also Franken 1969, 20; there were metallurgists, as the excavations at Deir 'Alla have shown). If they still formed one group, in order to survive in their new environment, they would form a tribe or ethnic group, according to the definitions given above, and they may actually have seen themselves as one.

[93]
II-6 Survival and adaptation

Introduction

The Late Bronze Age in Palestine was dominated by the Egyptian empire. Even though Egypt was more interested in the region north of Palestine, Lebanon and Syria, it had control over Palestine, inasmuch as it was a passage towards its trading partners to the north and east. The main centres under Egyptian control were situated at strategic locations and had strategic functions in relation to this trade network.

Opinions differ as to the socio-economic situation in Palestine as a result of this Egyptian domination; some scholars argue that, at least in the areas controlled by Egypt the population flourished culturally as well as economically, and suffered only marginally from the taxes in grain and other sustenance levied by the Egyptians (e.g. Weinstein 1981, Bienkowski 1989), others state that the area deteriorated as a result of depopulation (Redford 1992, 208) and taxing (Knapp 1989). Towards the end of the Late Bronze Age, possibly as a consequence of increased pressure by foreign powers (the Sea Peoples) or increased internal discontent (the Hapiru), Egyptian presence in the region increased and garrisons were stationed in the country. Possibly because of the extra pressure this caused on the economy, possibly because of internal problems in Egypt itself (Bienkowski 1989), possibly because of the external pressure, or because of a combination of all these factors, the Egyptian empire collapsed at the end of the Late Bronze Age.

The effects of the Egyptian power structure and of its collapse at the end of the period on life on the east side of the Jordan are much less clear than they are in Palestine. First of all, we do not know exactly how far Egypt’s power extended across the Jordan, although it seems clear that the border of the area over which it had control occasionally shifted. The information we have for this area is limited. There are a few surveys: Nelson Glueck's survey of Transjordan (Glueck 1951); the Jordan Valley Survey conducted by Ibrahim, Sauer and Yassine (1976, 1988); Gordon and Villiers' survey of the Zerqa valley (Gordon and Villiers 1983); the Wadi Yabis survey (Mabry and Palumbo 1988), Mittmann's survey of Gilead (Mittmann 1970); and McGovern's survey of the Baq'ah valley (McGovern 1986, 7-17) provide the settlement pattern (see Chapter 4). At the end of the Late Bronze Age this consists of a number of smaller and larger sites, with concentrations around Deir 'Alla and in the Amman area. In the Early Iron Age the number of small sites increased, especially along the wadis, but several Late Bronze Age sites were abandoned. Some of these sites have been excavated: in the Jordan Valley Deir 'Alla, Sa'idiyeh, Pella, Kataret es-Samra and Abu Kharaz; and on the plains the Baq'ah valley project, Sahab, Safut and the Amman Airport Building, as well as a number of burial caves. Few written sources are available for this period. The most important are some Amarna letters from the fourteenth century BC referring to Pella, and some thirteenth century Egyptian inscriptions, among them the Beth Shean stele, dated around 1300 BC, which also refers to Pella.

West of the Jordan there were land routes crossing from south to north, and sea-routes going further north to the towns of Phoenicia: Tyre; Byblos; Ugarit; and later Sumur. There were routes branching off from these, roads going east. One of the main routes involved the crossing over the river Jordan, past the Beth Shean garrison. After crossing the Jordan, this route turned south past Pella towards Deir 'Alla, where it turned east and followed the Wadi Zerqa until it came into the Baq'ah Valley and the Plain of Amman. This was a major market area, which in its turn had connections with the north (Chapter
This trade network seems to have shaped the history of the region east of the Jordan and been instrumental in the events that followed. Therefore in this chapter three main stages of this proposed route, Pella, the region of Deir 'Alla, and the Amman Plateau, will be examined and compared to parallel circumstances in the nineteenth century AD.

**Pella: Robbers of the trade caravans**

**The Jordan Valley in the nineteenth century AD**

Nineteenth and twentieth century sources show that the Jordan Valley was Bedouin territory (cf. Chapter 5 and van der Steen 1995). In the beginning of the nineteenth century the Pasha of Damascus still officially received tribute from the Bedouin but often they withheld their share. This usually resulted in skirmishes and sometimes in war. The Bedouin had their own economy, independent of the empire. They had their own towns, like Salt, Nablus, Kerak, Hebron, and their own trade between them.

In the Belqa the only inhabited place was Salt. It was governed by a coalition of tribes, and it was the political and economic centre of the region (Burckhardt 1822, 349). Depending on their means of living, it was not unusual for members of a tribe to settle and build strongholds, or sometimes to use and rebuild older strongholds that had gone out of use. Bell (1907, 35) mentions a Saracen fort, repaired by a Beni Sakhr sheikh, 'with a splendour unknown to the desert'. The Howeitat built towers or small castles in the villages they controlled in Edom (Burckhardt 1822, 403 ff).

Areas where the Bedouin ruled, like the Galilee and Jezreel, the Ghor and the Belqa were considered very dangerous areas for travelling. Travelling to Amman or to Kerak was a particularly dangerous undertaking, because of the wars between the Beni Sakhr, the Abbad and the Adwan tribes. At the same time, to make things even more complicated, there were large parties of Sherarat Bedouin from the south, who pastured their camels in the area. There was little the government could do. In 1810 the Ottoman army had fought the Beni Sakhr and lost (Burckhardt 1822, 368). The disastrous expedition in 1847 of Molyneux down the Jordan with a boat, in 1847, which was robbed because they refused to pay the *khawa* is a case in point. Even at the beginning of the twentieth century Bell describes the Bedouin's constant *ghazus*, and every traveller’s fear of them (1927, 195; 1907, 10). She still could not travel without *rafiqs*, guide/protectors belonging to the tribe through whose territory she had to pass. They were replaced every time she passed into another tribe's territory and had to be paid handsomely.

**Pella in the Late Bronze Age**

Pella, opposite Beth Shean, and the first stop east of the Jordan on the west-to-east trade route, was an important site for Egypt to control. Actual Egyptian presence at least at some stage is suggested by the Egyptian sarcophagi found there (Yassine 1975, 60 n.11, Bourke and Sparks 1995). Pella is mentioned in a number of Egyptian sources (Smith 1973, 23 ff, and see Chapter 1). These mainly show that it was not exactly a loyal subject. The Amarna letters from the fourteenth century BC show that, at least in the period in which they were written, Pella came under Egyptian supervision, possibly as a kind of city state. In letters 255 and 256 the ruler of Pella, Mutba'lu, defends himself against accusations of delaying a trade caravan and hiding a rebel (Moran 1992, 308-310). Shortly after these letters were written Pella seems to have wrenched itself free of the clutches of the Egyptian empire. The Beth Shean stele from around 1300 (ANET 253) describes a conspiracy of Pella with other towns against Beth Shean. Pharaoh Seti I sends troops to Hamath, to Yanoam and to Beth Shean, but not to Pella. In the same
period, the first half of the thirteenth century BC, Pella appears regularly in lists of cities conquered by Seti I and Ramses II. These lists are standardised, repeating the same city-names in the same order every time: Pella; Hamath; Beth Shean; Yanoam. This list may well have become a *pars pro toto* for a rebellious region, and it is doubtful that all these cities were actually conquered in these campaigns, especially since Pella lay on the other side of the Jordan. It does show, however, that Pella was no longer subject to Egypt. An independent and rebellious Pella may have proved disastrous for Egyptian trade to the east, since Pella was in an ideal position to rob the trade caravans passing by its gates.

The quality of the architecture in Pella deteriorated gradually in the course of the Late Bronze Age. On the other hand, the evidence from the tombs shows that the quality of life did not suffer; the fourteenth and thirteenth century tombs were rich in luxurious finds (Smith 1973, 13 ff), and while the indigenous material culture deteriorates, the amount of luxurious import goods increases. The area around Pella was largely uninhabited in the Late Bronze Age. A survey of the JADIS database (Palumbo 1994) suggests that Late Bronze presence in the area mainly consisted of scattered sherds, with a temple at Abu Kharaz as a possible exception. In the hills east of Pella were two fortified sites (JADIS nrs 2221.001 and 2422.007).

The archaeological evidence from Pella so far does not suggest a change of population during the Late Bronze Age. It may therefore have been a tribal stronghold at the beginning of the Late Bronze Age, the 'Residence Building' being part of it. Early in the Late Bronze Age, Egypt must have either conquered it, or, more likely, made a truce with it, in order to safeguard its trade route to the east. The settlement pattern suggests that the Ghor and the foothills around Pella were not a safe area to live in during most of the Late Bronze Age. The main evidence of Late Bronze occupation consists of sherd scatters, most indicative of a nomadic or semi-nomadic population in occasional contact with a more sedentary population (from which they acquired their pottery), and some fortifications in the mountains.

The truce lasted until sometime after the Amarna letters were written, but the Egyptian sources suggest that it stopped soon after that. The temple at Abu Kharaz existed until Late Bronze II A, and “gives the impression of being hastily abandoned” (Fisher 1991, 80) at a moment that may well coincide with the time when Egypt finally lost its hold on the area.

Pella, once it had regained its independence, and become fully dominant in the area, may well have proved a robbers' den, a stronghold held by a rich tribal family or sheikh, who ruled the area and controlled operations from his eagle's nest. Trade caravans, in order to pass through, would either have to be heavily protected by soldiers, or buy safe passage. The archaeological evidence suggests that at the end of the Late Bronze Age the Egyptians were actually forced to change part of the trade route. They started to cross the Jordan south of Pella, and they built a fortress to protect this crossing, Tell es-Sa'idiyeh beside the Jordan. This was built at the very end of the Late Bronze Age, possibly at the end of the thirteenth or the beginning of the twelfth century, as an Egyptian fortress (Chapter 3). Tubb has interpreted one of the buildings as another 'Governor's Residence'. Its position is strategic, in order to protect a ford in the river Jordan on the side where Egypt's control was weakest. Its architecture and the burial site that belongs to it strongly suggest that it was built and used by Egyptians (Tubb and Dorrell 1991, 69; Tubb and Chapman 1990, 109). The evidence of the Beth Shean stele (see Chapter 1) suggests that the raiders of Pella may have reacted to this move by extending their field of operation to the other side of the Jordan.
Settlement patterns and the regional market at Deir 'Alla

The next stop on the route was the sanctuary of Deir 'Alla. In the Late Bronze Age this was a well-populated area, certainly compared to the areas north and south of it (Leonard 1989). Franken, excavator of Deir 'Alla, has maintained that Deir 'Alla was the centre of a regional market, where goods were exchanged and contracts validated in the sanctuary (Franken 1992, 165 ff). Taking this idea one step further would mean that it is probable that this market was part of the west-to-east trade route. Deir 'Alla itself was a Canaanite site, as is clearly shown by the archaeological record. There are, however, clear indications that Egypt had control of the Deir 'Alla market region. One of these is the stronghold at Tell es-Sa'idiyyeh, built by Egyptians to protect the route at its weakest point. There are, however, ethnographic arguments as well.

Settlement patterns in the nineteenth century AD

In the nineteenth and twentieth centuries settlement in the Valley was generally north of the Deir 'Alla district (Watson 1961). With every settlement wave the Deir 'Alla district was the last to be settled. There were several very practical reasons for this. In the north the soil was better and so was the water, if only because there was less salt in it (ao Bender 1968, and Chapter 2). The climate may also have been better because the area is not so low.

Our sources show that settlement and safety are closely connected. Areas ruled by Bedouin were never popular with settled populations. Nineteenth century travellers have given us a lively description of the Valley, when the Bedouin roamed free. Lynch for example described it as "a perfect desert, traversed by warlike tribes". Villages were raided season after season by the Bedouin, until the inhabitants gave up and left (e.g. Tristram 1866, 546).

Where raiding Bedouin roamed settlement disappeared. On the other hand safety and strong governments protected the area and enhanced settlement. A settled population was clearly in the interest of a government, either local or national. In recent history governments actively stimulated settlement, because a settled population is easier to control, and because it is much easier to extract taxes from it. One of the reasons why the Ottoman government invented the Land Laws in 1858 and encouraged agriculture was that it needed money to compete with the industrialised West. Examples of stimulated or even forced settlement of nomadic groups by governments can be found in many studies on Near Eastern nomadism and sedentarisation (a.o. Salzman 1980, Lancaster 1981).

Settlement patterns in the Late Bronze Age

In the Late Bronze Age the area that was best suited for settling, the area around Pella, was practically devoid of settlements. This strongly suggests that the area was not very safe to live in, possibly because of the robbing and raiding practices of the inhabitants of Pella. On the other hand, the area around Deir 'Alla was relatively densely settled (map fig. 11-2, see also map in Leonard 1989). This settlement started in the second half of the Late Bronze Age. This density of settlement in the Deir 'Alla region points to some kind of government, which, either by its presence alone and the safety and stability it provided or by active stimulation, must have caused a concentration of settlements in an area that under different circumstances would have been one of the last to see permanent settlement. The question whether they were simply farmsteads or part of a larger 'planning', and if so how it was organised can only be determined if we know the nature of the individual sites, which of course is impossible without excavating them. Unfortunately very few of these sites have been excavated (see Chapter 9 for one of
them), and many of them have now disappeared, victims of the intensive horticulture of the region.

A trading centre on the Amman Plateau

The last area to be reviewed is the Baq'ah Valley and the Amman Plain, at the east end of the Wadi Zerqa, from here on called the Amman region. This again was a market area, connecting the trade with the west (Deir 'Alla) and the north. Although it was part of a trade route supported by the Egyptian empire there are no clear indications that the Empire actually controlled this area (also Ji 1997, 30). First of all there are no written sources referring to this area. Redford (1982) has suggested that in the early days of the Late Bronze Age the King's Highway passed through the area, but his arguments are not convincing (Chapter 1). As for the material remains, a number of sites, the Amman Airport Building (Harding 1958, Hennessy 1966, 1985); Mabrak (Yassine 1983); Rujm al-Henu (McGovern 1989, 13); and Khirbet Umm ed-Dananir (see Chapter 3 for a description of these sites); have revealed buildings that are related architecturally. Even though the buildings themselves may have had different functions, they seem to have been the achievement of the same cultural group. Architecture, pottery, the function of the Amman Airport building (if the interpretation of Herr (1983) is correct, which it probably is), the habit of cremating the dead, and possibly even some of the bones (Little in Herr 1983) suggest the presence of a northern group, possibly Hittites.

Khirbet Umm ed-Dananir was the centre of a relatively densely settled area, the Baq'ah valley at the entrance of the Zerqa valley. This gateway position, as well as its fertility and resources all made the area one of the most important links in the trade route. Khirbet Umm ed-Dananir itself appears to have had a cultic function (McGovern 1989). The repertoire of the burial caves as well as the habit of burying the dead in multiple burial caves are again indicative of a Canaanite population.

A number of other burial sites have been found in the region, at Abu Nseir (Ghanimeh 1984), Jebel Nuzha (Dajani 1966) and in the Baq'ah valley (McGovern 1989), all of which were multiple cave burials.

Sahab was continuously occupied from the fifteenth century into the Iron Age, and seems to have been a large and possibly walled town for most of this period (Chapter 3; Ibrahim 1972, 1974, 1987). There were Egyptian finds in the town as well as in the associated burial caves, but nothing that suggests actual Egyptian presence. The architecture was Canaanite in character, as were the multiple burials. Only the presence of possible wooden coffins in one of the caves might suggest an incidental presence of Egyptians (although burial in multiple burial caves must have been a concept completely alien to them). On the other hand, the same cave revealed bones which may have been cremated (Ibrahim 1972), a cultural trait more at home in the north and possibly related to the Amman Airport Building; it also revealed double pithos burials which similarly seem to originate in the north (Negbi 1991, 1998).

Trade relations in the nineteenth century AD

Regional market centres or market regions were not uncommon in nineteenth century Jordan. Bedouin caravans transporting trade goods were a well-known phenomenon, as was smuggling by Bedouin (e.g. Lancaster 1981, 105). Dera’a, which in Schumacher's days was considered the capital of the Bashan region, functioned as such a regional market. Traders from Damascus came here to exchange their goods (Schumacher 1886, 121 ff). He describes it as surrounded by the tents of the Damascene traders.
Surrounding the town were villages which were also involved in the trade, either as production centres or as trading outposts. Many of them had large gardens and orchards.

El-Mezeirib, close to Dera'a, was the first stop for the Hajj from Damascus, and the habitual stop for Bedouin caravans carrying grain from the west and for the pilgrims to Mecca. It had a well-stocked suq and was frequented by jellaheen and Bedouin alike.

Salt too was a regional market where Bedouin came to exchange their products for grain and other things (Abujaber 1989, 69 ff). It also functioned as a transit market for the markets in Nablus and elsewhere. There was no empire or actual government controlling this arrangement: it was a system that functioned more or less independently and was in the hands of the two main tribes who were dependent on it, the 'Adwan and the Beni Sakhr. It kept itself going, as long as there was a balance in incoming and outgoing trading goods, and all the parties involved benefited from it. The Salt region, which was on the fringe of the desert, and therefore of the territory of the Bedouin tribes, formed a natural trading area. In Yadudeh in the nineteenth century there was a commercial corn-grower, and also in Tneib, where corn was sold to the Bedouin (Bell 1907, 26, 40) In nineteenth century Salt nomads from different areas functioned as middlemen for the markets in Nablus and Jerusalem. In the early days there were no bridges across the Jordan, and the Bedouin were the only ones who knew how and where to cross the river in winter (Burckhardt 1822, 345) so it was they who as a matter of course conducted trade with the other side of the Jordan.

That tribal control of trade did not limit itself to regional exchange of foodstuffs is demonstrated by the examples of Gaza and Hebron. Gaza (Stanley 1856, 257) was the frontier city of Syria and the desert for the southwest, as was Damascus for the northeast. It was a central market place for the Bedouin, and one of the starting points of the Hajj. In the time of van de Velde (1851-2) Gaza was a large unwalled town, surrounded by olive groves. According to him the town was a gathering place for traders travelling from and to Egypt (1854, 180). It counted about 16,000 inhabitants. Porter (1891, 204) describes Gaza as a cluster of villages, with cultivated fields around and between it. The population consisted of "a fierce and lawless set of fanatics", settled Bedouin involved in agriculture and trade, mostly belonging to the Tarabin and the Hanajera. The appointed governor had enough authority to protect travellers within the town but not outside it (also van de Velde 154, 180). The black tents of the tribes could be seen everywhere in the valley of Gerar. Smith (1896, 181) also noticed the fertility of the area around the town, with 15 wells and broad gardens. The Arabian trade with Egypt came through Gaza, and the pilgrimage to Sinai, to Jebel Musa, was also organised from Gaza.

In the middle of the nineteenth century Hebron had 5000-7000 inhabitants (Seetzen 1854, 44; van de Velde 1854, 89). It was surrounded by cultivated gardens and fields (also Stanley 1856, 99) with wheat, olives, figs, cherry trees and vineyards. The town itself had some industry, soap and glass, and a lively market. It had been and still was a central point for a number of trade routes: to Gaza to provide the Egyptian market; through the Negev direct to the Egyptian Hajj route; and to Edom, where Hebron merchants were stationed. Bedouin tribes controlled this trade and provided the camels necessary for it. There were several tribes living in the area, like the Sowakera, the Jehaleen and the Ka'abene. Sometimes the Tarabin and the Tiha also camped around Hebron. The government had some control over Hebron, but according to van de Velde
the area to the south of it was Bedouin territory, over which the government had no power. This situation was more or less the same at the end of the nineteenth century (Smith 1896, 318), although Gaza had outstripped Hebron as the port of the desert. Even though Hebron fell within the area of effective control of the government, the power of the Bedouin was considerable, since they controlled the trade with the south.

Trade in the Late Bronze Age
It can be assumed that in the Late Bronze Age trade, nomads or transhumant pastoralists played an important role in the trade-based economy, not only as providers of meat and other animal products, but also as traders and carriers of trade goods. The lack of written sources as well as the very limited Egyptian remains in the Amman region (including Sahab) make it unlikely that Egypt controlled this market. The material remains point to a basically Canaanite population, with possibly a strong presence of people with a northern background. As in the nineteenth century AD, merchants or representatives of northern cultures may have been stationed in the area, for this stationing of merchants in trade colonies or foreign trade centres was not unusual. Already in the nineteenth century BC the Assyrians had a trade colony in the city of Kanesh in Anatolia where representatives were stationed on a permanent basis (Veenhof 1986).

It is possible that these northerners were in control of the market area. That seems unlikely however, in the light of the geographic and economic position of Sahab. However remote it may have been from the core of the central area, geographically speaking, the finds suggest that Sahab was the main trade centre in the area. At the same time its position, on the fringe of the desert and the sown, made it into a gateway town, connecting the people of the desert with the Amman plains market area. This strongly suggests that control was in the hands of the indigenous population.

So the area taken as a whole sustained a mixed population consisting of Canaanites, either settled or (semi-)nomadic, who must have formed the original population, and people from the north, who entered the area in the Late Bronze Age. Egyptians, if there were any at all, must have formed a very small part of the population. It seems likely that Egyptian traders did not come this far east, but traded their goods in Deir 'Alla, from where they were taken further east by other merchants, who travelled between the Amman region and Deir 'Alla, and possibly also between the Amman region and the north. These people may have belonged to the local Canaanite population, or they may have been northern colonists. Perhaps elements of both populations were involved in this track of the trade route.

McGovern (1989, 6) has already suggested that there was a transhumance route between the Baq'ah valley and the Jordan valley, through the Zerqa valley (see Chapter 12). If we assume that these people had their winter quarters on the lower course of the Zerqa, they must have considered this area as part of their territory. The surveys so far have revealed Late Bronze Age material on a number of sites in this area: the northern banks of the lower Zerqa. All of this material can be dated to the second half of the Late Bronze Age (Chapter 11).

Recent excavations at another site in the Wadi Zerqa, Tel el-Hammeh, have revealed the presence of Late Bronze Age I and II layers (Chapter 9; van der Steen 2001). The occupation consisted of surfaces where household activities like cooking had taken place. No structures were found, with the possible exception of one or two partitions.
made of loose boulders. Only a very small area has been excavated and the presence of structures in other areas cannot yet be excluded. So far, however, the evidence supports nomadic or semi-nomadic (seasonal) activities. The pottery, on the other hand, was of good quality, well made and sometimes very fine in nature. It was luxury ware, not suitable for the rough day-to-day activities of a pastoralist group. It seems perfectly possible that this was, at least during the Late Bronze Age, a temporary camp used by people involved in the trade.

In a nutshell, the situation east of the Jordan at the end of the Late Bronze Age shows Pella, in the time of the Amarna letters still in the Egyptian sphere of influence, having wrenched itself free and now a menace and a threat to its environment. The area around Sa'idiyeh and Deir 'Alla was a market area controlled by Egypt, the starting point of the trade route through the Zerqa valley. This trade route ended on the Amman plains, where there was another market area, a transit market for goods from different directions, controlled by the local population and possibly colonists from the north.

The collapse: the Amman region

At the end of the Late Bronze Age the great empires of the Levant started to crumble, and with them the international trade, which had been upset by international events. In the north the Hittite empire collapsed from causes that are not entirely clear, but they seem to have affected the Balkan and the Aegean world, and they may also have caused a population movement that we know as the coming of the Sea Peoples. The Sea Peoples are best known to us from the inscriptions in Medinet Habu by Ramses III (ANET 262-263), where five different groups of people are mentioned, either as mercenaries or as enemies of Egypt. One of these groups were the Peleset, the Philistines of the Bible. These groups have been connected with a series of destructions along the Levantine coast at the beginning of the Early Iron Age, and with new elements in the material culture of the southern Levant, notably a new pottery style (Dothan 1981). Both the historical sources and the material culture suggest that this 'invasion' of Sea Peoples was a gradual process, that may have lasted several decades (see also Noort 1994). Populations in the north, probably the Aegean, were made homeless because of events in their homeland and, looking for a new home, they settled along the Southern Levantine coast in small groups amongst the Canaanites. Over the years more waves came, from the same area and probably for the same reasons. Their adaptation to their new homeland took different forms, as some (of the earliest groups) became mercenaries in the Egyptian army, whereas others built villages and towns and tried to rebuild their old life in the new country. Some tried to fight their way in, as both the inscriptions in Medinet Habu and the destructions in the coastal region show. It is to be expected that the same events that uprooted these groups also affected the trade between the Amman Plateau and the north. What the archaeological record shows is that some major events at the end of the thirteenth century seriously affected the whole area: sites either disappeared or changed completely at the end of the Late Bronze Age and the beginning of the transition to the Iron Age (McGovern 1986). Umeiri Phase 4 in field C differed considerably from the preceding Phase 5: a retaining wall was built, and there are indications of industrial activity (Geraty et al. 1989, 270). Phase 4 is dated at the very beginning of the transitional period. In Sahab the change came at the end of the thirteenth century: the town wall went out of use and occupation was more extensive, but there seems to have been a decline in architecture, and a destruction took place somewhere in Iron Age I. Egyptian objects were however still found,
especially in the burial caves (Ibrahim 1972; 1974; 1987). The Amman Airport Building existed until the end of the thirteenth century, although some of the local pottery has been dated to the transitional period (Hankey 1974; Kafafi 1983). This pottery, however, may have belonged to the latest phase of the building, in which it had a completely different lay-out and function from the preceding period. In Safut there was no break in occupation, but the Iron Age population seems to have been less dense and prosperous than the preceding Late Bronze Age population (Wimmer 1987). Khirbet Umm ed-Dananir was destroyed at the end of Late Bronze Age IIIB (McGovern 1986, 61). One of the three burial caves attributed to it continued to be used into the Early Iron Age, although no occupation has been found that can be dated to the Early Iron Age, with the exception of some scattered sherds (JADIS site 2216.009). Some sites, like the building at Rujm al-Henu (McGovern 1986:13) and the Jebel Nuzha cave (Dajani 1966), seem to have continued to function without interruption.

We cannot deduce from these changes alone what made them happen. Nothing points to invasions of any kind. There are no new influences, no new pottery, no cultural break. In some places the people seem to have lived their lives uninterrupted, the only change being a decline in prosperity. Khirbet Umm ed-Dananir, the gateway between the Zerqa Valley and the Baq'ah Valley, was deserted. Other sites became smaller, like Safut, or underwent a change in function, like 'Umeiri. Sahab grew larger, if anything. And, like everywhere in the region, the number of small sites increased with the beginning of the Iron Age.

The next phase was marked by a more egalitarian society with smaller settlements.

In general the human factors involved in change can be divided into: 1) the quest for food, 2) local and international political pressure, and 3) population pressure (Chapter 5; also van der Steen 1995, 144). These factors tend to influence each other, and explanations for particular events usually turn out to be a combination of them. In the case of the collapse of Late Bronze Age society, the 'international politics' factors are the unknown events in the north that brought the Sea Peoples to the coast of Palestine, and the decline and disintegration of the Egyptian empire. The importance of this decline for the changes in the region has never been doubted, and the disintegration of the infrastructure supporting it and supported by it offers part of the explanation.

It has been stated above that the Amman region was in fact independent and not a peripheral part of the Egyptian empire. The events at the end of the Late Bronze Age and following the collapse of the trade confirm this. There are, for example, no archaeological indications for decline in the second half of the Late Bronze Age, as there were in the peripheral areas of the Empire (Bienkowski 1989, 61). Egypt could trade with the Amman region but it could not tax it and drain its resources, as it did with its own peripheries (a.o. Redford 1992, 209 ff). Since the economy in the Amman region was completely dependent on trade, the main cause for the collapse here was this exclusive dependency, which could, in a way, be seen as overspecialisation (Renfrew 1979, 487). As long as the trade flourished, so did the region. When external causes put a stop to the trade, this affected every economic activity involved and collapse was unavoidable.

Since markets, trade and prosperity always attract people, it was a densely settled area. Overpopulation must therefore have become a problem. With a large number of people involved in trade, food production must have been specialised. There were producers, buyers, and probably also importers and exporters of food. So the different aspects of the 'quest for food' were regulated along certain formalised lines. These lines were interrupted and the people had to look for other ways to acquire their daily bread.
Traders and colonists from the north no longer came to the area, so specialised sites, like the Amman Airport cremation site or the cultic centre at Khirbet Umm ed-Dananir, lost their function and disappeared. Other sites with a regional function turned into inconspicuous villages, like the temple at Safit. Its inhabitants may still have counted on the protection the local deity had to offer, but the temple lost its regional function.

Collapse in the nineteenth and twentieth century AD

It is a well-known phenomenon in our times, that sudden impoverishment and the disintegration of societies drives people from the country into the cities. The shanty towns of Africa and Latin America are sad examples. The most recent example is that of Eastern Europe, where the collapse of communist society resulted in the disintegration of the economy and of the society (urban as well as rural), since communism and its institutions had previously been regulating life in most of its aspects. Here also the effect was an exodus from the countryside into the cities and the development of shanty towns.

A direct comparison of this phenomenon with the Late Bronze Age is of course dangerous because of differences in scale and economic structure, to mention only two factors. Still, they may have some points in common, which deserve to be stressed here in an effort to understand what happened in Sahab. Cities are activity centres, interacting with and performing a service function for the region. In a region that is involved in trade, especially long distance trade, the city may become the trade centre, where transactions are settled and where the different trading 'houses' have their representatives (like the Assyrian representatives in Kanesh - see above). Wealth, prosperity and material goods tend to concentrate in cities, usually in the form of small, portable items, like precious metals and jewellery and, nowadays, banks and bank accounts. It is also a well-known phenomenon in the nomadic societies of the Near East, that the rich sheikhs of very prosperous tribes had houses in the cities that were lavishly decorated and where they could show off their wealth (Bell 1907, 112; 1927, 134; Steuernagel 1925, 216). Therefore, cities as trading centres were not only rich, but also had the reputation of being rich, which is a guarantee for attracting people, keen to gather the scraps of this presumed wealth. Furthermore, because of the concentration of wealth, the city built up economic reserves for bad times. The general decline will eventually strike the city as well as the country, but as long as the wealth is not drained out of the city itself it may be able to fend off the disastrous results for a while. When poverty strikes the countryside, people are drawn to the cities (see also Safrai 1998, 130 ff).

Sahab in the Early Iron Age

Sahab was a town that may have been home to a few thousand inhabitants. Its prosperity can be seen in the town itself and in the burials; the variety of burial habits suggests a mixed society, with a dominant Canaanite element. It is likely to have been the economic and possibly administrative centre of the Amman region as well as the link between the desert and the sown. The people who organised and conducted the trade were to be found here, or had their representatives here, and their wealth must have accumulated. When the trade declined and the economy of the region collapsed at the end of the Late Bronze Age the whole region was suddenly confronted with a loss of income. People reacted in different ways, as can be deduced from the archaeological record. The number of new small settlements in the area indicates that many reverted to agriculture, and probably also pastoralism, on a subsistence base. Some moved down the Zerqa valley to the Jordan valley and integrated into the Deir ‘Alla market area that
was still functioning (see below). But the archaeological record shows that a large number of people, probably those who were poorest, moved to the city, the centre of wealth and prosperity, in search of food and protection.

If the town had been an Egyptian administrative centre it would have been dismantled and, deprived of its wealth, it would have been one of the first elements in the system to disintegrate. That is what happened somewhat later in the Deir 'Alla market area. Nothing of the kind seems to have happened here however, which is another indication that the region’s economy was independent.

*Immigration in the Jordan Valley*

Another response to the collapse of the infrastructure and the social system was for people to move out of the region and find a new place to live. Oppenheim (1943, 148) states that tribes, when uprooted and looking for new territories, tend to go to places that they already know, and consider part of their territory: “Sonst bestätigt sich die Erfahrung daß die Stämme in derjenigen Richtung auswandern, welche sie bei dem Wechsel zwischen Winter- und Sommerweide einschlagen, auch in Transjordanien”.

For the transhumant groups who had been involved in the trade through the Wadi Zerqa in the previous period, the place to go was the Jordan Valley, alongside the lower banks of the Zerqa, a region that they knew and considered part of their territory.

*Immigrants in the nineteenth and twentieth century AD*

The immigration into the Deir 'Alla area following the collapse of the Amman trade market can be compared to what happened in the East Jordan Valley in 1948, when a stream of refugees started to arrive from Palestine. At that time the East Jordan valley was settled, but not very densely. In the area of Deir 'Alla itself people lived in tents, but the 'settled' population (people living in houses) in the Valley amounted to some 8000 people in 1940 (Tarawneh 1989, 19).

In 1858 the Ottoman land laws had set the standards for land ownership, agricultural production and, most important from their point of view, tax collection. Ninety years later, in 1948, the infrastructure and social hierarchy had hardly changed (Tarawneh 1989, 53 ff). Land and water were controlled by the clan leaders, who exploited direct producers, the kharratheen (ploughmen). The main products from the Deir 'Alla region were wheat, barley, white maize and sesame. Part of the surplus went to the state as tax; the rest was divided between the kharrath and the sheikh. The sheikhs sometimes traded some of this surplus on the markets of Nablus or Salt. In the nineteenth century part of the surplus was also given to the 'Ajlun clans as khawa, protection money.

In the 1940s there were only a few villages in the Valley (Aresvik 1976, 30; Glueck 1951). The Palestinians entered a social environment that was comparable to that which they had left behind. The craftsmen - smiths, carpenters, potters, etc. - settled in this environment with relative ease and speed. Originally many settled in the existing villages, which grew considerably after 1948. With the growing population new villages were created. In 1952 the population of the Valley had grown from 8000 to 29,833, in 1953 to 33,767 (Watson 1961, 138).

For those who had been farmers in Palestine the situation was less easy. It was clear that the people who already lived in the area had the strongest claims. Still, the newcomers managed to find a place in the existing society. Some of the Palestinian farmers obtained jobs in the service of the old clans. Others started to cultivate the less favourable areas that had so far been left alone by the old clans. Large new areas were opened up and claimed for farming (e.g. Tarawneh 1989, ch. 4).
Refugee camps were built by UNRWA workers, but these soon filled up and, as the people continued to come, the Valley filled with squatters. Other needs became urgent, the need for water and cultivable land being the first. In the early 1960s an agricultural irrigation scheme was planned. which would open up more land to agriculture and provide water to a larger area. The plans did not, however, include housing schemes, and the result was that people, as they had done before, squatted illegally on private and government land, along the lines of the new canal and of the new roads as they were built. Although the squatters would not use good agricultural land to build on they wanted to be close to it, as well as to water and roads. The result is the characteristic linear settlement pattern of the Valley housing, along the badlands between Ghor and Zor, especially in the southern half of the Valley, and along the banks of the Zerqa.

Deir 'Alla: Immigrants at the close of the Late Bronze Age.

When the infrastructure in the Amman region collapsed some of its population moved to regions where a comparable infrastructure still functioned, like the Deir 'Alla region. Here they could try to integrate into a society they knew and continue as best they could, the kind of life with which they were acquainted. The archaeological record of Deir 'Alla shows an influx of craft specialisations from the east, at the very end of the Late Bronze Age, in a period just before the infrastructure collapsed here as well. Pottery shapes and production methods, and possibly a metal industry, were brought in by wanderers from the Amman plains (Chapter 8 and van der Steen 1997). It is to be expected that some of the immigrants from the Amman plains were farmers. For them the situation must have been as difficult as it was for the Palestinian farmers, for they had entered an area where farming was already well developed and where few niches remained for them to occupy. In fact, the only area that does not seem to have been cultivated, even though it was suitable for cultivation, was along the banks of the Zerqa. This is the area where most of the new sites were founded at the end of the Late Bronze Age and in the transitional period following it.

Some of the immigrants were potters. They started making their pottery for a new market and with considerable success, as can be seen from the technological changes in the pottery from Deir 'Alla Late Bronze Phases E and F (Chapter 8).

The settlement map changed considerably (see Chapter 11). Many new settlements were created, mostly along the northern banks of the Zerqa, and some alongside the banks of the other wadis, creating a linear settlement pattern. Some of the older Late Bronze Age sites were deserted.

The collapse: the Deir 'Alla region

For the Deir 'Alla market area the end came with an earthquake that destroyed the temple. An effort to rebuild it was interrupted by a second earthquake, after which no new attempts were made. The place was not immediately deserted, however. Sa'idiyeh Str XII, the 'Governor's Residence', was destroyed around 1150, the same time as the temple at Deir 'Alla. The doors had been blocked and the place set on fire, possibly by the garrison itself before leaving. The site turned into a squatter area. A period had ended. The local population stayed behind, but they had to fend for themselves. Their situation was different from that in the Amman region. The trade in the Deir 'Alla region, and therefore the infrastructure, had been organised and supervised by Egypt. Deir 'Alla and Sa'idiyeh were the centres for the region, and, unlike Sahab in the Amman region, they were the first to disintegrate. A large part of the trade revenues
must have been used or shipped off to Egypt immediately, and when the Egyptians finally left they took the rest with them. Unlike Sahab, there was no buffer here. Deir 'Alla was turned into a stronghold: a heavy building with double walls was set close to the place of the former sanctuary. It was soon destroyed by a heavy fire, and replaced by a tower-like structure; this was eventually destroyed and abandoned as well (Late Bronze Phases G and H, Franken 1992, 101-103).

After the Late Bronze Age infrastructure disintegrated in the Valley, farming was continued (or started) by part of the local population, on a subsistence base. The settlement pattern suggests that they also moved closer to the wadis. At the same time people from the Amman plains continued to enter the area, also looking for a place to live. The reorganisation of society must have caused a complete redivision and reorganisation of the available soil. It is to be expected that this reorganisation and redivision was controlled to a certain extent by those who had the strongest claims to the land and the power to stake those claims. So actual power in the area must have moved into the hands of one, or perhaps a few, powerful tribes with traditional claims to the land.

**Power and territory in the nineteenth century AD**

This fight for power is very difficult to grasp historically, but again events on the Highlands and in the Jordan Valley in the nineteenth century may throw some light on it. Throughout the Levant there was a complicated pattern of clans and tribes who were either interrelated and interdependent or they were each other's deadly enemies. Powerful tribes or confederations, such as the Beni Sakhr, the Adwan or the Howeitat, headed a network of related or dependent clans and smaller or impoverished tribes. The relationships between these networks were determined by the relationships between the main tribes, which were very often a state of virtual war. Even though the concept of territory was rather a loose one, with the tribes travelling large parts of the Levant during the year, fights could be over territory. Most of the time, however, clans and tribes fought and raided each other simply because their adversaries belonged to another network (Bell 1907, 24, 40, 65 ff). On the other hand, loyalties within the networks were not very constant; a clan could easily move from one network into another if the other leading tribe offered better prospects. To complicate things further, there were also other populations: the Druse were distinguished by a different religion as well as a different - more settled – lifestyle; the non-Arab Circassians (Bell 1907, 56) had migrated into the area from the Balkans and were now settling mainly in the area of Amman, to the disgust of the Arab tribes, although there was very little they could do about it.

In the nineteenth century the 'Adwan and Beni Sakhr tribes were masters in the highlands of Jordan, which they considered their territory. With the growth of the population, land became scarcer and some of the weaker tribes were driven out of the highlands. The Mihdawi were forced to settle in the Jordan Valley. The population continued to increase, however, and at the same time the traditional sources of income of the Bedouin dried up. The government put a stop to raiding and robbing practices; camel transport was gradually replaced by trains and later by cars. The government began to tax the land and the Bedouin were more or less forced to start developing it. The Adwan now claimed the Valley as well, driving the Mihdawi out once more. These eventually settled in Palestine (Abujaber 1989, 68-69). On the other hand, when the Adwan claimed the valley they employed related tribes or tribes who were dependent on them, to cultivate the land for them, (re)introducing hierarchical levels. All this
demonstrates that these were not only fights over territory but also over power and control, efforts to fill a power vacuum.

**Power and territory in the Early Iron Age**

The reorganisation of society at the beginning of the Early Iron Age in the East Jordan Valley must have caused a complete redivision and reorganisation of the available soil. It is to be expected that these changes involved a considerable amount of territorial fights. The actual power relations between the different groups in the Early Iron Age cannot be deduced from the archaeological record (or from any other available source). It is clear, however, that the power vacuum left by Egypt in the Deir 'Alla region had to be filled up. The transhumants who, during the Late Bronze Age, had been traversing between the plain of Amman and the lower banks of the Zerqa may have claimed this area as their territory and settled there. The local population of the Valley consisted of one or more groups with tribal ties which played their role in the territorial claims. The inhabitants of the Pella region were also confronted with a changing society and a structural loss of income (now that there were no more trade caravans to rob). They may have become involved in the struggle over territory as well. The stronghold and tower at Deir 'Alla suggest that someone, or some group, tried to keep up the central function at Deir 'Alla, defending it against an unknown rival. Therefore the construction of a stronghold and tower, as well as their destruction and abandonment, can be seen as a reflection of the struggle for power that took place in this period.

