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Egypto-Levantine Connectivity between the Shephelah and the Negev Highlands: New Insights from Ceramic Assemblage Profiles at Tel Erani, Mitzpe Sde Hafir, and Yeroḥam—Naḥal Avnon

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Abstract
Investigation of new data from recent Ben-Gurion University excavations at Mitzpe Sde Hafir and Israel Antiquities Authority excavations at Yeroḥam—Naḥal Avnon, two late EB I sites in the Western Negev and Central Negev Highlands, respectively, has revealed two zones of complex and transformational nomadic encounter with sedentary society at a pivotal phase of Egypto-Levantine connectivity during the late 4th millennium BCE. A comparative multivariate statistical analysis of ceramic assemblage profiles from these two desert sites and phases of Egypto-Levantine colonial relations at Tel Erani revealed unexpected correlations with chronological and social-evolutionary implications. Viewed within a holistic frame that considers the overall material profiles of these sites, the interplay between nomadic agency and Egyptian socio-economic and cultural influence in the region was evidently stimulative in the formation of new structures of desert-sown interaction.

Keywords
Early Bronze Age; EB I; pottery; interactions; contact zone

Introduction

In the last forty years, anthropological and ethnographic research has pivoted toward a view of nomadic pastoral society as essentially integrated within broader socio-economic systems and developmental trajectories. Archaeological researchers are increasingly cognizant of this shift and the importance of what has often been viewed as 'fringe' societies with low material visibility in ancient contexts. A growing body of data from diverse cultural milieus around the globe is demonstrating with clarity that ancient mobile societies are eminently traceable and that localized shifts in their internal structure and external relations are key considerations in formulating accurate projections of ancient social environments, as well as regional and interregional transformations over time.[1] This paper takes an integrated systemic approach to new datasets that shed light on the Negev Highland pastoral nomad society of the late 4th millennium BCE, investigating its connectivity within the context of Egyptian involvement in the southwest Levantine interaction sphere. During this phase, southwest Levantine society underwent a major intensification of contact with Nilotic society (or perhaps societ*ies*) of Lower and Upper Egypt.[2]

Toward the end of the 4th millennium BCE, there was an apparent sudden incursion of Egyptian communities into the coastal plain of the southwestern Levant. Large quantities of Naqadan ceramics appear in archaeological strata dating from the final phase of Early Bronze I (hereafter EB Ib2)

Figure 1: Map of the study region with marked mentioned key sites: sites of Egyptian character in blue, Negev desert/South Jordan/Sinai pastoral nomadic sites in white, Levantine sites in orange, Dead Sea plain sites in green, and sites where Egyptians and Levantines lived side-by-side in red. Base Map Data: Google, Landsat/Copernicus.

at Levantine centers alongside new foundations of expressly Egyptian character, and most scholars agree that evidence of Egyptian presence seems to fade in scale with distance from three core sites: Tel es-Sakan, En Besor, and Tel Ma'ahaz.[3] At sites in close proximity to these are local sedentary sites where Egyptian permanent habitation seems to have existed alongside the local population.[4] The paraphernalia of Egyptian everyday life has been identified at these latter sites, perhaps most characteristically, by the presence of Egyptian baking bowls used in bread production, sometimes in situ in hearths typologically identical to those identified at sites in Egypt.[5] Phenomena such as these may be characterized as Egyptian "home away from home" in the southwestern Levant, in what has been interpreted as enclaves and collectively—by both Yekutieli and de Miroschedji—as a regional contact zone.[6]

The Egypto-Levantine 'Contact Zone' and Evidence for Nomadic Contact

Neither Yekutieli's nor de Miroschedji's concept of a regional contact zone is explicitly defined or presented as a systematized framework, and it is in many ways difficult to test for its hard to define. Pratt defined contact zones as "social spaces in which cultures meet, clash, and grapple with each other."[7] According to Pratt's definition, contact zones are strange and uncomfortable spaces of seemingly indefinite 'struggle' in an environment of cultural encounters. They are conflicted and yet dynamic places of innovation, creation, and social and psychological generation. Ultimately, all participants in such encounters are expected to be transformed socially and psychologically by the encounter in complex ways. Pratt's definition, and the many scholarly discussions which have elaborated upon her ideas, have tended to view contact zones as the actual locales of sustained encounters between distinct cultural spheres.[8] Turner's notion of 'liminal spaces' has recently been attached in formulation to the contact zone construct to clarify and specify its usage to the 'thresholds' of encounter.[9] In these arenas of liminality, structures of order and interpretation undergo dissolution and regeneration, where new negotiated meanings are framed. This definition assumes the sustained presence of both cultural spheres within a single bounded geographic locale

as a prerequisite to liminality. Thus, to propose this concept more precisely for the late 4th millennium, the Egypto-Levantine framework should entail a close examination of the exact contexts of sustained and transformative encounters.

