

# ETHNOARCHAEOLOGICAL RESEARCH INTO THE ORIGINS OF PASTORALISM

by  
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## Introduction

Ethnoarchaeological fieldwork was conducted in and around the village of Suweimrah in the northern Ras en-Naqab area during the period from 18 April until 19 May, 1987. The purpose of the project was to investigate a social group that combined pastoral and agricultural subsistence activities to understand the interaction between these economic strategies and grasp any inherent incompatibilities and tensions between them. Such antagonisms might have led to the development of specialized pastoralism in prehistory and the consequent spatial separation between herders (Bedouin) and cultivators (Fallahen) that characterizes much of the Middle East today. In more concrete terms, it was hoped to comprehend more clearly the causes underlying the development from the village based, multi-resource economy that typified the Pre-Pottery Neolithic B period to the semi-sedentary and probably already specialized economic conditions in the early Pottery Neolithic period that has been construed on the basis of excavations at the Neolithic settlement of 'Ain Ghazal.<sup>1</sup>

The study focused on a branch, or 'asheerah, of the Huweitat, Southern Jordan's main tribal group, since they seem to represent an exception to the Near Eastern dichotomy of the "desert and the sown", insofar as they combine pastoral exploita-

tion of the desert with crop cultivation in the highlands.<sup>2</sup> The central concern of the project was to elucidate what kinds of conflicts arise between pastoralism and agriculture, and how these conflicts are resolved. With this framework in mind, it was attempted to elicit the recent history of the group, their movement patterns, animal management techniques, and the interrelationship between herd size and degree of sedentism. Additional aspects of interest included secondary products processing, the importance of milk in the diet, herd composition and other factors related to the pastoral economic sector. Because of the timing and short duration of the project it was not possible to collect detailed data on the harvest and agricultural activities.

## Physical and Social Setting

Suweimrah is located about 22 km southwest of Ma'an and 1 km north of the new Desert Highway (Palestine grid reference 195943, coordinates 3005N, 3538E). The village receives an annual precipitation of ca. 200 mm and is situated within the cool variety of the Arid Mediterranean bioclimate<sup>3</sup> and the *Artemisia herbalba* vegetation zone at an altitude of ca. 1,400 m.

Suweimrah is inhabited by members of the al-Marrai'e 'asheerah of the Huweitat tribe and, like most of the

1. G. Rollefson and A. Simmons, 'The Neolithic Settlement at 'Ain Ghazal'. In A. Garrard and H. Gebel (Eds.) *The Prehistory of Jordan*. British Archaeological Reports, Oxford; I. Köhler-Rollefson, Resolving the Revolution: Late Neolithic Adaptations of Economic Strategies. Paper presented at the International Council of Archaeozoology Conference held in Bordeaux, 1986.

2. Such mixed economies as practised by the

Huweitat may in fact be fairly common. See W. Swidler, 'Adaptive Processes Regulating Nomad-Sedentary Interaction in the Middle East.' In C. Nelson (Ed.) *The Desert and the Sown*, Institute of International Studies, University of California, Berkeley (1973), p. 23-42.

3. D. Al-Eisawi, 'Vegetation in Jordan'. In A. Hadidi (Ed.) *Studies in the History and Archaeology of Jordan II*, Department of Antiquities, Amman, Jordan, p. 45-58.

neighbouring settlements such as el-Qurein and Teisan, has been in existence only since 1968-69. Settlement occurred spontaneously (without participation in a government sedentarization scheme) and was initiated by the family of the sheikh, around whose houses a cluster of other families subsequently established residences. According to family members, this move was motivated primarily by a desire to enable the children to receive education. The new village was set up *ca.* 2 km south of Khirbet Suweimrah, the ruins of an Ottoman village that the al-Marrai'e have traditionally used for the storage of grain and harvesting tools, and which continues to be utilized for this purpose by some members of the tribe.