We do not know who the winners were in this contest but we may be able to say something about the losers. With a population that was already high and still growing and an economy that was moving back to a subsistence base, it is likely that in the course of this struggle for power several of the weaker groups were forced to move out again, or perhaps simply fled, just as happened to the Mihdawi tribe in the nineteenth century AD. The development of the settlement pattern (see Chapter 11) suggests that these losers belonged to the older tribes of the region, the groups that had lived in the area during the Late Bronze Age, rather than the newcomers. The people who stayed behind must have formed some coalition, which would seem to have been in the interest of all the parties involved. There were no more fortified sites in the area in the Early Iron Age.
III-7. Published pottery

Pottery is one of the most important artefacts in archaeological research. This is due to two contradictory characteristics: its fragility, or perhaps one should say ‘breakability’, as opposed to its indestructiveness. It is the availability and the cheapness of the clay from which it is produced, that accounts for its presence on archaeological sites from the Pottery Neolithic period onwards.

Pottery has been used and abused by scholars to identify periods of occupation, as well as cultural and even ethnic groups, ever since Flinders Petrie started the science of pottery typology. Pottery typology can be a very useful tool to date sites, provided that one is aware of the element of circular reasoning involved. It can also be useful to identify contacts with other cultural groups, but never the actual bodily presence of these groups, or even the nature of the contact, whether direct or indirect. The use of statistics for pottery sherds can sometimes throw light on the nature and function of a certain society by identifying the frequency of functional pottery groups. However, the reliability of any statement about any site based on the pottery is only as good as the researcher who has made the statement. Therefore it is vital to publish the pottery of a site as fully as possible, together with the results. The pottery discussed below is limited to published materials. To this description of the pottery repertoires of the different sites have been added illustrations of the pottery discussed.

Franken (1969, 1992) has made a technological typology of the pottery. The greatest advantage of such a typology is the higher measure of objectivity that pertains in the description: no matter who makes a typology of a certain collection, the result will always be the same. This means that typologies of different sites can be compared easily and without bias. The greatest disadvantage of Franken's typology is that it has not been followed on other sites. According to Franken it was not possible to compare his classification with existing typologies from other sites, and therefore this was not done (Dornemann 1983:41). On the other hand, it is perfectly possible to compare the pottery of other sites with that of Deir 'Alla, even if Franken's standard of objectivity cannot be reached.

This chapter contains a discussion of the morphotypology of the pottery from the sites that have been described in Ch. I-3 in order to try and find regional correlations. It should be borne in mind that the results have value only within their context: the function and location of the site where they were found. The value of the results is further limited by the fact that the typology is based on drawings, not on the original material. This means that the results have to be used to corroborate conclusions that have been reached by independent methods.

Plains of Moab and Ammon

Medeinet el-Mu'arradjeh.
Some of the pottery found at Medeinet el-Mu'arradjeh (Olàvarri 1983, fig. 6) can be dated to the end of the Late Bronze Age, such as two carinated, white-slipped bowls (fig. 7-1:1, 2). The rim of a white-slipped jug may have been of the Late Bronze II biconical type (fig. 7-1:3). Several kraters have been published with inverted, T-shaped rims (fig. 7-1:4) of the type found in the transitional period and the Early Iron Age, for example at Deir 'Alla Late Bronze Phases E and F and at Tell 'Umeiri. A rounded bowl is related to the Manasseh bowl from the beginning of the Early Iron Age. Among the pottery was a
possible collared rim jar, although the ‘collar’ was missing. It has a flaring, thick rim and a short neck, which is typical for the earlier type of collared rim jar (Herr forthcoming). Bartlett (1973, 231) has dated most of the pottery to the end of the Early Iron Age, but much of the published material seems to fit perfectly into a Late Bronze – Early Iron Age context. The cooking pots (fig. 7-1:5, 6) are typical for the region.

**Fig. 7-1. Published pottery from Medeinet el-Mu'arradjeh.**

**Balu'a**

According to Crowfoot (1934), the excavator of Balu'a, most of the pottery from the casemate wall could be dated to the Late Bronze and Early Iron Ages. None of the pottery published by him can however unequivocally be dated to the Late Bronze or Early Iron Age (Crowfoot 1934, plate II). Most of the pottery actually seems closer to the Iron Age II. However, one striking feature that may be dated to the Early Iron Age is a strong preference for small ledge handles set close to the rim (fig. 7-2). Decorative ledge handles close to the rim of a vessel do appear elsewhere, for example in Deir 'Alla Iron Age Phase B. They may have been related to those of Balu'a. The Deir 'Alla ledge handles closely resemble those from Balu'a (see for example Franken 1969, fig 50), and they appear on the same kind of large bowl.

**Fig. 7-2. Published pottery from Balu'a**

**Lehun**

Little of the pottery from Lehun has been published, but it has been studied by Franken, who dated it in the Late Bronze – Early Iron Age period. It was produced locally. An overview of ‘reconstructed’ shapes from the Late Bronze – Early Iron Age can be found in Homès-Frédericq et al. 1997 fig. 123. According to the excavator the site has “an assemblage of cooking pots, storage jars, bowls and jugs .... A few painted potsherds with geometric motifs seem to have been imported during the Late Bronze II and are comparable to the Mycenaean painted wares.... Other potsherds of the Iron I and II assemblage belong to a local tradition known as Moabite” (Homès-Frédericq 1989, 355;
and is comparable to the repertoires of Ara'îr, Balu'a, and Medeinet el-Mu'arradjeh (fig. 7-3).

**Fig. 7-3. Published pottery from Lehun**

Ara'îr
The pottery from Ara'îr seems closest to that of Medeinet el-Mu'arradjeh (Olàvarri 1965, fig. 1, 2, 3). White slip was common, but in only one case, a wide open bowl of a type that is very common in the Baq‘ah Valley (Fig. 7-4:1; McGovern 1986, see below), was it hand-burnished. There was one small, white slipped bowl with S-shaped rim profile, and a painted decoration (Fig. 7-4:2). Another vessel common in the Early Iron Age was the deep bowl/krater with sharp carination and T-shaped rim-profile (Fig. 7-4:3, 4). Dornemann (1983:45) considers the Ara'îr pottery to be closely related to the Deir 'Alla pottery in Iron Age Phases B and C, but Bartlett (1973, 250 n 18) dates most of it in the eleventh - ninth century. The typology of the published cooking pot rims spans most of the Early Iron Age (fig. 7-4:5, 6), but the white slip on many vessels is more typical for the Late Bronze Age.

**Fig. 7-4. Published pottery from Tell Ara’îr**

Dhiban.
Dornemann (1983:45 n 3) considers some of the published sherds from Dhiban to be Early Iron Age. A carinated bowl like the one at Ara'îr (fig. 7-5:1; 7-4:2) was found here, and a small bowl with S-shaped rim profile (fig. 7-5:2). Some small open bowls have flaring rims like the ones at 'Umeiri (fig. 7-5:3, 4; fig. 7-9:13, 14). An open bowl reminiscent of the Manasseh bowl type was found as well (fig. 7-5:6). However, most
shapes are either clearly Iron Age II, or non-specific. According to Dornemann (1983, 45) they are closest to the later part of the Early Iron Age in Madaba and Irbed. Multi-handled kraters (fig. 7-5:5) can be found throughout most of the Early Iron Age.

![Fig. 7-5. Published pottery from Dhiban](image)

**Madaba.**

Two burial caves have been excavated in Madaba, both containing a large amount of pottery. Tomb A (Harding and Isserlin 1953, fig. 12-17) was the oldest, dated to the transitional Late Bronze – Early Iron Age. The pottery repertoire was largely made up of bowls, pilgrim’s flasks and lamps. This combination of functional groups can be seen as a ‘typical’ burial repertoire. Small open bowls had either rounded (fig. 7-6:1-3) or S-shaped (fig. 7-6:4, 5) rim profiles, and rounded or disc bases. Carinated rim profiles such as those found at Medeinet el-Mu’arradjeh and Ara’ir (fig. 7-1:1 and 7-4:2) were also found in Madaba tomb A (fig. 7-6:6, 7). According to the excavator most bowls had ‘slip’ but it seems that much of this must have been self slip, or even possibly scum, so that there is no way of telling whether these bowls were white-slipped, like the ones further south at Ara’ir and Medeinet el-Mu’arradjeh or the ones at Deir ‘Alla. Large open bowls generally had rounded rims and quite a number of them had decorative ledge handles like the ones in Balu’a (see above) and Deir ‘Alla Phase B (fig. 7-6:8, 9). Ring bases were common on these large open bowls. Some deep bowls or kraters were also found with a sharp carination, very common in the Early Iron Age. They do not seem to have had the extra outside fold of the rim that was common at Deir ‘Alla in the Early Iron Age. Krater 10, with its high ring base and double carination, is still very close to the Late Bronze Age shapes.

There was a ‘teapot’ resembling one at Late Bronze Age Deir ‘Alla (fig. 7-6:12; Franken 1992 fig. 5.9:11) but with a straight spout. A large number of pilgrim’s flasks were found (fig. 7-6:13-15). They differ from those in Deir ‘Alla in the placing of the handles: in Deir ‘Alla the top of the handles is set on the neck; in Madaba the neck comes out of the handles like the stem of a flower. Concentric circles or spirals of red paint are the most common type of decoration for pilgrim’s flasks, as well as circles with straight or diagonal crosses in them. They are also found in Deir ‘Alla Late Bronze Phases E and F as well as in the Iron Age (Franken 1992, 55, 99, 100; 1969:178, 206). Lamps are of the common Late Bronze – Early Iron Age types, with straight or flaring rims and flat or rounded bases (fig. 7-6:16, 17). One bowl, biconical with a pointed base (fig. 7-6:19), has a counterpart at Lehun (see above).
Some Mycenaean imports were found, as well as some imitation pyxides and stirrup jars. On the whole the repertoire seems to be of moderate quality although the lack of decoration compared to Deir 'Alla is striking. The pottery from tomb A has been dated to the first half of the twelfth century.

Tomb B (Piccirillo 1975; H.O. Thompson 1986) contained the same functional repertoire of lamps, open bowls, flasks and jugs. Thompson has dated this tomb to the later part of the Early Iron Age. Some shapes (fig. 7-7) suggest that there may have been some overlap with Tomb A. Biconical bowls, especially the one with a long neck (fig. 7-7:2), occur in Late Bronze – Early Iron Age burial repertoires, such as cave A2 in Khirbet Umm ed-Dananir, in the Jebel Nuzha tomb, in Sa’idiyeh in the Jordan Valley and in the northern cemetery at Beth Shean (for these repertoires see descriptions below). S-shaped (fig. 7-7:3, 4) and rounded bowls (fig. 7-7:5) are common in Late Bronze – Early Iron Age repertoires. The multi-handled krater (fig. 7-7:6, 7) occurs in the Early Iron Age (for example Khirbet Raddana, see below), but becomes more common as the Iron Age progresses. The high chalice (fig. 7-7:8) is first found towards the end of the Late Bronze Age and has many parallels in the Early Iron Age (Deir ‘Alla from Late Bronze Phase E onwards).
Hesban
The pottery from Hesban has not been published, with the exception of some photographs, and one bowl. The renewed excavations have brought more Early Iron Age pottery to light. So far only one sherd from the Early Iron Age moat (Ch. 3) has been published: that of a bowl, which the excavators interpret as a ‘Manasseh bowl’ (fig. 7-8; LaBianca and Ray 1999, 119).

Fig. 7-8. Published bowl from Hesban

Photographs of some pottery have been published by Sauer (1994, 234, 236, 239). Unfortunately the quality of the photographs is not very good, and only one sherd, the neck and rim of a pilgrim’s flask, of the type found in Madaba tomb A, can be recognised. Other pottery has been described by Sauer (1994, 233) and dated to the Late Bronze - Early Iron Age transition; it is medium-to-poor in quality and has a whitish surface colour. It included carinated bowls, triangular-rimmed cooking pots and heavy bowls with thickened rims. Sauer mentions parallels for the Late Bronze - Early Iron Age transition at Madaba tomb A, Tell el-’Umeiri, Sahab, Sahab tomb, Amman Airport, Baq’ah valley, Safut, Lehun and Ara'ir (Sauer 1975, 167 n 31; 1994, 233-34). Unfortunately much of the pottery that he mentions has not been published either, and we will have to take his word for it.

Sauer also described Early Iron Age pottery (Iron Age IA), and published some photographs of it. The pottery is “characterised by heavy collar-rimmed store jars, incurved bowls, and strainer-spouted jugs” (Sauer 1994, 235). Sauer mentions parallels with most sites in the area that have revealed Early Iron Age pottery, both on the plains of Amman and to the south. According to Sauer in the Jordan Valley it was only attested in er-Rashidiyyeh West (site 183, just north of the Wadi Hesban, see Ch. I-4). On the other hand, it is strikingly similar to some of the pottery from the West Bank, such as that at Raddana and Ai, Bethel and Taanach. Here again, as very little pottery has been published, we will have to take Sauer’s word for it.

’Umeiri
The pottery from Late Bronze and Early Iron Age Tell ’Umeiri has been published extensively in volumes 2 and 3 of the Madaba Plains Project (Herr et al., eds. 1991; 1997). Clearly identifiable storage jars seem to be completely missing in Late Bronze Age ’Umeiri. Herr notes this as an anomaly since, according to him, storage must have been an important function of the site because of its relative isolation in the period. Some of the rims identified as jugs may actually have been small jars. Jugs (possibly small jars) have been found in quantity, with line painting and occasional brown or grey slip

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1 P.J. Ray’s publication “Tell Hesban and Vicinity in the Iron Age” in the series of Hesban publications by Andrews University unfortunately came too late to be included in this study.
Flaring rims are a common feature of this type, with parallels in most major centres both east and west, such as the Baq‘ah valley, Amman Airport, Deir ‘Alla, Pella, Beth Shean, Gezer etc (Herr 1997, 234). Open bowls have mostly rounded or straight rims, such as the ones found in the Baq‘ah valley (fig. 7-9:3, 4; see below). Two open bowls have been found with carination (fig. 7-9:5). According to Herr all open bowls had a light coloured slip, ‘pinkish white’ according to the individual descriptions. Many of the shallow bowls also had a light streaky slip inside and outside, which is reminiscent of the Late Bronze Phases E-H repertoire at Deir ‘Alla. Deep bowls and kraters were absent, with one possible exception, which has a rather square rim of a type also found in Deir ‘Alla Phase E (fig. 7-9:6; Franken 1992, 141 fig 125-128).

The cooking pots show a wide range of flaring and triangular rims, largely conforming to the general Late Bronze II repertoire. However, there is one type unique for the site, with a flaring triangular rim, the top of which is pulled up, leaving a ‘hollow’ inside (fig. 7-9:8). London (1999, 87) concludes from this that cooking pot technology developed separately in Jordan in this period. Herr dates this repertoire to the thirteenth century. Pottery from the Late Bronze Age I is rare, and Herr suggests (in Herr et al. eds. 1997, 237) that there may have been a hiatus in occupation during Late Bronze Age I. On the other hand he concludes from the pottery and the activities on the site, which continue uninterrupted into the Early Iron Age, that ‘the site may have been active during the thirteenth century’.

Early Iron Age jugs and juglets still had flaring rims and therefore seem closer to Deir ‘Alla Late Bronze Phases E and F than to the Deir ‘Alla Iron Age phases proper (fig. 7-9:9, 10). Kraters had infolded rims, still without the second fold outward that characterises the kraters in Early Iron Age Deir ‘Alla (fig. 7-9:11). They are closer therefore to the kraters in Madaba tomb A, or possibly to the Deir ‘Alla Late Bronze Phase E kraters (Franken 1992, 142). Several Manasseh bowls were found, but only in 1987 (fig. 7-9:15).

The pottery from the rampart construction phase, that was excavated in 1989, seems to form the perfect transition repertoire between that of the Late Bronze and that of the Early Iron Age. The cooking pots have the common triangular rim of the Early Iron Age (fig. 7-9:12). One open bowl was found here with a ledge handle such as found in at Balu‘a and Madaba tomb A (fig. 7-9:16; fig. 7-2). Several small open bowls were found with an S-shaped rim, but of a different type than those found in the south: the top part of the rim was everted. Parallels to this repertoire are mainly to the north and west: the Jordan Valley and Beth Shean. (fig. 7-9:13, 14).

A large number of collared rim jars have been found in Early Iron Age ‘Umeiri. Herr divides them into two groups, based on the placement of the collar: the ‘low ridge’ and the ‘wavy’ type (fig. 7-9:17-19). Both types occur simultaneously, and both types seem to have parallels both east and west of the Jordan on the same sites. This makes it unlikely that these two types represent different traditions. According to Herr the collared rim jars from ‘Umeiri generally have smaller diameters than those west of the Jordan. London (1999) has studied manufacture and provenience of the large pithoi, and comes to the conclusion that they must have been produced locally, if only because of their size and weight. This and their long lifespan (up to 100 years, according to London 1989) account for local variability. She does not suggest why determining characteristics such as the ‘collar’ are identical in a very wide area, comprising most of the region east as well as west of the Jordan, other than following Esse’s suggestion that they were ‘most likely the product of a specific potting tradition...’ (London 1999, 80-86). H. Weippert (1988, 397) draws attention to the difference between the northern (Galilean)
and the central highland tradition, which was the type also found in Transjordan. The ‘northern’ type had a higher collar.

Fig. 7-9. Published pottery from Tell 'Umeiri

Sahab

Several tombs were found in the Sahab area before excavations on the tell started. Photographs of one of these, dated to the Late Bronze – Early Iron Age, have been published (Dajani 1970, 54-61). There are some parallels to the southern traditions: some of the jugs / bowls with sharp carination near the base (Dajani 1970, 54:2, 105, 251) are reminiscent of shapes from Madaba tomb A (fig. 7-6:18) and Lehun. There were several import or imitation import Mycenaean stirrup jars and pyxides. Biconical jars with long necks (Dajani 1970, 55:76, 205) have parallels in the Baq’ah valley, as well as in Beth Shean (see below).

Most of the open bowls had S-shaped or rounded rims, but there were still a few Late Bronze Age carinated bowls (Dajani 1970, 60:69, 216). Chalices were wide with relatively low bases. A large number of pilgrim’s flasks have been found, of different types. Some flasks had handles springing from the neck like petals, as was common in Madaba tomb A (fig. 7-6:13-15), but there was also the type with handles attached to the neck, like the ones in Deir ‘Alla, and finally a type of pilgrim’s flask with a cup attached, parallels for which can be found mainly on the west side of the Jordan in the Early Iron Age. Decoration was painted, with concentric circles or radiating patterns being the most common.

There were a large number of lamps, both of Late Bronze and Iron Age shapes.

A few cooking pots were also found, of a common Early Iron Age type, as well as some deep bowls with carination.

The pottery from the town of Sahab has not been published, except for some collared rim jars, which were found in several buildings in the town of Sahab. Some had seal
impressions on the rim or the handles, showing Syrian and Assyrian influence (fig. 7-10c; Ibrahim 1978, 1983, 1987:78). These collared rim jars are very different from the ones found in 'Umeiri (Ibrahim 1978). Ibrahim describes the jars as 110 to 115 cm high with a very short neck and a folded thickened rim which is sometimes ribbed (fig. 7-10a). The collar has been applied using a separate roll of clay (although some of the photographs (fig. 7-10b) clearly show that in some cases at least the ‘collar’ was an extension of the outer fold, as it was in 'Umeiri, see fig. 7-9:17). Grooves on the angle between shoulder and body show that the jar was made in two parts. Handles are halfway on the body. These jars are larger than the ones in 'Umeiri. Another difference is that the Sahab jars have vertical rims, sometimes even slightly inverted, whereas the 'Umeiri jars have everted rims. It seems likely therefore that, apart from coming from two different production centres, the ones in Sahab are also later than those from 'Umeiri (see also H. Weippert 1988, 397).

The most striking feature of the Sahab jars are the stamps in the rim (fig. 7-10c). Comparable seal stamp impressions have been found in Shiloh (see below, and Finkelstein 1988:278 ff). Seal impressions on jars are rare in the Early Iron Age as compared to the later Iron Age (London in Herr et al. 1991b:405). They may have been potter's marks, or possibly owner's marks.

The time that collared rim jars were considered a hallmark of the presence of early Israelites is well past. The find in Sahab, together with later finds of collared rim jars in Deir 'Alla (Franken 1969, 1992), Mazar, 'Amman citadel (unpublished), Hajjar, Khirbet el-Hedamus (unpubl.) and other places has rendered this theory untenable. Ibrahim points out that the technology for these jars, as well as their size and function (storage of food and liquids; also Finkelstein 1988:282-282), stem from an old tradition, at least from the Middle - Late Bronze Ages. According to Ibrahim the jars were probably made near Sahab itself.

**Fig. 7-10. Published collared rim jars from Sahab**

**Amman Airport Building**

Kafafi has published the local pottery from the 1976 excavation (Kafafi in Herr 1983a). Most of this pottery was found outside the building (Herr 1983a:20). It consisted mainly of open bowls, jugs and lamps, with a few kraters, a cooking pot and two possible pilgrims flasks. This repertoire resembles burial repertoires such as those from Madaba.
and Sahab. According to Hennessy (1985) there were parallels with pottery from the Madaba tombs (Harding 1958).

Small open bowls have either rounded rims (fig. 7-11:1, 2) or S-shaped rims, of a type close to that of 'Umeiri, with a flattened-out top (fig. 7-9:13, 14; 7-11:3, 4). This type is not found in Deir 'Alla. Small bowls in 'Amman have a wider profile than those in Deir 'Alla, where they are more vertical with a clear S-profile or curved-in upper rim. Another type of profile, S-shaped but with a strong outcurve at the top, occurs both in Deir 'Alla Iron Age Phases A-D and in the Amman Airport repertoire (fig. 7-11:5 and below). A few carinated small open bowls were found.

Most jars have an everted rim, sometimes triangular, sometimes pushed out to horizontal, and are of a common Late Bronze Age type (fig. 7-11:6, 7). Bases are generally flaring ring bases, a common Late Bronze Age characteristic. A chalice with a solid foot is found here, which is also found in Deir 'Alla and elsewhere in the Valley (fig. 7-11:8 and below). According to Kafafi most of the pottery was slipped with a white to pinkish slip, but it is possible that in several cases this was ‘self-slip’, or possibly even scum. Burnishing was extremely rare, and so was paint. This may be a local anomaly, or it may signify a later date for the pottery in general. Kafafi dates it in Late Bronze IIB, but it may well be transitional Late Bronze – Early Iron Age. In general the repertoire shows more of a link with the Valley than with the highlands to the south.

The imported pottery confirms this. One third of the pottery was imported, and most of this was Mycenaean. The imported pottery has been analysed by Hankey (1974). In the fill under the first floor there was Mycenaean IIA - IIIB pottery. On the paved floor stood complete Mycenaean IIIA - IIIB and Simple Style pots. The repertoire of imported pottery included many containers of some kind: two medium sized storage jars, and large numbers of piriform jars, pictorial kraters, alabastra, stirrup jars, and pilgrim’s flasks. There were also cups and open vessels. Still, Hankey expresses surprise at the large amount of imported pottery on this relatively small site far from the sea. Apart from that, she concludes that there is precious little Cypriot pottery. Usually it is the other way round: much Cypriot, little Mycenaean, especially on sites with much Mycenaean IIIA2 - IIIB.

**fig. 7-11. Published local pottery from the Amman Airport Building.**

**Jebel Nuzha**

The Jebel Nuzha pottery has been published by Dajani (1966), mainly in photographs, and has been discussed by Dornemann (1983, 31 ff and fig. 20-31). Dajani dated the earliest use of the tomb in the early thirteenth century, but Dornemann rejects this early dating because of the complete absence of imported pottery. At the same time Dornemann finds it difficult to ascribe the repertoire to a clear Iron Age context, admitting that the earlier shapes are closer to Late Bronze Age repertoires (Dornemann 1983, 32). He therefore prefers to compare it to the Deir 'Alla latest Late Bronze Age phases, which are dated to the twelfth century, but which had not yet been published in
1983. Several shapes are reminiscent of the Late Bronze Age repertoires elsewhere. Lamps with inverted, rounded rims are common (fig. 7-12:1, 2), and so are biconical jars and flaring ring bases (fig. 7-12:3-5). These features have already disappeared from the Deir 'Alla Late Bronze Phase E repertoire and so, if we follow Dornemann’s reasoning, the Jebel Nuzha repertoire should be earlier. The biconical jars may be an imitation of Cypriot bilbils, and this shape is encountered in Beth Shean (see below), in Sahab and in the Baq'ah valley repertoire, where they are found in a Late Bronze Age tomb. Open bowls generally have either inverted or S-shaped rims (fig. 7-12:6-9), and, even if there was no genuine import, there were at least two imitation pyxides (Dajani 1966 plate XI-XVI). Decoration of the open bowls consisted of concentric rings, also very common in Cave B3 in the Baq'ah valley (fig. 7-12:9; 7-13:1, 4). Dornemann compares the open bowls with concentric rings and the biconical jars to parallels from the Hama cremation cemetery (Dornemann 1983:32, see also Riis 1948, 46-93, esp. fig. 122-125). These parallels are less close than one would like them to be, however.

All in all the repertoire seems remarkably close to that of the Baq'ah valley Cave B3, although carinated bowls are missing in Jebel Nuzha, and Cave B3 has no pilgrim’s flasks. Parallels for the Jebel Nuzha pilgrim’s flasks (fig. 7-12:10-13) are found mainly in Early Iron Age repertoires. The Madaba tomb has revealed many flasks, but they differ from the Jebel Nuzha ones in the position of the handles. The decoration usually consists of a combination of concentric and radiating lines, but at the same time shows a remarkable freedom of motifs. The absence of imported pottery in Jebel Nuzha may have many reasons, and cannot be used as a conclusive argument in dating the tomb, which should be dated slightly later than Baq'ah tomb B3, but earlier than Baq'ah tomb A4. The repertoire is not particularly close to that of Deir 'Alla Late Bronze Phase E, even though a chalice was found with a straight solid foot, with parallels in the Jordan Valley.

![Published pottery from Jebel Nuzha.](image)

**Safut**

No pottery from the Late Bronze or Early Iron Age layers at Safut has been published so far. However, the excavator has reported a mudbrick installation that may have been a kiln for the production of collared rim jars. Many collared rim jar fragments were found...
surrounding it. The kiln was dated to the Early Iron Age (Wimmer in Homès-Frédéricq and Hennessy 1989, 514).

Baq'ah valley.

Fig. 7-13. Published pottery from caves B3(1-12) and A4 (13-19) at Khirbet Umm ed-Dananir.

The Late Bronze Age repertoire from the Baq'ah valley comes almost exclusively from burial cave B3. It does not differ significantly from other burial repertoires in this period or generally from other Late Bronze II sites. The main feature of the Late Bronze II
TRIBES AND TERRITORIES IN TRANSITION

pottery in the research area is its homogeneity. When compared to the pottery from Deir 'Alla, the repertoire comes closest to Late Bronze Phase D in most shapes. Open bowls have an inverted rim, sometimes with an everted top, and a flat base (fig. 7-13:1-3) or a high flaring ring base (fig. 7-13:4). Many bowls are white-slipped with a bichrome decoration of concentric circles. This bichrome decoration is rare, and the only other place in the region where it has been found is Beth Shean, on the other side of the Jordan (see below). A chalice with a solid foot was found in cave B3 (fig. 7-13:5). Chalices resemble those in Deir 'Alla Late Bronze, but are generally smaller (fig. 7-13:6).

The jar repertoire has some specific features. There was a type of jar rim with an extra ridge (which was not caused by folding the rim, but looked more like a 'double carination'). The 'imitation bilbil' (Dajani 1970), with flaring ring base, biconical body and a smooth transition to a long neck (fig. 7-13:9, 10), occurs also in Beth Shean tomb 27 (see below), and has been found in Sahab and in the Jebel Nuzha tomb (see above, fig. 7-12:4). A large number of lamps was found in the burial cave. Both Late Bronze Age shapes, with inverted rims, and Early Iron Age shapes, with flaring rims, occur (fig. 7-13:11, 12).

Early Iron Age open bowls generally have the same shape as the Late Bronze Age ones but they are not decorated (fig. 7-13:13-15). They conform to the general repertoire on most sites, having either an S-profile or an inverted upper rim. Bases are flat or have a scraped ring. The bowls of the chalices have a profile resembling that of the later Iron Age types, with everted rim, but the foot is not profiled (fig. 7-13:16). Kraters have a T-shaped rim profile (fig. 7-13:17), sometimes with the extra ridge (fig. 7-13:18) that is typical of the Early Iron Age. One krater has a flaring rim, and may still be a Late Bronze Age type. One type of round-bodied jar, with a flaring neck set directly on the body, is not found in Deir 'Alla, but has parallels in Tell Far'ah (fig. 7-13:19 and below).

In November 1997 I studied the pottery from the Baq'ah Valley excavations at the University of Pennsylvania, Philadelphia (Appendix B). The pottery from Cave A2, dated to the Late Bronze Age I, contained some S-shaped bowls, besides the common Late Bronze Age I shapes. The results show that there was a link between this part of the Amman Plains and the Jordan Valley, even though the repertoire from the burial caves was limited. The earliest repertoire was relatively close to that of the earlier layers from Tell el-Hammeh at the western entrance of the Wadi Zerqa. However, the later phases were closer to the repertoire from Deir 'Alla Late Bronze Phase E. The analysis of the ware confirms this (Appendix B).

Amman Citadel

A small collection of Late Bronze Age sherds was found on the Amman citadel, one a sherd of rare Egyptian New Kingdom blue-painted ware, and another a Midianite (Qurayya) sherd (Dornemann 1983, 22; Kalsbeek and London 1978).

East Jordan Valley

Pella

The Late Bronze I repertoire from Pella (Smith 1973, McNicoll et al. 1982) comes close to that of Deir 'Alla Late Bronze Phases A-D. The Late Bronze II repertoire has clear and close parallels in the Deir 'Alla Late Bronze Phases E and F repertoire. In 1967 a burial complex was found in the East Cemetery at Pella (Smith et al. 1973), with a ceramic tube, which has also been found in Deir 'Alla (fig. 7-14:1; Franken 1992, fig. 5-3). A cooking pot fragment and a krater fragment clearly date this complex to Late Bronze II,
slightly earlier than Deir 'Alla Late Bronze Phase E. The tube in Pella had a function in a funerary deposit; the one in Deir 'Alla had no clear functional context. Later excavations have revealed many more of these funerary tubes (Bourke et al. 1998, 198). The excavations in 1979-85 produced more Late Bronze Age pottery, all clearly from the end of the Late Bronze Age. Cooking pots have flaring triangular rims or folded rims with a ridge (fig. 7-14:2, 3) of the type that is typical for Deir 'Alla Late Bronze Phases E and F, and which is only found in Deir 'Alla and on a few other sites in the Jordan Valley (see below, discussion). Open bowls have rounded, carinated or S-shaped rims (fig. 7-14:4-6).

**fig. 7-14: Published pottery from Pella**

A curiously shaped chalice rim (fig. 7-14:7) seems to have a constructional and/or functional relationship with a chalice from Deir 'Alla (Franken 1992, 4-9.23), although in Pella the shape is more pronounced. Decoration is generally rare, and consists mainly of cream slip, sometimes heavily applied, and linear or geometric motifs. A handle has been found painted with a 'palm tree' motif, a common Late Bronze and Early Iron Age feature. The chalices in the eastern cemetery have a shape that is typical for the Early Iron Age in the region, with a carination in the bowl as well as in the foot. It is found in Deir 'Alla too, but the chalices in Deir 'Alla are primarily characterised by their variability.

The Early Iron Age layers show a continuity from the Late Bronze Age: cooking pots with flaring triangular rims, bowls with rounded or S-shaped rims continue to be part of the repertoire. Kraters have either T-shaped or everted, flattened rims (fig. 7-14:12) and are a continuation of the Late Bronze Age types. A new type is the storage jar with folded and ridged rim, which is a hallmark of the Early Iron Age in the Jordan Valley in general (fig. 7-14:8, 9). Biconical jars are found in the Early Iron Age layers, of a type that occurs in Deir 'Alla in Late Bronze Phases E and F (fig. 7-14:10, 11; Franken 1992, fig 4-11). The cooking pots vary; most have flaring triangular or vertical ridged rims, the Deir 'Alla Late Bronze Phase E type. However, inverted, triangular rims now also
appear. Iron Age pottery in Pella therefore seems basically a continuation of the Late Bronze Age repertoire, with the introduction of some new shapes, notably the storage jar. Decoration diminishes slightly in the Early Iron Age.

Excavations in Sahem, north of Irbed have revealed a tomb with Late Bronze – Early Iron Age pottery. It lies outside the scope of this study, but some parallels with the pottery from the area of study are striking. The chalice with carinated and ridged rim that was found in Pella (fig. 7-14:7) has parallels here (Fischer 1997, fig 7), and so has the biconical jar with long neck, that was found in the Plains of Amman, on Sahab, in the Baq’ah valley and in Beth Shean, the ‘imitation bilbil’ (fig. 7-12:4; 7-13:9, 10; Fischer 1997, fig 9, 10).

**Sa’idiyeh**

The fortress on Tell es-Sa’idiyeh was built towards the end of the Late Bronze Age. The pottery from the cemetery is dated to this period and forms a rather homogeneous repertoire, containing a strong Egyptian element. The repertoire is atypical in that it contains a large component of Cypriot and Mycenaean pottery, or possibly imitations (Pritchard is not clear about that), beside much Egyptian pottery.

The local pottery consists largely of storage jars, juglets, pilgrim’s flasks, lamps (fig. 7-15:1, 2, 9) – both with inverted and with flaring rims, and smaller, biconical jars with a long curved neck (Fig. 7-15:4, 5). Most open bowls have either straight rims, or curved ones (fig. 7-15:7, 8, 10). A deep bowl with a folded-out rim can be compared to the shapes known from Deir ‘Alla Late Bronze Phase E and later (fig. 7-15:6). A type of dipper juglet, with a rounded body, long straight neck and a button base has been found in some of the burials in Sa’idiyeh. In Deir ‘Alla Iron Age Phase J (Franken 1969, fig 70) a group of these dippers was found, together with a high-shouldered jar that has also been found in the Sa’idiyeh cemetery. This type is also known from Irbed tombs (Dornemann 1983, 36 and fig. 26). They can be dated to the later part of the Early Iron Age, which points to a continued use of the cemetery after the end of the Late Bronze Age. An iron knife was found together with these juglets.
The region west of the Jordan

Beth Shean (Yadin and Geva 1986, James 1966).

Pottery from the Late Bronze Age levels VIII and VII has been published by McGovern (James and McGovern 1993). These levels belong to a time when Beth Shean was an Egyptian garrison city. Still the local pottery conforms largely to the general Late Bronze Age repertoire that has also been found on the east side of the Jordan.

fig. 7-16. Published pottery from Late Bronze Age Beth Shean

Late Bronze Age open bowls usually have rounded rims (fig. 7-16:1). One large group of open bowls had a straight or slightly flaring rim, and red paint on the top of the rim (fig. 7-16:2, 3). Open bowls with a high, flaring ring base and concentric (bichrome) decoration occur occasionally (fig. 7-16:4). This type has also been found in a burial cave in the Baq'ah valley. Bichrome decoration in general is common in Level VIII, rare in Level VII. Lamps have inverted rims, kraters have straight inverted rims with a T-shaped profile (fig. 7-16:5). Cooking pots have flaring rims with a triangular profile (fig. 7-16:6). Two collared rim jars were found (fig. 7-16:7).

In Level VII open bowls are generally rounded, sometimes carinated or with a horizontal flaring rim (fig. 7-16:8), but the S-shaped profile is rare. Cooking pots have everted, folded out rims, with an extra ridge, comparable to the Deir ‘Alla Late Bronze Phase E cooking pots (fig. 7-16:9, 10). Kraters often have flaring rims and a carination creating a horizontal frieze which is generally decorated, either with geometric motifs, or...
plant and animal figures (fig. 7-16:11). Kraters with inverted T-shaped rim, sometimes with an extra ridge outside, are already found (fig. 7-16:13). Many storage jars were found in level VII, of the usual type, with an egg-shaped body, short neck and two handles about halfway or a little higher on the body. The chalice with a pronounced T-shaped rim that was found in Pella and Deir ‘Alla is encountered here as well (fig. 7-16:12). Biconical jars with flaring rim occur regularly in Beth Shean level VII (fig. 7-16:14). The biconical jars with long, flaring neck, that were found in the Baq‘ah and Sahab, were found in Beth Shean mainly in the Northern Cemetery (fig. 7-16:15, 16). The general context of these tombs dates them earlier in the Late Bronze Age than the pottery from Levels VIII and VII, but some were found in level VIII as well.

In Level VI a storage jar with monochrome decoration of the neck resembles the bichrome storage jars from Deir ‘Alla (fig. 7-17:1). Often jars in Beth Shean have an everted rim, with more variation than the ones in Deir ‘Alla, which usually have a straight rim with triangular profile (Franken 1969:168:2b). Deep bowls are more common in level VI than in the earlier levels. They have a sharp carination and a folded-out rim (fig. 7-17:2). One deep bowl has a decoration of red-painted half-circles that has parallels at Deir ‘Alla (fig. 7-17:3; Franken 1969, fig. 52-4). Open bowls with straight rims and red paint on the top of the rim are also found in Level VI (fig. 7-17:4). S-shaped rims begin to occur in this level, but they are not common (fig. 7-17:5, 6).

One very common shape, especially in the domestic areas, is the ‘spinning bowl’, an open bowl with two loop handles inside on the bottom, possibly used for spinning wool (fig. 7-17:7). Beer jars and jars with a hole in the base are also relatively common.

Dipper juglets, either with rounded or pointed bases, and pilgrim’s flasks are also common. The lamps in Beth Shean have been cut off the stem, without further visible modification. By comparison lamps at Deir ‘Alla have a scraped base.

Decoration motifs do not differ significantly from those on the east side of the Jordan. A krater in Beth Shean has been painted with the ibex-palm tree motif, which has related motifs in Deir ‘Alla Late Bronze Phase E (fig. 7-17:8; Franken 1992 fig. 5.7:25; 5.14:19; 7.2:17a; 7.6:13a; 7.15:8), but not in the early Iron Age. Occasional decorative ledge handles occur in level VI (fig. 7-17:9). Beth Shean Stratum VI on the other hand had no
goblets, no large open bowls with funnel-shaped foot, and no bird vessels, shapes that were found on Deir ‘Alla. No Manasseh bowls have been found in Beth Shean.

**Dothan**

Some of the pottery from Tomb I has been published by Cooley and Pratico (1994, 173-190) Five levels have been discerned, which mainly show the continuity of the pottery types (also Kletter 2002,32).

![Published pottery from Tomb 1 at Tell Dothan](image)

Biconical jars with the rim set directly on the body were found in every level, the only difference being that the rim becomes gradually more vertical and the outward fold more pronounced (fig. 7-18:1-2). Lamps have a flaring rim from the earliest levels onwards and no change over time is discernible (fig. 7-18:7). Krater-mugs, small krater-like shapes with one handle, have a double carination that is also found on the multi-handled kraters (fig. 7-18:3-4). Krater-mugs are only found in the earlier levels, whereas multi-handled kraters seem to become more common in the later levels. Decoration, especially of the biconical jars, seems to increase over time, but as the excavators warn, the pottery plates are not representative of the pottery statistics. Chalices occur in all levels with only the foot of the chalices undergoing a pronounced change, from a clearly pronounced foot-rim to a rounded, straight edge (fig. 7-18:5-6). No ware analysis or analysis of surface treatment has been attempted in this preliminary report. The excavators have dated the tomb from Late Bronze Age IIA to Early Iron Age I.

**Bull Site (Mazar 1982)**

![Published pottery from the Bull Site](image)

Little pottery was found on the Bull site. There was one Manasseh bowl (fig. 7-19:1) and another bowl with rounded rim (fig. 7-19:2). Two cooking pots with a slightly everted,
triangular rim are closer to Late Bronze Age shapes than to Early Iron Age ones (Fig. 7-19:3). Mazar (1982, 35) seems to prefer a date in the first half of the twelfth century but the site may easily be earlier.