Such sustained encounters are clearly demonstrable archaeologically in just a few cases. Egyptian enclaves were established at Tel Erani, Tel Halif Terrace, and possibly also Tel Lod, yet the 'contact zone' of Egypto-Levantine encounter, as framed by both Yekutieli and de Miroschedji, included a southern branch of interaction and encounter that extended into the Negev Highlands, based on the testimony of a few Egyptian artifacts returned from EB I nomadic campsites.[10] These finds include a fragment of a Naqada IIIa juglet with an outward folded rim from a site near Moshav Nitsane Sinai (Moshav Kadesh Barnea upon publication), and a Naqada II–III bifacial flint knife and three additional sherds of Predynastic storage jars from among scatters of structures and pens near Giv'at Salit.[11] Similar evidence for contact with Naqada II–III Egyptian society has been uncovered in excavations at Rogem Be'erotayim, a nomadic campsite near modern Ezuz, in the form of a rim sherd of an Egyptian wine jar, with imported parallels at several sites in Israel's coastal plain in the EB Ib2 and in the North Sinai, including one example dated to the EB Ib1.[12] This modicum of material testifies to an undeniable link, direct or indirect, between the nomadic pastoral society of the mid-late EB I and the edge of a developing Egyptian interaction sphere in the southern Levant.

New light on Nomadic Connections with the Egypto-Levantine Interaction Sphere

Two new datasets from recent excavations have offered fresh opportunities for exploration of the form and extent of Negev desert nomadic involvement in the late 4th-millennium Egypto-Levantine interaction sphere to the north:

1. Mitzpe Sde Hafir is an EB I site with clear Egyptian material connections located in the heart of the Negev Highlands at roughly the southern extent of the Egyptian contact corridor projected by both Yekutieli and de Miroschedji. The site was identified by Lior Schwimer of Ben-Gurion University of the Negev (BGU) and is the subject of an ongoing project directed by Yuval Yekutieli and conducted by a multidisciplinary team of researchers from the Archaeology division at BGU since 2017.
2. The EB I site of Yeroḥam—Naḥal Avnon, excavated by the Israel Antiquities Authority from 2013 to 2015 under the direction of Ron Be'eri and Emil Aljem, is situated on the northern edge of the Negev Highlands, apparently within the socio-economic spheres of both nomadic pastoralist and settled agricultural societies, including a late 4th millennium BCE Egyptian cultural component in its ceramic assemblage.

The profiles of the ceramic assemblages from both desert sites were analyzed in comparison to late EB I layers at Tel Erani, Area D3-H, where an Egyptian community apparently lived alongside the local population. Tel Erani was selected as the frame of reference for Egypto-Levantine interaction forms due to its complex stratigraphy, prolonged Egyptian habitation alongside a local Levantine population, and evident evolution in the form relations between these groups over time and across archaeological layers. Variance in ceramic assemblages from different stages of Egypto-Levantine interaction at Tel Erani was employed to model signatures of various forms of cultural contact between Egyptians and Levantines. These signatures were then used as a chrono-cultural yardstick by which to compare interaction dynamics at Mitzpe Sde Hafir and Yeroḥam—Naḥal Avnon.[13]

Ceramic Coding and Assemblage Profiles

The ceramic coding system applied by Yekutieli to EB I datasets of North Sinai was developed and expanded.[14] Every vessel from a sample of 9279 sherds, representing 1955 vessels (henceforth MNV, i.e., minimum number of vessels) from Tel Erani, and the entire ceramic assemblages of the two desert case studies, were assigned a six-letter code incorporating key descriptive elements: function, form, plastic decoration, fabric composition by visual identification, surface decoration, and manufacturing technique. Such that the code "SWEMCA" referred to a "Large storage jar (S) with an inward-inclined neck (W) and an outward-folded, sharpened rim (E), made of clay with crushed calcium carbonate temper (M), hand-smoothed exterior (C) and wheel trace on interior (A)." The first half of the code, indicating vessel function and

cal. BC	Stratum	Layer	Chronology		Important features
			Southern Levantine terminology	Egyptian terminology (Naqadan chronology)	
-	I	1	Topsoil (modern)	-	
-	II	2	EB II - EB III (?)	-	Wall 106 only
ca. 3050 – 2920	III	3	EB IB2 to EB II transition	Naqada IIIC/Dynasty 1	No imports
ca. 3050 – 3150	IV	4	EB IB2	Naqada IIIC	Small amount of imports
		5			Imports and some locally made Naqadan types (mostly jars) including baking bowls
	V	6	EB IB2	Naqada IIIB	Presence of imports, locally made Naqadan pottery as well as baking bowls in situ in ovens; imported flint material
		7			
		8			
ca. 3200 – 3150	VI	9	EB IB2 (post-'Erani C)	Naqada IIIB (?)	A few imports. Prior to Egyptian presence (?)
Unexplored					
ca. 3500 – 3250 (?)	At least two strata	Several layers	EB IA2 – IB1	Naqada IIC – IIIA	Fortifications in Areas P/Q and N Pillared building in Area D

Figure 2: Tel Erani chronology and characterization of strata and layers. Adapted from a table by Marcin Czarnowicz (Czarnowicz *et al*. 2016, Table 1).

form, allows the quantification of typological and cultural features, while the second half, signifying vessel technology and decoration, provides access to the subtleties of cultural transference. In this manner, the constructed database allows us to generate complex statistical queries and quantitative multivariate analyses of traditionally qualitative archaeological parameters. More specifically, the database will provide approximations for the degree of hybridization. It will do so, for instance, by tracing the occurrence of straw-tempered (an Egyptian technique) Levantine vessels or wheel-thrown (a primarily Levantine technique) Egyptian vessels across layers.