The customary movement pattern of the al-Marrai'e, which resembles that of most other Ḥuweitāt groups, e.g. the Suleimaneen, is to migrate with their sheep and goats into the desert (up to *ca.* 150 km east of the Desert Highway) after the first autumn rains and to return to the vicinity of Suweimrah before the harvest, which takes place around the end of May and the beginning of June. Earlier in this century crop growing (barley, wheat (?)) was only a minor, although essential element of their subsistence; recently, however, there has been a major expansion of the area under cultivation, mainly due to the availability of tractors, and in early spring Suweimrah gives the impression of being surrounded by a green and fertile environment. While the wheat crop is generally marketed, the barley grain and straw is retained as animal feed.

### Patterns of Residence

Presently the whole range of residence patterns, from permanent in stone houses in the village to year-round habitation in tents outside of the village exist in Suweimrah. Some of the people, including the family of the sheikh, have sold all of their sheep and goats and have permanent houses in the village while making their

livelihood in such occupations as army service, bus drivers, civil servants and shop keepers. Although such employment often entails prolonged absences of the wage earners because of limited opportunities within reasonable distances, their wives and children continue to reside in Suweimrah. Such families may own one or two goats to provide fresh milk; these animals are usually tethered close-by, sometimes even in a cultivated field.

Other families maintain medium sized herds (*ca.* 30-70 head) of sheep and goats and live in the village for part of the year, usually in the spring when, for a short time, grazing is possible on the fallowed fields. These smaller herds can also exploit road sides, edges of fields and small strips of uncultivated land along wadis where large herds, because of their sheer numbers, cannot be accommodated without constantly threatening to break into cultivated fields. Since herding of such medium sized herds is a full occupation for only one or two member of the family, others can be released to pursue wage labour.

All the families owning large herds (more than 70 head) occupy tents throughout the year; although in the summer they will pitch their tents within a few kilometers of Suweimrah, they will relocate them about every month. In these cases virtually the whole family is engaged in herding and related activities, such as the very time-consuming processing of secondary products (butter, ghee, cheese and *jamid*), and, for the men, regular attendance at livestock markets. Although these families are permanent tent dwellers, many of them own houses in the village simply to use these for storage (of grain, animal feed, wool, tools) or to get access to tap water.<sup>4</sup>

The fact that within the same closely knit patrilineal descent group the residence pattern varies between sedentism, semi-sedentism, and what essentially constitutes nomadism is noteworthy, since tribes are generally regarded as more or less homogeneous units in this respect and are

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4. Piped water has been supplied since 1983; electricity was installed in 1985.

often labelled in their entities according to such categories. While this plurality within a small subgroup of a tribe might be considered as a modern phenomenon brought about by the integration of their realm into a modern state and a market economy, it is conceivable that similar circumstances in the past (such as a strong central government and/or an emphasis on trade) might have led to parallel developments.

### **Association between Pastoralism and Nomadism**

From what has been mentioned above, it is obvious that there is a direct relationship between herd size and degree of nomadism: the larger the herd the more likely it is that the owners live in tents all year round. There is a fundamental tenet of range management science that the pasture in semi-arid and arid zones has to be protected from grazing during certain critical stages in the vegetation cycle (i.e. during the emergence of plants from dormancy, and on entering dormancy)<sup>5/</sup> if range degradation is to be avoided. This very strongly suggests that there is an ecological imperative for large scale animal husbandry in the Middle East to be nomadic or at least semi-nomadic: to prevent overexploitation of the range, pastoralists have to utilize a number of different ecological zones during the course of a year.

A rarely mentioned aspect of animal husbandry is the fact that if goats are kept under sedentary conditions and their movements are confined, they are prone to develop parasitic infestations and malformations of their hooves.<sup>6</sup> As browsers they appear to have no natural resistance to worm larvae that they ingest when forced to graze close to the ground, and their hooves require abrasion through walking on hard surfaces.