Mount Ebal
A large number of Manasseh bowls were found on Mount Ebal (fig. 7-20:1, 2). There were also some small bowls with an S-profile (fig. 7-20:3, 4).

Deep bowls with sharp carination and folded-out, rounded rims have been found here (fig. 7-20:6), but only one proper krater (with a T-shaped or flattened rim) has been published (fig. 7-20:5), in Phase IB. Cooking pots are of two distinctive types: one Late Bronze Age type, with flaring, folded, triangular rim (fig. 7-20:7, 8) and a type that is more common in the Early Iron Age, with a vertical, triangular rim (7-20:9).

A large number of pithoi was found, some of which may have been collared rim jars, and according to the excavator are so, although on only one was the actual collar preserved (fig. 7-20:10). The type of jar with a hole-mouth (fig. 7-20:11) is not found in Deir 'Alla, but according to Zertal has parallels in Taanach. Smaller jars usually had a vertical, straight or slightly flaring neck, with a triangular rim.

A difference with the Deir 'Alla repertoire is the presence of high, vertical ring bases (fig. 7-20:12) for deep bowls. Painted decoration is either monochrome or bichrome. A special kind of decoration, possibly a potter's mark, consisted of a combination of holes and incisions made in the handle before firing (fig. 7-20:13, 14, 15). Many of these have been found in the Manasseh hill country (Zertal 1987, 146 for an overview of the different motifs) There were a number of different designs, two of which have been found in the area of Deir 'Alla as well: three holes forming a triangle are found on a handle from Deir 'Alla (Franken 1992, fig 5.15:25), and two holes with a vertical groove
in between (fig. 7-20:14) have been found on a handle in the survey material from Kereimeh (Ch. 11). According to the excavator the repertoire from Mount Ebal stratum IB does not differ from that of stratum II.

Tell Far'ah
De Vaux and Steve (1947a, b) have published pottery from the Late Bronze Age at Tell Far'ah (north). Open bowls generally had rounded rims (fig. 7-21:1, 2). Wide open bowls with a high flaring ring base were also found (fig. 7-21:3). One bowl had a painted decoration of concentric rings (fig. 7-21:4). There was a biconical jar with a long neck of the type also found in Beth Shean and in the Baq'ah valley (fig. 7-21:5), as well as a biconical jar with no neck and a flaring rim of the type also found in Deir 'Alla Late Bronze (fig. 7-21:6). Cooking pots were of the common Late Bronze Age type, with flaring rims (fig. 7-21:7). One pithos had a collared rim (fig. 7-21:8). Early Iron Age pottery has been published most extensively by Chambon (1984). Even here, few examples from stratum VIIa, the first Early Iron Age phase were published. One is a multi-handled krater, with a straight inverted rim (Fig. 7-21:9). Jugs are generally of the rounded variety, with a straight long neck and slightly flaring rim. In Stratum VIIa descendants of the biconical jar with a long neck still exist as well (fig. 7-21:10). Only two cooking pots have been published, suggesting a date beyond the very beginning of the Early Iron Age (fig. 7-21:11, 12). A straight-footed chalice was found, which occurs both in Deir 'Alla Late Bronze and Early Iron Age (fig. 7-21:13).

fig. 7-21. Published pottery from Tell el-Far'ah (north)

Shechem
The Shechem late Bronze material is still being studied by Boraas and Toombs. No Late Bronze Age material has been published so far, with the exception of a photograph of a painted biconical jar with no neck and a flaring rim of the type that was common in Deir 'Alla Late Bronze II. Early Iron Age published material (Boraas 1986) comes from field
IX, area 3, Phases XII and XI. The storage jar rims are identical to those found in Deir 'Alla in the first phases of the Early Iron Age. Open bowls have straight or curved sides (fig. 7-22:1, 2), and S-shaped rims are found (Fig 7-22:3, 4). Only one example of a Manasseh bowl has been published (fig. 7-22:5). Deep bowls generally have an everted rim (fig. 7-22:6), whereas most cooking pots have the traditional Late Bronze II everted, triangular rim (fig. 7-22:8). Only two pithoi, with vertical, folded out rims seem to be more at home in the Early Iron Age (fig. 7-22:7, 9). On the whole the repertoire published by Boraas seems closest to the Late Bronze Age, with perhaps some new shapes that may point to a later period.

Shiloh
The pottery from Shiloh (Khirbet Seilun) has been published fully and extensively by Finkelstein (1993). He dates the Late Bronze Age pottery to the Late Bronze IA – Late Bronze IIA periods because the tell was deserted before the end of the Late Bronze Age, presumably in the first half of the fourteenth century. The Late Bronze Age pottery comes from one debris layer so stratigraphic distinctions are impossible and the group is treated as one corpus.

Most of the common Late Bronze Age shapes are found here. Open bowls with rounded sides and a hollow disc base (fig. 7-23:1); chalices with a low foot (fig. 7-23:2); open bowls with S-shaped profile (fig. 7-23:3); some of which were decorated with painted horizontal bands. Cooking pots generally had everted rims, a few were triangular (fig. 7-23:4). One biconical-long necked jar was found with the common decoration of vertical bands of two lines and a wavy line between them (fig. 7-23:5).

The gap between the Late Bronze and Early Iron Age is clear in the pottery repertoire. Most conspicuous in the Early Iron Age repertoire is the large number of collared rim jars. Many of these had handles with a punctured decoration like those in Sahab and Mount Ebal (fig. 7-23:6, 9, 10), and some had rosettes on the outside rim (fig. 7-23:7). Only a few open bowls were found. They generally had rounded rims; a number of them were Manasseh bowls (7-23:8, 11). S-shaped rim profiles are entirely missing from the repertoire. The cooking pots had either vertical or flaring triangular rims, and are dated by the excavator to the earliest Iron Age period (fig. 7-23:12, 13). One type of krater occurs here that seems to be unique for the site: a carinated vessel with a vertical or slightly inverted, ribbed shoulder; the top of the rim is flattened, and slanting inwards. One of these belonged to the multiple-handled group, indicating that this was a functional (perhaps ritual) rather than a typological feature (fig. 7-23:14). Very few jars were found, and none of the type with the folded-out, ridged rim that was the most common storage jar in Deir ‘Alla.
Discussion.
Drawing conclusions from the presence or absence of different vessel shapes on a site is a dangerous pursuit. Sites are usually only partly excavated and furthermore often only partly published. The presence or absence of a pottery type can easily be a matter of chance. Therefore it seems more to the point to look at general repertoires and only draw conclusions from the presence of larger numbers of certain types of vessel, since these represent a tendency rather than a coincidence that may easily be discredited by excavation or publication of another part of the same site.
Cooking pots are generally seen as the ideal vessel for dating purposes since their repertoire is generally homogeneous (Dever 1995, 205). Every period seems to have its own ‘type fossil’, with a wide and hardly varying distribution. Apart from that, cooking pots are made of a distinctive ware so that even small fragments cannot easily be mixed-up with other kinds of vessels. This fact itself, the special ware of the cooking pot, makes
it likely that there were certain production centres specializing in the production of cooking pots (Vilders 1993), which may also account for their homogeneity. Therefore taking cooking pots as a ‘case study’ for the development of pottery in the transitional period in general, as Dever (1995) does, is hardly justified. Cooking pots are a special case, both technologically and in their relevance in society. From the second half of the Middle Bronze Age until the end of the Iron Age the basic shape of the cooking pot did not change: a rounded base with an equally rounded body. There may have been a difference in technology; from the end of the Late Bronze Age the body was shaped in a mould, while earlier vessels may have been coiled or made on the wheel (Homès-Frédéricq and Franken 1984, 161). The most conspicuous changes, certainly until the Early Iron Age, were in the shape of the rim. Later the pot as a whole became progressively smaller. The end of the Late Bronze Age sees one major type of cooking pot, one with a flaring, folded-out triangular rim. On most sites west of the Jordan the flaring triangular rim continues into the Early Iron Age and is sometimes seen as a hallmark for the earliest Early Iron Age layers: the Bull Site; Mount Ebal; Far’ah; Shechem; Shiloh. But also in Hesban (according to Sauer), this type continues into the Early Iron Age. The later types, with vertical, triangular or elongated ridged rims, are found both east and west of the Jordan again. In the central east Jordan Valley the Late Bronze flaring rim is followed by a type with a vertical, folded and ridged rim. In Deir 'Alla this is the exclusive type for the Late Bronze – Early Iron Age transition. In Pella it occurs in the Late Bronze II layers alongside the more common flaring triangular rim. It seems therefore that there was a separate workshop for cooking pots, that was active in the east Jordan Valley in the transition from Late Bronze to Early Iron Age (some sherds have also been found during the survey of the Deir 'Alla region, see Ch. IV-13). So far the only place outside the east Jordan Valley where sherds of this type of cooking pot have surfaced is Beth Shean Level VII. Why specimens of this type turned up here is not clear at present, but it suggests a special link between Beth Shean and the East Jordan Valley. This type developed into what would become one of the two main types of cooking pot rim in the later stages of the Early Iron Age, both east and west of the Jordan, but in this early period its distribution seems to be limited to the few sites mentioned above.

The other pottery groups, both typological and functional, show a much more varied distribution pattern than the cooking pots. In Late Bronze tombs in the Baq’ah Valley there has been found a kind of open bowls, with painted concentric circles inside, sometimes on a white slip. This type also occurs in the Jebel Nuzha tomb to the south and in Beth Shean on the other side of the Jordan. It often appears together with a type of biconical jug with a long curved neck. These jugs were also found in the burial caves of Sahab, in the cemetery of Sa’idiyeh, and some examples have been found in Shiloh and Tell Far’ah. Perhaps they were part of a specific ritual and/or burial tradition. Small bowls with an S-shaped profile, starting in the Late Bronze Age and continuing in the Early Iron Age, appear at most sites, but are conspicuously absent from some sites such as ‘Umeiri and the Amman Airport building, and in the cemetery of Sa’idiyeh in the Jordan Valley. On the Amman plains a different type of open bowl was common, with a widely flaring rim. This type was found in ‘Umeiri and in the Amman Airport building. Some examples have also been found in the Jordan Valley, in Deir ‘Alla and Pella. In Shiloh a comparable shape was found in the Late Bronze Age repertoire. Decorative ledge handles on large open bowls were a common feature in Balu’a, and they have also been found on other sites. In Deir ‘Alla they were particularly common only in Iron Age Phase B, and in Madaba Tomb A they were also frequent. Although
they have been found occasionally on other sites, they seem to have represented a short-lived, limited practice with roots in the plains of Moab.

Another type that is conspicuous is the collared rim jar. This enormous pithos has for some time been seen as a hallmark of early Israel. However, the find of large collections of collared rim jars east of the Jordan has modified this view and it is now largely seen as a characteristic of a certain lifestyle rather than of an ethnic or cultural group (London 1989). The sheer size and weight of the collared rim jar makes it likely that it was produced locally (contra Wengrow 1996). This is confirmed by the ware analysis that has been done on a – very limited – number of jars. Even when empty a jar would weigh between 30-100 kg. With this in mind the homogeneity of the type on different sites, sometimes far apart, is remarkable. Even so, there are typological differences: Herr considers the flaring, folded-out rim and short neck as belonging to the ‘earlier’ type, which occurs on a number of sites. The two types that Herr distinguishes at ’Umeiri, and which he considers to be early both belong to this type. The collared rim jars found in Sahab differ from these early types in that they are larger, have a vertical rim, and often seal stamps on the rim, or punctured marks on the handles, which are possibly potter’s marks. This is the type that has been found in Shiloh and on Mount Ebal as well. Incidental finds of collared rim jars on a number of other sites demonstrate how widespread the type actually was, and that it was not, in fact, strictly limited to the hill country sites. A possibility is that they were made by travelling potters who specialised in the production of this type of jar on-site.

Another type that has formerly been seen as a hallmark for early Israel is the Manasseh bowl. It was very common in the Manasseh region in the earliest Iron Age layers. It was also found in the Jordan Valley, at Pella and Deir ’Alla from Late Bronze Phase D onwards, and it is found in ’Umeiri in the Early Iron Age layers. No Manasseh bowls have been found in Beth Shean. It is possible that this tradition originated in the Jordan Valley, and was taken to the other side of the Jordan in the Early Iron Age, where it became particularly popular among certain groups.

From this overview of some frequent vessel types it becomes clear that there is a complicated pattern of relationships, at least where pottery traditions are concerned. In the case of collared rim jars this may be because producers travelled from site to site to make their jars. Cooking pots could only be produced where the basic materials were available, and may have had a wide range of circulation. But other types sometimes appear simultaneously on sites far apart whereas they are missing on neighbouring sites, and there are no clear groups of vessel types that appear together. Clear regional pottery traditions cannot be discerned. On the whole it can be said that Late Bronze Age pottery traditions continue into the Iron Age, such as the S-shaped bowl, the Manasseh bowl or the neckless biconical jars, all of which can be found both in Late Bronze Age and in Early Iron Age contexts, although modified in some cases, and not always on the same sites, even moving back and forth across the Jordan. Some shapes disappear in the Early Iron Age, such as the wide open bowls with concentric rings, and the biconical long-necked jars, or the white slip decoration. Some new shapes appear, such as the folded-out rims and ridges on larger shapes. This fits in with a picture of moving populations at the end of the Late Bronze Age: small groups with a mixed cultural background and moving only relatively short distances. Pastoralists, farmers and craftsmen alike were on the move, taking their own traditions with them, as well as absorbing others wherever they settled down.
III-8. The transition at Deir 'Alla : the pottery

Introduction

Tell Deir 'Alla has been settled more or less continuously from the Middle Bronze Age until the end of the Persian period. Later, in the Islamic period, it was in use as a burial ground, a practice that continues to this day. The transition from the Late Bronze to the Early Iron Age has been established by Franken after Phase H of his Late Bronze Age sequence. The Phases G and H, which have, at least in the excavated areas, a different architecture from that of the preceding phases, nevertheless show influences that link them to the previous period rather than to the following period, according to Franken (1992). The pottery from these phases is more or less identical to that of Phases E and F of the Late Bronze Age sequence and it differs slightly from that of the following phases. On the other hand, a much more significant break in pottery shapes is seen between Phases D and E of the Late Bronze Age sequence. Franken puts the transition between the Late Bronze and the Early Iron Age at the end of Phase H, because according to him the next phase represents a different population from that of the preceding phases. These people were squatters, meaning that occupation in the first Iron Age phases was possibly only seasonal. This break in population represents the beginning of a new society not only at Deir 'Alla but in the whole area, and therefore the start of a new period. Changes in pottery alone cannot in themselves represent the beginning of a new period. It is possible that they coincide with the social or cultural changes that mark the new era, if these changes directly affect pottery making in the region. If they do not, however, and potters can continue their trade, it is difficult or even impossible to discern between two periods on the basis of pottery shapes. In those cases it may be possible to discern the changes in the layout of a site, its architecture, or, on a wider scale, settlement patterns. In the end, however, only an integrated approach, including all these archaeological elements, can identify the transition from one period to another.

The settlement pattern in the Deir 'Alla region will be analysed in the next chapter. In this chapter the changes in pottery in the different phases, in relation to the architecture will be examined.

During the Late Bronze Age there was a sanctuary on Deir 'Alla, surrounded at the end of the period, by 'treasuries' containing the pottery and other items used in the sanctuary and by service rooms (Franken 1992, 163 ff). The first sanctuary was built on an artificial hill constructed over the Middle Bronze Age occupation (Franken 1992, 11-12). This sanctuary was destroyed several times, by earthquakes and conflagration (Phases A-D). Franken has dated it in the sixteenth - thirteenth century (Franken 1992, 1). Phase E, immediately following Phase D and dated to the late thirteenth century, shows significant changes in the pottery. It was destroyed, again by an earthquake with conflagration (Franken 1992, 176). The end of this sanctuary is dated somewhere after 1180 BC on the basis of a cartouche from Queen Taousert (Yoyotte 1962; Franken 1992, XVII). An effort to rebuild it (Phase F) was interrupted by a second earthquake, after which no more efforts were made. The next building phase, Phase G, has a plan that differs completely from the preceding ones (Franken 1992, 101). This phase has been found east and west of the cella: walls, some of which consisted of two parallel rows of bricks, floors and courtyards. A building constructed with double walls has been recovered west of the cella. This phase was destroyed by conflagration. Phase H (Franken 1992, 103) consisted of a tower-like
building set on the Phase G remains west of the cella. In both phases a number of storage bins was found. There are no indications that these structures had a religious function or were connected with a sanctuary in any way, although the structures seem too large to be purely domestic.

The destruction of Phase H was followed by a break, after which the Iron Age phases began. The first Early Iron Age phase, Phase A, had a completely different architecture, and consisted mainly of pits and flimsy walls. Some of the older architecture was reused, and there were traces of tent poles (Franken 1969, 33-43). The pottery repertoire differed from that of the earlier periods, although the pottery technology and shapes of the locally produced vessels remained the same (London and Franken 1995, 218 and see below). The next three Early Iron Age Phases, B-D, resembled Phase A in architecture and finds. After Phase D a more settled population replaced the semi nomadic population of this first Iron Age stage.

The different phases can be grouped into stages or periods, determined by major differences either in the pottery production or in the function of the site as shown by the architecture (Table I).

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>PHASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Bronze Age</td>
<td>LB A - D</td>
</tr>
<tr>
<td>Late Bronze Age / transition</td>
<td>LB E - F</td>
</tr>
<tr>
<td>Late Bronze Age / transition</td>
<td>LB G - H</td>
</tr>
<tr>
<td>Early Iron Age (Iron Age I)</td>
<td>IA A - D</td>
</tr>
<tr>
<td>Iron Age I - II</td>
<td>IA E - M</td>
</tr>
<tr>
<td>Iron Age II – Hellenistic period</td>
<td>Phase X-II1</td>
</tr>
</tbody>
</table>

Table 8-I: occupation periods at Deir 'Alla

Existing interpretations

The transition from Late Bronze Phases D to E shows no significant changes in the architecture of the site (although only a very small part of the older phases has been exposed, so this picture may still change). The changes in pottery, however, are significant (see below). According to Frendo the Biblical Gadites already lived in the area and now took over the sanctuary and rebuilt it (1986, 181). Franken explains the changes in pottery with a gradual deterioration in the quality of the pottery in the course of Phase E itself (even though the duration of this phase has not been established: Franken 1992, 177). The architecture of the area does not suggest changes in population between Phases D and E. In Phases G and H no changes in population are assumed either, even though the architecture differs significantly from that of the preceding phases, and so, it seems, does the function of the site, from a sanctuary to a fortified building. The pottery, however, is the same in both periods. After Phase H the site was abandoned for some time, after which a new population reoccupied it. According to Franken they were semi-nomads, living on the site only in

1 These phases have been discerned by van der Kooij and Ibrahim, but as they belong to the Iron Age II and later, they are not included in the analysis here.
winter and practising agriculture as well as animal husbandry. Frendo thinks they were Israelites.

An alternative interpretation

The history of the site of Deir ’Alla shows that the transition from the Late Bronze Age to the Early Iron Age can be characterised as a series of changes. The breaks between Late Bronze Phases D and E, between Late Bronze Phases F and G and between Late Bronze Phase H and Iron Age Phase A are all steps in this process. The first step, from Phase D to Phase E, is determined by significant changes in pottery, but not in architecture or function of the excavated area: both in Phases D and E it was a sanctuary. The second step, from Phase F to Phase G, is characterised by a significant change in architecture and function of the excavated area: from a sanctuary to a defensive building, perhaps a stronghold. But there are no differences in pottery technology or repertoire. The third step, from Late Bronze Phase H to Iron Age Phase A, shows a change in architecture and function again: the site is no longer a stronghold, but has become a seasonal camp for agro-pastoralists. There is also a slight change in the functional pottery repertoire but not in technology or basic morphology.

The existing explanations for these changes were all based on the assumption that the pottery was locally made, by potters who belonged to the same population group as the population of Deir ’Alla. However, no traces of pottery production in the form of wasters or kilns have been found on either Late Bronze or Iron Age Deir ’Alla (Franken 1969, 38), which makes it unlikely that pottery was produced on the tell. An alternative explanation would be that there were production centres that provided a larger area, including Deir 'Alla, with the vessels it needed. Technological and morphological changes in the pottery thus reflect shifts within or between pottery production centres, which do not necessarily reflect changes in the population of Deir ’Alla itself. On the other hand, changes in the population of the site do not necessarily include the pottery production centres, and therefore the pottery repertoire may remain the same, since the new population of the site acquired its vessels from the same production centres as the former population. Social or economic changes on the site may then be reflected in a change in functional pottery repertoire, but not in general pottery technology or morphology.

In order to distinguish between these different explanations and to clarify the events that triggered the transition from Late Bronze to Early Iron Age in this area, the pottery of the first four periods, which mark the transition from Late Bronze to Early Iron Age, has been analysed on three levels: the functional, the technological and the morphological level. The data for Late Bronze Phase E and Iron Age Phase B have been taken from Franken 1969 and 1992, supplemented with my own observations. The pottery from Phases G-H has not been published before and the observations are entirely my own.

Functional groups

A classification into functional groups is always tricky. It presumes that differences between these groups are the outcome of differences in function. It also presumes that the evolution of the shape of a pot, or of a certain part of it, is directly related to its function. But very often we do not even know what that function was. The problems involved in determining the function of a certain vessel or type of vessel are numerous (Orton et al. 1993, 217 ff). Physical features involved include capacity, width of neck
and rim (width absolute and in relation to body), number and placing of handles. Since for most periods we can only discern between very broad differences in function (we are for example not aware of differences that may have grown traditionally and are function-related but not functional in the above sense of the word), and since most of the time we can only relate specific shapes to very broad function categories like 'storage', 'cooking', 'eating and drinking' (and not always that much), what follows is a very basic classification, mainly based on physical features (Table II).

<table>
<thead>
<tr>
<th></th>
<th>LB A-D</th>
<th>LB E</th>
<th>LB G-H</th>
<th>IA B</th>
</tr>
</thead>
<tbody>
<tr>
<td>deep bowls</td>
<td>r</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>open bowls</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>chalices</td>
<td>X</td>
<td>X</td>
<td>r</td>
<td>r</td>
</tr>
<tr>
<td>small bowls</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>storage jars</td>
<td>-</td>
<td>X</td>
<td>r</td>
<td>X</td>
</tr>
<tr>
<td>jars/jugs</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>dippers</td>
<td>r</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>cooking pots</td>
<td>r</td>
<td>r</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>kraters</td>
<td>r</td>
<td>r</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Pithoi</td>
<td>-</td>
<td>r</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lamps</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>r</td>
</tr>
<tr>
<td>goblets</td>
<td>X</td>
<td>X</td>
<td>r</td>
<td>-</td>
</tr>
<tr>
<td>ceremonials</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

(X = present; r = rare; - = absent)

Table 8-II: functional pottery groups

Unfortunately, no statistics are available for the earlier Late Bronze phases, so a statistical comparison of functional groups of Phases A-D and Phases E-F is not possible. However, some tentative conclusions can be drawn from the published material. In Phases A-D there were two types of bowls occurring frequently: shallow bowls with diameters of around 20 cm and carinated bowls. Deep bowls do occur but are rare. In Phase E the main bowl types are small bowls, large open bowls and deep bowls. Taking capacity as a criterion, I suggest that the shallow bowls of Phases A-D and the small bowls of Phase E are functional equivalents, and the carinated bowls of Phases A-D are the functional equivalent of the large open bowls of Phase E. Chalices and goblets are relatively frequent in both phases, and so are jars / jugs and lamps. Cooking pots and kraters are rare. All in all the functional repertoires of Phases A-D and E-F seem to coincide rather well, with the exception of the groups of deep bowls, storage jars (including pithoi) and dippers. These may have been functionally related.

For Late Bronze Phase E, Phases G-H and the earliest Iron Age phases statistics for the functional groups are available (Franken 1969, 1992, 164, and Table III).
TRIBES AND TERRITORIES IN TRANSITION

<table>
<thead>
<tr>
<th></th>
<th>deep bowl</th>
<th>open bowl</th>
<th>small bowl</th>
<th>storage jar</th>
<th>small jar</th>
<th>cook pot</th>
<th>dipper</th>
<th>krater</th>
<th>ceremonial</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LB-E</td>
<td>37</td>
<td>48</td>
<td>138</td>
<td>46</td>
<td>74</td>
<td>11</td>
<td>39</td>
<td>30</td>
<td>80</td>
<td>503</td>
</tr>
<tr>
<td>G-H</td>
<td>13</td>
<td>10</td>
<td>19</td>
<td>4</td>
<td>17</td>
<td>7</td>
<td>8</td>
<td>2</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>IA-B</td>
<td>252</td>
<td>170</td>
<td>174</td>
<td>424</td>
<td>146</td>
<td>124</td>
<td>11</td>
<td>24</td>
<td>13</td>
<td>1338</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>LB-E</th>
<th>G-H</th>
<th>IA-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>LB-E</td>
<td>7.4%</td>
<td>9.5%</td>
<td>14.7%</td>
</tr>
<tr>
<td>G-H</td>
<td>16.3%</td>
<td>12.5%</td>
<td>23.3%</td>
</tr>
<tr>
<td>IA-B</td>
<td>18.8%</td>
<td>12.7%</td>
<td>13.0%</td>
</tr>
</tbody>
</table>

Table 8-III. Numbers and percentages of sherds from the three main periods.

There are no statistics for Late Bronze Phase F, and according to Franken the material from Iron Age Phase A may have been too mixed up with earlier material to serve as a reliable sample for the Iron Age (Franken 1969, 240). Therefore the transition from Late Bronze to Iron Age is visualised using the functional repertoire of Late Bronze Phase E, Phases G-H and Iron Age Phase B only (fig. 8-1).

The reliability range for this statistical comparison has been calculated (for method see Franken and Steiner 1990, 69). For the small bowls, the largest class (32.8%) the reliability range of the Late Bronze Phase E sample is ± 5.8% for Z=1.96, and ± 3.4% for Z=1.15, meaning that there is a 95% chance that the actual percentage (of the whole population) lies within a range of ± 5.8 of 32.8%, and a 75% chance that it lies within a range of ± 3.4 of 32.8%. The reliability range for the small bowls of Late Bronze Phases G-H (23.8%) is ± 9.3 for Z=1.96 and ± 5.4 for Z=1.15 respectively. For Iron Age Phase B the reliability range for the storage jars, the largest class (31.7%) reliability is ±2.5 for Z=1.96 and ±1.5 for Z=1.15. Therefore comparison is primarily between Late Bronze Phase E and Iron Age Phase B. Most of the functional groups present in the Late Bronze Age are also found in the Early Iron Age, with the exception of the ceremonial vessels.
III-8 THE TRANSITION AT DEIR ALLA

(including goblets: Table 8-II), which were directly related to the temple and therefore not to be expected in the later period. If we look at the relative percentages however (fig. 1), there are some outstanding differences: larger bowls were far less common in the Late Bronze than in the Iron Age, and, on the other hand, in the Late Bronze Age repertoire we find far more small bowls than in the Iron Age. Storage jars form a large part (31.7%) of the Iron Age repertoire, but a relatively small part (9.5%) of the Late Bronze repertoire. Hardly any cooking pots (1.2%) were found in the Late Bronze (9.3% in the Iron Age), but a relatively large number (15.4%) of dippers (0.8% in the Iron Age).

As for Late Bronze Phases G-H: the percentages of cooking pots, open bowls and deep bowls coincide with those of the Iron Age. The relative number of kraters and jars/jugs is large compared to the preceding as well as the following phases. There were very few storage jars and, except for one goblet rim, no ceremonial vessels. Technology - ware groups

The term 'technological' is restricted to the descriptions given in Franken 1969 and 1992. For the Late Bronze Age pottery a systematic ware analysis has been published (Franken 1992, 106 ff). Eight different ware groups were found in the Late Bronze Age, two of which, A and B, were considered local. The percentages of the wares, whether local or foreign, do not differ significantly over the phases (Franken 1992, 113), with the exception of ware C pottery, which is present in considerable amounts in Phases B-D, and somewhat less prominent in Phase A. After Phase D it occurs only sporadically.

Ware C has been described as having a strong lime component and very fine quartz as natural components of the clay (Franken 1992, 108). Basalt sand has been added, making it clear that this pottery comes from a basalt area, probably from the north according to Franken, although large basalt areas can also be found in Moab. Why this import suddenly comes to a virtual halt after Phase D is a question that cannot be answered by the archaeological record. However, it seems likely that it is related to the changes in the general pottery repertoire in this period, which were caused by events affecting the whole region (see below).

No statistics have been given for the transitional Phases G and H in Franken 1992, but I had the opportunity to analyse these groups myself, and I have included the results in the graph of fig. 8-2 (NGH = 134). It coincides with those from the preceding phases, mainly E and F. (Franken 1992, 113). I have studied a sample of sherd s from Iron Age Phase B, and found that most sherd s are made of either ware A or B. According to Frendo (1986, 154) the ware in both periods is basically the same, but the Iron Age pottery is more neatly finished and less coarse than that of the Late Bronze Age.

Cooking pots in all phases are made from clay with a calcite temper. They may have come from specialised production centres, and have been distributed over a relatively large region (Vilders 1993, 155). Franken has suggested the possibility that ceremonial ware may have been produced in a separate workshop; its use was limited to the sanctuary and was therefore of marginal significance commercially. Apart from that it had a ritual function, so it may well be that its production was also surrounded by ritual.
Significant differences in pottery manufacture between Late Bronze Phases A-D and Phase E are “the marked absence of paint, the presence of heavy, thick-walled pots, and bases cut off and filled with dung-tempered clay” in the latter phase (London and Franken 1995, 215). The main cause for most of the differences is that the fast wheel has gone out of use and all the pottery is made on the turntable (Franken 1992, 151-2) with leaner clays. A fast wheel enables the potter to use centrifugal forces to shape a vessel, and to make thin-walled vessels by turning. The use of leaner clays, and consequently a slow wheel or turntable, requires different techniques. Walls were made thinner by scraping when the clay was leather hard. This led to less ‘elegant’, coarser vessels and different shapes.

Franken states that this change of technique slowed down the production of pottery. Generally mass production of pottery coincides with less decoration, because decoration slows up the process. “But the evidence from Deir ‘Ala seems to contradict this. In the early days there is wheel thrown decorated pottery and in the end one finds only turntable pottery practically without decoration of any sort” (Franken 1992, 150). This discrepancy has not been explained, but there is a possibility that leaner clays were used in order to speed up the drying and firing of the vessels and therefore of the whole process of pottery production. Lean clays cannot be used with a fast wheel because the centrifugal forces would tear the clay apart, and the sand in the clay would act as sand paper on the hands of the potter. Therefore a slow wheel or turntable would have to be used. This would explain the disappearance of the time-consuming decorations on the pottery as well.

The manufacture of the different types of Late Bronze Phases E-H and of the earliest Iron Age phases can be compared for each functional group, since both have been described by Franken (1969, 1992).
Cooking pots.
Each period had its own type of cooking pot (Franken 1969, 119-121). Both types were shaped in moulds and they differ only in the manufacture of the rim: the Late Bronze Age type had a fold inwards, which was pushed against the inner wall and pulled up creating a ridge (fig. 8-3:1); the rim of the Iron Age type has an extra fold outwards (fig. 8-3:2, 3). Both types were found in Late Bronze Age Phases G-H.

fig. 8-3: Cooking pots from Tell Deir ‘Alla

Deep bowls.
The Late Bronze Age deep bowls in general show the same characteristics as Iron Age deep bowls type 3 (described in Franken 1969, 137 and Franken 1992, 156, *C2), with a rim that has been finished by folding the surplus clay at the top of the rim inwards and smoothing it (fig. 8-4:1, 2). Iron Age type 1, which has an extra outward fold of the rim, occurred occasionally in the Late Bronze Age (Franken 1992, fig 7.21:30) but became popular only in the Early Iron Age (fig 8-3:3, 4). In Late Bronze Phases G-H nine bowls of this last type were found, and four bowls of the Late Bronze Age type, indicating that this type was slowly becoming more common.

fig. 8-4: Deep bowls from Tell Deir ‘Alla

Kraters.

fig. 8-5. Kraters from Tell Deir ‘Alla
Kraters also differ only in the manufacture of the rim, which in the Iron Age had an extra outward fold (fig. 8-5:3-6), visible as a ridge below the rim. The T-shaped profile of the rim is diagnostic of kraters of both periods. In Phases G-H kraters were of the Late Bronze type (fig. 8-5:1, 2).

**Thin-walled bowls.**
Manufacture of all thin-walled bowls (type 4) was the same in all three periods (Franken 1969, 104 and Franken 1992, 153; fig. 3:5-12).

**Open bowls.**
The typology of the Iron Age open bowls is based mainly on the rim sherds. Their manufacture, as far as could be traced, was identical to that of the Late Bronze Age bowls (Franken 1969, 146 ff; Franken 1992, 153 ff, *A4, *C1, *F), and of Phases G-H (fig. 3:15.16.17).

**Storage jars**
Storage jars with rounded base and two handles halfway on the body differ in the making of the rim and the base. (Franken 1969, 161 ff, and Franken 1992, 156, *E1).

The Iron Age jar had an extra fold out, which is occasionally seen in the Late Bronze Age repertoire (fig. 8-6:2, 3). In the Late Bronze Age the jar was shaped on the slow wheel and the base scraped into shape when the vessel was leather-hard (fig. 8-6:1). Later the base was 'closed upside-down', either turned closed, or closed with a slab of clay, a technique used in the Late Bronze Age but not, apparently, for storage jars (fig. 8-6:4, 5). Most of the jar bases in Phases G-H were closed upside-down, with a slab of clay.

**Smaller jars or jugs.**
These had a ring base, one or two handles on the shoulder or from shoulder to rim and a once-folded rim (fig. 8-7:2). In the Iron Age these were the type 2a-e jars, constructed in the same way as the Late Bronze Age jars (Franken 1992, 156 ff, *B4, *D, *E3, and Franken 1969, 111 ff and 167 ff., fig. 3:20, 22). Most of these smaller jars or jugs in Late Bronze Phases E-F had a biconical body (fig. 8-7:1).
In the Early Iron Age for the most part only rims have been preserved, so whether this group still had a biconical body is not clear. The few larger fragments that have been published seem to suggest that they did (fig. 8-7:3). A third group of jugs has been found only in Late Bronze Age Phases E-F. Its manufacture was the same as for the smaller jars, with a biconical body, but no neck (fig. 8-7:4). It does not occur in the Iron Age repertoire, but one rim has been found in Phases G-H.

**Pithoi.**
Some very large storage jars have been found in the Late Bronze Age layers, and some of these had a collared rim (fig. 8-8:1 and Franken 1992, 88). In the Early Iron Age layers several pithoi of the same type were found (fig. 8-8:2). Pithoi were generally made by coiling (Franken 1992, 89). In Late Bronze Phase E the base has been described as shaped in a large stone bowl (Franken 1992, 157), on which the jar was built by coiling.

**Juglets.**
Three different methods for the manufacture of juglets (‘dippers’) have been described for the Late Bronze Age, (Franken 1992, 154 ff). The first type was made on the wheel, and the base scraped or ‘shaved’ to a rounded shape when the vessel was leather-hard. This ‘shaving’ of the base is typical for Late Bronze dippers (fig. 8-9:1). The second type, with a pointed base, is encountered in both periods (fig. 8-9:2). It was made by pinching the vessel from the cone and then shaping it into a pointed shape with the fingers and sometimes the added use of a knife or a rib. The third type was completely handmade (fig. 8-9:3). Two pointed dipper bases have been found in Phases G-H.
Morphological groups

Morphological differences are differences in shape and decoration; often these are the only differences taken into account in descriptions of pottery. A development from Late Bronze Age Phases A-D can be seen in the published pottery from Deir ‘Alla, even though only a small area has been excavated and consequently relatively little pottery has come to light. Some significant developments in Phases A-D and differences of these phases with Phases E-F will be discussed here.

- Carination of open bowls: in Phases A-D the typical Late Bronze Age double carination is dominant (fig. 8-10:1). Single ‘folds’ do appear already in Phase A but are limited to certain types of chalices (fig. 8-10:2). In Phase E a single bend, more characteristic of Iron Age shapes, has completely replaced the double carination (fig. 8-11:1, 2).
- Many bowls in Phase E have an incurving rim profile, whereas the rims as well as the bases in the earlier phases are usually flaring. Flaring bases still occur on chalices and goblets in Phase E (fig. 8-10:3, 4) but not on any other vessel shape, whereas in Phase D they are still the norm (fig. 8-10:3).
- Chalice bases in Phase E are almost twice as high as in the earlier phases and less flaring. This distinction is not absolute, however; occasionally high chalices appear in the earlier layers (fig. 8-10:4), and low chalices in Phase E (fig. 8-11:5).
- Lamps: the Phase E lamps have a more deeply pinched spout than the Phase D ones, and an everted rim, like the Iron Age ones (fig. 8-10:4, 6; 8-11:6).
- Cooking pots: the Late Bronze type II cooking pot with folded rim (fig. 8-3:1) appears in Phase E to the exclusion of the older Late Bronze type cooking pots with flaring rims (fig. 8-10:7-9).
- Much of the pottery from Phases A-D has a slip layer, usually white or light pink or orange in colour; in Phase E only 11 out of 268 published sherds have a slip layer. The quality of the slip layer, which was very high before and at the very beginning of the Late Bronze Age (comparable to the so-called ‘chocolate-on-white’ ware) deteriorated gradually over the Late Bronze Age (also Franken and London 1995, 217 ff), but slip and painted decoration were still very common in Phase D. Painted decoration was still frequent in Phase E, although less frequent than in the earlier phases, but slip had become rare.

Painted motifs remained more or less the same in all periods: horizontal bands with zigzag lines in between, metopes on biconical jars with vertical zigzag and chequered bands. Bichrome decoration is found in Phase D, but not in Phase E.
- Already in Phase D some of the shapes that are considered typical for the later phases are found occasionally, such as a small bowl with S-shaped rim, and heavy deep and open bowls and kraters (Franken 1992, 127-129). In Late Bronze Age Phases A-D the
rim profile of open shapes is usually either pointed or flattened (fig. 8-10:1-4). These rim profiles can still be found in Late Bronze Age Phases E-F, but rounded rim profiles have become much more common.

![fig. 8-10. Pottery from Late Bronze Age Phases A-D at Tell Deir 'Alla](image)

Some morphological types which are well represented in Phase E are not found in the Iron Age: a group of “bowls with incurving upper part” with a more or less biconical body, (fig. 8-11:7) and biconical jugs or jars (fig. 8-11:8). One biconical jar rim was found in Phases G-H.

A new type in the Early Iron Age is the large jar with bichrome horizontal bands on the neck (fig. 8-7:3; 8-12:1). This type was not found in Phases G-H. For some of the vessels (mainly the larger ones) the basic difference is in the shape of the rim which has an outward fold. Occasionally this outward fold is already found in Late Bronze Age Phase E. In the Iron Age it becomes general, although the older rim profile does not disappear (fig. 8-3:2, 3; 8-4:3, 4; 8-6:2, 3).