Establishing Ceramic Assemblage Profiles at Tel Erani

Five seasons of collaborative excavations from 2013 to 2019 by BGU and the Jagiellonian University, Krakow, at Tel Erani revealed a multi-phase sequence of Egypto-Levantine encounter in Area D3-H, from the beginnings of the Egyptian incursion at the site to the Early Bronze Age (EB) II period.[15] The stratigraphy of Area D3-H was divided into six archaeological strata (Fig. 2), which refer to major cultural horizons such as the sudden appearance of much Egyptian material and its equally sudden disappearance, and layers, sub-units which refer to smaller-scale changes in architectural layout and repairs. The deepest of these, Stratum VI, corresponds to a destruction layer that contained mostly local ceramic types that can be dated to the late EB Ib1 'Erani C' phase at the site. The four layers (8 to 5) of Strata IV and V are the principal ones associated with the Egyptian colony, in which imported and 'hybrid' ceramic types reach a peak proportion within the entire assemblage. Stratum III is not well understood, based on only fragmentary remains which survived in the western part of Area D3-H.[16]

An assemblage of several thousand indicative sherds was recovered from the above strata. For the purposes of this study, a large ceramic sample (9279 sherds) from selected loci was sorted and classified according to the above outlined coding system. Loci were selected from what have been interpreted as internal and adjacent external areas associated with the main architectural complex in Squares J11 and J12 as well as the balk J12/K12, which underwent at least three major construction phases throughout the duration of the Egyptian colony.[17] Preference was given to a selection of the main living floors associated with each layer, while a few representative loci were taken from various depths of the destruction layer in Square J12. Fig. 3 shows the quantities of vessels (MNV) classified by layer in the internal and external areas. Following collation of the database, statistical queries have been performed related to functional distributions,

	Exterior Space MNV	Interior Space MNV
5	403	164
6	222	249
7	108	122
8	188	301
9	81	117

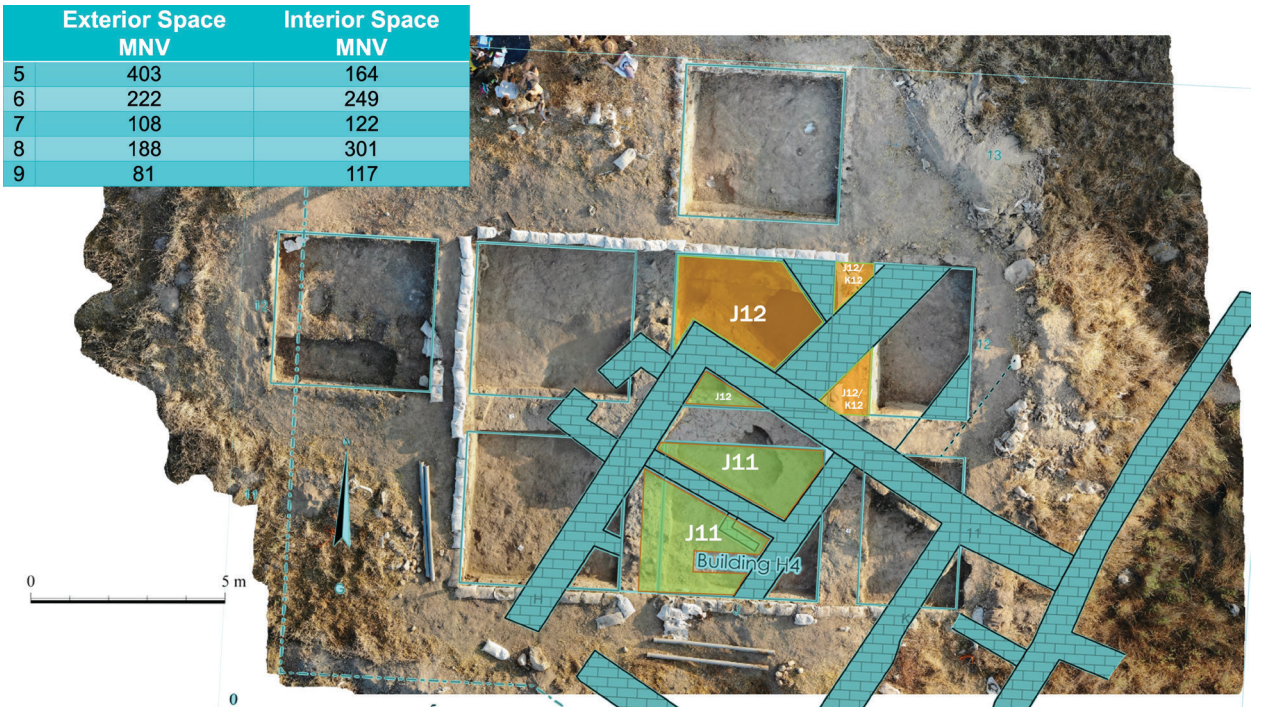

Figure 3: Area D3-H at the end of the 2015 BGU-JU excavation season, with sampling information: internal space in green and external space in orange; MNV counts for layers in each space included in the table. Aerial photography by Marcin Czarnowicz.

material compositions, technological change, and spatial considerations regarding cultural provenance and the extent of hybridization. The results of these queries were analyzed against a range of possibilities for the form of colonial enterprise at the site and the nature of the encounter between Egyptians and locals in Area D3-H.