It is quite clear that two of the principal components of the traditional Near Eastern pastoral system (range and

goats) require some degree of mobility, and this circumstance can be considered to have been the prime mover in the development from village based animal herding in the PPNB to semi-sedentary occupation and specialized pastoralism in the Late Neolithic period.

### **Competition between Agriculture and Animal Production**

The recent expansion of cultivated land has proceeded at the expense of the pastoral production potential. Although half of the tilled fields are fallowed in any given year and hence available for grazing, the weeds and annual grasses that grow there between crops are much less productive and palatable than the original shrubs and perennials.<sup>7/</sup> In the vicinity of Suweimrah the vegetation of the fallowed land consisted almost exclusively of thistles and *Perganum harmelum*, both of which are avoided by animals. By the end of April, a whole month before the harvest and the availability of stubble, the grazing within a large radius of Suweimrah had been practically exhausted. For this reason, some of the herds stationed until then in the village were moved from the plateau down to Qa' en-Naqab area where the harvest was already in progress.

This observation too is of significance in regards to environmental constraints on the PPNB economic system, since it refutes the notion that animals and crops could have been successfully managed in a rotational manner by grazing herds on fallowed fields. Instead, any increase of the area devoted to crop cultivation entailed a proportionate decrease in pasture availability; this factor may have contributed early on in Neolithic developments to some degree of spatial separation between the two activities, with an inner circle of agriculturally used land, and an outer ring of grazing grounds surrounding the settlements.

### **Dependence on Agricultural Areas**

Pastoralists depend on access to the

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5. D. Huss, *Some Range Management Principles and Practices for the Middle East*. FAO, Cairo (1977).

6. C. Gall (Ed.), *Goat Production*. Academic Press, London, 1981.

7. D. Huss, *op. cit.*

more fertile and usually cultivated areas of the highlands during the summer months, since water and pasture are by then exhausted in the desert. Herders who have neither the opportunity to graze their animals on the stubble, nor to store feed reserves (*tibn*, grain, bran) are not able to survive the bleak and barren summer months. The right to grazing on the stubble is closely regulated, with the poor relations of landowners having first priority. In essence, the successful pursuit of pastoralism requires either outright ownership of land or some kind of mutual arrangement with the cultivators.<sup>8</sup> This point has to be considered a key determinant in the relationship between Bedouins and *Fallaheen*, the nature of which (hostile or complementary?) is much discussed by archaeologists.<sup>9</sup> It appears that while pastoralists and cultivators are dependent on each other for the exchange of products, they also compete for the same resource (i.e. fertile land and water) during the summer months. In the absence of a strong central government, pastoralists are in the position to take what they need by raiding villagers; however, if this redistribution mechanism is prevented by a powerful defense, such as the Roman *limes*, pastoral nomads can no longer pursue their traditional means of subsistence and face a sad future.

#### Relationship between Types of Habitations and Residence Patterns

Another feature which has interesting implications for archaeologists in regards to estimates of population sizes and the interpretation of habitations concerns the association of permanent and nomadic architecture with the different types of residence patterns.

It was estimated that ca. 200 people resided in Suweimrah during the time of the research (April/May). According to

informants, an additional 300 people are associated with Suweimrah by either living there during part of the rest of the year, or owning a house for storage purposes.

Thus, approximately 40% of the buildings in Suweimrah are owned by year-round tent dwellers and never inhabited, used instead only for storage, even though they are architecturally indistinguishable from permanently occupied houses. This implies that in an archaeological context a habitation which appears to signal permanent occupation could equally well be associated with a nomadic existence.

Around 20% of the houses are occupied during certain times of the year; while it was impossible to elicit any reliable information concerning the time of year at which the number of actual inhabitants is highest, from data collected in neighbouring el-Qurein it appears that the population peaks in the summer. El-Qurein residents indicated that their population fluctuates between 400 in the winter and 1,000 in the summer.

The remaining 40% of the buildings are occupied throughout the year, but to complicate matters further, many of them have tents pitched aside them, which are used primarily for relaxing and entertaining among the men. In these cases, a typical nomadic occupation is associated with sedentism.