![fig. 8-11. Pottery from Late Bronze Phases E-F from Tell Deir 'Alla](image)

Thin walled bowls show the same variety of rim shapes in both periods: straight, rounded and S-shaped rims with rounded, flattened or pointed tops (fig. 8-12:2-5). For the Iron Age open bowls Franken has given a framework in which to fit the different shapes (Franken 1969, 147). Again no statistics are available for the Late Bronze Age, but the published material shows that all shapes found in the Iron Age also occur in Late Bronze Phases E-F. The Manasseh bowl (Franken’s ‘type 13’, fig. 8-12:6, 7), which becomes more common in the Early Iron Age, can already be found in Late Bronze Phase E and F (Franken 1992, 141:93 and 146:18), although they still seem to have relatively small diameters. In the limited repertoire of Phases G-H most of the rim shapes discerned by Franken were found including the Manasseh bowl. The ‘typical’ chalice rim, with a flattened or T-shaped profile is found both in Late Bronze Phases E-F and in the Early Iron Age (fig. 8-11:4; 8-12:8, 9). Ribbing of the foot of a chalice is sometimes considered an Iron Age feature (Amiran 1969, 213). However, both smooth and ribbed chalice bases were found in Deir 'Alla in both periods (fig. 8-11:4, 9; 8-12:10, 11).
Decoration, both in the Late Bronze Age and in the Early Iron Age, is mostly painted. Franken (1992, 115 ff) shows that slip, which had already seriously diminished in Late Bronze Age Phase D, practically disappeared in Phases E and F. In Phases G-H four thin-walled open bowls had a pink or red slip. Three of these had a typical ‘pointed’ rim profile, a Late Bronze Age feature (see above). Slip does not occur in the early phases of the Iron Age. Much of the repertoire of painted motifs found in Late Bronze Phases E-F is repeated in the Iron Age: the alternating straight and wavy lines, the chequer board patterns, ladder or diamond patterns, the palm tree motif on handles, and the stylised plant or animal motifs (fig. 8-11:3, 7, 10; 8-12:1, 12, 13). These motifs are common in the whole period of the Late Bronze Age. Some motifs, known from the early phases of the Late Bronze Age, but not from the later ones, recur in the Iron Age, e.g. the row of filled-in triangles, or the alternating black and red bands (fig. 8-10:4, 8-12:1). A new motif is the row of concentric half-circles which is common in the early phases of the Early Iron Age (fig. 8-12:14). In general it can be said that the quality of the decoration is gradually improving. A few painted fragments were found in Phases G-H, with a decoration of mainly horizontal bands. Plastic decoration is seen in the Late Bronze Age but is it rare; most of it comes before Phases E-F. In Iron Age Phase B bar and ledge handles suddenly become popular (fig. 8-12:15, 16). They are found occasionally in Late Bronze Phases E-F.

![fig. 8-12. Published pottery from the Early Iron Age at Tell Deir 'Alla](image)

**Pottery production in the Deir 'Alla region**

The evidence therefore demonstrates that the three breaks in the pottery repertoire are each of a different nature.

**The transition from Late Bronze Phase D to Late Bronze Phase E**

The transition from Late Bronze Phase D to E is marked mainly by differences in manufacture and morphology while the functional repertoire remains more or less the same. Slip and paint have virtually disappeared, the fast wheel is replaced by the turntable producing heavy, thick-walled bowls, and a new way of producing bases is introduced. Flaring rims and bases disappear and we find different shapes for practically all functional groups. Frendo explains this break with a new people taking over the site, whereas Franken suggests a slower, internal development.

The most obvious explanation however seems to be that the differences reflect changes in the pottery industry that provided the inhabitants of the site with their vessels. In Late Bronze Phase D some of the shapes that are typical of the later phases appear already, suggesting that there was no gradual evolution from Late Bronze to Iron Age shapes, but rather the introduction of new shapes which eventually replaced the older ones. This
suggests that during the time of Late Bronze Age Phase D, probably towards the end of the period, potters from elsewhere entered the region and started practising their trade.

The transition from Late Bronze Phases E-F to Late Bronze Phases G-H.
In Late Bronze Phases E-F the sanctuary was still functioning. There was no change in population from Phase D to Phase E. The pottery they used, however, came from different workshops, established by potters from elsewhere, possibly from the Amman Plateau. These potters had to deal with new material and therefore some of their products may have been clumsy in the earliest periods. However, they managed to establish themselves in the region and eventually their new techniques and shapes dominated the market.

Based on the distribution of household as compared to ceremonial pottery, Franken has ascribed a storage or household function to the rooms west of the cella. Most of the storage jars were found here as well as the three registered cooking pots. Dippers, chalices, small bowls and jugs as well as kraters, were found both east and west of the cella, suggesting that, although not strictly ceremonial, they may have been used in the service of the temple.

In the transition from Late Bronze Phases E-F to G, 'luxury' and ceremonial vessels, like chalices and dippers, virtually disappear whereas the household vessels, like cooking pots, deep bowls and large open bowls, such as had been found in the rooms west of the cella, become more common; this suggests a change in economy (but not necessarily in population). The number of storage jars is extremely low in both periods. Storage may have been mainly in storage bins, many of which were found in these phases. These differences can be explained by a change in function of the site: the disappearance of the temple in Phase G, and the building of a fortress and later a tower in the area of the former sanctuary.

The transition from Late Bronze Phases G-H to the Early Iron Age.
After the tower of Phase H was abandoned the site seems to have been deserted for perhaps 20-25 years. The next phases, the earliest Early Iron Age phases, see a complete change in architectural layout. The changes in the pottery repertoire are much less obvious and concern the distribution of the functional groups. A sharp increase in storage jars is the most notable change in the pottery repertoire. Apparently the Early Iron Age settlers had different storage methods from their predecessors. At the same time the numbers of small bowls, small jars and kraters, three functional groups most likely connected with eating and drinking habits, decrease sharply. All this points to a change in the nature of the settlement and a new group of occupants.

As shown above, pottery manufacture remained virtually the same from Late Bronze Phase E into the Iron Age. The pottery production centres that functioned at the end of the Late Bronze Age were still functioning in the beginning of the Early Iron Age. A new type of jar made its appearance, the storage jar with bichrome decoration on the neck, but most shapes remained virtually unchanged. The potters did, however, introduce one, or perhaps two, major technological changes that seriously improved the quality of the vessels, the folding out of the rim, found occasionally already in Late Bronze Phase E and F and seen mostly in the larger vessels such as storage jars, deep bowls and kraters. The second change seems to be that biconical shapes now became more rounded. Both changes had a positive effect on the strength of the vessel.

According to Franken, potters do not change their mode of production unless forced to do so (1982, 142). This may be because their basic material changes or because their
market changes. By the end of the Late Bronze Age, in the course of Late Bronze Phase E, new technological and morphological types of vessels were introduced in the Deir 'Alla region, most likely by newly arrived potters. There is no reason to assume that the old production centres simply disappeared, but now they had to compete with the new potters. In this scenario rapid changes in the production of vessel types are possible, such as are seen in the transition from Late Bronze Phase D to E. Some changes took more time to evolve, like the second fold in the rim of the larger vessels and the appearance of a new shape of jar, showing that this introduction of new pottery techniques was a gradual process that continued into the beginning of the Iron Age. In Late Bronze Age Phases E and F the second fold in the rim is found occasionally; in Phases G-H 16 out of a total of 95 rims or one-fifth is folded; in Iron Age Phases A and B it is more or less general on the large vessels. The rim of a pot is usually the most vulnerable part. A heavier and therefore stronger rim would be an important improvement. But only if there were a certain amount of competition would potters go through the extra trouble, a thicker rim takes longer to dry, and there is the extra risk of it cracking during firing because of the difference in thickness. The fact that an extra ridge below the rim on the outside becomes accentuated in certain types (kraters, jars) suggests that it may have been a mark of quality. The same can be said about the increasing roundness of the body. A rounded vessel can take more pressure than a biconical one, which tends to break on the carination. However, biconical shapes are easier to make, especially when coiling techniques are used. These two developments therefore suggest the presence of a certain amount of competition in the region. Franken has proposed to ascribe the locally produced pottery of Late Bronze Phases E and F to two different workshops (Franken 1992, 107-108). He distinguished two locally produced wares, A and B. About two-thirds of the locally produced pottery was made from ware A. Both centres produced all functional groups but there are some typological differences: Small bowls from workshop B have an S-shaped profile with a thickened rim. Large bowls were generally made in workshop A and the few exceptions have a different profile. These morphological differences support Franken’s suggestion of (at least) two different workshops in the Late Bronze Age. As no comparable ware-analysis has been done for the Early Iron Age nothing explicit can be said about workshops in that period.
IV-9. The excavations at Tell el-Hammeh.

In 1996 and 1997 two seasons of small-scale excavations were conducted at Tell el-Hammeh on the north bank of the lower course of the Zerqa\(^1\) (fig. 9-1). Tell el-Hammeh lies 2.5 km east of Tell Deir ‘Alla, at the point where the Zerqa enters the foothills. It rises seven metres above its surroundings and still stands out from the relatively flat landscape of the Zerqa flood plain. It is at present occupied with a large farmstead that houses two families. The tell has been visited by several survey expeditions (Glueck 1951, 313; Gordon and Villiers 1983; Ibrahim \textit{et al.} 1988) and was believed to have been settled in the Early Bronze Age, and also from the Early Iron Age up to the Persian period. Some Roman sherds were found as well. The German institute at Amman has a collection of sherds from the site.

Excavations were started in order to clarify settlement patterns in the transitional Late Bronze - Early Iron Age and at the beginning of the Iron Age in relation to Deir ‘Alla, and to investigate the possibility of a trade route from the Deir ‘Alla area through the Wadi Zerqa to the Baq‘ah valley (van der Steen 1996). An additional reason for excavation of this site was the fact that a large segment of the tell had recently been cut away for agricultural purposes; this on the one hand stressed the need for research, and on the other hand it provided a section through a large part of the tell, which simply had to be cleaned. The excavations were directed towards two main aims:
- To clean and draw the bulldozer cut, in order to get an overview of the occupation history of the site;
- To determining in which period the tell was resettled in the transitional period and the nature of this reoccupation.

Bad weather conditions (heavy eastern winds, coming from the Wadi Zerqa to the east, which functioned as a ‘wind-tunnel’, in the first season, and much rain in the second season) seriously hampered the excavations. Still, large parts of the bulldozer cut were cleaned on both ends and in the centre, and a clear occupational sequence could be identified. The earliest occupation found was Chalcolithic and Early Bronze Age. This is concentrated on the southwest end of the tell, where a mudbrick wall belonging to this early occupation could be seen in the section.

On top of these early layers came the first surprise, material from the Middle and Late Bronze Ages. None of the previous surveys (see above) had produced even one sherd from those periods. The material consisted of rather fine pottery with white and pink slip and painted decoration. The highest concentration of this pottery was found in the central part of the tell, although sherds were found scattered over the whole site. On top of this the Iron Age occupation covered most of the tell.

The biggest surprise however came when the northern part of the bulldozer cut was cleaned; heavy ash and slag layers, as well as remains of three furnaces, revealed the presence of a large scale iron smelting industry. This was the side of the site that was most open to the eastern winds that are so frequent here. On the basis of the pottery these layers have been provisionally dated to the early eighth century BC\(^2\).

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\(^1\) The excavations were part of the Deir ‘Alla expedition, headed by Dr. G. van der Kooij on behalf of Leiden University, and Dr. Z. Kafafi on behalf of Yarmuk University. E. van der Steen directed the excavations. The second season was partly funded by the Department of Antiquities of Jordan.

\(^2\) The remains of the iron industry at Tell el-Hammeh are at present being studied by H.A. Veldhuizen at the University of London.
Four squares were opened, their location determined by the results of the main section. Two squares were opened in the first season in the central part of the tell, adjoining the section (fig. 9-1). This meant that we could excavate from the side, following the stratigraphy from the section. Another advantage of this way of excavating became clear in the second season: the rainwater could run away and did not get the chance to flood the squares. In the second season two more squares were opened, at the south and north end of the tell respectively, for the purpose of determining the nature of the Early Bronze Age occupation, and of the iron industry.

Chalcolithic and Early Bronze Age layers were found in the southern square, in a small trench. The mudbrick wall that was seen in the section continued here, with layers of ash and burnt rubble, containing a high concentration of burnt bone lying against and over it. A complete Early Bronze II juglet was found here. The results of several surveys on the site have failed to reveal Chalcolithic material so its presence, like that of the Late Bronze Age material, came as a surprise. It seems to be related to the pottery of Tell Abu Hamid. The Chalcolithic material is still being examined.

Late Bronze Age I and II material was found mainly in the two central squares (Square I and II). Phase 2 is dated to the Middle and Late Bronze Age and Phase 3 is dated to the Early Iron Age. These two phases are described extensively below.

In Phase 4, dated to the Iron Age II period, remains of a larger building were found. Two walls formed a corner of the building. Parallel to the N-S wall, on the east side (the outside) at a distance of about 1 m, was a second wall, but this did not turn west; it continued north, and it may have been a courtyard wall. Inside the building was a row of standing stones, about 30 cm in height, also parallel to the NS wall, at a distance of about 1 m. At one point, the space between them was closed with mudbricks. The walls of this building, like those from the previous phase, consisted of some layers of boulders set on the surface, with a superstructure of mudbricks. This way of building a wall can also be seen in contemporary farmhouses like the one that presently exists on the tell. The layer of stones prevents undermining of the walls by rain. A row of stones set against the outside of the mudbrick superstructure at a somewhat higher level probably served the same purpose in a later stage when wash layers had covered the stone substructure.

Still later in this phase, possibly after the building had gone out of use, the iron furnaces were built. One of them was found north of the building. Heavy layers of slag and ash were found lying between the courtyard wall and the wall of the building. Another of these furnaces was excavated in Square IV, which was opened for this purpose. It was a rounded structure with a diameter of about 2m (unfortunately most of it had been bulldozed away); it was built of mudbricks which were burnt bright green and partly sintered. It was set on a sequence of slag layers, suggesting that this activity had been going on for some time on the same spot. Heavy layers of white ash and slag were found around it. In the south square a stone pavement or paved street was found, with some slag lying between the stones, which may belong to the same period.

The main feature of Phase 5 was a huge pit in Square II, some 6 or 7 m in diameter, lined with mudbricks, and with stones at the bottom. It was dug into virgin soil, cutting through all the older phases. Comparable pits have been found at Deir 'Alla , but so far their function remains unclear. They may have been used for storing grain. North of this pit an activity area was found consisting of a round installation, 1 m in diameter, of rather small stones with a large number of loom weights and two grinding stones scattered between the stones. The surface to which they belonged contained a very high concentration of sherds.

The final phase, Phase 6, is immediately below topsoil. Its main feature is a heavy building in Square I made of dressed blocks, of which two walls were found. It was dug
in deeply, its foundation trench cutting through several earlier phases. South of it a stone wall or wall foundation was found, running east-west, set in a foundation trench. This wall seems to have been reused, since a new wall was put on top of it. Wash and rubble were found against and covering the wall, but it had largely disintegrated. A number of pits had been dug into these layers, as well as a kind of trench or ditch, running north-south in the western part of the square. This phase was provisionally dated to the Persian period.

Stratigraphy and pottery of Phases 2 and 3.

Phase 2a (locus nos. I-139, II-157, 143, 116) consisted of an accumulation of wash and surface layers containing many stones and pottery. No pits, walls or installations were found, although the large number of stones suggests that simple, temporary installations like hearths or partitions may have been constructed occasionally. Stones may also have been used to secure tent cloth against the heavy winds that are so frequent on the site. The accumulation of wash and surfaces indicates temporary, possibly transhumant or nomadic occupation (fig. 9-1, 2, 4, 5).

Fig. 9-1. Top plan of Square I and II.

The pottery (fig. 9-3) is characteristic of the end of the Middle Bronze Age, as well as of the first half of the Late Bronze Age. Deep bowls have incurving or non-profiled flaring rims, which only in the higher layers become more profiled, like the later Late Bronze Age kraters. Open bowls have gently rounded and slightly thickened rims, which occur
both in the Middle and in the Late Bronze Ages. Jars in the lowest layers have long,
flaring rims, with more profiled types in the higher layers.
Shallow, flaring ring bases were found, and occasional loop bases. Two fragments were
found of Middle Bronze Age black burnished juglets.
Many sherds had white burnished slip, which makes its appearance in the second half of
the Middle Bronze Age and becomes more popular in the Late Bronze Age. Some sherds
of chocolate-on-white pottery were found, with a decoration consisting of horizontal and
wavy lines. Phase 2a can therefore be dated to the end of the Middle Bronze Age and the
first half of the Late Bronze Age. Cooking pot rims are almost exclusively of the hole-
mouth type, typical for the second half of the Middle Bronze Age. Two cooking pot rims
that are characteristic of the end of the Late Bronze Age (fig. 9-3:8, 9) may have been
intrusive.

Phase 2b (locus nos. I-131, 132, 133; II-112, 113, 114, 115, 141, 142, 154) was
distinguished from Phase 2a by large amounts of stones in the lowest layers, possibly the
remains of a cobbled floor (II-141), and by the presence of several shallow pits showing
traces of burning and layers of ash, suggesting basic household activities like fireplaces
or hearths (fig. 9-2, 4, 5, 7). Apart from that this phase did not differ much from Phase
2a: wash and surfaces, with many stones and sherds.

The pottery of Phase 2b (fig. 9-6) also shows a continuation from the previous Phase 2a
in the deep bowls which had non-profiled incurving or flaring rims. However, profiled
rims began to appear, and fig. 9-6:21 is a krater rim that is more characteristic of the end
of the Late Bronze Age. Open bowls also show the same variety of rims that was found
in Phase 2a: gently curving rims, folded at the top, as well as pointed rims, and the
occasional S-shaped bowl. Jar rims (fig. 9-6:49-65) tended to become more vertical and
profiled. Some storage jars already had the second ridge below the rim that became
typical for the Early Iron Age. Cooking pots from Phase 2b show characteristics that are
diagnostic for the end of the Late Bronze Age in this region: they consisted of very wide,
thin-walled bowls, with vertical folded out rims, of the type found in Deir 'Alla Late Bronze Phase E and F (fig. 9-6:1-5); occasional triangular rims are found as well. One cooking jar was found (fig 9-6:9).

Fig. 9-3. Pottery from Phase 2a.

Fig. 9-4. Square II: Intermediate section B-B'.
All in all the repertoire seems to have changed slowly from shapes that are characteristic of the end of the Middle Bronze Age in the lowest layers, to shapes that are more typical of the Late Bronze Age in the higher layers. The sharp change in cooking pot shapes contrasts with this gradual change: from Middle Bronze Age hole-mouth cooking pots to Late Bronze Age II cooking pots. This gap is not reflected in the other pottery repertoire, and neither does the stratigraphy of these phases suggest a gap in occupation. The fact that one whole group of cooking pots seems to be missing from the repertoire may therefore point to a change in the function of the site, or of this part of the site, or even to a change in cooking pot workshops.
Phase 2c (locus nos. I-126, 127, 128, 129, 130, 136, 137, 138; II-110, 134, 135, 136, 138, 139, 140, 152, 153), like Phases 2a and 2b, consisted of surface and wash layers. Several deep pits were found that had been dug from these layers, suggesting a somewhat more permanent occupation than that of the previous phases. Many ashy layers and some burnt surfaces were found here as well. There were still no walls or more permanent structures or installations, with the possible exception of one irregular north-south row of stones, I-126, which may have been a spatial partition or a division (fig. 9-2, 4, 5, 7).

![Fig. 9-7. Square I. Intermediate North section](image)

The pottery (fig 9-8)
Deep bowls with non-profiled, inverted rims still occurred but profiled, folded-out rims became more common, and in general a larger variety of rim shapes is observed in this phase. One krater (fig.9-8:29) had a typical Early Iron Age shape. Open bowls also showed a large variety in shape, although types with rounded sides and a slightly thickened rounded rim were very common. Fig. 9-8:42 is a typical Manasseh bowl. Fig. 9-8:50, 51 are S-shaped bowls.
Some jar shapes, like fig. 9-8:57-59 survived from earlier periods. However, the main two types of jars were those typical for the beginning of the Early Iron Age: the smaller type with long neck and triangular shaped rim (fig. 9-8:60-62), and the larger type with a ridge below the rim (67 ff). Other shapes and variations of them occurred as well. Cooking pots were typical of the very beginning of the Early Iron Age, thin-walled, with a folded-out rim, that was either pressed to form a ridge below the rim (fig.9-8:1, 2) or formed into a triangular profile (fig.9-8:4). A number of cooking jars were found. Decoration was not rare, but much less common than in the earlier phases. Most of it consisted of burnished surfaces, white or cream slip and horizontal painted bands.
Fig. 9-8. Pottery Phase 2c.

Phase 3 (locus nos. I-117, 118, 120, 121, 122, 123, 124, 125, II-109, 137, 150, 151) was the first phase in which walls were found. Parts of two buildings were excavated (fig. 9-9). The walls consisted of several courses of unworked boulders, in a very shallow trench, with mudbricks on top. The stone courses functioned partly as a foundation and partly as the lowest courses of the walls in order to prevent any undermining of the walls by rain. This type of construction is, or was until recently, quite common in the area of Deir 'Alla. Within the northernmost building remains were found of a tannur, as well as a hearth made of stones, and a circle of smaller stones that may have functioned as a pot stand.

Several other rows of stones were found, possibly serving as spatial partitions. Still it is clear that in Phase 3 a more permanent type of occupation was intended than in the previous period, by the use of permanent structures and installations. At the same time, the hearth and the pot stand show that temporary installations were still used by the inhabitants (fig. 9-2, 5, 7).
The pottery (fig 9-10).
The pottery showed a continuing development from the previous phases into the Iron Age. Deep bowls became more profiled, with thickened rims, but were still wide. The repertoire resembled strongly that from Deir 'Alla Iron Age Phases A-D. The open bowl with gently curved walls and rounded, thickened rims was still quite common. Jars now belonged mainly to the two types described by Franken as typical for Iron Age I. Cooking pots displayed the typical Iron Age I rims, triangular or with a ridge below the rim. Very few sherds had decoration; some had painted horizontal bands and occasional slip was still found. A relatively high number of sherds was burnished.
9-11. Square I, intermediate west section.

Fig. 9-12. Square I, south section.
Conclusions

Late Bronze Age material has only been excavated in the two central squares, I and II. It is possible therefore that further excavations may change our outlook on the history of the tell. The excavated remains, however, suggest that people lived a very basic life here: no structures of any importance were found. A possible cobbled floor and a spatial partition consisting of only one, very irregular, course of boulders, were the only 'architecture' found in Phases 2a, b and c. The installations found in this phase, mainly primitive cooking devices such as bread ovens and hearths, suggested household activities.

The pottery, on the other hand, was of good quality, well made and sometimes very fine in nature. It was luxury pottery and it does not reflect the basic life style of the inhabitants that is suggested by the archaeological record. It points to regular contacts of these people with the larger centres of the region.

From the end of the Middle Bronze Age, and the beginning of the Late Bronze Age (Phase 2a) a few small fragments of chocolate-on-white ware were found, as well as large numbers of hole-mouth cooking pots. This type of cooking pot is generally dated to the end of the Middle Bronze Age (fig. 9-3).

Much of the other pottery found was slipped with a cream to pink slip, sometimes in two layers and often decorated. A fragment of a Cypriot milk bowl was the only piece of imported pottery found.

These earliest layers, with a pottery repertoire that covers most of the Late Bronze Age, were cut by pits from the end of the Late Bronze Age (Phase 2c). Judging from the pottery repertoire these pits and the layers from which they were dug would be contemporary with the latest sanctuary phase at Deir 'Alla: Late Bronze Phases E and F. The presence of large numbers of pits is often related to activities by farmers or pastoralists. It suggests a more permanent kind of occupation compared to the previous periods, in which the site seems mainly to have been used as a temporary campsite.

The pits were covered by surfaces where industrial or household activities had been performed, leaving ash, burnt surfaces and large numbers of sherds. There was an irregular flimsy wall or partition consisting of a north-south row of stones. A temporary fireplace could be connected with one of the surfaces. This consisted of a circle of stones in which the remains of a fire were found. Beside it was a smaller stone circle that may have been used as a pot stand. This kind of installation still points to a temporary occupation of the site. On another of these surfaces more permanent structures were found, such as the remains of a tannur, and a kind of round burnt-clay platform, 30 cm in diameter, that may also have had a function in the preparation of food. Many cooking pots were found here, of types common in the Transitional and Early Iron Ages in Deir 'Alla. A layer of wash covered this activity area. This phase (2c) has been dated to the Transitional Late Bronze - Early Iron Age.

Over it were more occupation layers showing a somewhat more permanent occupation (Phase 3a): parts of buildings, cobbled surfaces and activity areas, dated to the first part of the Early Iron Age. The pottery is related to the first phases of Iron Age Deir 'Alla (Franken 1969).

The nature of the architectural remains, if one may call them so, of the earliest layers points to a very simple type of occupation: a partition between two open spaces, a cobbled floor and a few pits. It seems justified to interpret it as belonging to an agro-
pastoral, perhaps mobile, temporary population. What is at odds with it, however, is the
nature of the pottery.

There were some chocolate-on-white sherds from the earliest layers. Also in the later
phases much of the pottery was made of fine ware, often decorated. Apparently, although
the people who lived here, or camped here, may have led a primitive, simple life, they
were in contact with the greater culture that surrounded them, and possibly were less
primitive or rural than their architecture or lack of it suggests.

We can think of several explanations for this phenomenon. In the light the proximity of
Tell el-Hammeh to the Deir 'Alla market area and its position on the trade route to the
east, it seems possible that this was, at least during the Late Bronze Age, a temporary
camp used by people involved in trading during their stay in the Deir 'Alla area, which
they revisited whenever they came. It had the basic requirements for a temporary camp:
water was near at hand, and cobbles and boulders were lying everywhere around to
quickly build temporary structures and installations. The pottery from the earliest layers
shows that this camp was used from the end of the Middle Bronze Age or the very
beginning of the Late Bronze Age. Hole-mouth cooking pots are mainly known from
sites west of the Jordan (on Deir 'Alla some sherds of hole-mouth cooking pots have
been found, but these have not yet been published; and a rim of a hole-mouth cooking
pot was found in Kataret es-Samra, fig.11-13:1). Therefore the most likely option seems
to be that Tell el-Hammeh was a ‘road stop’ for travellers through the Zerqa Valley: the
last stop before entering the valley, or the first stop after they came out of it. On the
other end Khirbet Umm ed-Dananir (Chapter I-3) may have had the same function. A
trade route through the Wadi Zerqa is the most likely reason for these activities.

At the end of the Late Bronze Age the trade route went out of use. Some of the
population from the Amman Plateau moved down into the Jordan Valley. In Chapter 6 it
was argued that these belonged to the transhumant groups who, in the Late Bronze Age,
were involved in the trade between the Jordan Valley and the Amman Plateau. They
would be familiar with the region they came to, and settled first on the sites that they
already knew and possibly considered part of their territory. Tell el-Hammeh must have
been one of these sites. The architecture of Phase 3 is the result of the first settlement of
these people.
IV-10: Deir 'Alla Square M: the unpublished material

Square M was excavated in 1964, in order to extend the area of the cella of the Late Bronze Age sanctuary (Franken 1964, 422; 1969:34). It is situated east of Square D 500 (Franken 1992 fig 2.1), and consists of Subsquares M 100 - M 400. Much of the material found in these squares dated from the Late Bronze Age, and has been published by Franken in 1992, but in the southern Subsquares M 100 and M 200 Early Iron Age remains were found, mainly from Phases A and B (Franken 1969). They are described here because of their immediate importance to the history of the tell in this period.

Square M is situated immediately east of the area that was published (Franken 1969), between 30-40 m east - west and between 25-35 m north - south. It lies on top of the remains of the Late Bronze cella.

Franken describes Phase A as consisting of occupation and wash layers. Immediately west of Square M there was a depression between the remains of the sanctuary and those of the Late Bronze Age tower of Phase H, which was filled up with layers of wash and ashes. During Phase A several fires broke out in this area. A stone pavement was found to the west of Square M which Franken ascribes to the metal industry that he assumes has taken place here. It was not connected to any walls. Some flimsy walls were found that could not be ascribed to any structures or installations.

In Square M a slight wall was found in Phase A2, the earliest recorded Iron Age level in Square M. It ran north - south, and was two bricks wide: M 212/214, with occupation levels 211 running up against it (fig 10-1). It could not be connected with any other structures either in Square M or Square D, but since the only other wall that belongs to Phase A also was built in Phase A2 (wall A1, see Frangken 1969 fig 4) apparently there was some building activity in this phase. In the east section of Square D 500 (fig 10-2)

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1 Prof. Franken kindly gave me permission to study and publish this material.
another wall can be seen, which can also be dated to Phase A2 and which is probably running east-west. It was not found in either Square M or Square D, probably because it was lying directly below the topsoil. This wall may have been connected to wall M 214. It was, like all the other Iron Age walls in Deir ‘Alla, set directly on the surface, in this case using the ruins of the Late Bronze Age structures as a foundation.

Since the walls in Square G were set in the depression between the ruins of the Late Bronze cella and the tower to the west, and the other walls stood on top of the ruined cella, it seems unlikely that they were connected.

In Phase A3 a brick-lined pit was found, pit M 122 (fig. 10-2), which strongly resembled the one found in Square D (D 514). It was dug through the Late Bronze levels. Apart from this, Phase A3 in Square M consisted mainly of occupation levels, consistent with the rest of the excavated area. Phase A4 also consisted of only occupation layers (M 208) and a pit. Phase A5 contained three walls: M 106, which was only discovered in the S-section (fig 10-1), but which probably ran north-south; wall 203 (fig 10-4); and wall 207, in the east section of M 200 (fig 10-3), not visible in any plans but running east-west. It is not clear whether these walls formed a room. The finds suggest activities on both sides of wall 106: a large number of objects in M 112; a bronze ring; a bronze knife blade fragment; a 'button' made of a re-used sherd and a sandstone rubber. The pottery repertoire seems to point to a household function. Possibly this area was a kitchen, with a relatively large number of cooking pots, two storage jars and two bowls.

A second group of pots, broken but complete, was found east of wall 203. It consisted of at least six jars, one jug and three bowls. A fragment of a cooking pot was found. Some of the jars must have been filled with different kinds of grain since large quantities were found of seeds of two-row barley (*hordeum distichum*), bread wheat (*Triticum aestivum*), flax (*Linum usitatissimum*), field pea (*Pisum sativum*), bitter vetch (*Vicia ervilia*) and some darnel (*Lolium temulentum*), a type of grass that used to be common in cornfields. Other objects found here were a fragment of a sandstone grinder,
a fragment of a sandstone quern, a stone bowl and an unidentified bronze object with a square shaft.
Since in the rest of the excavated area no structures were found and only one pit, occupation must have been concentrated in the region of the former cella. Clearly the ruins of the cella formed a good, stable foundation for new structures. Apart from that, it was higher than its surroundings and therefore less likely to be affected by winter rains.

fig. 10-3. Deir 'Alla. East section Square M 200

fig. 10-4. Deir 'Alla. Top plan Square M.
Phase A6 also seems to have been largely unoccupied in most of the excavated area, but in Square M the first more or less complete structure was found, a small room of which three walls were unearthed: M 202, M 205 and M 203 which continued to be in use (fig 10-4). Two of these walls were set directly over the shattered pots of the previous phase. Again, there was no trace of foundation stones or foundation trenches but the walls were set immediately on the existing surface.

East of this room remains were found of what may have been a stone floor, with two bread ovens (M 108 and 109, fig 10-5), forming a courtyard. No connection has been found between this courtyard and the small room, and therefore it cannot be determined whether the two formed part of a larger unit. It seems likely, however, in the light of the fact that this is the only excavated area that had traces of settled occupation. At the same time, the area immediately south of this part has not been excavated and could reveal more houses or rooms.

A raised platform of large mudbricks (M 113) was set on top of this stone pavement. It is dated later than Phase A6, but before the beginning of B1. It may have been connected, either structurally or functionally, with the first furnace.

All in all it seems that at least in the first Iron Age phase the cella remained a focus of occupation. Whether this was because of its presumed sanctity or merely because it provided a firm foundation for building is a question that cannot be answered at this stage.

Phase A is also the phase in which the oldest furnace was found. (fig. 10-3, wall 204; Franken 1969:36). Franken considered these huge furnaces (5 x 4 metres on the outside) to be part of a copper smelting industry. He related it to other features from Phase A which he also considered to be part of the metal industry, like the large amounts of fuel that must have been stored, and the stone floors. Stone floors are a feature of certain stages in a metal industry, like the crushing or roasting of the ore. However, one would expect at least some ore or metal scraps to have remained between the stones of the platform, but none have been recorded.
In fact, later excavations in the area of the furnaces have demonstrated that there were hardly any remains of actual copper ore or slag, or any other indications that these furnaces were used in metal production. Apart from that, the size and shape of the furnaces is completely different from that of any other metal furnace in the whole region during this period. It seems therefore that these furnaces had some other, thus far unknown function.

No remains of the Phase B furnaces have been found in Square M. The only remains found in Square M belong to Phase B1, the most important being a heavy wall, running north-south, M 101 (fig 10-3). Another stone floor was found in the west part of the square. In the rubble overlying the room from A6 a fragment of a Philistine bowl was found. The remainder of this bowl was found in the clay debris north of the second furnace, which is Phase B 2, so it is likely that this debris covered the room as well. (Since it was found directly under topsoil this could not be confirmed stratigraphically). Finally, possibly in Phase C, possibly even later, a foundation trench was dug, and wall M 102 built, parallel to M 101.

Conclusions

The excavation results show that at the very beginning of the Early Iron Age occupation on Deir 'Alla, the first occupation after the gap that came at the end of the Late Bronze Age, some slight structures were built on the site. That these were built on top of the remains of the cella may not be accidental. We do not know whether the new occupants were in any way acquainted with the former status of the site. If, as has been argued, they came from the Amman Plateau and had been involved in the trade between the Amman Plateau and the Jordan Valley, it is likely that they knew it. In that case one would expect that the structure that was built on top of the old sanctuary had a special, ritual function as well. There is, however, nothing that indicates a special function here, except perhaps the fact that it is the only structure found so far in this phase. On the other hand, the new occupants may simply have used the elevated position and the hard foundation formed by these remains, as a suitable substratum for a new house.

The architecture of Phase A resembles that of Phase 3 at Tell el-Hammeh, except that the occupants of Deir ‘Alla did not use a stone foundation. This may have been because they brought a different architectural tradition with them, or it could simply mean that stones were less readily available at Deir ‘Alla than they were at Tell el-Hammeh, where the adjoining Wadi Zerqa was a ready source for stones and boulders of all sizes.

In any case it is clear that both the population on Tell el-Hammeh and the population at Deir ‘Alla conform to the picture painted here of the beginning of the Early Iron Age in the region, that of small groups of people who settled on sites that had been deserted recently (or, in the case of Tell el-Hammeh, had only been settled on a temporary, transhumant basis), where they started to build simple structures and at the same time adhered to traditions of a more transitory nature: the use of temporary installations such as hearths, some of which were found at Tell el-Hammeh, and the use of tents, as is demonstrated by the post holes at Deir ‘Alla (Franken 1969, 20).

The huge furnaces, the first of which was built at the end of Phase A, represent some industrial activity, although it is at present not clear what kind of industry it represents. Many small drops of metal were found surrounding them, but they were not used for casting bronze or smelting copper. It is clear, however, that whatever activity was performed here it was done on a professional, industrial scale, and the population must have brought the skill to perform it from wherever it was they came from.
IV-11. Survey of the region

In 1994, during the excavations at Tell Deir 'Alla, weekends were used to conduct a survey of the region. This survey was site-oriented, aimed at finding and rechecking the sites that had been found during earlier surveys, those of Nelson Glueck (Glueck 1939, 280-322) and of the East Jordan Valley Survey (Ibrahim, Sauer and Yassine 1976, 1988). The original reason for this survey was the fact that from the three main surveys that had been carried out in the area earlier (Nelson Glueck’s Transjordanian survey; the East Jordan Valley Survey from 1975-76; and the Zerqa Survey by Gordon and Villiers from 1982) the results had been published but not the pottery. Therefore pottery was collected from as many of these sites as possible, and checked against the published results of the earlier surveys. The survey methods were very simple: during a given time a specified number of people walked over the site, and collected all the sherds they found. These were checked afterwards and diagnostics preserved. Later I took advantage of an opportunity to check the actual material from these three earlier surveys as well. The results of both the 1994 survey and the three earlier surveys are presented here (table 11-1).

Tell Kereimeh
Tell Kereimeh was surveyed by Glueck (G 169) and by the East Jordan Valley Survey (JVS 93). It sits on the south bank of the Wadi Kufrinjeh, which was a perennial stream in the days of Glueck, and it is one of the sites that are located along the eastern foothills. On top of the tell were some old stone foundations, which were partly used as foundations for the Arab Legion Police station. An irrigation canal conducting water from the Wadi Kufrinjeh ran past it. Glueck found many sherds, which he dated to the Iron Age I-II period, and some Late Bronze II sherds, as well as Roman-Byzantine sherds. According to the East Jordan Valley Survey the site yielded pottery from the Late Bronze Age, and from Iron Age IB and II. Examination of this pottery suggests a continuing occupation from the Late Bronze Age II into the Iron Age II (fig. 11-1).

The only Late Bronze Age specimen is cooking pot 11-1:2, which dates to the very end of the Late Bronze Age. Bowl 11-1:7 could belong to Late Bronze II, but it was very worn. Cooking pot 1 is of the transitional type, known from Deir 'Alla Late Bronze Phases E and F (Franken 1969, 119). A group of three deep bowls/kraters, fig. 11-1: 4-6, can be dated to the Early Iron Age, perhaps starting in the transitional period. Open bowls with straight flaring rims are not uncommon in the Late Bronze Age (e.g. Franken 1992 fig. 7-9, Phase D), whereas rounded rims such as fig. 11-1:8 are more common in the Early Iron Age. The profiled rim 11-1:12 can be found in Deir ‘Alla from

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1 Several students participated in this project: Lucas Petit, Deborah Zuidwijk, Manon van Diemen, Anna Labadie, Jennifer Peersmann, Kien van Rijn van Alkemade and Xander Veldhuizen. Eveline van der Steen directed the project. The government representative for the excavations at Deir ‘Alla, Mohammed al-Balawneh, also gave much of his time to join us and he was a great help in locating the sites.

2 The material from the Jordan Valley survey and from the Zerqa survey is stored in the Jordan University, Amman, where I studied it with kind permission from Dr. Mo‘awiyyah Ibrahim. Nelson Glueck’s survey material is located in Jerusalem, where I found it with the valued help of Dr. Alon de Groot from the Israel Antiquities Authority. Both collections were examined in January 1992, with a grant from the Dutch Organisation for Scientific Research. Not all the material from either survey could be checked. However, from the sites that have been identified, the pottery was drawn, and the drawings are presented here.
the end of the Early Iron age on. The tall, thin jar neck and rim 11-1:13 is mainly encountered in the first half of the Early Iron Age.

The site was not visited during the 1994 survey.

![Kereimeh pottery found by the East Jordan Valley Survey](image)

**Table 11-1. Sites visited by Nelson Glueck, the East Jordan Valley Survey, Gordon and Villiers’ Zerqa Survey, and the 1994 survey (pottery studied is represented by bold numbering)**
fig. 11-2. Sites in the area of study visited by Nelson Glueck, by the East Jordan Valley Survey, the Zerqa survey and the 1994 survey.
Tell el-Qelaya
Qelaya was visited by Glueck (G 171) and by the East Jordan Valley Survey (JVS 94). It is situated opposite Tell Kereimeh, on the south bank of the Wadi Kufrinjeh, and at the beginning of the foothills. Glueck found here the remains of some Islamic buildings and some Iron Age I-II sherds. According to the East Jordan Valley Survey Iron Age IB was dominant. According to the surveyors the occupation did not continue into the Iron Age II. No sherds have been examined from either of these surveys, and the site was not visited during the 1994 survey.

Khirbet Buweib
Khirbet Buweib was visited by Glueck (G 181) and by the East Jordan Valley Survey (JVS 105). It is situated on the border between the Ghor and the Katarrh, 2.5 km south of Tell es-Sa’idiyeh. It is a low rise and at its southwestern foot a number of springs rise, the Ayun el-Buweib, which form a small wadi that flows to the west into the Jordan. Glueck found the remains of a modern stone hut on the top. Sherds were dated mainly to the Middle Bronze I period, with some Iron Age I-II sherds, as well as Roman-Byzantine ones (fig. 11-3).

Fig. 11-3: Khirbet Buweib: pottery found by Nelson Glueck

Fig. 11-3:1 may belong to a Late Bronze Age krater (compare Franken 1992 fig. 7.12:13), although a much later (Islamic) date cannot be excluded. The sherd was wheel made, and had no particular surface treatment. Fig. 11-3:2 is a jar rim, from a well-known Iron Age I-II type.

The site was visited again by the 1994 survey. It was hardly visible, being part of the Katarrh hills. The field in which it lies had been ploughed recently, but revealed very little pottery (fig. 11-4). Bowl fig. 11-4:2 is a Late Bronze Age deep bowl. Figs 11-4:1 and 6 are typical of the very beginning of the Early Iron Age, the decoration from 6 being a continuation from the Late Bronze Age. Bowl 11-4:1 has parallels in McGovern 1986: cave A4 (also fig 7-13:17). The three jars 3-5 can be dated to Iron Age II.