Results of the ceramic-coding statistical analysis convey a clear narrative for the development of engagement between Egyptians and Levantines in colonial encounters at Tel Erani:

Layer 9, the deepest layer in the sequence, prior to sustained Egyptian habitation at the site, contained a meager ratio of Egyptian material and almost no hybridity in forms, fabric composition, decoration, or manufacturing process.

Layer 8 showed a sudden dramatic increase in Egyptian material in both the internal and external areas, accompanied by hybridity across the spectrum of ceramic traditions, including the transferral of wheel manufacturing and white wash decoration.

Layer 7 returned an unexpected result in that hybridity suddenly diminished to almost complete elimination, perhaps suggesting a phase of tension and social anxiety.

Layer 6 was accompanied by new social divisions, with a clear functional division of space between the internal areas dominated by serving and storage and external areas oriented towards cooking. Also, the Levantine vessels significantly decreased in the internal space while dramatically increasing in the external area. Hybridity seems to have increased dramatically in this phase to more than double proportionally to that of Layer 8. The most convincing explanation for the rise in hybridity in this layer is that establishing clear social and spatial boundaries between Levantines and Egyptians caused a flourishing of relations.

Layer 5 corresponds to the end of the Egyptian colony, but the ratio of Egyptian vessels in the assemblage remained high and witnessed even greater hybridity levels, which increased overall by roughly 30%. It is my suggestion that fragmenting definitions of social relations and possibly also systems of control in this phase brought out much creativity and innovations.

The variation in ceramic assemblage profiles for the external and internal areas at Tel Erani D3-H revealed not only a clear trajectory of developmental change in the pattern of relations (Fig. 4), but it established expected signatures in the ceramic

Trajectory		
IV	5	Flexible (fragmenting?) relations
V	6	Social/functional division of space
	7	Clear demarcation of social boundaries
	8	Flexible relations
VI	9	Egyptian Arrival

Figure 4: Developmental trajectory of Egypto-Levantine colonial encounter at Tel Erani.

database for these forms of relations for comparison with the desert zone sites examined here.

1. Mitzpe Sde Hafir

The site of Mitzpe Sde Hafir is impressive in scale among desert sites of the period, contained within 2–3 ha of a rocky hillside on a ridge at the southwestern edge of the fertile plateau of Sde Hafir in the Western Negev highlands around 10 km south of the modern-day village of Ezuz. Local vegetation is Irano-Turanian steppe type, and the immediate vicinity of Sde Hafir is particularly fertile; undoubtedly a strategic location for nomadic tribes of the region, providing opportunities for pasture, hunting, and foraging. To the west lies Nahal Horsha and Nahal Ezuz, with Har Ezuz to the southwest. Directly south of the site is Har Hamran, and to the north, the many streambeds of the hills and valleys surrounding Sde Hafir meet Nahal Nitsana as the Negev highlands descend into the area of sand dunes beyond Nitsana and Moshav Nitsane Sinai. The site is carved through its middle by a wadi draining into the fertile plateau of Sde Hafir immediately to the east, which is well irrigated by the many other streambeds feeding down from the surrounding hillside (Fig. 5). At the north end of the site, a small network of structures is in what seems to be a typical pen-and-room formation common among nomadic pastoralists of the Negev highlands during the 5th–3rd millennia BCE. Three rock-art panels are carved into the surface of large iron-rich stones in the cluster of boulders located at the lower central and south-eastern edge of the site, behind which the scatter of collapsed structures and tumuli rise like a theatre across the hillside. The orientations of the rock-art panels seem to carry semiotic significance suggestive of the possible designation of a 'precinct' of social or cultic function. That the location was a center of funerary activity at some stage and evidently in multiple phases over time adds to the impression that the site can be identified as a gathering place of an unusual scale for nomadic groups of the Western Negev. The relative quantity and scale of non-domestic features suggest that primary functions at the site diverge from the typical activities of pastoralist groups of the 4th–early 3rd millennium BCE.

Survey and Excavations, 2017–Present

Following surveys at the site that yielded several EB I sherds, including an Egyptian component, excavations were conducted in two main sub-areas of the site: an area of pen-and-room type structures (Area H1) and an area to the north of the structures (Area H2) adjacent to a locus where much flint debitage and some tools had been identified on the surface. The structures yielded meager finds, but unusually rich deposits were identified in the latter area , including a stratigraphic construction sequence and activity layers, an installation, burnt areas, and local and imported ceramics (with an Egyptian component, flint tools, and caprid bones).

Excavations were conducted to almost a meter at the deepest point, with a sequence of occupation layers around a main architectural feature of undetermined function constructed of at least five courses of fieldstones organized along a very straight line on the northern face and with the non-linear side of the stones facing south. The feature resembles a terrace construction, but it is as yet unclear if this was indeed its function. Carbon samples from both sides of the structure were taken with two dates from the southern side, returning dates clearly within the EB Ib range, and one date from the northern side of the main wall returning a late Chalcolithic date.[18] This latter result is somewhat problematic as ceramic finds both above and below correspond to the EB I, with both local and Egyptian sherds, and may result from the so-called "old wood effect."