#### Tent Typology

Tents are used for different purposes, and these are reflected in their location, interior arrangement and the types of architectural features installed.

1. "Guest Tents" (used for entertaining and other social functions)
  - a. Permanent: These are situated in a village and their only archaeologically relevant feature is the square fireplace for making coffee and tea.

8. An example of such an arrangement is the payment of *khuwa* by villagers, town people of inferior tribes to Bedouins as a compensation for raiding. See W. Lancaster, *The Rwala Bedouin Today*. Cambridge University Press, Cambridge (1981).

9. See the recent exchange by E. Banning,

'Peasants, Pastoralists and Pax Romana: Mutualism in the Highlands of Jordan', *BASOR* 261; p. 25-50 (1986) and T. Parker, 'Peasants, Pastoralists and Pax Romana: A Different View', *BASOR* 265; p. 35-51 (1987) and response by Banning, 'De Bello Paceque', *BASOR* 265; p. 52-54 (1987).

They are also distinguishable from other tent types by the absence of dung and stone rows, and by a smooth surface.

- b. Temporary: These are erected for a single occasion, i.e. a wedding, circumcision, house ceremony, and can be situated either in a village or outside. They are usually much longer than permanent guest tents to accommodate large numbers of guests, and in addition to the remains of a square fireplace, there should be an assemblage of sheep or goat bones from a feast and the relics (usually three scorched stones) of at least one hearth used for cooking.

### 2. *Functional Tents*

These are tents that are used in a rudimentary way, i.e. only a part of the wide range of activities practiced in a working tent are carried out here. They are situated permanently in a village, and, in addition to entertaining by the men, they are used for baking bread in the traditional way on a *şaj*, possibly also for small scale milk processing.

### 3. *Working Tents*

These are always situated outside of villages and belong to those families specializing in pastoral production. They are distinguished by accumulations of animal dung, stone rows, at least two hearths (a round one for making tea and baking bread, and a square one for the coffee making ceremony), and stone platforms for bedding and milk processing. While the bed platforms are almost square in shape and oriented in alignment with the tent "walls", the milk processing platforms are always elongated and narrow and at no particular orientation to the lay out of the tent. Used for storing *laban*, they are present only in tents occupied in the spring and hence represent a useful indicator of the season of occupancy in an abandoned camp site.

## Summary

For the purpose of stimulating thought

on the origin of Near Eastern specialized pastoralism, a social group (the al-Marrai'e 'asheerah of the Huweiṭāt) that combines animal husbandry with cereal cultivation was investigated, especially in regards to any conflicts arising between the two economic strategies. The research revealed an inverse relationship between degree of sedentism and herd size, evidenced that any agricultural expansion entails a reduction of the pastoral production potential, and demonstrated a "paradox" association of sedentism with nomadic habitations and of nomadism with permanent buildings.

While it is of course perilous to directly transfer circumstances witnessed today to prehistoric situations, the evidence collected during this project suggests that the Early Neolithic economic system of village-based plant and animal husbandry could not succeed indefinitely because of built-in incompatibilities, and that the ensuing crisis could only be resolved by some degree of spatial separation between pastoral and agricultural activities.

## Acknowledgements

This project was funded by a grant from the Wenner-Gren Foundation for Anthropological Research. I am grateful to the Department of Antiquities and its Director General, Dr. Adnan Hadidi, for issuing a research permit on short notice. Introduction to the villagers was facilitated by 'Awwad and by Niazi Shab'an, representative of the Department of Antiquities in Petra. I am also deeply appreciative of the hospitality extended to me by Sheikh 'Audeh Abu Ṭaher and his family members. Finally, I would like to express my thanks to my children, Jon and Aisha, who after initial hesitation, blended perfectly into the village-scape and to my husband, Dr. Gary Rollefson, for enduring our absence and providing important moral support.

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