Fig. 11-4. Khirbet Buweib. Sherds from the 1994 survey.

Tell el-Qos
Qos was visited by Glueck (G 175) and by the East Jordan Valley Survey (JVS 102). It lies about 0.5 km northeast of Tell Ammata. It is a prominent site, part of the foothills directly to the north of Wadi Rajib. The site must have been easy to defend with the Wadi Rajib flowing to the south of it, while to the east a sharp decline descends into a small valley and to the north runs a dry wadi bed. Consequently the site was accessible
only from the west. At the same time its position affords a view over a large part of the
Jordan Valley on both sides of the Wadi Rajib.
Glueck found Early Bronze I-III pottery on the north half of the broad, flat top, with
Early Bronze II dominating, as well as Middle Bronze I pottery, showing a gap in
occupation in the EB-MB period (fig. 5).

fig. 11-5. Tell Qos – north.
Pottery found by Nelson Glueck.

Bowls 11-5:1 and 2 have parallels in Late Bronze – Early Iron Age Deir 'Alla, in
McGovern 1986 cave B3 and in Pella Iron Age I. The jar rim fig. 11-5:3 is a common
Early Iron Age type. These sherds may have originated on the south side of the tell,
where Glueck claimed to have found Late Bronze and Iron Age pottery.

On the south side the top forms a ‘bench’, and here Glueck found remains of large
buildings, in which rooms could still be discerned as well as a possible surrounding wall.

Open bowl fig. 11-6:10 and jar 23 can be dated to the Late Bronze Age, as well as the
bases, one of which, 11-6:27, had a layer of pink slip inside and outside. The cooking pot
rims fig. 11-6:1-6 range from the Early Iron Age to Iron Age IIB (fig.11-6:4). Krater 11-
6:7 appears in Deir 'Alla from the end of the Early Iron Age on, whereas 11-6:8 and 9
can be dated to Iron Age II. 11-6:9 had a red painted band on the outside. Both have
parallels in McGovern 1986 cave B3. Fig 11-6:11 and 13 are Manasseh bowls and can
be dated to the Early Iron Age, although in Deir 'Alla they appeared in Late Bronze
Phase E as well (see Ch. 8). Jars represent shapes from the Early Iron Age (fig. 11-6:17-
20), Iron Age II (fig. 11-6:14, 21, 22, 25, 26). Fig. 11-6:15, 6 and 24 are shapes that are
common throughout the Iron Age. The bases point to the end of the Late Bronze and the
Iron Age.

fig. 11-6. Tell Qos south. Pottery found by Nelson Glueck.

No Late Bronze Age pottery was found at Tell el-Qos by the East Jordan Valley Survey
(fig. 11-7). The krater rim fig. 11-7:2 has parallels in McGovern 1986, cave A4, which is
dated to Iron Age I. S-shaped open bowl fig. 11-7:6 is a general Early Iron Age shape. Open bowl fig. 11-7:5 had parallels in Sa’idiyeh str. IX, which is dated to the tenth century BC. Jar 11-7:7 is an Iron Age II jar. The other sherds are general Iron Age shapes, with the exception of 11-7:4, which is probably Early Bronze Age. The site was not visited during the 1994 survey.

Tell Ammata was visited by Glueck (G 176) and by the East Jordan Valley Survey (JVS 104). It is a prominent tell on the north bank of the Wadi Rajib. Its basis is a natural knoll, about 40 m in diameter, according to Glueck. It lies close to the foothills. Glueck noticed numerous stone walls or foundations on the top and slopes of the tell. The pottery he found he dated to the Roman, Byzantine and Islamic periods, without anything earlier. However, he mentions in his report that others had presumably found sherds 'of Cypriote import of the pre-Greek period'. In fact, one of the sherds found by Glueck (fig. 11-8) can be dated to the Late Bronze Age I-II.

The East Jordan Valley Survey also visited Tell Ammata, and found some Iron Age pottery, but they could date nothing to the Late Bronze Age (fig. 11-9).

In fact, the open bowl bases fig. 11-9:8, 9 could belong to the end of the Late Bronze Age, or the very beginning of the Iron Age. Base 9 had remains of red paint in and out. Deep bowls fig. 11-9:1 and 2 are both relatively common Early Iron Age types, with parallels in Deir ‘Alla Iron Age Phases A through L. Open bowl fig. 11-9:3 had a scraped and burnished surface and may have parallels in McGovern 1986 cave B3, belonging to
the Late Bronze Age II, as well as in Beth Shean level VII. Pithos 11-9:7 may belong to Iron Age II, but no clear parallels could be found. The other sherds are common Iron Age types.

During the 1994 survey the site was visited again. It was found to be a prominent tell, with some buildings on it, and strewn with pottery sherds. Most of these were found to belong to Roman and later periods, but some Late Bronze Age sherds were found (fig. 11-10). Cooking pot fig. 11-10:1 is a Late Bronze I-II type. Both open bowls fig. 11-10:5 and 10 (with black painted decoration) have parallels in McGovern 1986 cave A2 and B3, as well as in Deir 'Alla Late Bronze Phase E, from the Late Bronze – Early Iron Age transition. Some thin-walled sherds, fig. 11-10:11-13 and 20-22 can be dated to the Late Bronze Age, with parallels in McGovern 1986 cave A2 and B3, and in Deir 'Alla Late Bronze Age Phases B-D. Bowl 11-10:8, which was scraped and burnished inside, has a parallel in McGovern 1986, cave B3. Jar 11-10:18 can also be dated to the Late Bronze Age. Bowl 11-10:9 could well be a Late Bronze Age open bowl, but it had a very worn surface. Bowls 11-10:2 and 3 are common Early Iron Age deep bowls. Bowl 11-10:2 was burnished outside, and inside on the rim.

Most of the pottery can be dated to Iron Age II, like the two kraters fig. 11-10:6 (Iron Age IIB) and 11-10:7 (Iron Age IIC), and most of the jars. The red painted bands on jar rim 11-10:15 are more common in the Early Iron Age than in Iron Age II. The chalice 11-10:24 can be dated to the Early Iron Age.

![fig. 11-10. Tell Ammata. Pottery found by the 1994 survey.](image)

**Tell Kharabeh**

Tell Kharabeh was visited by the East Jordan Valley Survey (JVS 110). It is situated on the edge of the foothills and the Ghor, on the south bank of the Wadi Rajib. According to the results of the East Jordan Valley Survey the site was newly occupied in the beginning of the Late Bronze Age and continued to be occupied during the Iron Age (fig. 11-11). Some of the pottery found by the East Jordan Valley Survey can be dated to the Late Bronze Age I: deep bowl 11-11:11, open bowl 11-11:12, which has a thick white burnished slip layer, and may belong to the chocolate-on-white group.
fig. 11-11. Tell Kharabeh. Pottery found by the East Jordan Valley Survey.

Many sherds could be dated to Late Bronze II: cooking pots 11-11:1-3, deep bowls 11-11:7-10, jars 11-11:26, 28, 29, and most of the bases. The large group of open bowls with rounded sides 11-11:13-18 can be found from the second half of the Late Bronze Age until well into the Early Iron Age. Pottery belonging to Iron Age II are cooking pots 11-11:4-6, open bowls 11-11:22-25 and juglet 11-11:27. The site was not visited by the 1994 survey.

Tell Ghazaleh
Tell Ghazaleh was visited by Glueck (G 177) and by the East Jordan Valley Survey (JVS 109). It lies several hundred metres to the northeast of Tell Mazar and is usually seen as a satellite of Mazar. Glueck noticed building foundations on the top. He also found Late Bronze II to Iron Age II sherds on it as well as some Roman and Byzantine pottery. Some sherds, one of which was burnished, were decorated with red or black horizontal bands. One handle had a row of red horizontal stripes; another had a stylised palm tree motif with two horizontal stripes over it. The cooking pots from Glueck’s survey (fig. 11-12) are all from the Iron Age, with the exception of 11-12:7, which is the ‘transitional’ type, also found in Kereimeh (see above). Other Late Bronze Age rim shapes belong to kraters (11-12:9 and 10) and open bowls (11-12:20 and 21, with red painted decoration, and probably 11-12:24). Some bases (11-12:46 and 48-51) can be dated to the Late Bronze Age. Jar 11-12:24, with red painted bands, can be dated to the end of the Late Bronze or the beginning of the Early Iron Age. Open bowl 11-12:23 has parallels in Deir 'Alla Late Bronze Phase E, the transitional period. Krater 11-12:8, with a red painted band on top, can be dated to the Early Iron Age, with parallels both in Deir 'Alla Early Iron Age and in Sa‘idiyyeh str. IX. Kraters 11-12:11 and 12 both have parallels in McGovern 1986 cave A4. Open bowl 11-12:22, with a red painted band along the rim, can also be dated to the Early Iron Age.
The other cooking pots can be dated from the beginning of the Early Iron Age to Iron Age IIB, whereas the numerous jars range from the beginning of the Early Iron Age to Iron Age IIC (11-12:46).

The sherds found by the East Jordan Valley Survey at Tell Ghazaleh (fig. 11-13) contained much Late Bronze Age material. Cooking pots 11-13:1-4 can be dated to Late Bronze Age I-II and 11-13:5-7 to the transitional period. Fig. 11-13:11 and 12 are very early Iron Age, or perhaps still transitional, and 11-13:13-15 are Iron Age II. The other groups show the same time range as the cooking pots: deep bowls 11-13:16-18 are Late Bronze Age; 19 and 20 are Early Iron Age; krater 11-13:22 is Iron Age II.
Open bowl 11-13:27 and 32 (red slipped and wheel burnished) can be dated to the Late Bronze Age. 11-13:23 and 24 have parallels in Sa'idieh str. VII and in Beth Shean (Yadin and Geva 1986) str. I, among others. Jars 11-13: 39 and 40 have parallels in the Late Bronze Age, in McGovern 1986 cave B3, and in Deir 'Alla Late Bronze Age Phase D. The other jars can be dated to the Early Iron Age. The site was not visited by the 1994 survey.

**Tell en-Nkheil**

Tell en-Nkheil was visited by Glueck (G 179) and by the East Jordan Valley Survey (JVS 108). Glueck has described the site as lying about 1.5 km west of Mazar, on the north side of the Wadi en-Nkheil, which flows down into the Katarrh hills to the west of it. Below the mound on the west side is the spring Ain en-Nkheil, which in Glueck’s time still watered an extensive cultivated depression penetrating into the Katarrh hills. Glueck found only EB-MB and Middle Bronze II sherds here, and some Byzantine and medieval pottery. One box containing pottery from Tell en-Nkheil was found in the Glueck collection. It contained several sherds with slip and decoration that may have belonged to the (early part of) the Late Bronze Age: pink slip with horizontal straight and wavy painted lines, and a sherd with yellowish slip and horizontal painted lines.

Tell en-Nkheil was also visited by the East Jordan Valley Survey, and the surveyors found another site south of it, Tell en-Nkheil south. Their survey results show that the two sites were occupied more or less alternately: Tell en-Nkheil south in the Neolithic/Chalcolithic period, in the Middle Bronze Age II and the Late Bronze Age, Tell en-Nkheil north in the EB-MB.
The pottery (fig. 11-14) shows clearly that Nkheil was occupied in the early part of the Late Bronze Age. Cooking pots 11-14:1 and 3 can be dated to the Late Bronze Age I-II; cooking pot 11-14:2 is a Late Bronze Age I type. Fig. 11-14:4 and 5 are open bowls, both to be dated to Late Bronze Age I; and jars 11-14:6 and 7 can both be dated to Late Bronze Age II (see above, Ghazaleh). No pottery from the Early Iron Age has been found. Tell en-Nkheil was therefore deserted somewhere during Late Bronze Age II.

Tell Adliyeh

Tell Adliyeh was visited both by Glueck (G 182) and by the East Jordan Valley Survey (JVS 112). This small site, now cut by the modern road, used to be part of the Zerqa irrigation area, according to Glueck. It was surrounded by irrigation canals that reached almost to Tell Mazar and Ghazaleh. Glueck found remains of foundations on the top, and some Iron Age I-II pottery, and a large number of Roman, Byzantine and Islamic sherds. The East Jordan Valley Survey found some Iron Age II sherds. It was not revisited by the 1994 survey.

Tell Qa‘adan

Qa‘adan was visited by Glueck (G 183) and by the East Jordan Valley Survey (JVS 116, 117). It lies several hundred metres northeast of Deir ‘Alla, on the other side of the modern road. In Nelson Glueck’s time, it was surrounded by a system of irrigation canals, known as Qanat Deir ‘Alla, which conducted water from the Zerqa irrigation system. A small wadi, Wadi el-Ghor, flowed between the two sites. Glueck considered Qa‘adan to be a satellite of Deir ‘Alla. Apart from the remains of a tower-like building and some other foundation remains, he found high concentrations of Iron Age I-II sherds and some Late Bronze II sherds. He also found sherds which he dated to the Chalcolithic period, as well as some Byzantine and Islamic pottery (fig. 11-15).

Cooking pots 11-15:1 and 2 can be dated to the Late Bronze Age I-II, as can open bowl 11-15:6, with a parallel in Deir ‘Alla Late Bronze Phase B. Deep bowl 11-15:4 is a Late Bronze Age II type, 11-15:3 belongs to the Early Iron Age, and so does open bowl 11-15:5. The jars 11-15:9-11 can be dated to the same period. The heavy profiles of open bowls 11-15:7 and 8 are diagnostic for Iron Age IIC. High-footed chalices like 11-15:12 can be dated either in the Late Bronze II or in the Early Iron Age. The same repertoire of Late Bronze and Iron Age shapes can be seen in the pottery from the East Jordan Valley Survey: cooking pots 11-16:1 and 2 belong to the Late Bronze Age I and II respectively. Deep bowls 11-16:4 and 5 can be dated to the Late Bronze Age I, and deep bowls 11-16:3 and 6, and open bowls 11-16:9 and 10 in the Early Iron Age. Krater 11-16:7 can be dated at the end of the Early Iron Age or the beginning of Iron Age II. They appear in Franken’s Iron Age Phase K. Pithos 11-16:12 is an Iron Age shape. Open bowl 11-16:8 may well be Islamic.
Tell Abu Zaghan
Abu Zaghan was visited by the East Jordan Valley Survey (JVS 159) and again in 1994, but then only Early Bronze Age pottery was found. It has been excavated by M. Chesson (1998), who only mentions Early Bronze Age remains, and some Roman and Byzantine sherds. The site lies on the edge of the foothills. Some of the sherds found by the East Jordan Valley Survey (fig. 11-17:2 and 3) may be dated to the Iron Age, but none to the Early Iron Age.

Tell Ekhsas
Tell Ekhsas was visited by Nelson Glueck (G 186). It lies about 2.5 km southwest of Deir ‘Alla. It is a ‘striking, medium sized, fairly high mound’. In Glueck’s days it was surrounded by irrigation canals from the Zerqa irrigation system. It provided a wide view over the surrounding countryside. Glueck found much Iron Age I-II pottery, as well as some Late Bronze II, and Roman and Byzantine sherds. Two (Iron Age) sherds had a decoration of horizontal red bands. Glueck’s visit (in December 1942) was hampered by the presence of numerous tents belonging to Bedouin who camped around the site.

Most of this pottery (fig. 11-18) belongs to the Iron Age. Chalice rim 11-18:8 can be dated to the transitional Late Bronze – Early Iron Age. Cooking pots 11-18:1 and 2 are from the very beginning of the Early Iron Age, as is jar 11-18:11, with red painted bands.
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on it. Jar 11-18:10 and base 12 are also Early Iron Age types. Kraters 11-18:4, 5 and 7 are Iron Age II types, as are open bowls 11-18:6 and 9.

![Figure 11-19: Tell Ekhsas. Pottery from the 1994 survey.]

The site was also visited by the 1994 survey (fig. 11-19). It was found to be a large tell, with a television mast on top. Cooking pots 11-19:1 and 2, and open bowl 27 could be dated to the Late Bronze Age. Cooking pots 11-19:3 and 4, deep bowl 13 and jar 31 have parallels in the transitional Late Bronze – Early Iron Age. Most of the other sherds could be dated to the Iron Age: deep bowls 11-19:10, 11 and 14-16, as well as the body sherds with red painted decoration 11-19:43-45 and the handles with incised marks on them, 11-19:40-41. The decorative ledge handle on sherd 11-19:42 has many parallels in Deir 'Alla Iron Age Phase B. Open bowls 1-19:24 and 25 are Manasseh bowls, also dated to the Early Iron Age, and so are 29 and 30. Cooking pots 11-19:7 and 8, kraters 20 and 21, jars 33-36 and open bowl 26, with transverse red painted lines on top of the rim, are found in the Early Iron Age as well as in the first half of Iron Age II. Cooking jars 11-19:5 and 6 and jars 37-39 are Iron Age IIC shapes. Juglet 11-19:32 is an Iron Age II shape. The red painted decoration on the body sherds points to a Late Bronze – Early Iron Age date for these sherds (e.g. Franken 1992, fig. 3-7:9 and 10).
Tell Abu Nijrah

Tell Abu Nijrah was visited by Glueck (G 187) and by the East Jordan Valley Survey (JVS 123). It lies to the west of Deir 'Alla, on an outcrop of the Ghor, where it descends into the Katarth or badlands. It is a low mound, without building remains. To the north of it was a small wadi with a spring, Ain el-Kafar. Glueck found numerous sherds here, most of which he dated to the Iron Age I-II, and some to the Late Bronze II. Several body sherds were decorated with red and occasional black horizontal bands. The sherds found by Glueck (fig. 11-20) however, all seem to be straightforward Late Bronze Age, with the possible exception of 11-20:15, which could be Iron Age II or later. White or pink slip was found on open bowl 11-20:14 and jug 17.

These results are confirmed by the East Jordan Valley Survey, which found Late Bronze Age pottery dominant on the site. (fig. 11-21), and no Iron Age pottery at all. Some of the pottery found may be dated to the transitional period, such as kraters 11-21:10-12 and pithoi 19 and 20. It seems however, that this site was deserted before the beginning of the Iron Age. Open bowl 11-21:14 and jar 18 had white slip.
Tell Arqadat

Tell Arqadat was visited by the East Jordan Valley Survey (JVS 125). It sits in the plain southwest of Deir ‘Alla. The results of the survey show that its major occupation period was the Late Bronze Age (fig. 11-22).

Cooking pot 11-22:1 can be dated to the Late Bronze Age I-II, as can deep bowls 11-22:2 and 3. The carination of bowl 1-22:5 is also diagnostic for that period. Jars 11-22:9-12 have parallels in the second half of the Late Bronze Age and the beginning of the Iron Age. (Deir ‘Alla Late Bronze Phase E, for example) Jar 11-22:14 belongs to the end of the Iron Age.

![fig. 11-22. Tell Arqadat. Pottery found by the East Jordan Valley Survey.](image)

Tell Meidan

Tell Meidan was visited by Glueck (G 191). It was about 2.5 km south of Deir ‘Alla, on the north bank of the Zerqa, overlooking a bend in the river to the east. The Zerqa here has its own stretch of *katarrh*, smaller than those of the Jordan. Tell Meidan sat on the border of these ‘badlands’. It was a pronounced knoll with some recent building remains on the top and slopes.

![fig. 11-23. Tell Meidan. Pottery found by Nelson Glueck.](image)
Pottery found by Glueck belonged to the Chalcolithic, Early Bronze I-II, Middle Bronze II – Late Bronze II, Iron Age I-II periods (fig. 11-23), as well as the Roman, Byzantine and Islamic periods. Immediately west of it was a north-south irrigation ditch, conducting water from the Zerqa into the Ghor.

The cooking pot repertoire ranges from Late Bronze I (fig. 11-23:1, 2), Late Bronze II (fig. 11-23:3) to the Early Iron Age (fig. 11-23:4) and Iron Age II (fig. 11-23:6-8). Deep bowls 11-23:9 and 10, as well as chalice 19 belong to the Late Bronze Age, whereas deep bowls 12 and 13 are Early Iron Age types. Open bowls 11-23:14, 15 and 20 are clear Iron Age II examples. The large number of pithos rims is significant; all of them are reminiscent of the rims of collared rim jars (see for example Finkelstein 1993, 166 ff. for a comparable collection of pithos rims) although in no case has the actual ‘collar’ been preserved. Fig. 11-23:29 may date from the Late Bronze Age; the others are Iron Age specimens. They suggest a special function for the site, perhaps as a distribution centre for food items. As the site was situated in the midst of arable land such a function at certain periods is likely (compare Bell 1907, 40-42 for a late nineteenth century AD parallel). On the other hand, this is probably the reason for its disappearance before the East Jordan Valley Survey could visit it, for arable land has become much in demand in the second half of the twentieth century.

**Tell er-Rikabi**

Tell er-Rikabi was visited by Nelson Glueck (G 192) and by the East Jordan Valley Survey (JVS 130). It lies 0.5 km downstream from Tell Meidan, also on the north bank of the Zerqa. On its west side was another irrigation ditch. On top of the tell were some modern buildings; the village of Ma’adi, tiny in the days of Glueck, though rather extensive now, is visible to the southeast. Sherds found by Glueck were dated by him to the Early Bronze I and Iron Age I-II (fig. 11-24). During the 1994 survey we tried to revisit the site but it had been levelled and replaced by a field of wheat.

![Fig. 11-24. Tell er-Rikabi. Pottery found by Nelson Glueck.](image)

Deep bowl 11-24:1 can be dated to the Early Iron Age, and deep bowl 2 to Iron Age II. Chalice 11-24:3 has possible parallels in the Late Bronze Age, for example in Deir ‘Alla Late Bronze Phase D; chalice 4, white slipped and burnished, is a Middle Bronze Age type.

**Tell Asiyeh**

Tell Asiyeh was visited by Glueck (G 193). It lies 0.5 km downstream from Tell er-Rikabi, also on the north bank of the Zerqa. There were no building remains and in Glueck’s day part of the site had already been removed to create a road. Glueck found pottery from the Iron Age I-II and some Roman-Byzantine sherds. Two Iron Age sherds were decorated with red horizontal bands.

The survey material (fig. 11-25) contained some Late Bronze – Early Iron Age transitional material: cooking pot 11-25:2 and krater 3, with a parallel in McGovern 1986 cave B3. There is one Late Bronze I juglet: fig. 11-25:9. Some other sherds can be
dated to the Early Iron Age: cooking pot 11-25:1, open bowls 5 and 6 and jars 10-12, 14, 15 and 17. The remainder belongs to Iron Age II and nothing seems to be later than Iron Age IIB.

**fig. 11-25. Tell Asiyeh. Pottery found by Nelson Glueck.**

The site was also visited by the 1994 survey. It was found to be a small tell, partly covered with wheat and vegetables. There were many gullies in which much pottery could be found. Most of it consisted of Ayyubid-Mamluk ‘sugar bowls’. The 1994 survey has produced some additional material (fig. 11-26): one white-slipped open bowl dated to the Late Bronze Age II (fig. 11-26:1), with parallels in Pella, and an Iron Age II juglet. The site was not visited by the East Jordan Valley Survey.

**fig. 11-26. Tell Asiyeh. Pottery from the 1994 survey**

*Maqal er-Rmeileh*

Maqal er-Rmeileh was visited by Glueck (G 194) and by the East Jordan Valley Survey (JVS 137). It sits more or less opposite Tell Asiyeh, on the other bank of the Zerqa. It was covered by a modern building in Glueck’s days, but he still found many Iron Age I-II sherds on the top (fig. 11-27). The area to the southeast of this site was one of the most intensely cultivated parts of the Zerqa valley. Decoration on the sherds consisted of horizontal red bands.

**Fig. 11-27. Maqal er-Rmeileh. Pottery found by Nelson Glueck.**
Jars fig. 11-27:5 and 7 as well as base 8 can be dated to the Early Iron Age. The other sherds can be dated to Iron Age II, fig. 11-27:2 being a very late example, with a parallel in Sa’idiyeh str. IV.

**Tell Zakari**
Tell Zakari was visited by Glueck (G 196) and by the East Jordan Valley Survey (JVS 135). It also lies on the north bank of the Zerqa, further downstream and close to an outcrop of the badlands of the Jordan. Glueck found large quantities of pottery that he dated to Iron Age I and II, most of which he ascribed to Iron Age II (fig. 11-28). He also found a small number of Islamic sherds.

![fig. 11-28. Tell Zakari. Pottery found by Nelson Glueck.](image)

Open bowl 2 may belong to the Late Bronze Age, but the other sherds are all from Iron Age II. All sherds found by the East Jordan Valley Survey (fig. 11-29) can be dated to Iron Age II.

![Fig. 11-29. Tell Zakari. Pottery found by the East Jordan Valley Survey.](image)

The site was visited during the 1994 survey. It was found to be a small but prominent tell, part of which had been removed for agricultural purposes. A small village stood right beside it. The hill was covered with burials. Some of the pottery found in the 1994 survey (fig. 11-30) could be dated to the Late Bronze Age, such as deep bowl 11-30:11, with a parallel in McGovern 1986 cave B3, and jar 1-30:30. Jar 11-30:31 has pink slip, a well known feature of the end of the Late Bronze Age.

![Fig. 11-30a. Tell Zakari. Pottery from the 1994 survey.](image)
Open bowls 11-30:38 and 39 have a Late Bronze Age carination. Pedestal bowls or chalices 11-30:40-42 can be dated to either the end of the Late Bronze Age or the Early Iron Age. Deep bowl 11-30:16 and open bowl 20 are Early Iron Age types, as is bowl base 43. The other sherds can be dated mostly to Iron Age II; in fact all the cooking pots (11-30:1-7) are Iron Age IIC.

**Kataret es-Samra**

Kataret es-Samra was visited by the East Jordan Valley Survey (JVS 126). It sits in the badlands (hence its name) between the Zor and the Ghor, north of Umm Hamad. Several burials were found here, one of which was excavated immediately, after it had been partly robbed. It still contained painted jars, Cypriot bilbils and oil lamps, as well as an alabaster vase, metal weapons and an animal figurine. Leonard’s excavations on the site, after the East Jordan Valley Survey (Leonard 1983, 1985), have shown that the site consisted mainly of burials, certainly in the Late Bronze Age. No pottery from the Iron Age was found by either expedition.
Some of the pottery found by the East Jordan Valley Survey (fig. 11-31) can be dated to the Late Bronze Age I, such as open bowls 11-31:7-10. Fig. 11-31:8-10 and 12 all had remains of white slip, none of which was burnished, suggesting a date in the middle of the Late Bronze Age. Cooking pot 11-31:1 actually belongs to the Middle Bronze Age. The other sherds can either be dated to the Late Bronze Age II (11-31:5, 6, 14, 15) or to the Late Bronze Age in general.

**Umm Hamad esh-Sharqi**

Umm Hamad has been visited by Glueck (G 199) and by the East Jordan Valley Survey (JVS 132). Glueck described it as consisting of two low rises, difficult to see in his days, partly because their surfaces were heavily cultivated. On the eastern site, Umm Hamad esh-Sharqi, he found pottery from Late Chalcolithic and Early Bronze Age I as well as large numbers of Iron Age I-II sherds (fig. 11-32). Some Middle Bronze sherds he considered to have come from the opposite site, Umm Hamad el-Gharbi, which contained a large number of sherds from that period.

![Fig. 11-32. Umm Hamad esh-Sharqi. Pottery found by Nelson Glueck.](image)

The cooking pots 11-32:1-5 all belong to the Iron Age IIC. Krater 11-32:6 had parallels, among others in Sa’idiyeh Str. XI, and in Megiddo Late Bronze Age. Bowl 11-32:7 has parallels in Deir ‘Alla, where it is known as a ‘mensif bowl’ and occurs from Iron Age Phase J on.

Most of the pottery found by the East Jordan Valley Survey (fig. 11-33) could be dated to Iron Age II. Open bowl 11-33:2, with traces of red paint inside, could be either Late Bronze Age or Iron Age I.

![Fig. 11-33. Umm Hamad esh-Sharqi. Pottery found by the Jordan Valley Survey.](image)

![Fig. 11-34. Umm Hamad esh-Sharqi. Pottery from the 1994 survey.](image)
The site was visited again during the 1994 survey. It was found to be a large site with many recent burials. The pottery found in 1994 can all be dated to Iron Age II (with the exception of 11-34:3, 5 and 9, which are Early Bronze Age).

Tell Bashir
Tell Bashir was visited by the East Jordan Valley Survey (JVS 129). It lies on the north bank of the Zerqa, east of Tell Asiyeh.

(fig. 11-35). The two cooking pots 11-35:1 and 2 can be dated to the Early Iron Age, and so can deep bowl 11-35:3 and open bowls 5 and 6, both Manasseh bowls. Deep bowl 11-35:4 can be dated to Iron Age II.

The site was also visited by the 1994 survey. It was found to be a small tell, with some houses and small buildings along the foot on the south side. This survey found some Late Bronze Age sherds (fig. 11-36).

Cooking pots 11-36:1 and 2 can be dated to the first half of the Late Bronze Age, and so can open bowl 20. Jar 11-36:21, with traces of pink slip, and jar 27, with a double white/pink slip layer, may date from the end of the Late Bronze Age. Deep bowl 11-36:6 is a transitional Late Bronze – Early Iron Age shape, as is krater 11, with a parallel in
McGovern 1986 cave B3, and krater 11-36:13 and 14, both with plastic decoration on the outside of the rim. Open bowls 11-36:18 and 19 and jar 22 are also transitional shapes. Deep bowls 11-36:7, 8 and 9, krater 12, jar 26 and pithos 28 are all clear Early Iron Age shapes. From the end of the Early Iron Age or the beginning of Iron Age II are cooking pots 11-36:4 and 5, ‘mensif bowl’ 17 and jar 25. The other sherds can be dated to Iron Age II.

**Tell er-Rabi**

![fig. 11-37. Tell er-Rabi. Pottery found by the East Jordan Valley Survey.](image)

Tell er-Rabi was visited by the East Jordan Valley Survey (JVS 122). It lies beside Tell Ekhsas, west of Deir 'Alla in the Ghor. The pottery from the East Jordan Valley Survey (fig. 1-37) can all be dated to the Iron Age, much of it to the Early Iron Age, like cooking pots 11-37:1, 2, 4 and 5, bowl 11, with black and red bands outside on the rim, jars 16, 17, 18 and 21, and bowl 22. The other sherds are dated to Iron Age II.

**Damieh**

Damieh lies immediately south of the area of research. It was visited by Nelson Glueck (G 200) and again by the East Jordan Valley Survey (JVS 151). Glueck pointed out its strategic location “guarding to the west the bridge that spans the Jordan and the road that leads up the Wadi el-Far’ah to Nablus, and to the east the road that leads past the Arab Legion police post on the top of a *katarrh* hill, about 1 km. to the east-southeast – east of it, to es-Salt, in the hill country of Gilead” (Glueck 1951, 330-331).

![fig. 11-38. Damieh. Pottery found by Nelson Glueck.](image)
Some sherds had red or black horizontal bands. Practically all of the pottery from Glueck’s survey can be dated to the Iron Age, although he himself stated that he had found some Late Bronze II sherds. Open bowl 11-38:8, with a parallel in Pella, open bowl 10 and jar 19, both of which had red painted lines in and out, may be from the transitional Late Bronze – Early Iron Age. Deep bowl 11-38:6, jar 11 and jars 15-18 can all be dated to the Early Iron Age. Krater 11-38:5 could be from the end of the Early Iron Age or the beginning of Iron Age II. The cooking pots can all be dated to Iron Age II, as can most of the jars.

Mugharet el-Wardeh
Mugharet el-Wardeh was visited by Glueck (G 351). It is a site in the foothills that border the Jordan Valley on the east side. It lies in the centre of a field of iron ore, according to Bender (1968, 150) the only workable amount of ore in the wider region.
All the pottery (fig. 11-40) can safely be dated to the Iron Age. The earliest shapes seem to be the bowls 11-40:6-10 with their rounded sides; these are more common in the earlier period. In the later period there are some striking parallels with Tell es-Sa’idiyeh to the west, for example open bowls 1-40:11-13 and jars 14-17, which all have parallels in Sa’idiyeh Str. IX.

*Tulul edh-Dhahab*

Tulul edh-Dhahab was visited by Glueck (G 344, 345), by the East Jordan Valley Survey, and by Gordon and Villiers as part of a survey of the surrounding area. The site consists of two peaks facing each other across a bend in the Zerqa. (fig. 11-41).

![Fig. 11-41. Tulul edh-Dhahab. Pottery found by the East Jordan Valley Survey and by the Gordon-Villiers Zerqa survey.](image)

Cooking pot 11-41:14, and possibly 7 also may be of the transitional Late Bronze – Early Iron Age type, and therefore the earliest (but see Ch.IV-12). Krater 27 had pink
slip and red painted decoration, which is typical of the end of the Late Bronze Age but it is not a very common shape. Cooking pots 11-41:8-13 and 17 are a common shape in the Early Iron Age in this region, with clear parallels in Deir 'Alla. So are deep bowls 11-41:15, 16 (with red slip outside and inside on the rim) and 18. Bowl 11-41:30 is a Manasseh bowl. Bowl 11-41:32, although its shape is more common in Iron Age II, had red lines on top of the rim, which is more common in the Early Iron Age. Open bowls 11-41:35-37 can also be dated to the Early Iron age. Thin-walled bowls like 41-45 have parallels in Deir 'Alla in the second half of the Early Iron Age, from Phase G onwards. Kraters 11-41:23-26 and 28 belong to the early part of Iron Age II, with parallels at Deir 'Alla from Phase K and later. The bichrome decoration on jug 11-41:51 and the red decoration in jug 61 are more common in the Early Iron Age. The remainder of the sherds can either be dated to Iron Age II or very generally in the Iron Age.

Tell Hajjaj
Tell Hajjaj is also situated in the foothills, at the southern starting point of the Wadi Hajjaj, which flows into the Wadi Zerqa just south of Tulul edh-Dhahab. The site was first visited by the 1982 survey of Gordon-Villiers (fig.11-42), who claim that they have found no pottery from the Late Bronze Age in any of their surveyed sites.

fig. 11-42. Tell el-Hajjaj. Pottery found by Gordon and Villiers.
The earliest dateable sherd at Tell Hajjaj seems to be the cooking pot rim 11-42:7, from the transitional Late Bronze – Early Iron Age, and possibly deep bowl 24. Clear Early Iron Age sherds are cooking pots 11-42:1 and 3, as well as deep bowls 11-13, krater 21 with red slip, open bowl 25 (a Manasseh bowl), and the rounded rims of bowls 34-36. Two collared rim jars were found, 11-42:54 and 55. The second one, with an inverted rim and high collar may be rather late, towards the end of the Early Iron Age; the first one is probably early (Ch III-8). Base 11-42:56 can also be dated to the Early Iron Age. The other sherds can either be dated to Iron Age II, or generally to the Iron Age.

Conclusion

It is difficult to determine, on the basis of survey material alone, patterns for the development in the Deir ‘Alla area during the Late Bronze and Early Iron Ages. Leonard (1989) noted a concentration of Late Bronze Age material in this region, but his warning that no conclusions can be drawn about the nature of these sites on the basis of this material is still valid. It should also be borne in mind that the reliability of the survey results is not waterproof. The fact that none of the three surveys that visited Tell el-Hammeh (Ch. IV-9) found a single Middle or Late Bronze Age sherd is a case in point.

So what can we say about these sites? In the first half of the Late Bronze Age there seems to have been occupation on several sites: Ammata, Kharabeh, Ghazaleh (and Mazar), Nkheil, Deir 'Alla itself and Qa'adan, Abu Nijrah, Hammeh, Arqadat and Kataret es-Samra. Kataret es-Samra was a burial site, Deir 'Alla was a sanctuary, Hammeh was a pied-a-terre for traders, but nothing can be said about the nature of the other sites. As no living quarters were found on Kataret es-Samra, it is likely that it was a burial site for groups who lived elsewhere, who led a (semi)nomadic life, or both. This suggestion is supported by Franken’s hypothesis that the sanctuary on Deir 'Alla was a 'tribal' sanctuary. This hypothesis is not invalidated by the fact that recent – unpublished excavations on the site have revealed living quarters on other parts of the tell. Late
Bronze Age I occupation on Tell el-Hammeh (Ch. IV-9) has been identified as a temporary or perhaps seasonal site for nomadic traders moving between the Jordan Valley and the plain of Amman through the Wadi Zerqa. Nowhere was this Late Bronze I occupation extensive: on every site with Late Bronze I remains, the Late Bronze II sherds outnumbered the Late Bronze I sherds (fig. 11-43). Nevertheless, it is clear that there were activities of some kind in the Deir 'Alla region. It must have been an ‘operation base’ for one or more at least partly mobile groups who considered this area part of their territory. That these groups were in contact with the larger communities of the time is demonstrated by the quality of the pottery they left behind.

In Late Bronze Age II, and especially towards the end of the period, occupation on these sites increased and several new sites emerged. One of these is Tell es-Sa‘idiyeh, which was created by the Egyptian administration to protect the trade (Ch. II-6). The increase in occupation in the region may well have been related to this increased Egyptian involvement. With relation to Deir 'Alla Franken has suggested (1992, 166) that the Egyptian empire of the eighteenth dynasty took over or created the tribal sanctuary in order to create a regional market. Little has been excavated of the earlier phases of the sanctuary. The material remains of Phase E however clearly show that it was involved in the trade and it is to be expected that Egypt had some control over its administration. Taking into account events in the wider region, such as the loss of Pella further north (Ch. II-6), the creation of a fortress at Sa‘idiyeh to safeguard the crossing of the Jordan, and generally the increased control over Canaan in the days of Ramses II, I suggest that this takeover of the sanctuary took place in the thirteenth century.

More or less at the same time or somewhat later followed an increase in pottery on already existing sites and also the creation of several new ones, such as Kereimeh, Qos, Ekhsas, Tulul edh-Dhahab, Damieh and particularly some sites on the lower northern banks of the Zerqa: Zakari, Bashir and Meidan. The reasons for this increase may have been the beginning of disintegration of the infrastructure on the Amman Plateau (Ch. 6). The Early Iron Age again saw a continuation of this increase in the number of sherds on most sites as well as the creation of a number of new ones. Most of the Late Bronze Age sites, notably those that had begun towards the end of the Late Bronze Age, continued to exist in the Early Iron Age, and possibly became larger, if we judge from the number of sherds found on them. This development conforms to what happened in the wider region of Jordan and the central hill country of Palestine: a sudden increase in small, probably agro-pastoral sites. The survey results suggest that, at least in the Deir 'Alla region, this development had started already in the second half of the Late Bronze Age.

The sites that dated from Late Bronze Age I practically all diminished or disappeared: Kharabeh, Nkheil, Abu Nijrah, Arqadat and Kataret es-Samra. Both at Deir 'Alla and at Sa‘idiyeh there was a break in occupation followed by squatter occupation. It is likely, as was suggested above, that these Late Bronze I sites belonged to a tribal community that had its territory in this region. The disappearance of all these sites at the same time, including their burial site and their sanctuary, then may well reflect the disappearance of this tribal community, perhaps caused by a change in territory. The increase in new sites was caused by a population influx, as was suggested in Ch. II-6, that started towards the end of the Late Bronze Age and that had its cause in international developments. It is likely that this population influx was the direct cause of the disappearance of the older tribal community.
IV-12. A Walk through the Zerqa

Introduction

The main purpose of this study, as laid out in the first section, is to demonstrate the hypothesis that there was a trade route through the Wadi Zerqa, between Deir 'Alla and the Amman plain, in the Late Bronze Age. This trade route could have been maintained by the local population of the area, mainly Canaanites, even though it was an extension of Egyptian trade routes west and east of the Jordan. The plain of Amman is here considered to have been a city state, possibly with Sahab as its economic centre (see also Hübner 1992, 158). It was dominated by a Canaanite tribe, or a coalition of tribes, and its economy was largely based on the international trade between the west and the north, and possibly the south (Hübner 1992, 162-3). For contacts with the east, the desert region, there is no evidence so far, although Sahab, because of its location on the edge of the desert, may suggest a function as a gateway community (Ibrahim 1987, 76). The finds have made clear that northern groups or representatives of northern communities also inhabited the area (Ch. 3, McGovern 1986). According to McGovern (1986, 6) a transhumance route may well have existed between the Baq'ah plain and the Jordan valley, going through the Zerqa valley. Wandering nomads moved from the plain, where they stayed in summer, to the Valley in winter. This practice certainly existed in the nineteenth century AD. If there was an actual trade route in the Late Bronze Age, it is to be expected that the mobile population of the region was involved in it. Bedouin certainly were involved in trade in the nineteenth century AD, transferring goods from Salt to Jerusalem and Nablus (Ch. 5).