Ceramic Typology

Most of the ceramic material from the Mitzpe Sde Hafir were non-indicative body sherds, which only gave an impression of vessel size without further particular stylistic characteristics. Internal surface treatments showed, in most cases, whether a vessel was closed or open, and the rough, poorly fired and highly friable holemouth jars characteristic of EB

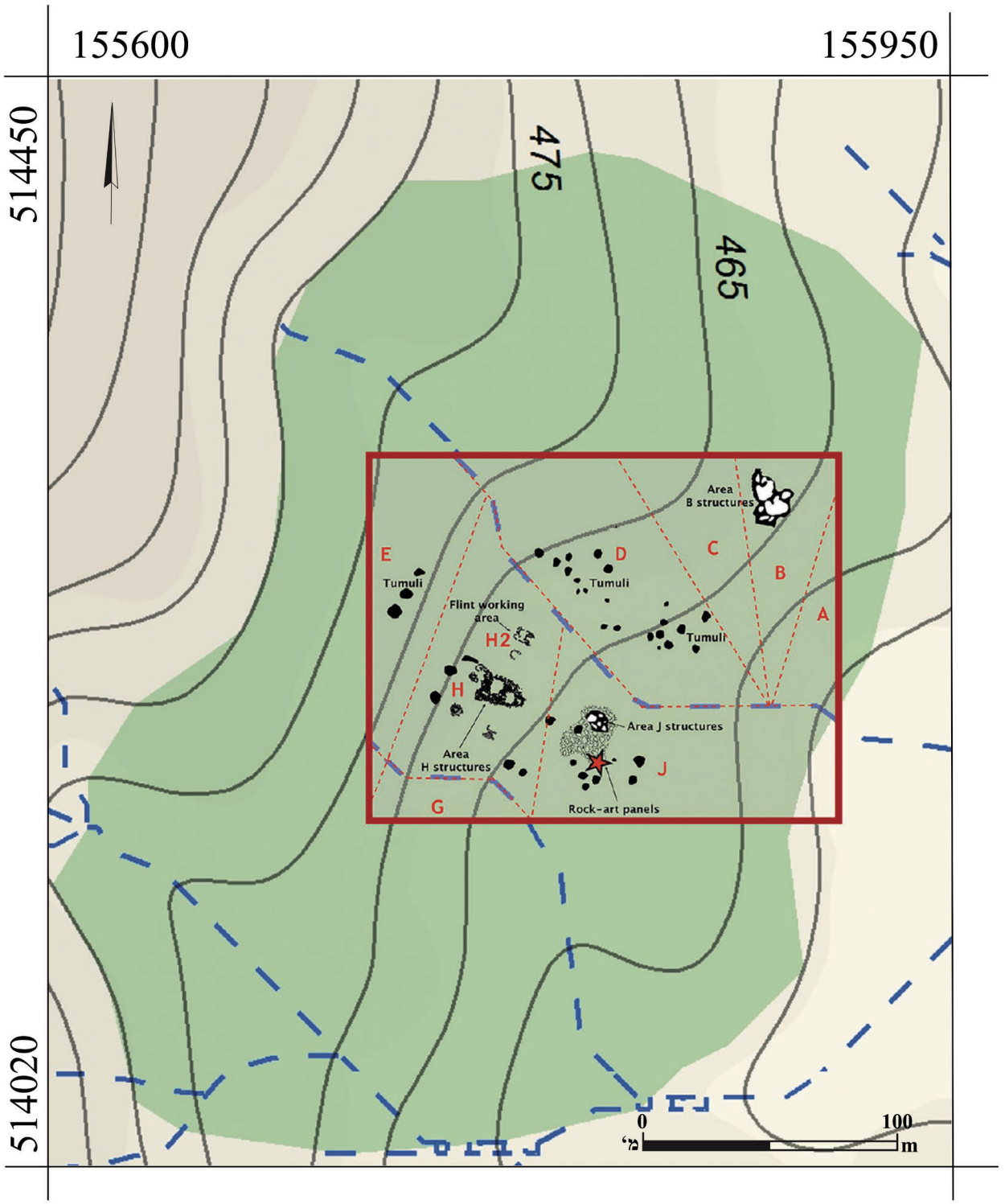

Figure 5: Plan of Mitzpe Sde Hafir survey and excavation areas. Map created by Eli Cohen-Sasson.

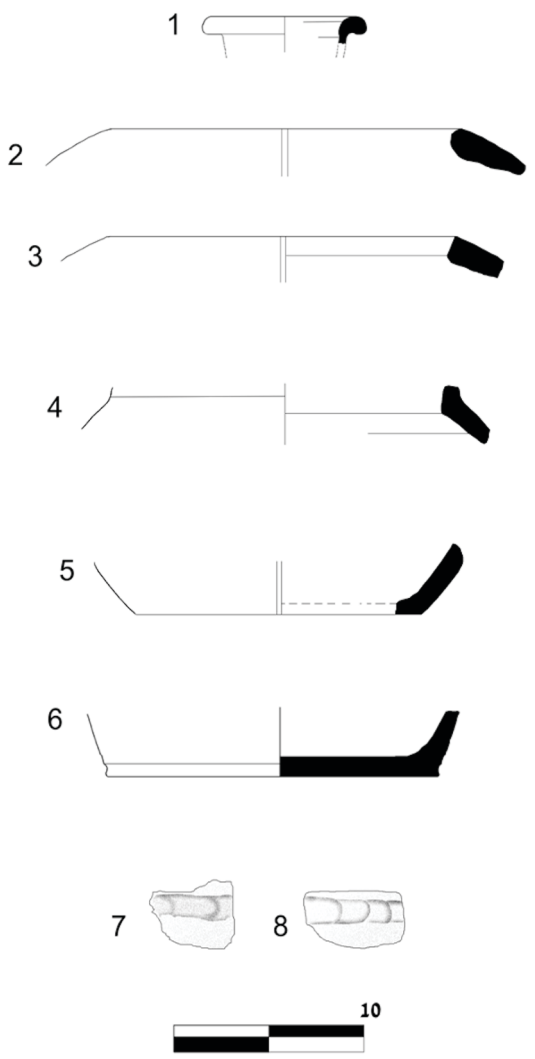

Figure 6: Sample of indicative sherds collected from Mitzpe Sde Hafir. Illustrated by Eli Cohen-Sasson.

desert sites were easily distinguishable from body sherds alone. The range of indicative sherds is shown in Fig. 6. The range of types is fairly limited, with the culturally characteristic Levantine assemblage made up mainly of holemouth jars that may have been made locally in the Negev and storage jars with unpreserved rims. Base diameters indicate that a number of the storage jars were of considerable size. A few rope-decorated body sherds were located, most clearly belonging to holemouth jars, but two examples belonging to storage jars composed of well-fired fabrics with calcite and grog inclusions and well-levigated clay probably originated in the Shephelah region.

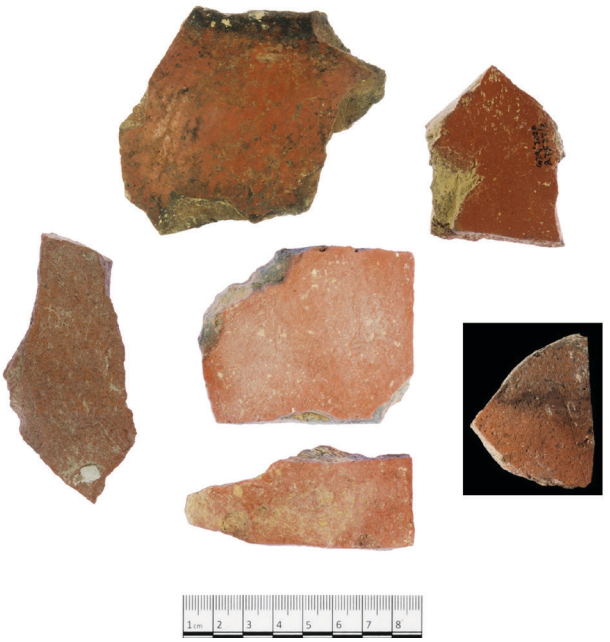

Figure 7: Sample of Egyptian sherds from Mitzpe Sde Hafir. Photography by Yevgeny Ostrovsky.

The sherds of Egyptian pottery (Fig. 7) belong almost entirely to medium- and large-sized closed storage vessels, although rims are not preserved, except in the case of one small juglet, probably drop-shaped, although only the rim was found (Fig. 6:1). Interestingly, although this vessel is typologically characteristic of the Naqada III period, it seems to have been made using clay local to the Shephelah region, indicating a connection with Egyptians living in the southwestern Levant during the late 4th millennium BCE.

The same coding system applied to the ceramic assemblage retrieved from a sample of loci in Area D3-H at Tel Erani was applied to the entire ceramic assemblage from all surveys and excavations carried out at Mitzpe Sde Hafir to date, totaling around 324 sherds in total, among which 67 distinct vessels (MNV) were identified.

Functional Distribution Analysis and Regional Comparisons

The proportional functional distribution of vessel types at Mitzpe Sde Hafir is unlike other desert sites, which usually have an extremely dominant cooking component of coarse holemouths (Figs. 8-9).[19] The substantial storage feature at Mitzpe Sde Hafir corresponds more closely to that of sedentary sites and particularly those involved in intensive trade