However, surveys have never produced any pottery from the Late Bronze Age in the Zerqa valley. Late Bronze Age material was found in the Baq'ah plain, and at the other end of the route in the Jordan Valley, but nowhere in between. Excavations in 1996 and 1997 on Tell el-Hammeh, on the north bank of the Wadi Zerqa (van der Steen 1997 and Ch. 11), have demonstrated that this site, right at the entrance of the Zerqa valley, was used in the Late Bronze Age as well as in the Middle Bronze Age. The tell lies on a natural hill, and rises about 7 m above its surroundings. It was noticed by Glueck (1951, 313), by Gordon and Villiers during their Wadi Zerqa survey (Gordon and Villiers 1983) and also by the East Jordan Valley Survey (Ibrahim et al. 1988). Based on the survey results the site was thought to be settled in the Early Bronze Age, and the Early Iron Age up to the Persian period. The excavations revealed occupation layers from the Chalcolithic and Early Bronze Ages, and, after a gap, from the end of the Middle Bronze Age to the end of Iron Age II. No sherds from either period were found during the surveys, which opens up the possibility that similar material may be found in other parts of the Zerqa valley, even though the surveys never revealed any Late Bronze Age occupation.

The very simple and transitory architecture from the Late Bronze Age layers suggests the presence of a mobile group or groups using the site on a temporary basis, a transhumant population perhaps. At the same time the fine pottery suggests that they were in contact with main cultural centres and that the pottery they carried may have had another significance than simply that of functional, daily ware. A possible explanation is that they were involved in trade, moving from one market centre to another, and some of the pottery they carried was related to the trade.
If we accept this hypothesis, the next question is which road the trade route followed. The fact that Tell el-Hammeh lies at the mouth of the Zerqa valley suggests that it actually went through this valley (fig. 12-1). It has been stated above that the fact that no survey so far has turned up actual Late Bronze Age pottery in the valley does not automatically mean that it did not exist. A number of sites have shown the presence of Early Iron Age pottery: (from west to east) Tell el-Hammeh; Sabgha and the Zighan caves (possibly); Tell Mghanni W; Iraq et-Tahuna; Tulul edh-Dhahab (east and west, main period of occupation); the gypsum mine on the south side of the Zerqa; Tell Ghreimun (fig. 12-2; Gordon and Villiers, 1983).

After the collapse of the Egyptian empire a number of small Early Iron Age settlements was created, especially in the highlands east and west of the Jordan as well as in the East Jordan valley. It is to be expected that these settlements were first and foremost founded on locations that were already known to the new settlers (Oppenheim 1943, 184). Suitable locations, such as those that were already in use as stopovers along existing transhumance routes, would have been the first to be settled. The newly settled Early Iron Age sites along the Zerqa therefore may be an indication of the road these nomads took in their wanderings between the Amman plain and the Jordan Valley.

A walk through the Zerqa

In April 2000 a group of four people, accompanied by a local guide, set out to walk through the Wadi Zerqa, from Deir 'Alla to Khirbet Umm ed-Dananir, in order to investigate the possibility of a Late Bronze Age trade route between the market centre of Deir ‘Alla and that of the Baq'ah valley, and the actual road that may have been taken1. On the way the different side wadis to the south were checked, to see where the route may have diverged from the Wadi Zerqa and turned south. The sites from the Gordon – Villiers survey were not revisited, since that would have required a special permission from the Jordanian Government.

Day 1
We set out on 9 April, 8.45 from the Deir ‘Alla dig house. The donkey carried 20 litres of water and some 20 kilos of luggage, and was therefore not heavily loaded. For the first nine kilometres we followed the road into the Wadi Zerqa, past Tell el-Hammeh, and the water pump station. This road, which subsequently turns into a track, runs close to the river, crossing it several times. The triangle that forms the entrance to the Wadi is heavily cultivated with wheat and vegetables, but mainly with onions. Further east, into the foothills, there is less cultivation although many relatively flat areas are still cultivated or used as pasture for cows. The reasonably flat hills on both sides of the river form natural terraces, which have been supplemented by artificial terraces in places. At the sides of the road there were occasional Bedouin and gypsy tents, usually small campsites occupied by one or two families. These families stay in this area during the winter, cultivating small patches of land, and move higher up into the hills during the summer.

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1 The expedition team consisted of: Eveline van der Steen, expedition leader, Eva Kapteyn, Carmen Harmsen and Ellis Grootveld (students at Leiden university), Ali el-Khayyat (representative of the Department of Antiquities in Salt), who acted as guide, Ibrahim the donkey driver, and the donkey (who acquired several names during the expedition, ranging from Balaam to Mesha, but who ended up as Eeyore).
Fig. IV-12.1 Area of the Zerqa walk.
Several of these small camps were found in the area of Tulul edh-Dhahab, on both sides of the Zerqa. The Bedouin herd sheep and goats, and usually have a few cows as well. They do not cultivate any land. The gypsies are involved in weaving. They own only a few sheep and goats and occasionally a cow.

Just before Tulul edh-Dhahab the road takes a shortcut to cut off a bend in the river; it passes Tell edh-Dhahab el-Gharbi on the north side. This road is quite new, having been cut into the bedrock, so it cannot have been part of the original route. The original road may have followed the river, passing Tell edh-Dhahab on the south side, or else it may have passed somewhat north of the present road, where the hills are less steep. At the crossing of the road and the river, between Tell edh-Dhahab el Gharbi and Tell edh-Dhahab esh-Sharqi, there was a one-family Bedouin camp, belonging to a Jehaleen family. According to their own accounts they are originally related to Bedouin tribes from around Beersheba, but have become separate subtribes over the years. This process of separation has accelerated because of the closed borders between the Negev and Jordan, prohibiting any contact between the Jehaleen and their mother tribes. Most of the tribes that live in this area are originally subtribes from the tribes that lived around Beersheba.

According to these and other Bedouin it was not possible to pass Tell edh-Dhahab esh-Sharqi on the north side, following the bank of the Zerqa, because this route was blocked by rocks. We were therefore forced to pass Tell edh-Dhahab esh-Sharqi on the south side.

However, leaving the donkey and the luggage behind, we did check the bank of the Zerqa at this spot. We saw that the bank, especially the south bank, was relatively broad and flat over the whole stretch that passed Tell edh-Dhahab esh-Sharqi.
Fig. IV-12.2. A walk through the Zerqa.
At one point we did find the way blocked completely by huge boulders, several metres in diameter; and the gaps between them filled up by the results of a landslide. These barriers seemed relatively recent, however, and it is well possible, and even likely, that the original route passed along this way, provided, of course, that the Zerqa followed this course in the Late Bronze Age.

About 200 m from the main track the south bank broadened into a small terrace, where rows of boulders were visible just above the soil. This may form part of the site of Tell edh-Dhabah esh-Sharqi. A scan of the sherds that were lying around showed that most were Hellenistic and Roman, but there were some Iron Age sherds. We found one rim fragment of a Late Bronze Age cooking pot. This was particularly interesting, because so far no Late Bronze Age sites have been located in the Zerqa. This site was situated immediately below Tell edh-Dhabah esh-Sharqi, and it is certainly possible that these sherds have been washed down from the site above. Still, it would be the first indication of Late Bronze Age presence in this area.

We passed Tell edh-Dhabah esh-Sharqi on the south side, a difficult track, especially for the donkey, but one that is generally used these days, as we were assured by several informants. We also passed several donkeys and mules on the way.

East of Tulul edh-Dhabah the bank of the Zerqa is steep on the north side but the south side slopes up gradually, forming several natural terraces. This area was partly cultivated, and partly consisted of rich grass land. The soil here is terra rossa, very fertile, but shallow. We found several tracks on different levels, made for agricultural purposes, and the going was easy. About 1 km west of the Wadi el-Azab we stopped and set up camp for the night, on the south bank of the river.

**Day 2**

The next day, 10 April, we continued along the river, going east. Inquiries beforehand had made it clear that the eastern part of the Wadi Zerqa east of the Wadi el-Azab was impassable, being too narrow and too steep. The plan therefore was to turn south and follow the Wadi el-Azab. However, about 500 m before the Wadi el-Azab a small Bedouin camp, consisting of two families, was spotted south of the road. This camp belonged to members of the tribe of the Seb'awiyeh, another subtribe of the Bedouin from Beersheba who had moved here before 1948. They told us that the Wadi el-Azab was also too steep, and the normal route taken by the Bedouin went through the Wadi el-Quseib, some three kilometres further east.

We were still walking on the south side of the Wadi Zerqa, on one of the three or four terraces, about 50 m above the stream bed. Just before the Wadi el-Azab we passed the gypsum mine where Gordon and Villiers (1983) had found Early Iron Age pottery. Near the Wadi el-Azab the landscape begins to change slightly. The stream bed becomes a narrow, deep gully, with natural terraces starting only some 20-30 metres above it. On the other side, the north slope becomes more gradual, and occasionally terraces and orchards are seen on that side.

Leaving the luggage and the donkey behind, we went into the Wadi el-Azab for closer examination. The first part seemed accessible, with rather gradual slopes, especially higher up, and cultivated with terraces and orchards (mainly olives). However, further east it became clear that this was certainly not an easy route to take. The present road through it has been cut out in the slope and in the rocks. The stream bed is a deep and narrow gully, and the slopes are steep and inaccessible. There are no longer any terraces, and the slopes are uncultivated.
We therefore returned to the Wadi Zerqa and followed it further east. This part of the wadi is more cultivated, with terraces, orchards (mostly on the north side) and greenhouses. Here there are more Bedouin tents and occasionally houses, mainly on top of the mountains. There is another gypsum mine on the north slope. The raw materials are transported from here across the Zerqa and through the Wadi el-Azab. We had noticed the trucks when we were walking in the Wadi el-Azab.

The track we followed slowly descended into the wadi, so that we continued rather close to the stream bed. We could now see tracks on the north side as well. Still further east, about halfway between the Wadi el-Azab and the Wadi el-Quseib, the track began to climb again until we were walking about 100 m above the stream bed, which had become wider, and we could see that further east (upstream that is) it had actually become a narrow lake with small islands.

Just before the beginning of the Wadi el-Quseib the landscape changes again: the slopes become steep and they rise directly from the stream bed, which at this point has become a narrow lake. We had to pass over a high hill on a path cut into the slope in order to get to the Wadi Quseib. There is no natural passage here. So far this has been the only point that may have provided difficulties in passing by this route. It is a very short distance however, probably less than 100 m, before one gets to the Wadi Quseib proper.

The Wadi Quseib is a broad valley, a confluence of two other wadis that come from the south, which ends in the Wadi Zerqa. We turned south, walking on the west side of it, over the top of the plain. There are some caves in the slopes and in one of them, on the east slope, a Bedouin family was living. The area is cultivated with vegetables and olive trees.

Flowing down from the Baq'ah plain into the Wadi Zerqa are a number of wadis, intersecting and dividing again, like a maze. Walking through it one has a choice of long, narrow hills, which are sometimes cut off by steep, but often dead-end valleys, around which one has to find one's way since it is impossible to descend. Many of the wadis do not come from the plain itself. They spring from the layers of rock that form the foundations of the Plain: the Amman - Wadi es-Sir aquifer system. This aquifer system is one of the largest systems in the region. Its recharge is mainly from rainfall, supplemented by indirect recharge from the basalt aquifer system of Jebel el-Arab to the northeast (Chapter 2). This water system supplies the higher wadis with water. In recent years the water supply has been low and some of the springs have dried up completely. These springs are usually easily accessible from the slopes, since they originate in the sides of the hills. Therefore, accessibility to water, even from the higher areas, is generally no problem.

All this means that, once one has left the Wadi Zerqa, there are a number of possibilities for travelling to Khirbet Umm ed-Dananir. On the whole it seems likely that the route would follow the higher areas, the hillsides and plains, rather than the wadis. The going is easier and accessibility to water, as stated above, is no problem. The problem of which of the various possible routes was or were followed during different periods can only be solved by an extensive survey which would take into account all the different passable routes.

As it was, we decided to follow the route that goes past Khirbet Uleigun to Jal'ad. The road to Khirbet Uleigun descends into the Wadi Quseib along the west side, crossing it close to its origin, and then follows the Wadi Uleigun. This is a rather narrow valley, shallow at the bottom where the going was easy but with steep (but not very high) slopes on both sides. Both sides were cultivated with wheat and young olive trees. The soil is bright red. We walked right beside the water, climbing up gradually to Khirbet Uleigun.
At one point, on the south side of the wadi, where the slope jutted out of the red soil, we noticed a Roman tomb cut out in the rock.

Khirbet Uleigun, where we camped for the night, is a village that is typical for this area: occupying a large rather flat area, slightly sloping, dotted with houses, with cultivation and orchards in between.

**Day 3**
The next day we went on our way to Jal'ad. The route we took again consisted mainly of tracks, and was undulating and gradually sloping up. We were surrounded by houses, set far apart, terraces with cultivated fields and orchards. Olive and almond trees dominated.

When we reached the main road that goes from Sihan to Sumiya we followed it east for a while. The valley north of this road is undulating, sloping up towards the south gradually. This is the Wadi Jerada. From the main road one has a wide view over the valley to the west, and it was clear that there were several other routes we could have taken from the Wadi Quseib. Where the main road turned north we left it and started following tracks again in a generally southern direction. Most of the tracks follow the high slopes and flat tops of the hills, avoiding the valleys. Our road went zigzagging around the valleys, in a generally southern direction. The slopes and tops in this region are cultivated, mainly with olive trees, but there are terraces, although nothing visible was growing there yet. Low boundary walls made of boulders divide the flat tops of the hills into different sections. The terra rossa soil is very shallow, with bedrock visible in many places. On the slopes of the valleys, where the soil is not cultivated, oak trees, with grass and flowers were seen.

This area is very popular with the wealthy people of Amman. Some of the houses look like miniature palaces.

Our final destination for the day was the farm, south of Jal'ad, that belongs to Ghazi Saudi, who had offered us hospitality. In order to get there, we had to walk around Jal'ad, over the west slope of the Wadi Rumeimin. Higher up the slope is relatively easy going, but deeper down it is steep, too steep even for terrace cultivation.

The village of Rumeimin, consisting of a large area with houses dotted on the slopes, is situated at the beginning of the wadi, where the springs are. Here the slopes are less steep, and the springs are easily accessible from most sides. The bottom of the wadi is cultivated.

**Day 4**
The next day was the last day of our four-day trip. We followed the main road, which generally follows the slopes of the wadis. We first passed through the Wadi Jal'ad, which is shallow and easy going, and followed the slopes of several wadis, finally reaching the Wadi Umm ed-Dananir. We passed through the village of Rumeimin and took the road to the south, following the slopes. The road rounds the springs of es-Sayiah, the sources of the wadi of the same name, and turns northeast, still following the slopes, until it comes to the Wadi Umm ed-Dananir. All the way the main road follows a seemingly natural course, without having been cut out in the rock or the natural soil. The soil here, as everywhere we have passed so far, is terra rossa, very fertile, but shallow.

In general the wadis are not very deep, and the slopes are not very steep. There is much widespread cultivation on the slopes, most of it terraced. At the confluence of the Wadi Rumeimin and the Wadi Umm ed-Dananir the slopes are rather steep, and it seems
possible to travel only near the tops of the hills. Most of the Wadi Umm ed-Dananir is also deep and steep, with a narrow flat plain at the bottom which is heavily cultivated. Here it would have been easiest to travel at the bottom. The main road, the one we followed, has been cut out in the side of the slopes.

Khirbet Umm ed-Dananir itself sits high on the slope, directly above the springs. In the rocky hills opposite, on the other side of the wadi, there are a number of caves. There must have been regular traffic from the site itself to the bottom of the wadi in order to get to the springs. Moreover, if the caves opposite the site were connected with the site in any way (perhaps as burial caves), it would have entailed regular climbing up and down the wadi on both sides. This makes it all the more likely that the final part of the road in fact went through the bottom of the wadi.

Conclusions

If the hypothesis is correct that there was a route from the Jordan Valley, the area of Deir 'Alla, to the Plains of Amman during the Late Bronze Age, it seems logical to assume that this route went through the Wadi Zerqa. There are three main arguments for that.

First of all there is the presence of Tell el-Hammeh at the mouth of the Zerqa, with its Late Bronze Age occupation. This occupation is indicative of relatively short stays, while on the other hand the presence of well made and luxury pottery suggests involvement in interregional trade. Secondly there is the Late Bronze Age cooking pot sherd found at Tell edh-Dhahab esh-Sharqi. Thirdly there is the presence of a number of Early Iron Age sites along the Zerqa, which were created after the Late Bronze Age trade network collapsed and which may have been settled by people who had been involved in this trade, on locations they were familiar with.

McGovern has already suggested that there may have been transhumance along the Zerqa from the Baq'ah plains to the Jordan Valley. Our expedition has not proved either the existence of the transhumance or of the trade route, but if they did exist, it has shown the most likely road they followed. For the first part, the route along the Zerqa itself, and the most likely place where this route may have turned south, this was relatively easy. There were not many possibilities, also taking into account the fact that people needed water on the way. The second half, from the Wadi Zerqa up the Baq'ah, is more difficult to assess, because there are a number of possibilities. The route we have taken, from the Wadi Quseib via Uleigun and Jal'ad to Khirbet Umm ed-Dananir is only one of probably many possibilities. Which route was or were taken in different periods can only be solved by a thorough survey of the area in connection with the different passable roads.
V-13. Existing Theories, Models and Hypotheses

A number of models and hypotheses have been developed for the occupational history of the Levant in the transitional period. The older ones are based on, or have been influenced by the three main ‘Schools’ that dealt with the stories of the settlement of early or proto-Israel in the Early Iron Age. Each of these Schools proposed a reconstruction for the period of the Israelite Settlement, integrating archaeological evidence with the historical sources or providing an alternative interpretation for them. Some of the more recent reconstructions have taken the shape of models, and these have been influenced to a large extent by the ideas of New Archaeology, using or adapting system models already in existence. But even these recent models draw heavily on the three traditional Schools, or rather, on two of them. In recent scholarship there has been a return to more historically oriented theories, following the post-processual wave in Near Eastern archaeology.

The three Schools are well-known, and have been paraphrased and analysed by numerous scholars (Finkelstein 1988, 295-314 with literature, Bloch-Smith and Nakhai 1999, 66-70 with literature, and most recently Zwingenberger 2001, 3-10). The Military Conquest school, as it is often referred to, was represented by W.F. Albright (1935, 1939) and later G.E. Wright (1962). According to them, the archaeological record in Israel supported the theory of an invasion into Canaan by an aggressive group of invaders named ‘Israel’, who conquered the land and destroyed its cities, at the beginning of the Iron Age. The second School, known as the Peaceful Infiltration School, was first formulated by A. Alt (1925, 1939), and later by M. Noth (1938, 1957, 1960; see also M. Weippert 1967, 133-139). The nucleus of their theory was that nomads, coming from the east side of the Jordan, had moved into the western hill country, where they made their first efforts at settlement and developed a peaceful relationship with the settled Canaanites in the valleys. Only at a later stage did this coexistence lead to conflicts, and these are reflected in the biblical record. The third School, represented by G. Mendenhall (1962) and N. Gottwald (1979), is known as the ‘Peasants’ Revolt’ School. Mendenhall stressed the equation between the terms ‘Habiru’ and ‘Hebrew’ and stated that the early Israelites, like the Habiru, were outlaws from Canaanite urban society. Gottwald stressed the sociological element in this process, modifying it into a kind of Marxist revolution. This ‘Marxist’ element was, incidentally, rejected by Mendenhall. (e.g. Lemche 1985).

The weakest point of all three schools was the fact that they focused exclusively on the origins of Israel, ignoring the surrounding region and populations (Ahlström 1993). The later schools and models, especially the ones that were based on a system approach, had a broader approach and were therefore more convincing. Still, practically every model or theory that deals with this period draws heavily either on the ideas of Alt and Noth, or on those of Mendenhall and Gottwald, or even on a synthesis of both. Some of these derived models will be discussed below.

The Late Bronze Age

The collapse of the Late Bronze Age, which was the matrix on which the new Early Iron Age society, including proto-Israel, arose, was preceded by a different kind of society. The general picture of the socio-economic structure of Palestine and Transjordan at the end of the Late Bronze Age is that of a network of city-states under Egyptian
supervision. The Egyptian empire had several administrative centres; in Palestine these were Gaza, Jaffa and Beth Shean (probably with Sa’idiyeh as an extension for the purpose of controlling the region east of the Jordan). The most important city-state to the east of the Jordan was Pella (Mazar 1990:232-294), although an important role was also played by the Amman Plateau.

**Centre and periphery**
Several scholars have studied the general mechanisms that function in the relation between centre and periphery in a world state in order to understand better the relation between Egypt and Palestine. Wallerstein (1974) has captured the relation between central states and their peripheries in an economic system model for the post-medieval period: sixteenth century capitalism in the western world turned regions rich in raw materials, but without a capitalist structure, into underdeveloped satellites. Raw materials were taken from these satellites, and they became more and more dependent on the rich capitalist states. This vicious circle is caused partly by the early technological advantages of the western world and partly by the capitalist society with its political diversity and accent on economic relations.

According to Wallerstein this kind of economic interdependency did not exist before the sixteenth century, because before the introduction of capitalism relationships between political entities were settled by conquest and tribute. In a number of articles on the subject, specifically relating to the Near East, Wallerstein's last statement is invalidated, and his model applied to Bronze Age society in the Levant (Rowlands et al. 1987).

Kohl (1987, 23-4) concludes that centre-periphery relations with an economic basis existed in the Bronze Age. But the gap between centre and periphery was smaller, because technology was less concentrated in the centre; furthermore integration was less because means of transport were less efficient than in the sixteenth century. This meant that these centre-periphery relations were usually unstable and short-lived. Nevertheless, they did exist.

Marfoe (1987, 34) accentuates the fluctuating nature of trade relations in the Early Bronze Age between Egypt and the Levant. These fluctuations followed changes in the demand for certain goods, and could effectively restructure the peripheral side. Nevertheless he sees these relations as basically centre-periphery relations. The organisation of trade relations may fluctuate between private enterprises and central organisation (Larsen 1987, 49), within the continuum described by Renfrew (1975). It seems likely that from the Early Bronze Age onwards different types of relationships existed side by side, but one or the other might prevail depending on the organisation of the state. In the Late Bronze Age trade had taken the shape of formal exchange of gifts between courts (Zaccagnini 1987, 57 ff). In practice this meant the flow of tribute from the periphery to the centre (Liverani 1987, 66 ff).

Steele (1991) has applied the system to the relationship between Egypt and the Kerak Plateau and southern Ghor in the Early Bronze Age. According to her the relationship between the central core and the peripheral core determines the structure of the internal relationships within the centre as well as within the periphery. At the top of this structure is the link between the central core and the peripheral core. The peripheral core links the central core with the sources that are being exploited within the periphery. This structure may eventually lead to competing local cores within the periphery. At the same time, crises within the centre can cause shifts in the balance of the peripheral cores, and even lead to the collapse of the system (Steele 1991, 27).
The relationship between Egypt and Canaan in the Late Bronze Age is generally seen and treated as a centre - periphery relationship and it is assumed to have been largely economic in nature (Redford 1992, 209). Hypotheses about the nature of the relationship, and about the decline of the periphery and the collapse of the structure at the end of the Late Bronze Age have mostly, consciously or unconsciously, drawn on this model. Structural changes in the region are the diminishing number of settlements in the periphery and the decline of the larger ones (like Pella and Shechem). These may coincide with a shift in the social structure including a growth of the nomadic section of the population. Cultural influence was largely one-way, in architecture for example and in burial practices (Gonen 1992). Specialised production, for example to feed the garrisons stationed in Palestine (Redford 1992, 211) may have led to a restructuring not immediately visible in the archaeological record. Withdrawal of these garrisons would then have a belated impact on the region.

It has been accepted by most scholars that Egypt’s interest in Canaan was basically economic. Redford (1992, 148) suggests that originally the region may have been secured as a buffer for the threats from the north: Mitanni, Hatti and Hurri. According to him, if Egypt’s interests had been purely economic, raids would have sufficed. The striving for peace and security by Hatshepsut (Redford 1992, 149ff) and the campaigns into Asia by Thutmose III served the same purpose. These were both political (for security) and economic (acquiring goods such as grain, myrrh and other unguents, turquoise (and probably copper), wood such as cedar and juniper, ivory (taken from the list of goods mentioned by Hatshepsut, Redford 1992, 151)). The deportation of large masses of prisoners, according to Redford, would have been aimed at weakening the country, rather than to provide slaves (Redford 1992, 168-9). Eventually this weakening of Palestine would lead to a vacuum in the highlands, of which not only the Habiru took advantage, but also the roaming nomads from Transjordan (Redford 1992, 179), who used to maraud the trade routes. Ultimately this led to an increased presence of Egyptian garrisons along this route in the thirteenth and twelfth centuries (Redford 1992, 179), and the last show of force of the Empire before its collapse. The attack on Beth Shean by a Canaanite king, and the ensuing expedition of Seti I were the start. Ramses II, after a short relapse following the battle of Qadesh, continued this policy with an expedition into Galilee.

According to Redford the economic relevance of Palestine for the Egyptian empire lay partly in its natural resources but mainly in its location on the trade route which was a thoroughfare to regions that were not under their control. Such a region was Mesopotamia and beyond, with which Egypt had trade relations.

This position is taken by Bienkowski (1986, 1987, 1989), who states that there was a distinct difference in prosperity between the areas which were of actual importance to Egypt, and those that were not. The first were the more densely populated areas, which lay on the trade routes to the east and south. These seemed to be the more prosperous areas, where the general decline that affected the region, was less visible. These areas had a strong Egyptian presence, as seen from architecture and artefacts. The less densely populated areas, mainly the hill country, suffered a gradual decline. According to Bienkowski (1989) this was not caused by a conscious ‘milking’ of the country for goods, but merely by the needs of the Egyptian garrisons in the Egyptian centres. In itself this was a heavy enough tax to rob the countryside of its normal surplus and start a gradual decline, perhaps in combination with declining climatic circumstances (but see Ch. 2: Ecology; Climate in the Late Bronze – Early Iron Age). This would lead to rebellion and consequently to a stronger Egyptian presence, with heavier taxes,
provoking a vicious circle of reactions. Bienkowski draws attention to the enigmatic role of Hazor in this model (1987): Hazor was by far the largest city in the region in the Middle and also the Late Bronze Age, and it lay on the trade route to the north. Still, even in the Late Bronze Age it seems to have been avoided by Egypt, and its loyalty was doubtful, to say the least. This seems to confirm Bienkowski’s model of Palestine as a thoroughfare; the actual control of the country itself and of its resources was not the first aim of Egypt. As long as Hazor did not actually threaten the Egyptian routes it was best left in peace. Egypt was successful in this purpose by having taken care that the actual trade route stayed away from the Hazor sphere of influence. It turned east through Beth Shean, well south of Hazor, and so avoided the region over which Hazor had control. It has been suggested in this study that towards the end of the Late Bronze Age Egypt similarly changed its trade route east of the Jordan in order to avoid the region around Pella which had become a threat to the route (van der Steen 1998; infra Chapter 6). It seems therefore that Egypt’s policy was rather to avoid trouble than to face and solve it, which would have been costly both in men and materials. They kept nominal control of the region and the town, which is confirmed by the sending of envoys, and ‘visited’ Hazor on campaigns, In this way they showed that Egypt would accept the status quo as long as its own interests were not threatened; if that happened, Egypt had the power and the means to react.

Franken’s trade sanctuary hypothesis (1992, 166)
Franken’s hypothesis is concerned with an explanation for the Deir 'Alla Late Bronze Age temple. ‘...Egypt under the eighteenth dynasty restored or secured the import of trade goods from Gilead by creating a regional market place for collecting the goods, for which a trade sanctuary was required. Tribes or clans living in Jordan were persuaded to co-operate in the enterprise, and had in turn to take responsibility for the religious performances in the sanctuary as well as for the maintenance of the buildings. For that purpose they must have formed some kind of confederation’. This leaves room for two possible explanations: One possibility is that Egypt could have created a central place for the purpose of collecting and transporting the trading goods from the Gilead area. It initiated a sanctuary for this purpose that could well have been built by the local population. Local tribes were persuaded, either by promise of gain or by force, to get involved in the trade and the accompanying maintenance of the temple cult, thereby turning the market area into a mostly locally conducted enterprise under Egyptian supervision. Common interest in the enterprise could have induced a tribal coalition at this stage or before. The second possibility would be that this coalition as well as the sanctuary already existed before Egypt was involved and that Egypt turned the area into a market centre, using the existing tribal ‘infrastructure’, such as intertribal relationships, knowledge of the area and the temple cult.
Which of these two alternatives should be preferred is something that cannot be decided without excavating much more of the early sanctuary than has been done so far and publishing the results.

The transitional period and the emergence of Israel: system models
Cyclic models
Ever since the study of the Mediterranean in the Age of Philip II was published by Braudel (1949, translated into English in 1972) cyclism has played an important role as a structural interpretation of historical studies. What Braudel terms the ‘longue durée’, the recurring pattern that underlies the history of a region, its ‘structure’, has been eagerly
picked up by New Archaeology and other processual branches of historical studies. Braudel sees three levels of historical explanation. The first is that which he calls the ‘longue durée’, the level of ‘man in his relationship to the environment...a history in which all change is slow...[and] of ever-recurring cycles’. (Braudel 1986, 20). The second level investigates how groups and groupings interact with each other and the environment, the cycles of war and peace, of economic decline and prosperity. Braudel’s third level is that of ‘short-term history’, written by contemporaries of the events narrated, in which the cycles that underlie these events are less visible, although ever present. Even though Braudel warns his readers to see through this ‘short-sighted’ history (1986, 21), he also makes it clear that without these sources, without these snapshots of history, the long-term cycles would be hidden from us. It is through this short-term history that we have to detect the long-term cycles.

Many efforts at analysing the cyclic structure of the history of the Levant have been made. In fact, the cycles themselves present no problem: the pattern has been described by a number of scholars (Coote and Whitelam 1987, 32-46; Finkelstein 1995, to name only a few): Early Bronze I started with rural settlements, developing into an urban culture in Early Bronze II, contracting into fortified urban centres in Early Bronze III. Collapse followed in Early Bronze IV – Middle Bronze I. The urban centres were deserted and small settlements sprang up in the marginal areas. The next cycle started in Middle Bronze II with small rural settlements growing into unwalled villages and walled towns, with the greatest expansion in the fertile plains; it included also the stage of the Early Bronze Age expansion. In Middle Bronze IIB-C towns became contracted and fortified. This was followed by a period of slow decline, starting in the Late Bronze Age, and culminating in collapse at the end of Late Bronze II. This coincided with a settlement surge in the marginal areas. The third cycle started in Iron Age I and continued into Iron Age II, with an increase in urban settlement in the fertile plains that continued until its assumed collapse after the destruction of Jerusalem in 587 and the onset of the Persian Period. The next period of prosperity is the Roman-Byzantine period, which has shown the greatest expansion in settlement prior to modern times. This period of prosperity was followed by a period in which the fate of the region was largely linked to that of the ever-changing Islamic governments. The decline set in in the Ottoman period, leading to its nadir in the nineteenth century, after which a new cycle began, that continues until the present day.

The differences in opinion among scholars lie largely in the causes for these recurring cycles. In the past several possible explanations have been analysed by scholars and presented as models. Factors like climate, disease, population pressure, economic decline or its opposite, economic revival, international political circumstances, and geographic lay-out have all been used as possible explanations; but not one of them can claim to provide the final answer; and which of these, or which combination of them, is valid may differ with every event. This does not invalidate the concept of cyclism in the Near East but it demonstrates that although cyclism in itself is a structure, a recurring phenomenon, it does not offer an explanation.

Renfrew's 'dark ages model'
This model was developed for the Cretan and Aegean cultures at the end of the Bronze Age. However, Renfrew argues convincingly that the same model applies for Anglo-Saxon England after the collapse of the Roman Empire. Within limitations, aspects of it also apply to the Early Iron Age in the Levant. This model describes the society that follows the collapse of an 'Early State' structure (Renfrew 1982, 114). Special attention is
given to the reaction of a peripheral state, such as England in the time of the Roman
Empire, and which could equally be applied to Palestine at the collapse of the Egyptian
Empire.

On an organisational level the first effect of the collapse is the fragmentation of the
formerly integrated society into small, isolated units, ‘segmentary societies’, that usually
show analogies with societies seen in the same area in earlier ‘formative’ levels. This
fragmentation does not stop at the breaking up of the population but leads also to a
geographic fragmentation, often along the lines of the older boundaries. Shifts of
population groups within and outside the area may lead to destruction of settlements. In
some cases high levels of organisation may survive in the marginal areas (According to
Renfrew this is found more in the centre than in the peripheral areas; after the collapse
of the Roman Empire remnants of complex societies were found in Rome but not in
Britain). On a cultural level some remnants of the former culture find their way into the
new society. Remnants of the old religion survive in popular beliefs and cults. Older
specialist products and technologies, such as the shaping of pottery and metal working
are imitated in local production.

If circumstances are favourable, a quick return to a higher, differentiated level of
organisation is possible under the influence of remnants of the old state, which becomes
evident in such things as roads, technology and culture.

This model has been used by McGovern (1986, 340-341) in order to describe the events
after the collapse of the Late Bronze Age society on the Amman Plateau, and especially
in the Baq‘ah Valley.

Models taken from modern society

Rowton’s dimorphic society

Rowton (1973a, 1973b, 1974) has defined what he calls a ‘dimorphic’ society, consisting
of a nomadic element and a sedentary element, and he sees them as opposed to each
other. Very often he equates them with ‘tribal’ and ‘non-tribal’, respectively. The
mechanisms of interaction and integration of these opposites in a society in which both
are represented, is the subject of his studies. He concentrates on what he calls ‘dimorphic
chiefdoms’, functioning within a larger state structure and being autonomous but not
independent. Comparing ethnographic material, mostly from the nineteenth and
twentieth century AD, with written sources from Mesopotamia, and especially (but not
exclusively) Mari, he creates a model that he describes as ‘urban autonomy in a nomadic
environment’. The different elements in this model are described as ‘tribal’ versus ‘non-
tribal’ (or ‘feudal’), or nomadic versus sedentary. It applies to regions that include
pastoralist areas, surrounded by sedentary, inhabited regions. Rowton formulates it as
‘nomadism in Western Asia is based on enclaves within the sedentary zone or on its
fringe’ (1973a, 201). Within these conditions the tribal or nomadic element interacts with
the sedentary population. The hallmark of dimorphic society, according to Rowton
(1973a, 202) is an autonomous chiefdom centered on a town in tribal territory. The
relative strength of the nomadic and the sedentary sides together seem to determine the
kind of society that ensues. In times in which the state(s) in the sedentary zones are
weak, the nomadic, tribal element encroaches and brings the sedentary region within the
realm of the nomad. This could even lead to a dimorphic, independent state; but
generally there seems to have been a balance between the nomadic and sedentary
elements, with a local dynasty belonging to a major tribe ruling or influencing ‘the
nomadic and sedentary tribes in the countryside’ as well as the non-tribal element.
Rowton continues to give numerous examples of relatively recent dimorphic chiefdoms throughout western Asia, which he describes as ‘the familiar blend of agriculture and nomadism, the tribesmen in their tents, the chiefs in their castles, and the towns as centers of tribal commerce’ (1973a, 205). He then gives numerous examples from the Mari archives to show that this interaction of nomadism and tribalism, agriculture and towns existed in Old Babylonian society as well as in other periods.

Rowton’s model has much to recommend it, but there are some difficulties. For one thing, he never defines what he means exactly by tribalism and nomadism. Sometimes they seem to be identical but in other cases he distinguishes between the two. In general he seems to accept that nomadism is basically a tribal activity, although not all tribes are nomadic and not all pastoral nomads are tribes. The same problem ensues with ‘sedentary’, ‘agricultural’ and ‘feudal’. These terms seem to loosely overlap, but there is no clear definition of any of the terms or of the actual nature of the ‘overlap’.

A second objection to Rowton’s model is that it is based on a dichotomy that does not exist. He places ‘sedentary’ and ‘nomadic’ opposite each other and as mutually exclusive whereas in practice it is more viable to see them as two extremes of a continuum. Salzman’s sedentarisation model is based on this view (Salzman 1980, see below).

Salzman’s adaptation and response model

Salzman rejects the dichotomy between nomadism and sedentism. In his view both are elements in a set of what he calls ‘institutionalised alternatives’, a phenomenon that exists in every society for most, if not all major areas of activity. Within any society people can choose how to define and divide their economical, political, and social activities. This results in fluidity and flexibility within a society, with people moving back and forth between the available options, the ‘institutionalised’ alternatives. As these activities on different levels influence each other they become loosely integrated within society, creating a flexible and adaptable society, ‘able to shift from less to more appropriate alternatives in response to pressures and exigencies’ (Salzman 1980, 4).

The crux of this model is the presence of ‘institutionalised’ alternatives, i.e. options that are present in the society in question in an ongoing fashion; recognised by the members as part of their society; expected; and accepted as part of the society. This is important because it means that the alternatives are readily available to society when demanded by circumstances, and members can revert to them quickly and easily.

This model implies that change will always be reversible. Every society at any given moment is a complex entity supporting a set of many different behavioural, organisational and ideological alternatives, and these are part of and determined by the ecological and geographical environment. At a given point in time some of these alternatives may be dormant, whereas others are more dominantly present, until circumstances change and a different set of alternatives becomes viable. This does not fundamentally change the society in question but merely moves it along a continuum of existing alternatives.

Salzman uses the case of the Sinai Bedouin in the 1960s as an example of this process. On an economic level these groups gained their income mainly by migrant labour, a modern equivalent to caravaneering. At the same time the families kept small flocks of goats and sheep and small plots of vegetable garden, neither of which made any profit. However, they were maintained as alternatives in case political or economic circumstances should change; then they could be activated and provide a source of income. The importance of having and holding these alternatives was expressed in a sentimental attachment to the land.
These economic alternatives were integrated with the fact that the Bedouin belonged to a tribal structure. A moment may always come when one’s power and influence, one’s social status or even one’s life was dependent on one’s position in a tribe. Certain economic pursuits, however, would make these tribal relationships dormant and difficult to maintain, for example because of physical separation from the tribal territory or from other members of the tribe. Therefore certain mechanisms work to keep the kinship ties functioning, such as congregating at certain occasions, or making pilgrimages to the shrines of tribal patriarchs. The relationship of the tribal society to their territory, the special significance of the tent as a symbol, which has been described in the introduction, can also be seen as part of this adaptive attitude.

Within this model, which Salzman calls the ‘adaptation and response’ model, society therefore shifts back and forward along different economic, political and ideological continuums. Nomadism and settlement are only two alternatives within a much larger set of institutionalised alternatives, and shifts from one to the other are frequent.

*Derived models*

Coote and Whitelam

An important step within the ‘Peasants’ Revolt’ School (also called the Sociological School) was taken by Coote and Whitelam in 1987, with their book ‘The Emergence of Early Israel’. They lean heavily on the sociological model; according to them the early Israelites were indigenous in Palestine. They integrate this idea into a cyclic model, which involved a long-term process of recurring settlement expansion followed by regression, starting in the Early Bronze Age and continuing until recent times. International trade played an important role in this cycle. Palestine always had a pivotal role in international trade, but more as a bridge than as a resource. The collapse or lessening of that trade would have affected Palestinian society immediately. According to Coote and Whitelam (1987, 71-78) a flourishing interregional or international trade would lead to a dense urban population, especially in the regions in the proximity of the trade route, the coastal plain and the major valleys. This eventually led to overpopulation and increased exposure to disease, primarily because of drainage problems and mixing with foreigners. They see disease as a major cause for collapse (Coote and Whitelam 1987, 51). During the decline and after the collapse people would tend to move away from the ‘vulnerable’ plains to the highlands and build up a more egalitarian society on a subsistence base.