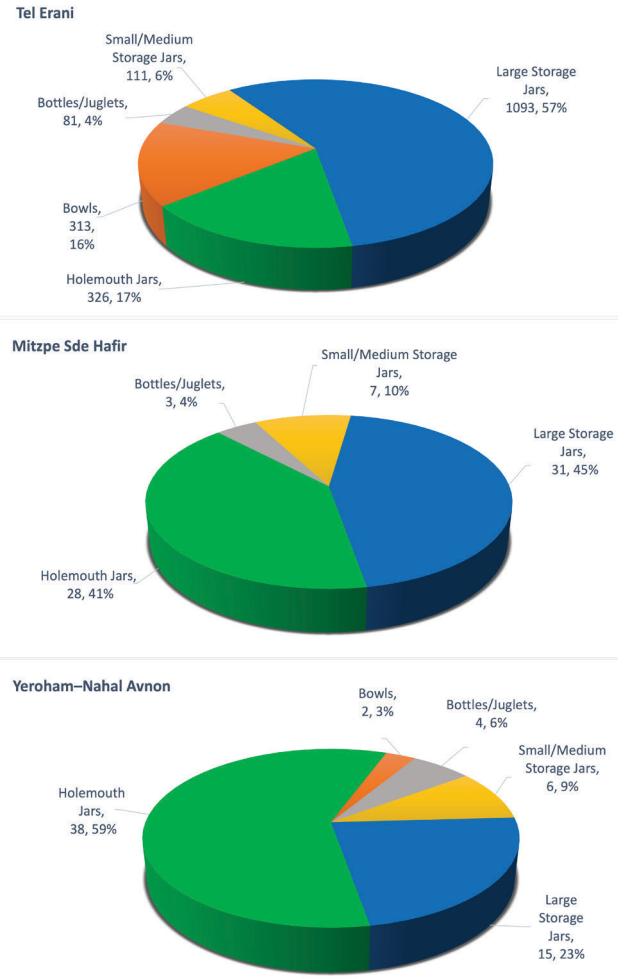

Figure 8: Comparison of the functional distribution of the entire Tel Erani ceramic sample and the ceramic assemblages from Mitzpe Sde Hafir and Yeroḥam—Naḥal Avnon.

mechanisms such as Tel Erani and Tel Arad in the EB I. The storage component even proportionally exceeds that of Tel Arad Stratum IV (Fig. 9).[20] It is lower than that of EB I north Sinai sites, which were evidently trading stations (Fig. 9).[21] The imported Egyptian and Shephelah/Judean Hills pottery classes at Mitzpe Sde Hafir are entirely composed of storage vessels indicating a clear exchange economy at the site. Likewise, there are very few examples of storage vessels composed of fabrics that could have been obtained locally in the Negev (Fig. 10). The large number of storage vessels indicates imports exceeding those that could have been transported by EB I Negev Highland nomadic groups under normal circumstances, with implications for both the mobility of the groups utilizing the site at Mitzpe Sde Hafir, and their connectivity.

Fabric Distribution Analysis

Four main fabric groups identified at Mitzpe Sde Hafir, with considerable variation in the use of temper, were confirmed petrographically with the help of Yarden Pagelson and Prof. Yuval Goren's microarchaeology lab at BGU.[22] These groups show diverse links with four regions beyond the immediate environs of the Negev Highlands: Egypt, the sedentary Levantine spheres of the Shephelah and the Judean Hills, as well as the Arava (probably in the region of Faynan). The latter group was made up mostly of fabrics with arkose sand inclusions, a granitic temper well known from the site of Wadi Fidan 4.

Red painted pottery from the sedentary Levantine zone was also identified with Motza dolomitic clay fabric, indicating clear connections with this region.[23] Red painted pottery and vessels composed of Motza clay fabric were both small but consistent components in the Tel Erani assemblage in all layers.[24]

The total quantity of pottery retrieved from the small archaeological exposure at Mitzpe Sde Hafir is highly unusual for a site within the desert sphere, and the ratio of imported pottery is especially remarkable. Vessels from Egypt and Jordan total more than one-third of the MNV (see Fig. 11), and, if the Shephelah/Judean Hills component is included, imported fabrics make up over half of the ceramic assemblage. As with the functional analysis, these results seem to support the impression of a desert site with an emphasis on connectivity and exchange.

Decoration Distribution Analysis

There is a strong similarity between the distributions of exterior decoration types between the local and Egyptian components of the Mitzpe Sde Hafir assemblage and those of Tel Erani Layer 9, with close comparability to those of Layer 8 (Fig. 12). Plain-smoothed vessels are predominant, followed by red- and white-slipped, accompanied by a few red-painted vessels. The Egyptian vessels in both Miẓpe Sede Ḥafir and Tel Erani Layer 9 also manifest the same pattern: Most of them are plain-smoothed, while the remainder is red-slipped. The same is largely true in Layer 8, especially for the Levantine vessels.

Layer 9 in D3-H at Tel Erani was a phase of probably relatively intensive trade with Egypt, as indicated by the presence of a significant quantity of imports. The extreme dominance of plain-smoothed