The realisation of the importance of trade as a major cause for prosperity and decline in Palestine is an important step forward in understanding the history of the region. There are, however, several problems with this model as well. One of these is that Coote and Whitelam never explain why people would have moved to the highlands after the collapse of society in the plain. Even after a major urban collapse the plain would still be more eligible for settlement and agriculture than the highlands unless there were compelling reasons to avoid it. According to Coote and Whitelam the plain is ‘vulnerable’, but they do not explain what causes this ‘vulnerability’ (Coote and Whitelam 1987, 39, 40, 130). Both the settlement history and the historical sources suggest that the coastal plain and the Jezreel valley were generally preferred by the inhabitants of the country (e.g. Oppenheim 1943, 5).

Another problem is that they completely ignore one aspect of Near Eastern society, that of tribalism. Not only do they tend to avoid the word ‘tribe’, but their basic classification of Near Eastern society is largely a ‘vertical’ one, consisting of classes: the urban elite; peasants; nomadic pastoralists; and ‘bandits’ (Coote and Whitelam 1987, 88-115). They
admit that boundaries between these classes are not always clear, and can be crossed on occasions. They also notice that frictions within the population tend to be ‘horizontal’, between regions rather than between classes (Coote and Whitelam 1987, 60) but they do not draw the conclusion that this implies that tribal ties may have overruled class-ties.

Finkelstein’s synthesis model
Finkelstein’s model (1988, 336-351, 1996) can, in a way, be seen as a synthesis of the Peaceful Infiltration school and the Sociological school. According to Finkelstein the Early Iron Age population of the hill country cannot possibly have originated in the eastern deserts. The accepted date for the domestication of the camel (generally set somewhere in the thirteenth century, but see Ripinski 1983, 1985) makes the existence of Bedouin-like groups in the eastern desert unlikely. At the same time, the nature of the settlement in the highlands suggests to Finkelstein that these people were ‘nomads in the process of sedentarisation’. The area in which the earliest settlements were found are the areas that were most suitable for cereal crops and pasturage (Finkelstein 1988, 126 ff). According to Finkelstein the lay-out of the settlements generally conforms to the lay-out of nomadic pastoralist campsites (Finkelstein 1988, 238-254). The typical four-room house developed from the nomadic tent; and silos (ubiquitous on these sites as well as on others in the Early Iron Age) are seen as characterising groups in the process of sedentarisation (Finkelstein 1988, 266). At the same time the similarity of their material culture (especially pottery) with the Canaanite Late Bronze Age material culture leads him to suggest that this nomadic population already lived in the area in the Late Bronze Age; they descended from a Middle Bronze Age population (Finkelstein 1996, 200). The frontier zone of the hill country had been relatively densely settled in the Middle Bronze Age. At the end of the Middle Bronze Age part of the settled population changed to a nomadic way of life under the influence of external circumstances. Both Finkelstein and Bienkowski (1986) suggest that it was internal strife within the Canaanite socio-political system or ecological factors that played a role in the abandonment of settlements. This process of nomadisation was strongest in the marginal areas. The existence of a number of isolated sanctuaries in the hill country, and the large number of isolated burial sites can be seen as an indication of a strong nomadic pastoral population in these regions. At the end of the Late Bronze Age the region became settled again, possibly because the economic balance between nomads and farmers began to collapse and pastoralism as a basic means of living became increasingly difficult. There may also be other reasons unknown to us. Egyptian exploitation of the region, which reached its zenith in the thirteenth century, may have led to impoverishment within the villages (see also Bienkowski 1987), disturbing the symbiotic relationship between nomads and farmers, and to the settlement of nomadic groups, a gradual process that continued into the tenth century.

This model has much to recommend it, even though the material remains within the settlements may not point as strongly to ‘nomads in the process of sedentarisation’, as Finkelstein would like. The presence of silos seems to point merely to a change in household economy, whereby each household has to make its own provisions and cannot depend on a central organisation within the village. This type of village economy is hardly limited to starting settlers. The cultural background of these settlers therefore may be more diverse than the model suggests (Finkelstein 1996, 204).
McGovern’s model for the Amman Plateau

McGovern’s model also leans on the Sociological school in that it assumes the new settlements from the Early Iron Age in the region to have been created by the indigenous population and not by newcomers (McGovern 1986:335). According to McGovern the Transjordanian Plateau at the beginning of the Late Bronze Age was a city-state structure, comparable to those of western Palestine (see also Hübner 1992, 159). This city-state had contacts with the great cultures surrounding it: Egypt, Mycenae and Cyprus, as can be seen from the material culture. However, because of its more isolated location these contacts were more restricted than those in western Palestine. Traces of the new technologies that were to become a hallmark of the Early Iron Age, have been found here: coil-built pottery and iron smelting technology.

For his interpretation of the collapse of this city-state and the emergence of the ensuing culture McGovern resorts to Renfrew’s Dark Ages model. He ascribes the collapse itself to deterioration of the climate (mainly lower precipitation), to the world-wide events that led to disturbances in the north and the collapse of the Hittite empire, and to the migrations of northern groups, with their consequent impact on economic relations. The deteriorating climate forced the people into contacts with the semi-nomads who lived on the margin of the culture area (whom he identifies as the Šasu), and this led to conflict situations. This break-up of the formerly integrated society into smaller units can be seen in the small villages that appear in the marginal areas, beginning at the end of the Late Bronze Age but especially at the start of the Early Iron Age. The large Late Bronze Age centres shrunk to small villages and some were abandoned; but there were no destruction layers - it was a gradual process. Technologies as well as elements of the Late Bronze Age culture were transferred to the marginal societies and they can be found in the Iron Age culture, though sometimes modified.

One element that is missing from Renfrew’s model, because it is specific for the Near Eastern cultures, is the nomadic, pastoralist solution to economic decline, that acts as a buffer, absorbing the blows of socio-economic disasters.

LaBianca’s food system theory

LaBianca’s food system theory (LaBianca 1990, 10-21) can be seen as a general systems theory, defining the mechanisms that are generally used to procure food. ‘A food system is a complex unity consisting of all the purposive, patterned (institutionalised) and interconnected activities carried out by a group of individuals in order to procure, process, distribute, prepare or consume food, and dispose of food remains.’ LaBianca distinguishes two systems: the stable system and the resilient system. The stable system is characterised by short-term maximisation of benefits by and for urban elites, increased rates of population growth, increased rates of production, increased rates of energy expenditure, intensive resource procurement, social stratification, productive specialisation, elite political organisation, extensive local and regional exchange, political alliances, and urban elites. These characteristics become evident in the archaeological record as lack of diversity in natural plant and animal life; no seasonal variation in location and intensity of population; disturbance of the soil by cultivation of fertile plains and valleys; technologies for water and soil management; fortified farmsteads, villages and towns, and the use of cattle for ploughing; a diet consisting of culture crops, provided by gardens and orchards, domesticated animals and imported products.

The resilient system is characterised by strategies of survival; energy input that equals energy output, decrease of population; low energy expenditure; population regulating mechanisms; the presence of farmers and herdsmen side by side (on which the urban
edifice of power, privilege, tradition and ceremony depend); high mobility; military prowess; and the maintenance of a spectrum of subsistence options that balance herding with limited cultivation. This becomes evident in the archaeological record as an increase in diversity in natural flora and fauna; large seasonal variation in location and intensity of human population because of migration patterns; 'pastoral pursuits', with little disturbance of the soil caused by cultivation; mobile or seasonally abandoned operational facilities; a diet consisting of animal by-products, seasonal fruits and cereals, and products of hunting and gathering expeditions.

Both systems alternate; in periods of intensification there is a movement towards the stable system; in periods of abatement the movement is towards the resilient system. LaBianca recognises a cyclic pattern of alternating resilient and stable systems in the plains of northern Moab. The socio-economic structure in and around Hesban in the Early Iron Age comes closest to the resilient system: several agricultural settlements but mainly pastoralism, transhumance (sheep and cattle), and a small-scale textile industry in Hesban itself. During the course of the Early Iron Age a shift can be seen in the direction of the stable system through the formation of larger economic units in which the population starts to produce surpluses (according to LaBianca this was due to the political instability of the region), there was an expansion of trade along the King's Highway and the creation of settlements and farms that are not located directly by a wadi or spring but use cisterns to provide water; this points towards intensification of settlement. This cyclic process follows the pattern outlined above, of intensification of settlement and urbanism followed by a collapse and smaller settlements.

According to LaBianca the underlying cause for these cycles is the eternal quest for food by mankind. The quest for food is a primary human need and therefore one of the strongest incentives for individuals as well as for groups to act. It is, however not the only one, and cannot therefore be seen in isolation from, for example, protection and strife for power.

**Miller's relation model**

The relation model (Miller 1991, 5-8) is based on the balance between three elements of Near Eastern society: the towns, the villages and the nomadic pastoralists. Between villages and nomads exists a competitive, but at the same time symbiotic relationship. In a stable society they support each other, forming a network of groups on different points along the continuum, semi-nomads and transhumants, sometimes within one single family. The relation between villages and towns, on the other hand, is based on a one-direction power structure and determined by a balance of exploitation and protection. Effective protection without overexploitation results in a growth of the number of villages and vice versa. Miller uses the example of Kerak in a cycle starting in the thirteenth century AD. At that time Kerak was an administrative centre of the Mamluk government. There were garrisons, providing safety as well as prosperity, and the town was surrounded by villages. The fourteenth century saw an economic decline, resulting in increasing exploitation of the villages, a decline in safety and prosperity and a decreasing number of villages. This situation continued until the Ottoman period, when only four villages were left on the plateau and the region was dominated by Bedouin. The twentieth century saw a recovery, with greater safety and prosperity leading to an increase in the number of villages.

Miller sees the transition from Late Bronze to Early Iron Age as a comparable process, where depletion of the sources and exploitation of the settled population led to an increase in nomadic pastoralism. When this exploitation ended at the end of the Late Bronze Age an increase in the number of small settlements would have followed.
The balance between town, village and pastoral group is implicit in most models that have been proposed for the period. Miller points to some direct influences that can disturb or restore the balance, thus making it more tangible. He does not, however, explain in his model what was the cause for a return to village agriculture at the beginning of the Early Iron Age, apart from the end to exploitation.

Kahrstedt's synoikismos model and Worschech’s reconstruction
This model has been described as: ‘die aus politischen oder militären Gründen (oder beiden) erfolgte ’Zusammensiedlung' bisher nicht verbundener Orte im eigentlichen (=räumlichen) und übertragenen (=rechtlichen) Sinne’. (Bellen in Ziegler et al. 1979, 458); in other words, a coalition of villages and/or towns, for practical, political or safety purposes. It was a not uncommon phenomenon in the Greek world, which left the towns and villages involved with a great deal of independence, at the same time producing the advantages that the coalition brought. It could lead to a political and planological integration of the existing settlements involved, but it could also lead to the foundation of a new town as a new political centre in a region that had so far only been settled with villages and farmsteads. In practice, according to Worschech, it could lead to migration from country to town (resulting in expansion of the town) and eventually to the building of a state from existing settlements (with or without founding new cities). Worschech (1990, 99) reconstructs the transitional Late Bronze – Early Iron Age period in Moab along the lines of this model: Increase of urbanisation because semi-nomads and farmers flock to the larger centres in search of safety, wealth and possibly political influence. He sees the archaeological record as a confirmation of the synoikismos model - an increase in settlement and urbanisation at the beginning of the Iron Age, reflected in the expansion of existing centres and the creation of new ones as well as an increase in agriculture. According to Worschech this development could not have taken place if there had not been a central power that regulated it. This central power was Egypt, which had a much larger impact on the forming of the Early State than has usually been suggested or can be deduced from the Old Testament records. In specific support for his conclusions he cites the Balu'a stele, and more generally Egypt's cultural influence in the Late Bronze culture. Cultural decline in the transitional period he explains by suggesting that farmers and semi-nomads were forced into a culture they did not know or understand and they had to start making pottery and building houses. This led to a mixed culture of new developments and old traits, which was characteristic of the Early Iron Age.
Although elements of this model may be convincing, there is very little to support especially Egypt’s influence in this process. The Balu'a stele may well depict an episode in Egyptian – Moabite politics in which an agreement between the two was reached, but there are no arguments to interpret it as a sign of full integration of Moabite society into the Egyptian empire. An interesting option would be to see it as a protection agreement between Egypt and a Šasu tribe or confederation, obliging the Šasu to ‘protect’ the trade route through the Wadi Mujib. Several Egyptian documents have demonstrated the danger of such routes, and the vulnerability of the traveller.

Younker’s Nomadisation model
Younker’s nomadisation model leans heavily on the Peasants’ Revolt School. According to Younker (1999b, 189-218) in Late Bronze I Transjordan was mainly populated by Šasu. The mass deportations of people by Thutmose III and Amenhotep II triggered the local population to flee the settled regions, and ‘nomadise’. Many of them went to Transjordan, which was outside the direct sphere of influence of the
This increasing nomadisation caused a shortage of labour force, and thus created tension and animosity between the settled and the nomadic population (see also Liverani 1987, 69). Eventually the population of the highlands consisted of local kin-based groups with a tradition of anti-urban ideology. Although they had fled the oppression of Egypt and the Canaanite city-states through nomadisation, they were basically sedentary groups, and therefore they took the first opportunity to resettle when the state and urban polities were weakened and no longer as oppressive (Younker 1999b, 205).

Younker also explains the continuous presence of Šasu in Transjordan with these groups: 'Thus, in spite of the massive deportations of Thutmose III and Amenhotep II... later Egyptian sources indicate that a large population of Šasu and Habiru continued to occupy the highlands of Palestine and Transjordan during this period...'. (Younker 1999b, 201). Merneptah's campaign beat the Šasu and the Habiru, but after him his followers abandoned the region, and it was at the mercy of the Šasu and Habiru this was the time when they began to settle again.

The discussion concerning Habiru – Ibri

Whether the words ‘Apiru, Habiru and Ibri (Hebrew) are in any way related is still a matter of debate. The analysis of Loretz (1984) shows that there is no demonstrable historical or sociological relation between ‘Apiru/Habiru and Hebrews. Habiru lived in the second millennium, before the beginning of Israel’s history. There may however be an etymological relation, in which case the biblical context has changed as well as the meaning. Na’aman (1986) thinks that the etymological relation is relatively certain. Rainey (1989:571) rejects every connection between the words, etymological, sociological or historical.

The Amarna letters often mention the Habiru (SA.GAZ). Rib-Addi, lord of Byblos found them a menace. They are depicted as enemies of Egypt, rebels conquering cities and regions, aggressive outcasts. This picture is confirmed by other sources from the period. Habiru was a sociological term, and this is one of the main arguments to reject the relation with ‘Ibri, which is generally seen as an ethnic term. Na’aman, however, points out that in the Bible the word is always used with a sociological connotation, one that coincides with the meaning found in other sources for Habiru. Donner (1984:71) also sees the word ‘Ibri in the Bible primarily as a social term. It was a word used by foreigners (Philistines and Egyptians) for Israelites.

According to Rainey, who refers to the main theories for the origin of the early Israelites, the description of the Habiru as found in the Amarna letters has no relation whatsoever with 'landless peasant farmers fleeing their Canaanite feudal masters nor were they Bedouin from off the desert' (1989:571). His argument is flawed however: his definition of Habiru is based solely on references from the Amarna letters (the article is a review of Moran’s translation of the letters) and he ignores other Egyptian or Mesopotamian sources. Secondly he recognises only two mutually exclusive possible origins for the settlement of the western Highlands, the peasants' revolt or the peaceful infiltration theory. However, archaeological as well as recent analyses of literary sources have made clear that Israelite origins are less straightforward than these hypotheses suggest.

Moran (1987) suggests that the term Habiru in the Amarna letters stood for 'enemies of Egypt' in general. That, however cannot have been the case in the days of Amenhotep II, where a list of prisoners of war (ANET 247) names the Habiru as a separate group, placed between the princes of Retenu and the Šasu (which does not imply that they are to be seen as an ethnic group). A consensus seems to have been reached over the question of what the ‘Apiru / Habiru were: a group of social outcasts leading an independent
existence and making their living in any way that would not threaten their independence; they were robbers as well as mercenaries (EA 195). The conflicts between Egypt and the Habiru may have had more to do with Egypt’s efforts to control them, than with 'fundamental' enmity.

Lemche (1996, 144-6) assumes that the Habiru were the result as well as the cause of the decline of Late Bronze Age society, which eventually led to the withdrawal of Egypt and the restructuring of society in the Early Iron Age. Heavy tribute and periods of famine led to debt and impoverishment among the class of farmers in Syria/Palestine. He sees the Habiru primarily as refugees who have fled this vicious circle and found a new homeland elsewhere. They were welcomed as a cheap source of labour by their new overlords, who had been struck hard by the diminishing of their own populations (see Younker 1999b, above). Lemche suggests (1996, 150) that, even though the Habiru cannot be equated with the Ibri from Israelite society, they may have represented elements in the formative tribal structure that eventually developed into ‘Israel’, and may have taken the term Habiru with them.

Questions about who they were, and what their connection was with the 'Ibri (who were to form part of the later Israelite community), still remain, although an etymological relationship between the two terms is now accepted by most scholars.
V-14. A new model?

The Early Iron Age in the Levant is sometimes referred to as the ‘Dark Ages’, and with good reason. This period, that started with the decline of the Egyptian Empire in the second half of the Late Bronze Age and continued until the first Iron Age kingdoms of Judah, Israel, Ammon and Moab made their appearance, is ‘dark’ in the sense that few of the traditional historical sources (whether archaeological or textual) really throw light on it. And often, it seems, the little light that is thrown is a will-o’the wisp, leading every scholar who follows it into a different direction. The less one actually knows for certain the more room there is for speculation. This study is no exception. Much of what has been said is hypothetical, but it aims to conform to the scholarly axiom that I have always valued highest, that of Occam’s Razor: "Entia non sunt multiplicanda praeter necessitatem". No more things should be presumed to exist than are absolutely necessary. In modern scholarship that means that the best explanation (or the best hypothesis) for any phenomenon is that which accommodates all the available facts and at the same time requires the fewest assumptions. I have tried to accumulate all the available data about the dark ages in my area of research in the past chapters. In this chapter I shall present an explanation that, in my opinion, fits all these data, without making any more assumptions about unknown phenomena than is strictly necessary.

The available data can be divided into material remains and what I would call ‘expected human behaviour’. What this means for the region under study has been explained in the Introduction: behaviour that conforms to a tribal society, in which social relations, economic pursuits and ideologies are governed by tribal ties. Both categories of facts will be drawn on below.

The Late Bronze Age

It is often stated that textual (and pictorial) sources and archaeological remains cannot simply be combined as sources in the search for historical events. Several reasons for this are given:
- textual sources reflect unique situations and events whereas archaeological remains reflect patterns;
- texts are usually written either long after the events they mention actually occurred, or they are tendentious, written with specific political, religious or moral aims; they only reflect the situation of a certain, limited class or group of people, who cannot be seen as representative of the society under scrutiny.

However, both the archaeological remains and the texts or pictures are the precipitation of a specific society. If the texts are tendentious and do not reflect historical events truthfully there was a reason for that, and the reason lies in the society that created them. The texts may represent a small group of people, but these people were part of the society and influenced it. Therefore the texts as well as the archaeological remains are different sides of one coin, different aspects of one society. Our task is to reconcile them, and to reconstruct the society in which they both fit.

The Jordan Valley in the first half of the Late Bronze Age

Most literary sources about the Late Bronze Age are linked with Egypt, in one way or another. The topographical list of Thutmose III, from around 1450, mentions the names of several places conquered by the pharaoh. His conquest of Megiddo is of course the most famous one, but several other place names on the list are of particular
interest to our area of research, especially those of \textit{P-h-r} (Pella) and \textit{K-n-n-r-t} (Kinnereth). Whether it means that Thutmose III actually controlled the region east of the Jordan we do not know. Excavations at Pella have shown a considerable Egyptian influence in what remains of its buildings and culture. Another site, slightly south of Pella, Abu Kharaz, was a flourishing settlement in Late Bronze I but no Egyptian remains have been found here. Egypt’s influence seems to have been limited to Pella. Deir 'Alla was a sanctuary already in Late Bronze I, according to the excavator, but only a very small part of the site dating to this period has been excavated; therefore no conclusions about Egyptian presence or influence can be drawn. Three sites north of Deir 'Alla (Kharabeh, Tell en-Nkheil and Abu Nijrah) and two sites to the south (Arqadat and Kataret es-Samra) have also revealed pottery from this early period. Kataret es-Samra was a burial site; the other sites have not been excavated so nothing can be said about the nature of their occupation in the fifteenth century BC, but no Egyptian remains have been found on any of them. Tell el-Hammeh, at the entrance to the Zerqa valley, close to the foothills, was occupied during all of the Late Bronze Age. The archaeological remains suggest that it was a temporary campsite (Chapter 9). The pottery that was found here, on the other hand, was fine and suggested contacts with the cultured regions both on the Amman Plateau and the Jordan Valley. In the century following the age of Thutmose III Egypt retained its hold on Pella, as shown by the presence of two inscriptions in Egyptian temples, the Amarna texts, and the archaeological evidence on the site itself.

During the Late Bronze Age the Egyptian Empire used and maintained control over Palestine to conduct trade with the east and north. Canaan was a peripheral state, as far as Egypt was concerned, a gateway to transfer goods to and from Egypt and the Empires to the north. Therefore what was most important to Egypt was that these trade routes were safe, and were maintained. After the campaign of Thutmose III all of Canaan and part of Transjordan were nominally subjected to Egypt. The Canaanite city-state structure does not seem to have been altered however. The city-states were vassals, paying tribute, but they were governed by local families, as long as these were loyal to Egypt. East of the Jordan Pella also was an Egyptian vassal city state, the only known one east of the Jordan. Archaeological and survey evidence shows that settled occupation was largely limited to the town itself.

The overall diminishing site density towards the end of the Middle Bronze Age is generally seen as a trend towards nomadisation of the population in that period. In the Late Bronze Age there must have been a largely nomadic, at least partly pastoralist population between the few fortified towns that existed, one of which was Pella. We can compare this situation to northern Jordan in the nineteenth century AD. In those days Salt was the only inhabited town in the Belqa, governed by a coalition of Bedouin tribes and it functioned as a regional market for the Bedouin and as a transit market for goods to and from the other side of the Jordan. In the Jordan Valley itself all settled population had ceased because of the attacks and exhortations from the Bedouin tribes (Ch. 5).

This would have been what a city-state looked like in the Late Bronze Age: ruled by a local leading family, probably with territorial rights outside the town as well. They were interacting with the tribes around them and trading with other city-states through a system of tribal traders and middlemen from the trading towns. They were nominally subjected to a remote government but in practice they were largely independent.
Late Bronze Age Pella had become a staging post for the trade to the north and east. Egyptian middlemen were stationed here and it functioned as a safeguard for the ford of the Jordan between Pella and Beth Shean. River crossings were particularly dangerous and vulnerable stages on any trade route. Beth Shean and Pella, on either side of the Jordan, had Egyptian agents stationed in the town. So it seems likely that the ford across the Jordan between Beth Shean and Pella was guarded by Egypt, but once they had crossed the Jordan the traders were left to fend for themselves. From Pella a trade route went a little way south, towards Deir 'Alla, where there was a sanctuary, a tribal burial ground and some small sites, probably all belonging to a local tribe. Next the route turned east into the Wadi Zerqa towards the Baq'ah Valley and the Amman Plateau. The exact role of the Deir 'Alla sanctuary in this trade network is difficult to assess, since so little has been excavated of its early strata. Its involvement in the trade is likely. Tribal involvement also seems inevitable; Egyptian involvement in this early stage is unlikely.

The trip through the Wadi must have taken roughly two or three days (Chapter 12). The Wadi was probably part of the territory of a local tribe, who may well have demanded tribute, and served as guides for the traders when passing through the wadi. In that case it is likely that both Deir 'Alla and Khirbet Umm ed-Dananir belonged to that tribe. Another possibility is that this part of the trade was conducted by the members of the tribe themselves. It seems inevitable that they played a role in the trade. The archaeological remains at Tell el-Hammeh show that this site was used by the traders on their way to the east.

Moab and The Amman Plateau in the first half of the Late Bronze Age
Even though Redford’s suggestion of an itinerary through Moab and Ammon in the Late Bronze Age I is unlikely, evidence of contact with Egypt has turned up on the Amman Plateau. The material remains (including literary sources) show that there were contacts between Egypt and the Jordan Valley and the Amman Plateau, but material evidence for a trade route comparable to (or even following the route of) the much later King’s Highway is completely missing. Egyptian scarabs and stone bowls, dated to the eighteenth Dynasty and earlier have been found in the Amman Airport building, even though the building itself has been dated to the thirteenth century. The Amman Plateau was a trade market, the other end of the trade route through the Zerqa Valley. We have no written documents concerning this area in the fourteenth century BC; however, archaeological remains suggest that Sahab is the most likely town to have controlled the eastern end of the trade, in spite of its situation on the far end of the Plateau. Sahab was already a walled town in the days of Thutmose III. A seal impression of the great Pharaoh on a storage jar handle confirms that Egypt had dealings with the town in this early period. Its large public buildings and fortifications mark it as a central town. It controlled the Plateau, and it had trade relations with the west and the north; the finds, mainly from the burial caves, demonstrate this. As in nineteenth century AD Gaza and Hebron (Ch. 5, 6), its sheikhs controlled the economy of the region and organised agriculture and horticulture on the plain, providing both food and trade commodities. Middlemen may have lived in the town controlling the trade.

At the north-western entrance to the Baq'ah Valley, in Khirbet Umm ed-Dananir, a building of a possibly cultic nature was found, dated to the Late Bronze Age IB. The building’s architecture, as well as the pottery, showed northern influences, suggesting the presence in the area of a northern population, perhaps traders and middlemen.
Opposite the site a multiple burial cave dated to the Late Bronze I was found, filled with fine local and imported pottery, as well as some eighteenth dynasty scarabs. Safut may have played an important role as well, but unfortunately we still know very little about this site in the Late Bronze Age. No evidence of settlement to the south of the Amman Plateau has been found so far. Egyptian historical evidence for the southern region, Moab and Edom, refers mostly to Šasu (Ch. 1). According to these sources Šasu were groups with a largely nomadic, pastoralist lifestyle who were also involved in trade and occasional warfare. Some towns of the Šasu are mentioned, most likely in the south of the region. What the nature of these towns was is unclear, for none of them have been found so far. What is clear is that they gave the Egyptians a lot of trouble, and engaged in conflict on several occasions. Together with the complete lack of evidence for settlement on the plains of Moab, we can assume that these plains were the territory of Šasu tribes. Although their main territory and camps or towns were in Edom, according to some texts they are found west of the Dead Sea as well, and near Dothan in the north there was a ‘well of the Šasu’. There was nothing unusual in this: tribal movements in the nineteenth century AD show a similar distribution of tribes and of sharing and changing of territories. Egypt kept control over the region by taking princes from the leading families as hostages. On occasion the pharaoh carried off large numbers of prisoners, taken from rebellious towns or tribes (Chapter 1).

The world according to the Amarna Letters

The Amarna letters form the most fascinating, as well as the most informative literary corpus for the Late Bronze Age in Canaan. They consist of accounts of political intrigue, played out between the heads of the Canaanite city states, and pleas for help against these conspirators as well as against the Habiru. Unfortunately only one side of the correspondence has been found, the letters that were sent to the Egyptian court. Without the other half it is impossible to say whether these desperate pleas depict the first signs of decline of the Egyptian empire, as stated by some, or whether it was more or less the normal state of affairs in a city-state society, as others claim. The letters attest political strife and conspiracy among factions who fought each other over land and power. The Habiru, who play an important role in the Amarna correspondence, are described as warrior bands, roaming the land without a clear territorial base of their own (although they seem to be the natural allies of the Amurru in the north). Farmers as well as city populations are easily tempted to join them. Their wicked deeds and superior strength are used eloquently in the pleas for help to the pharaoh. Occasionally however, Habiru are also described as mercenaries or messengers. The letters from and about Shechem and Pella and probably Gezer make clear that these city-states, although they were formally subjected to the Empire, frequently conspired against it. Habiru played an important role in these conspiracies. The material remains dating from this period do not show any signs of decline or political unrest of the kind that is suggested by the letters. Pottery from Shiloh shows that the site was deserted in the first half of the fourteenth century. But nowhere can major destruction layers be assigned to this period, nowhere major changes in economy or settlement patterns. The Shechem pass was surrounded and possibly guarded by several small sites, besides Shechem itself. In Pella a public building dating to this period has been found with an Egyptian architectural plan. That there were Egyptians living in Pella is shown by the anthropoid sarcophagi that have been found, and perhaps also by the amount of pig bones that were discovered. Abu Kharaz, to the south of Pella, was settled in this period and life at Deir ‘Alla seems to
have continued uninterrupted. On the Amman Plateau Sahab was still settled and, it seems, thriving. A public building with much Aegean pottery is dated to this period.

The letters throw an intriguing light on the divided loyalties of the vassal city states. The country was populated with a mixed society of settled townsmen, villagers and wandering nomads; they all, however, had their place in a system where loyalties were pledged according to tribal ties. Townsmen and nomads could be part of the same tribe; they could be allied to another town, another tribal group. The easiest way for Egypt to control this tangle of loyalties was to ensure the loyalty of the leading families, by keeping members of these families hostage.

Pella was certainly an unruly vassal, for it was accused of delaying a trade caravan and hiding a rebel. Pella was linked to Shechem through their ruling families, and the ruling family of Shechem were notorious supporters of the Habiru. The letters suggest that Gezer was also involved in controversial practices, and the ruler of Jerusalem has been accused of being as bad as Lab’ayu, the ruler of Shechem.

In fact, the Habiru mentioned in the Amarna Letters may not have been so different from the warrior tribes that roamed the northern Belqa in the early nineteenth century AD. They were paid by the government to protect the Hajj pilgrims, which did not stop them to demand protection money from the villages, to rob and plunder harvests, and occasionally fight (and beat) the Turkish army (Chapter 6).

The Jordan Valley in the thirteenth century

Two stelae were found in Beth Shean, both of them dated to the rule of Seti I, about half a century after the time of the Amarna letters. Both stelae speak of rebellion and unrest in the region. The first stela describes a local war or skirmish between the Habiru from the north, and ‘Asiatics’ from the east, with the Jordan valley as their battlefield. Skirmishes between opposing tribes or confederations, resulting in raiding expeditions, sometimes over long distances, may well have been as common in the Late Bronze Age as they were in the nineteenth century AD. The Beni Sakhr were known to come down south to rob the Howeitat occasionally, and even at the end of the 19th century, in Bell’s days, rumours of these large scale and long distance raids were common.

The second stela describes a conspiracy between Pella and Hamath against Beth Shean, showing not only that Egypt had lost control over its easternmost city-state, but also that the people of Pella were raiding west of the Jordan. It is significant that no expedition is sent to Pella. Egypt had lost its only hold on the east side of the Jordan, which obviously threatened its trade with the Amman Plateau, but apparently the area was considered a dead loss and best left alone. Archaeological evidence from Pella shows that towards the end of the fourteenth century BC some changes took place in the town: the ‘Egyptian’ building went out of use, and in the public building opposite it flimsy walls and pits were made, suggesting a radical change in function. At the same time, elsewhere on the tell, close to the large Migdol Temple, a massive new public building was constructed.

Around this time a heavy wall, possibly a town wall, was built on Abu Kharaz, and at the same time, perhaps a little later, the temple area of Abu Kharaz was suddenly abandoned. Both facts seem to point to a change in political layout in the region in the second half of the Late Bronze Age. The Egyptian agents were thrown out of Pella and the leading families took over again. They regained control over their own region, and even organised occasional raids on the other side of the Jordan. Pella was not only lost to the trade route, it must have become an actual danger to it.
Egypt, forced to change the trade route, found another fording point across the Jordan, further to the south and closer to the Wadi Zerqa (and further away from Pella), and built Tell es-Sa'idiyeh as a fortress to protect this new crossing. The cemetery of Sa’idiyeh reveals Egyptianised burials, starting at the beginning of the thirteenth century, and continuing into the Early Iron Age. Buildings on the tell dating from the same period show Egyptian building techniques. The same kind of biconical jar that was found in Beth Shean, and in the Baq’ah burial caves was found here as well.

By moving their crossing point of the Jordan southwards and building the fortress at Sa’idiyeh the Egyptians changed the outlook of the East Jordan Valley between Sa’idiyeh and the Zerqa. It became a central area in the trade route, a gateway to the east and to the west. The archaeological finds, both in the Deir ‘Alla temple and at Sa’idiyeh show that Egypt was in control of this gateway. At the same time, the presence of an Egyptian fortress may have increased feelings of safety. Besides protecting the new crossing of the Jordan, it must have served to keep the Pella bands to the north in check (which may well have come down to the same thing). It may be significant that during the thirteenth century an increase in settlements can be seen in the region (Chapter 11).

Moab and the Amman Plateau in the thirteenth century

The thirteenth century BC is the era of Ramses II. A number of topographical lists from his reign, summing up place names in Canaan, testify to the interest of the Egyptian empire in the region. Two of these lists mention the capture of towns in Moab, the first time the name of this region appears, but the identification of the place names is doubtful. Those mentioned in the Ramses II inscriptions are unidentified (with the possible exception of Dibon) and there is no way to identify the region more closely, or even to know whether it lay north or south of the W. Mujib.

The several campaigns conducted by Ramses II and his son Merneptah may point to unrest in the region. They may also have been part of the standard Egyptian pharaonic propaganda. The reasons for Egypt’s sudden interest in Moab are equally unclear: it may mean that the traditional route through western Canaan became more dangerous and difficult and the empire was looking for a new route to go to the north. It may also mean that Egypt was looking for new grain stores, either because of an increase in the Egyptian presence west of the Jordan or as a trade commodity. And in both cases one possibility does not exclude the other. Obvious is that the Egyptians were making their peace with the Moabite tribes and trying to integrate them in a power structure on the plains of Moab. A stele found in Balu’a, depicting a local ruler who is being given a sceptre by two Egyptian gods, dates from the same period. The ruler is often identified as a Šasu chieftain. Miller’s Kerak Plateau survey shows an increase in the number of sites in the region south of the Wadi Mujib in the thirteenth century, coinciding with Egypt’s increased interest. The results of Miller’s survey have been doubted, and should be treated with care. However, it is not impossible that some pottery traditions from the end of the Late Bronze Age found their way to the Kerak Plateau, seeing that the Egyptian Empire also seems to have had an interest in the region in the thirteenth century. North of the Wadi Mujib some new settlements may have been founded, such as Ara’ir and possibly Lehun. Some pottery from the transitional period has been found on Jalul, Ara’ir, Lehun and Medeinet el-Mu’arradjeh. There are, however, no indications of the nature of this early occupation.

Perhaps we can see this in the same light as the land laws devised by the Ottoman government in 1858. They were meant both to increase control over the region and to increase their income from a land that had great potential but had never been
exploited to the full. This effort could only become a success because the tribes themselves were involved in, and were stimulated to profit from, the increased control of the region. This may well be the significance of the Balu'a stele: an implication of the integration of the Šasu tribes in an increased control over Moab. They may have cooperated because they profited from the new situation: as protectors and providers of the trade route, and with the possibility of gathering taxes at strategic points such as the Wadi Mujib. Another possibility is that this stele symbolised the protection rights of a certain Šasu tribe, for example to ‘protection’ of the crossing of the Wadi Mujib. Certain is that it marked the beginning of increased settlement in the region, characterised by small but often fortified farmsteads; this suggested that the region was still far from safe.

Egyptian interest in the region of Moab coincided with an increase in settlement and an increased presence of people from the north on the Plains of Amman. New sites were founded besides the already existing towns of Sahab and Safut. In 'Umeiri, on the border of Moab and the Amman Plateau settlement started again in this period on a grand scale. An impressive building was found on the top, and on one of the slopes the excavators found evidence for ‘extra-urban activities involving heavy burning’. During the course of the thirteenth century the site developed into a fortified village with a casemate wall, and a specialised economy. 'Umeiri may have functioned as a gateway town for the southern region. No evidence of Egyptian presence was found in 'Umeiri, it was a local development, but it strongly suggests an intensification of contacts between the Plain of Amman and Moab. These contacts must necessarily have involved the tribes of Moab.

Further north the Amman Airport building was built as a large cultic centre, possibly a crematorium. The architecture shows northern influences, and there is a possibility that the human remains belonged to Indo-Europeans. Most of the imported pottery was Mycenaean, and the local pottery seems to have had links with the Jordan Valley. The Amman Airport building has been dated to the thirteenth century. Several other buildings have been found in the region, with a different function, but a similar northern architecture. Although not with complete certainty, they are usually dated to this period. The cultic building at Khirbet Umm ed-Dananir, which had a similar architecture, was deserted around this time, suggesting a shift to the east of this northern group.

Sahab, the main centre on the eastern edge of the Plateau was not affected by the new situation, suggesting that there were no serious changes in the power balance in the region. Apparently the northern group or groups formed an integrated part of the mixed society of the Plateau, especially since the Amman Airport building was situated only 10 km from Sahab, and Mabrak (another building with a northern architecture) stood even closer to Sahab. It is evident that both groups, the Canaanite tribes that governed the region, and the northern group that controlled (part of) the trade, cooperated closely.

The burial caves opposite Khirbet Umm ed-Dananir continued to be used. A number of caves in the area contained thirteenth century material. Most conspicuous was a certain type of decorated open bowl, possibly connected with Syria, which occurred together with a specific type of biconical jar. The same combination was found in the northern cemetery at Beth Shean, and the biconical jar was also found in Baq'ah Cave 3 and in the cemetery at Sa’idiyeh, confirming that there was a network of (trade) relations between the region west of the Jordan and the Amman Plateau. One of the burial caves in Sahab contained double-pithos burials like those found in Sa’idiyeh.
The Early Iron Age

The twelfth century in Moab and on the Amman Plateau
The beginning of the twelfth century saw a sudden increase in settlements (mostly fortified) in Moab. Some of these sites have been excavated. Medeinet el-Mu'arradjeh may have been a fortified village, practising animal herding and possibly agriculture. There was settlement at Balu'a, since a pit has been found with transitional pottery in it, but whether it was fortified or not is unknown. Lehun, north of the W. Mujib was a fortified village. Some Early Iron Age sherds have been found in Dhiban. In Madaba a multiple burial cave was found dated to the Early Iron Age. Hesban was settled in this period and possibly fortified. This increase in the number of fortified settlements suggests that the economic balance of the region had been disturbed. The cause for this may be found in the area to the north of Moab, the Amman Plateau. Archaeological remains show that around the turn of the century turmoil had broken out on the Amman Plateau. 'Umeiri was suddenly and violently destroyed at the beginning of the twelfth century, by a surprise attack from outside. The Amman Airport building underwent a change in function and was deserted shortly afterwards. Sahab expanded beyond its walls but was also destroyed soon afterwards and rebuilt on a smaller scale. Safut continued to exist but became less prosperous. The infrastructure that supported the market function of the area had collapsed. Why this happened is not known, but it is likely that it was a result (at least in part) of the collapse of the trade with the north. As a result the economic balance and population balance in the region was turned upside down; traditional resources disappeared and in the struggle to survive old tribal loyalties were remembered and revived. Old territorial claims may have become vital again.

Different groups reacted differently to the situation. The sudden expansion of Sahab suggests that many people fled towards the town. Others returned to farming and pastoralism on a subsistence base and established numerous small settlements, while others left the area. Some of them may have moved south into Moab, as suggested by the sudden increase in settlements there. If they disrupted territorial rights in the course of their migration, the sudden destruction of 'Umeiri (which seems to have been the work of a southern tribal group) may well have been a reaction.

The twelfth century in the Jordan Valley
The trade between the East Jordan Valley and the Amman Plateau was conducted by local, Canaanite traders who were related, by kinship or otherwise, to tribes on both ends of the Zerqa route. This kind of trade was well known in the nineteenth century between Salt, Nablus and Jerusalem, and between Kerak and Hebron (Ch. 5). It was conducted by tribal traders, either within their own territories, or by arrangement (khawa) when they passed through the territories of neighbouring tribes. When the infrastructure on the Amman Plateau collapsed some of the groups who had been involved in this trade, moved out, looking for a new place to live. They knew the Deir 'Alla region and they had good relations with the population. Therefore it can safely be assumed that, when the social structure of the Amman Plateau collapsed, and groups of people started to move out, part of the population came towards the Deir 'Alla region taking their families with them. Trade between the Jordan Valley and the Amman Plateau came to an end as well, but the infrastructure of the region still functioned, as the archaeological evidence shows. This did not last long, however.
The newcomers from the Amman Plateau settled in the Valley, most of them along the Zerqa, where numerous new settlements have been found. Here they may have earlier pitched their temporary camps, and they considered it part of their territory. These people were not simply nomads or pastoralists, but they came from a highly developed society on the Plateau. There must have been both farmers and craftsmen among them who brought their specific skills and culture with them. This can be demonstrated by the sudden changes in pottery in Deir 'Alla, with clear influences from the Plateau (Ch. 8), and possibly also by the introduction of bronze working on Deir 'Alla in the same period. On Sa‘idiyeh the double pithos burials may have been brought by these people from the Plain.

However, the Deir 'Alla region was already densely settled and this sudden surge of people must have put considerable strain on the existing society. At the same time the trade with the east had collapsed, depriving it of a major source of income. The Egyptian Empire lost interest in the region and left. The fortress at Sa‘idiyeh was abandoned, and the temple at Deir 'Alla, destroyed by a sequence of earthquakes, was left to the elements.

This new influx of people may be compared to the sudden influx of Palestinians in the Jordan Valley in the twentieth century AD. The sudden disturbance of the balance in population and territory led to tension and conflict in the area. This struggle and the ensuing restructuring of society have been described in Chapter 6. The fortress and subsequently the tower on Deir 'Alla may have played a role in this struggle.

To the north destruction and conflagration destroyed the town of Pella. It is possible that some groups from the Amman Plateau or from the Deir 'Alla region moved up north and became involved in a struggle over territory in this region. Struggles over territory are hard to detect archaeologically, but it is clear, both from the archaeological record and the ethnographic parallels that they did occur.

What had happened on the Amman Plateau now repeated itself in the Jordan Valley. Some groups left the area; a number of new sites were founded that continued into the Iron Age, other sites were deserted. These were mostly sites that had been settled from the beginning of the Late Bronze Age (Kharabeh, Tell en-Nkheil, Abu Nijrah and Arqadat). The burial site of Kataret es-Samra went out of use at the same time. The sanctuary at Deir 'Alla was left and a sequence of fortifications built on the site. These were the ‘old’ sites, those that belonged to the tribe or tribes that had lived in the Valley from the beginning of the Late Bronze Age. They must have lost the struggle for territory, and left the area, perhaps together with some of the other tribes that had recently arrived. But where did they go?

Some may have moved up north, and become involved in a struggle for territory around Pella. But it seems that some may well have crossed the Jordan to the west.

The western highlands in the twelfth century
The end of the thirteenth century has provided us with the first ever mention of ‘Israel’ on a stele from Merneptah: “Israel is laid waste, his seed is not.....” Merneptah had defeated a number of lands and towns, as well as a group of people named ‘Israel’. It has often been pointed out that this text tells us very little in fact about ‘Israel’, except that Israel was a group of people; it was not a town or a region. However, because it opposed Egyptian overlordship it must have been a militant group, and we can assume that it was powerful, at least powerful enough for Merneptah to mention its defeat in his victory stele. The confrontation must have occurred somewhere during Merneptah’s reign or in that of his father Ramses II, at the end of the thirteenth century.
Merneptah’s Israel has often been identified as a Šasu tribe. It is generally assumed that this Israel was based in the northern hill country, in the region known as Ephraim and Manasseh. This assumption is largely based on the fact that settlement in the Early Iron Age began in this region and that the oldest sanctuaries, Ebal and Shechem, were based here.

The period immediately following the account of Merneptah’s defeat of Israel, the beginning of the twelfth century, sees a settlement surge all over the region. This consisted of small, unfortified settlements spread through the northern hill country. Pottery consisted of a limited group of functional types which show a continuation from Late Bronze Age types, although sometimes with modifications. This earliest settlement is often associated with Merneptah’s ‘Israel’. But is it? Are these peaceful settlers the same as the aggressive group that was ‘laid waste’ by Merneptah?

The nineteenth century AD settlement history of the Belqa and Ajlun mountains shows that when the Beni Sakhr and other powerful tribes ruled the area, settlement was sparse. The final defeat of the power of the Beni Sakhr by the Ottoman government resulted in a power vacuum which was soon followed by a surge of small settlements and small-scale agriculture (Chapter 5). Merneptah’s Israel seems more compatible with an aggressive, menacing tribe or confederation of tribes like the nineteenth century Beni Sakhr than with a group of peaceful settlers. It had been terrorizing the hill country, preventing settlement and generally presenting a menace to the Empire. So after Israel had been ‘laid waste’, it left a power vacuum in the hill country, in which there was now space, physically as well as in terms of power balance, for settlement.

In the East Jordan Valley, the region opposite the region of Ephraim and Manasseh, the territorial struggles had caused several groups to move out. Some of these had come from the Amman Plateau but others had lived in the East Jordan Valley since the beginning of the Late Bronze Age. It is possible that some of them went north or south but the settlement pattern in the western highlands strongly suggests that many of them went westwards, and settled in the western highlands.

The discussion about the Mount Ebal site is still continuing (Ch. 3). If it was indeed a tribal sanctuary that was abandoned and rebuilt around the beginning of the twelfth century, as the excavator thinks, the first phase may well have belonged to Merneptah’s Israel. It was left when Israel was defeated, and when new groups settled in the region, they ritually cleaned the place with sacrifices and built their own tribal sanctuary. The pottery from Mount Ebal is similar to that found east of the Jordan. Israel, although defeated and weakened, probably stayed in the area, and eventually regained (part of) its strength. It may have entered into a contact with the newly arrived tribes, and eventually even given its name to a new coalition.

In the meantime, the territorial struggles in the East Jordan Valley resulted in a new status quo, possibly with a coalition between the remaining tribes. None of the new settlements from the Early Iron Age seem to have been fortified.

A picture has been painted here of a society of over three thousand years old which seems to have acted to a large extent along the same lines and with the same motives as the bedouin tribes of the nineteenth century AD. Both the archaeological remains and the textual sources confirm this picture. Of course there are differences, in religion, in the weapons used in warfare, in means of transport, and probably in many other things that we do not know about. But the main attitude and reactions of these
people towards their land and territory, towards the fluctuations of climate and economy, prosperity or decline, their dealings with outside powers and with other tribes have not changed significantly in those three millennia. The reason for this seems clear. It has proved the best way to survive in this particular part of the world. These are the social rules and mores that have stood the test of time, not merely for three thousand years, but possibly for much, much longer. The same conclusion was expressed, not without a certain tone of wonder, by Burckhardt in 1830:

“...it offers to our contemplation, the rare example of a nation which, notwithstanding its perpetual state of warfare, without and within, and the frequent attempts made for its subjugation, has preserved for a long succession of ages its primitive laws in all their vigour, the observance of which has been enforced merely by the national spirit and uncorrupted manners of its rude but patriotic members” (Burckhardt 1830, 216).
Appendix A: Description of soil types  
(Bender 1968)

Red Mediterranean soil (*terra rossa*) originates in a mediterranean subhumid to semi-arid climate: precipitation >300 mm, temperature range +3 - +35, as an erosion product of carboniferous rock, but is also found on basalt and sandstone. Jordanian Red Mediterranean soil has a calciferous A-horizon, a low humus level and a granular structure. The B-horizon has a prismatic structure, resulting in vertical cracks in the dry soil, and facilitating the absorption and evaporation of water, and a higher calcium level than the A-horizon. The C-horizon sometimes serves as an aquicluse. Tilling of the soil is heavy, but the reward is high. Sometimes the term *terra rossa* is restricted to the region immediately around the Mediterranean, and the term 'Red Mediterranean soil' is preferred for the Jordanian soils.

Yellow Mediterranean soil exists in the transitional zone between Red Mediterranean soil and Yellow (steppe) soil. It is found on loess soils, calciferous rock and basalt, in a semi-arid climate, with a precipitation of 250-350 mm. Its A-horizon is yellowish-brown, granular, calciferous, but more sandy than *terra rossa*, its B-horizon is fine and granular. The soil is less fertile than *terra rossa*, but easier to work. It is suitable for dry farming and pasturage, and with good irrigation intensive agriculture is possible.

Yellow soil originates on loess soils, carboniferous rock and basalt, and in the W. Arabah on sandstone as well. It has a light, granular, open A-horizon, immediately following the C-horizon. It is mainly used as pasture.

*Nari* is a calcite crust that forms over calciferous soils under influence of water, especially in a semi-arid climate. It has a laminar top layer, very hard and no thicker than 2 cm. Below that is a 50 - 180 cm thick hard layer, and below that a softer layer. Nari is usually found on hilltops, where the softer upper layer has eroded away, and in wadi-cuts. It makes good building material, and caves form easily in the soft lower layers.
Appendix B: Pottery of the Baq'ah Valley excavations 1977-1981

In November 1997 I studied pottery that has been excavated in the Baq'ah valley, from the Late Bronze and Early Iron Ages. This pottery was found in three burial caves near Khirbet Umm ed Dananir, caves A2, A4 and B3. The purpose of the research was to compare this pottery with pottery excavated on Tell el-Hammeh on the north bank of the river Zerqa, and with pottery from Tell Deir 'Alla in the Jordan Valley.

It has been suggested on the basis of the pottery (Franken 1969:20, Dornemann 1984, van der Steen 1996, 1997) that in the transitional period between the Late Bronze and Early Iron ages there may have been a relation between Deir 'Alla and the Baq'ah valley. The Zerqa valley seems the most likely route for this contact.

A complicating factor in the comparison of the three sites is the fact that the pottery from the caves in the Baq'ah valley came from a burial repertoire, whereas that from Tell el-Hammeh came from a household context (see Appendix D). The Baq'ah repertoire contained a high number of open bowls, of which relatively few were found in Tell el-Hammeh. Apparently open bowls were often used as (or to contain) burial gifts. A high number of lamps is also common in a burial context. On the other hand, only two cooking pot rims were found in the Baq'ah repertoire, and these may well have been intrusive.

The number of sherds of most types was too small for any serious statistics to be done. Nevertheless some tendencies could be recognised, and preliminary conclusions drawn.

A significant number of open bowls were of the so-called S-shape type, which has also been found in significant numbers at Deir 'Alla, and which turn up on the other side of the Jordan in the Early Iron Age. Very few have however been found in Tell el-Hammeh.

Table I and II give the numbers of sherds found on both sites, according to type and phase.

The typology used has been developed for Tell el-Hammeh, based on the principles of the typology for Iron Age Deir 'Alla, as developed by Franken (1969). In general the types from the Baq'ah repertoire fit well into this typology, although some types are missing (partly due to the difference in functional repertoire) and some types appear which have not been found in Hammeh.

Table III is a description of the types, mainly based on the rim sherds, as very few complete shapes have been found in Hammeh.

In total 647 sherds have been checked.

In addition a sample of 54 sherds, from the three caves, have been studied for ware.
Analysis

Late Bronze I
Cave A2 (Locus B77) was dated by the excavator in LB I (loc 1012, 1015, 1018-1020, 1022, 1025-1030) and LB I-II (loci 1011, 1013, 1014, 1016, 1017).

The five deep bowls had either an inverted, or a flaring, non-profiled rim, which are mainly found in the 'middle' layers of the Tell el-Hammeh stratigraphy: 2b and d.
There were 21 jars. These all had flaring rims, with either rounded or triangular profiles. These three types were the most important in the earliest layers of Tell el-Hammeh, diminishing sharply in the later LB layers.
There were two types of eggshell juglet, with a vertical, non-flaring rim, which appears in Deir 'Alla, and a flaring rim, respectively. These have not, so far, been found in Hammeh.
Kraters were not found in the LB I layers of the Baq'ah material. On Tell el-Hammeh they occurred in all Late Bronze and Early Iron age layers, most of them with a T-shaped rim profile.

There was a total of 101 open bowls. The majority of these were rounded, S-shaped or carinated. In Tell el-Hammeh open bowls are relatively rare, but the majority have rounded profiles, in the whole period. There seems to be no preference for any of the other types.
Six fragments of lamps were found in B77, five of which belonged to the traditional Late Bronze Age type. One had a flaring rim, more typical of the Early Iron Age. In Tell el-Hammeh no lamps were found in the LB - EIA layers.

Late Bronze I-II
Four deep bowls were found in this phase, belonging to the same types as those in the preceding phase.
Eleven jars were found in this phase, belonging mainly to the same types as those from the previous phase, although other types, which usually occur in later periods, begin to appear. These have short, vertical necks and folded-out rims. On Tell el-Hammeh these are mostly found in the later Late Bronze age, Phases 2b and d.
Three kraters were found in the Baq'ah material: all with a T-shaped rim profile. This type is found in the Hammeh material in all phases, but mainly in the later Late Bronze age phases.
The open bowl repertoire in this phase does not change significantly from that of the preceding phase.
A number of lamps was found, mainly belonging to the Late Bronze II - Early Iron Age type, with a slightly flaring rim.

Late Bronze II
Two small fragments of Middle Bronze Age hole-mouth cooking pots found in this phase. They must have been intrusive.
Practically all deep bowls found in the Baq'ah repertoire had a flaring, unprofiled rim, which, in the Hammeh repertoire is mostly found in Phase 2b.
Very few jars were found, with a vertical neck and folded-out rim, sometimes with an extra ridge below the rim. This type is common in the Later Late Bronze and the Early Iron Ages. In Hammeh they were found in Phase 2b and especially 2d, and the type with an extra ridge below the rim continues into Phase 3. There were a number of juglets, which were not found in Tell el-Hammeh, so no comparison is possible. A number of
biconical jars were found. These have not been found so far in Tell el-Hammeh, but are not uncommon in Deir 'Alla, mostly in the transitional Late Bronze-Early Iron Age phases (temple Phases E-H).

The repertoire of open bowls does not change significantly from that of the previous phases in the Baq'ah material.

Four kraters were found in the Baq'ah repertoire, belonging to types that are generally found in the Late Bronze II repertoire in this area.

The Early Iron Age

Only 31 type-able sherds have been analyzed from the Early Iron Age cave. The repertoire was quite different from that of the earlier caves: many lamps, a strainer, a chalice. The lamps all belonged to the Early Iron Age type with a flaring rim. Open bowls were mainly of the S-shaped type, a type that is rather common on Deir 'Alla, but was hardly found in Tell el-Hammeh.

Analysis of the ware

54 sherds from the Baq'ah caves have been studied for ware. 47 of these sherds contained red particles, possibly some iron oxide. In addition 143 sherds from Hammeh have been examined. 54 of these also contained red grains. The red particles seem to be an essential ingredient of either the temper or the original clay. As there is much iron ore in the area, this is not unusual. It cannot be deduced from the ware, whether the particles were part of the temper or of the clay itself. With a few exceptions, the Hammeh sherds with red particles were found in the earlier layers. Whether this means that they were imported from the Baq'ah, or that some temper was used which came from regions with iron ore in the area, cannot be deduced. The pottery repertoire from the two area's is too close in shape and temper to make distinctions on the level of individual sherds.

According to McGovern 1986 the Late Bronze I material from cave A2 was basically tempered with 5-10% quartz, whereas the later material was tempered with more calcite. The samples checked from cave A2 material contained hardly any calcite, but much lime. The material from cave B3 contained very little lime or calcite, and the material from cave A4, Early Iron Age contained much lime again. In general there is an increase in the amount of temper used over time, as already stated by McGovern 1986.

McGovern did not give a particular reason for this change in temper, which seems to coincide with a change in technique: from the use of the (fast) wheel to slow-wheel and coiling techniques. Franken (1992) and London (1995) have also speculated on this phenomenon, which seems to be general in Jordan and Palestine.

A possible explanation may be found in the economic and social situation of the area. It has usually been taken for granted that this 'deterioration' in pottery production was the result of a general degeneration and deterioration in prosperity. This, however, does not seem to be the case in the Baq'ah and Deir 'Alla regions.

I want to suggest another possibility: the economy in the area, which was largely governed by trade, induced larger scale production also of pottery, and a demand for increased production.

Pottery production actually consists of three phases: making the pot, drying, and firing.
Adding temper to the clay considerably shortens two of these phases: drying and firing. Clay with much temper dries quicker, and does not take as much firing as clays with little temper. However, it makes the use of the fast wheel impossible and slows down the first phase of production (Franken 1992:149). On the whole however, it will speed up production considerably while reducing the amount of fuel needed.
Appendix C: comparison of household and burial pottery repertoires.

A statistical comparison between the different repertoires shows that there are significant differences between a burial repertoire and that of a ‘household’ environment. For this study only the repertoires have been used that had a representative sample, the smallest sample being that of Baq‘ah cave A4 with 62 published vessels. This is not meant as an exhaustive study into the relationship between burials and pottery repertoires, but merely as an illustration of how the functional differences between contexts show in the pottery repertoire.

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<th>Storage Jars</th>
<th>Jugs</th>
<th>Juglets</th>
<th>Lamps</th>
<th>Kraters</th>
<th>Cooking Pots</th>
<th>Import</th>
<th>Pilgrims Flasks</th>
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Pottery functional groups related to site type in the Late Bronze - Early Iron Age
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ADAJ - Annual of the Department of Antiquities of Jordan
AfO – Archiv für Orientforschung
BA - Biblical Archaeologist
BAR - Biblical Archaeology Review
BASOR - Bulletin of the American Schools of Oriental Research
BN - Biblische Notizen
EA - Knudtson J.A. Die El-Amarna Tafeln. Leipzig 1915
ESI – Excavations and Surveys in Israel
IEJ - Israel Exploration Journal
JARCE – Journal of the American Research Center in Egypt
JESHO - Journal of the Economic and Social History of the Orient
JNES - Journal of Near Eastern Studies
JSOT - Journal for the Study of the Old Testament
JSSEA - Journal of the Society for the Study of the Egyptian Antiquity
PEFA - Palestine Exploration Fund Annual
PEFQS - Palestine Exploration Fund Quarterly Statement
PEQ - Palestine Exploration Quarterly
RB - Revue Biblique
SHAJ - Studies in the History and Archaeology of Jordan
TA - Tel Aviv
VT - Vetus Testamentum
ZAW - Zeitschrift für alttestamentische Wissenschaft
ZDPV - Zeitschrift des Deutschen Palästina Vereins

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Inleiding
De vroege IJzertijd in de zuidelijke Levant wordt vaak omschreven als de ‘donkere eeuwen’. Deze periode, die loopt vanaf het einde van de Late Bronstijd tot het begin van de koninkrijken van Juda, Israel, Moab en Ammon kent weinig tot geen literair/historische bronnen, en de bronnen die er zijn, of die betrekking hebben op deze periode, lijken de archeologische bronnen te weerspiegelen. Niettemin zijn beide, de archeologische en de literair/historische bronnen, voortgekomen uit dezelfde maatschappij, zij het mogelijk uit verschillende segmenten van die maatschappij. Het doel van deze studie is, een model te presenteren dat beide bronnen, de literair/historische en de archeologische, integreert tot één geheel.

Dit model gaat uit van de premisse dat de samenleving van de Levant, in elk geval vanaf de Vroege Bronstijd, een tribale samenleving geweest is, bestaande uit een conglomeraat van stammen, en die kan worden gedefinieerd door de volgende eigenschappen:

- Loyaliteit aan de eigen groep: de familie, de clan en tenslotte de stam. Deze loyaliteit was tweezijdig: de stam droeg tegelijkertijd verantwoordelijkheid voor haar leden. Deze wederzijdse loyaliteit werd geformaliseerd door het creëren van genealogische verbanden, stambomen, die werden aangepast naarmate de omstandigheden dat vereisten. De term khawa, betaling voor het recht om, al dan niet tijdelijk, in het territorium van een stam te verblijven, betekent ook letterlijk ‘broederschap’. Ook in periodes van stabiliteit en een sterke regering hield deze tribale structuur niet op te bestaan.

- Flexibiliteit in leefwijze. De manieren waarop leden van een stam in hun onderhoud voorzagen waren flexibel, en voegden zich naar de economische, ecologische en politieke omstandigheden. Jacht, veeëeel (schapen, geiten en kamelen), landbouw, maar ook huurlingschap, smokkel, handel en dergelijke behoorden tot de economische activiteiten van de stammen. Deze flexibiliteit was een belangrijke factor in de economisch onafhankelijke samenleving die kenmerkend was voor de Arabische stammen van de 19e eeuw n.Chr., en die zich in de praktijk onttrok aan de macht van het Ottomaanse rijk.

- Mobilitéit. Door de aard van hun economische bezigheden waren stammen mobiel. Tegelijkertijd hadden ze een band met hun territorium, dat een wijd gebied kon bestrijken. Territoria waren nooit het eigendom van stammen. Deze konden er slechts rechten op uitoefenen zolang zij zich in het territorium bevonden. Territoria werden dan ook gedeeld door verschillende stammen.

- Onderlinge relaties tussen stammen. Wisselwerking in positieve zin was het gedeelde gebruik van territoria of bronnen, vaak geformaliseerd door middel van khawa, en verder de vorming van coalities en confederaties tussen stammen. Negatieve contacten waren rooftochten (ghazu’s), en in extreme gevallen soms stammenoorlogen. Deze konden leiden tot veranderingen in de onderlinge machtsverhoudingen en regelmatig tot veranderingen in de territoriale verdeling van het land.

De Late Bronstijd

De Jordaanvallei
De meeste historische bronnen uit de Late Bronstijd zijn van Egyptische oorsprong. Het Egyptische Rijk controleerde een groot deel van de zuidelijke Levant, met als voornaamste doel het veiligstellen van de handel met Mesopotamie. Dat betekent dat er geen reden was voor Egypte om de sociale en politieke structuur van het gebied
ingrijpend te wijzigen. Het autochtone systeem van stadstaten bleef bestaan, waarbij de loyaliteit van de koningen van de stadstaten op verschillende manieren gewaarborgd kon worden. De handelsroute naar het zuiden liep vanuit Egypte langs de kust, dan landinwaart en via Beth Shean naar de andere zijde van de Jordaan, langs Pella en Deir 'Alla, en via de Wadi Zerqa naar de vlakte van Amman, waar een handelsknooppunt was. Pella was, zoals blijkt uit de Amarnabrieven en de archeologische resten, een stadstaat onder supervisie van Egypte. Het was een belangrijk knooppunt omdat het de oostzijde bewaakte van de doorsteek door de Jordaan, een kwetsbare etappe op de route. Een andere nederzetting ten zuiden van Pella, Abu Kharaz, was een welvarende nederzetting in de eerste helft van de Late Bronstijd, maar hier zijn geen Egyptische resten gevonden.

Vanaf het einde van het Midden Brons neemt de gevestigde bewoning af, en als gevolg daarvan wordt vaak een toename in de nomadische bevolking verondersteld. Het gebied rond Pella was nauwelijks bewoond. Archeologisch materiaal en surveyresultaten laten zien dat de bewoning zich voornamelijk beperkte tot de stad zelf. Deze situatie kan vergeleken worden met die in Transjordanië in de 19e eeuw n.Chr., toen Salt de enige bewoonde stad was in de Belqa. Deze stad stond onder beheer van een coalitie van Bedoeinenstammen, en had een marktfunctie voor de regio, evenals voor de export van goederen naar de westzijde van de Jordaan. In de Jordaanvallei zelf was de gevestigde bewoning geheel verdwenen, tengevolge van de roofochten en de uitbuiting door de Bedoeinen. De Ottomaanse regering stond machteloos tegenover deze praktijken.

In een vergelijkbare situatie moest Pella als versterkt station op de handelsroute, de oversteek van de Jordaan beschermen. Van Pella ging de route naar het zuiden, in de richting van Deir 'Alla. Deir 'Alla was al in het begin van de Late Bronstijd een heiligdom, en vermoedelijk was het in die tijd onafhankelijk. Rondom Deir 'Alla zijn verschillende kleine nederzettingen gevonden, en een begraafplaats bij Kataret es-Samra. Tell el-Hammeh, een kleine kamplaat aan de ingang van de W. Zerqa, vertoonde al kenmerken van een tijdelijk station, maar het aardewerk dat er gevonden is is van hoge kwaliteit. Dit suggereert de mogelijkheid dat Hammeh kamplaat was voor handelaars die door de Zerqavallei trokken. Deze constellatie van nederzettingen doet vermoeden dat de regio rond Deir 'Alla een tribaal centrum vormde, dat tevens een functie had in de Egyptisch – Transjordaanse handelsroute.

Moab en de hoogvlakte van Amman in de 14e eeuw

Door de Wadi Zerqa werd de hoogvlakte van Amman bereikt. Er zijn geen literair/historische bronnen van of over de hoogvlakte, maar het archeologisch repertoire duikt op contacten zowel met het westen als met Syrie. Het is daarom waarschijnlijk dat ook de hoogvlakte van Amman een handelsknooppunt vormde op de Egyptisch – Transjordaanse handelsroute. Aan de oostelijke ingang van de Wadi Zerqa bevindt zich een heiligdom, Khirbet Umm ed Dananir, met grotten waarin meervoudige begravingsplaats vond. Het vermoedelijke administratieve centrum was Sahab, al in het begin van het Laat Brons een ommuurde stad met openbare gebouwen. Het archeologisch repertoire laat zien dat dit gebied bewoond werd door een Canaanitische bevolking, terwijl ook Syrische invloeden aanwezig zijn. Aanwijzingen voor controle vanuit Egypte ontbreken geheel.

Deze situatie is vergelijkbaar met die in Gaza en Hebron in de 19e eeuw n.Chr., beide handelsknooppunten die onder controle stonden van leidende stammen in de regio, die tevens de land- en tuinbouw in de regio controleerden.
In het gebied van Moab zijn uit deze periode geen aanwijzingen voor gevestigde bewoning gevonden. Literair/historische bronnen doen vermoeden dat dit gebied territorium van Šasu stammen was. Hoewel het voornaamste territorium van deze stammen in Edom lag, is het waarschijnlijk dat ook Moab een Šasu bevolking had.

De Amarnabrieven
De Amarnabrieven uit het midden van de 14e eeuw zijn een bron van politieke en economische informatie over de zuidelijke Levant. Ze zijn geschreven door de hoofden van stadstaten, gericht aan de Egyptische Farao, en bevatten verslagen van politieke intrigues en verzoeken om militaire hulp. Niet duidelijk is of deze brieven duiden op een economische en sociale achteruitgang in de regio, zoals sommige onderzoekers menen, of dat ze deel uitmaken van de normale diplomatieke correspondentie van deze tijd. De materiële cultuur van deze periode duidt niet op een structurele achteruitgang. De brieven werpen vooral licht op de verdeelde loyaliteiten van de vazalstaten. Het gebied werd bewoond door een gemengde bevolking van stedelingen, dorpelingen en veehoudende nomaden, die samen een maatschappij vormden waarin de sociale verhoudingen werden bepaald door tribale loyaliteiten. De Habiru, een groep sociale outcasts, maakte deel uit van deze maatschappij.

Uit de brieven blijkt onder meer dat Pella niet bepaald een loyale vazal van Egypte was. Het werd beschuldigd van het ophouden van een handelskaravaan. Pella was via familierelaties verbonden met Shechem. Shechem werd door de andere stadstaten beschuldigd van banden met de Habiru.

De Jordaanvallei in de 13e eeuw
In Beth Shean zijn twee stelae gevonden uit de 13e eeuw, uit de regeringsperiode van Seti I. Beide stelae getuigen van onrust in de regio:
- De eerste stele beschrijft een lokale oorlog tussen de Habiru uit het noorden en ‘Aziaten’ uit het oosten, gevoerd in de Jordaanvallei.
- Dergelijke rooftochten waren algemeen in de 19e eeuw n.Chr. De Beni Sakhr uit het noorden en de Howeitat uit Edomroofden regelmatig elkaars kamelen, en beschrijvingen van dergelijke *ghazus* zijn algemeen in 19e eeuwse reisverslagen.

In een poging de handelsroute op veilige afstand langs Pella te leiden, werd de oversteek over de Jordaan naar het zuiden verplaatst, en hier werd een nieuwe versterking gebouwd, Tell es-Sa’idiyeh, 12 km ten noorden van Deir 'Alla. Zowel de architectuur van de gebouwen als de bijzettingen op de begraafplaats van Sa’idiyeh vertonen sterke Egyptische invloeden.

Deze wijziging in de handelsroute had ook invloed op de functie van de regio rond Deir 'Alla. De archeologische vondsten in het heiligdom laten zien dat Egypte nu dit deel van de handelsroute onder controle had. Dit wordt ook bevestigd door de sterke toename van het aantal nederzettingen in de regio, die suggereert dat de veiligheid in het gebied toegenomen was.
Moab en de hoogvlakte van Amman in de 13e eeuw
De 13e eeuw is grotendeels de eeuw van Ramses II. Verschillende topografische lijsten uit zijn regeringsperiode noemen voor het eerst plaatsnamen in Moab, hoewel de identificatie van die plaatsnamen nog onzeker is. De toegenomen interesse van Egypte in de regio kan duiden op toenemende onrust in het westen, waardoor Egypte op zoek ging naar nieuwe routes naar het noorden. Duidelijk is in elk geval dat Egypte contact zocht met de Šasu stammen, en hen probeerde te integreren in een machtssstructuur op de hoogvlakte van Moab. De Balu’a stele, een afbeelding van een plaatselijke heerser die een staf overhandigd krijgt van twee Egyptische goden, weerspiegelt deze nieuwe situatie. De resultaten van de survey van Miller, die overigens met enige voorzichtigheid bekeken moeten worden, duiden op een mogelijk toenemende vestiging tegen het einde van de Late Bronstijd. Zeker is wel dat verschillende nieuwe (versterkte) nederzettingen gesticht werden aan weerszijden van de W. Mujib, zoals Ara’ir en mogelijk Lehun. Een mogelijke parallel voor deze situatie kan gevonden worden in de invoering van de Landwetten van 1858 door de Ottomaanse regering. Deze wetten integreerden de stammen van de regio in het regeringsapparaat door hen hun territorium in effectief eigendom te geven, met de verplichting van belastingbetaling. Het resultaat was een toename in gevestigde bevolking en landbouw in de regio. Deze wetten waren succesvol omdat de plaatselijke bevolking profiteerde van de succesvolle uitvoering ervan.

Ook de hoogvlakte van Amman werd in de 13e eeuw gekenmerkt door een toename in nederzettingen, en een toename van noorderlingen in de regio. Umeiri was een belangrijke nieuwe Kanaanitische nederzetting, terwijl het in deze tijd gebouwde Amman Airport Building, dat de functie had van heiligdom en/of crematorium, en een fort bij Mabrak duidelijk noordelijke invloeden in de architectuur vertonen. Het centrum Sahab bleef onveranderd voortbestaan, waaruit blijkt dat de politieke constellatie van het gebied niet structureel veranderde. Duidelijk is in elk geval dat de plaatselijke bevolking en de noorderlingen in goed verband samenwerkten.

De 12e eeuw in Moab en op de hoogvlakte van Amman
Het begin van de 12e eeuw wordt in de hele zuidelijke Levant gekenmerkt door een plotselinge toename van het aantal kleine, veelal agrarische nederzettingen. Hiervoor zijn verschillende verklaringen gezocht, die varieren van een klimaatsverandering tot structurele overbevolking. Een ‘overkoepelende’ oorzaak zal gezocht moeten worden in de internationale politieke ontwikkelingen, die ook de Zeevolken naar de Palestijnse kust brachten. Hoe deze internationale ontwikkelingen de verschillende bewoningscentra hebben beïnvloed zal echter per regio bekeken moeten worden. Ook in Moab is een plotselinge toename van het aantal nederzettingen geconstateerd, wat duidt op een verstoring van het economische en sociaal evenwicht in de regio. Een aantal van deze nederzettingen is opgegraven. Ze waren over het algemeen versterkt, een teken dat het land nog verre van veilig was. De directe oorzaak hiervoor is mogelijk te vinden op de hoogvlakte van Amman. Het archeologisch repertoire op de hoogvlakte getuigt van plotselinge veranderingen: Umeiri werd onverwacht overvallen en verwoest, het Amman Airport Building kreeg een nieuwe functie, en raakte korte tijd later buiten gebruik. Sahab werd plotseling veel groter. Duidelijk is dat de infrastructuur van het gebied instortte. Mogelijk was dit een gevolg van het instorten van de handel met het noorden, ten gevolge van dezelfde internationale politieke ontwikkelingen die leidden tot de komst van de Zeevolken in het westen. Resultaat was dat de traditionele bronnen van inkomsten – handel en gerelateerde bronnen – verdwenen, en in de strijd om het
voortbestaan werden de oude tribale structuren opnieuw van belang, evenals oude territoriale claims.


De 12e eeuw in de Jordaanvallei

De handel tussen de regio van Deir 'Alla en de hoogvlakte van Amman werd gedreven door locale handelaars, die relaties hadden met het marktcentrum in de Vallei. Een dergelijke vorm van handel is bekend uit de 19e eeuw n.Chr., tussen Salt, Nablus en Jeruzalem, of tussen Kerak en Hebron.

Toen de infrastructuur op de hoogvlakte instortte zal een aantal van deze handelaars hun toevlucht gezocht hebben in de Deir 'Alla regio. Hier bleef, vermoedelijk dank zij de supervisie van Egypte, de infrastructuur nog functioneren, zij het niet voor lang meer. Een aantal nieuwe nederzettingen werd gesticht langs de bendenloop van de Zerqa. De bewoners van deze nederzettingen waren geen nomaden die leerden zich te vestigen. Ze brachten een ontwikkelde cultuur met zich mee, tradities en vaardigheden, zoals ook blijkt uit het archeologisch repertoire van Deir 'Alla in deze periode.

De plotselinge toename in bevolking moet echter een zware druk gelegd hebben op het reeds dichtbevolkte gebied. Met het instorten van de handelsfunctie verloor Egypte zijn belangstelling, en verliet de regio, zoals blijkt uit de archeologische overblijfselen op Deir 'Alla en Sa'idiyeh. Pella werd verwoest in deze periode.

De gebeurtenissen van de hoogvlakte van Amman herhaalden zich nu in de regio Deir 'Alla. Verschillende nederzettingen, evenals de tempel in Deir 'Alla en het fort van Sa'idiyeh, werden verlaten. De nieuw gebouwde verdedigingswerken op Deir 'Alla, en het feit dat deze vrijwel direct weer verwoest werden, duiden op territoriumstrijd in de regio. De nederzettingen die verlaten werden behoorden tot de oudste in de regio, wat erop duidt dat de oorspronkelijke bewoners het gebied verlieten. Blijkbaar hadden zij de strijd om het territorium verloren van de nieuwkomers. De literair/historische bronnen, en de archeologische bronnen suggereren dat deze groep, of in elk geval een deel ervan, de Jordaan overstak en zich ten westen ervan vestigde, wellicht samen met een deel van de bevolking die van de hoogvlakte van Amman was gekomen.

Het westelijk hoogland in de 12e eeuw

Een inscriptie van Farao Merneptah uit het einde van de 13e eeuw noemt voor het eerst de naam ‘Israel’: “Israel is verwoest, zijn zaad is niet meer”. De inscriptie suggereert dat Israel een agressieve groep was, en door Egypte als vijand werd beschouwd. Israel wordt hier genoemd in een rij van traditionele tegenstanders van Egypte. Deze groep is regelmatig in verband gebracht met de Šasu. Over het algemeen wordt verondersteld dat dit ‘Israel’ dezelfde groep was die verantwoordelijk is voor de vroegste Ijzertijd nederzettingen in het westelijk bergland. Een vergelijking tussen het – agressieve - karakter van Merneptah’s Israel, zoals dat door de inscriptie wordt gekarakteriseerd, en dat van de – vreedzame – nederzettingen in het bergland maakt deze veronderstelling echter twijfelachtig.

19e eeuwse bronnen laten zien dat in het begin van de 19e eeuw n.Chr. de regio van de Belqa en Ajlun nauwelijks bewoond was. Dit was een gevolg van de agressieve praktijken van de Beni Sakhr en andere stammen. Pas nadat halverwege de 19e eeuw de
Ottomaanse regering eindelijk kans zag deze macht te beteugelen, ontstond een machtsvacuum in het gebied, dat snel werd opgevuld door de vestiging van nieuwe groepen, van zowel kleinere stammen als nieuwkomers in de regio.
Het Israel van Merneptah vertoont meer overeenkomst met een agressieve stam zoals de 19e eeuwse Beni Sakhr, dan met vreedzame boeren. Het had het bergland geterroriseerd, en vestiging onmogelijk gemaakt. Uiteindelijk maakte Egypte een einde aan deze macht van Israel, en er ontstond een machtsvacuum in het bergland, waarin zich de nieuwkomers van de overzijde van de Jordaan konden vestigen. De vestigingen in het bergland zijn zelden versterkt, wat duidt op een vredzaam samenleven van deze groepen.
Het archeologisch repertoire van de vindplaats op de berg Ebal is nog een onderwerp van discussie. De opgraver stelt dat hier sprake is van een tribaal heiligdom met twee fasen, waarvan de tweede rond het begin van de 12e eeuw begint. In dat geval zou de eerste fase overeenkomen met de aanwezigheid van Israel in het gebied, en toebehoren aan Israel. De tweede fase komt dan overeen met de bewoning door de nieuwkomers, die het heiligdom opnieuw gewijd en in gebruik genomen hebben.
Israel was verslagen, maar niet verdwenen, net zo min als de Beni Sakhr ooit van het toneel verdwenen zijn. Uiteindelijk hebben ze een deel van hun vroegere macht teruggewonnen, en hun naam gegeven aan een nieuwe coalitie, die uitmondde in het Verenigd Koninkrijk.
Stellingen bij de dissertatie van Eveline J. van der Steen, *Tribes and Territories in Transition. The central east Jordan Valley and surrounding regions in the Late Bronze and Early Iron Ages: a study of the sources*, waarvan de verdediging plaats zal vinden op donderdag 19 december 13.15 uur in de Senaatszaal van het Academiegebouw te Groningen

1. Binnen de etnoarcheologie van het Midden Oosten worden veenomaden nog vaak beschouwd als een bron van potentiële boeren, waaruit naar hartelust geput kan worden als er een plotselinge toename van nederzettingen verklaard moet worden.

2. De gebruikelijke antropologische definities van de woorden ‘stam’ en ‘tribaal’, die ook gebruikt worden in de New Archaeology, wijken zo sterk af van de definitie die deze begrippen in de Levantijnse samenleving hebben, dat het wenselijk is om in Levantijnse context het woord ‘stam’ te vervangen door ‘qabila’.

3. Veel verwarring over bedoeinensamenlevingen in recente tijden zou voorkomen kunnen worden als onderzoekers zich beter het verschil tussen de termen 'nomadisch', ‘veehouder’ en 'tribaal' realiserden.

4. Het belang van de 18e, 19e en vroeg 20e eeuwse Europese en Amerikaanse reisverslagen over het Midden Oosten als een bron van informatie over het sociaal, politiek en economisch functioneren van de Levantijnse stammenmaatschappij wordt in hoge mate onderschat.

5. Elk theoretisch model dat voor de Levant wordt ontwikkeld, zal moeten uitgaan van de specifieke sociale structuur van de Levantijnse samenleving, die tegelijk triaal en complex is. Daarom kunnen de modellen die zijn voortgekomen uit de New Archaeology niet zonder meer worden toegepast op de Levant.

6. Het zoeken naar een overkoepelend model of hypothese voor de ontwikkeling aan het einde van de Late Bronstijd in de zuidelijke Levant is zinloos. Het enige dat onveranderlijk en universeel is voor de regio is regionaliteit.

7. Het verdwijnen van de snelle draaischijf in de tweede helft van de Late Bronstijd, als gevolg van de toenemende hoeveelheid magering in de klei kan het gevolg zijn van een verhoging van de productie, doordat de droog-en baktijden van het kleimengsel aanzienlijk verkort werden.
8. De manier waarop een tell is opgebouwd impliceert dat de afwezigheid van bepaalde bewoningsperioden niet zonder meer kan worden vastgesteld op basis van oppervlakte surveys.

9. In de historische wetenschappen worden archeologen te vaak beschouwd als de bouwvakkers, en historici, linguïsten en antropologen als de architecten.

10. Hoe minder ‘exact’ een wetenschap is en hoe meer afhankelijk van de resultaten van menselijk denken en handelen, hoe belangrijker het ‘Scheermes van Occam’ wordt als uitgangspunt voor de betrouwbaarheid van de uiteindelijke hypothese.


13. De tendens in de politiek om het krijgen van meer kinderen te stimuleren als maatregel tegen de vergrijzing is een typisch voorbeeld van korte-termijn politiek.

14. Veel ergernis zou worden voorkomen als omroepbladen bij de programmering de exacte tijden van de reclameblokken zouden aangeven.