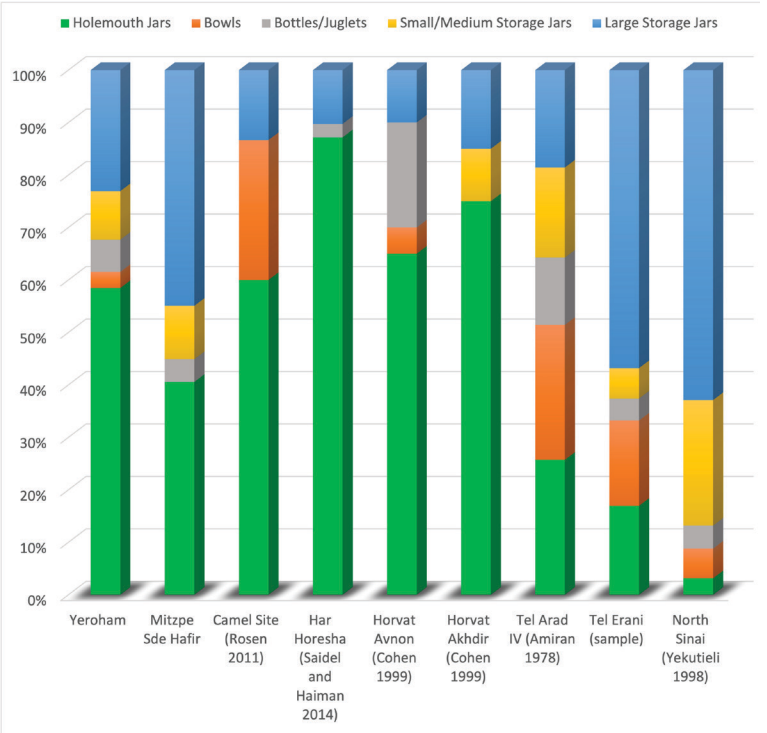

Figure 9: Multi-site comparison of ceramic assemblage functional distributions. Data taken from published excavations. A random sample of 70 vessels was selected from Tel Arad, Stratum IV, and 150 vessels from EB I sites in the North Sinai survey.

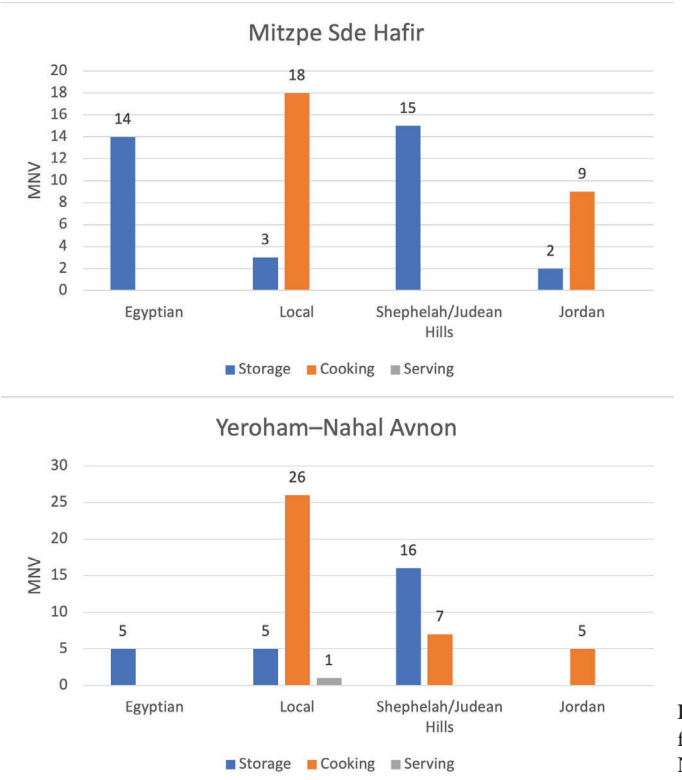

Figure 10: Ceramic assemblage functional distribution by fabric origin/tradition at Mitzpe Sde Hafir and Yeroḥam—Naḥal Avnon.

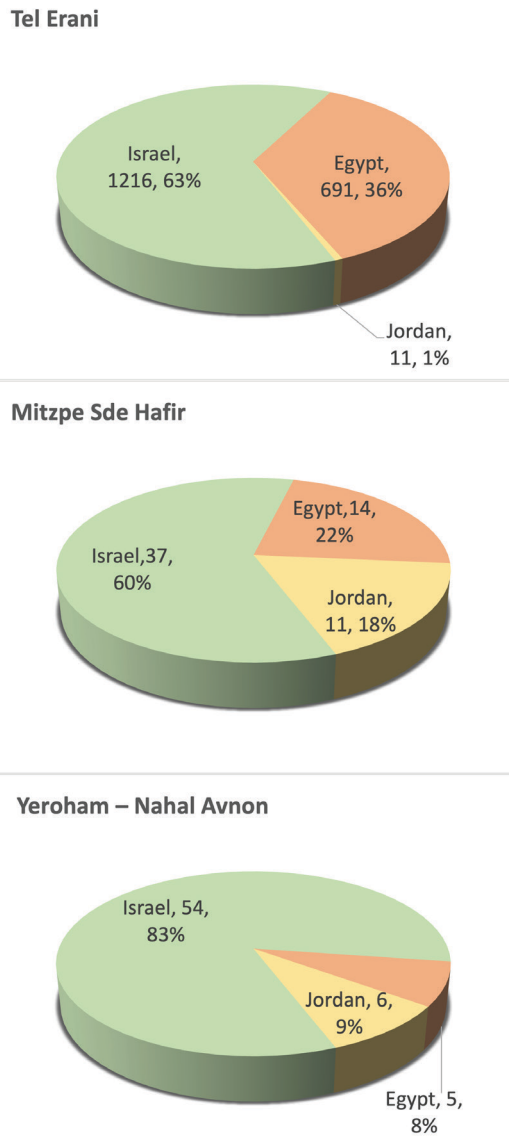

Figure 11: Comparison of fabric origins/traditions distribution in ceramic assemblages from Tel Erani (entire sample), Mitzpe Sde Hafir, and Yeroḥam—Naḥal Avnon.

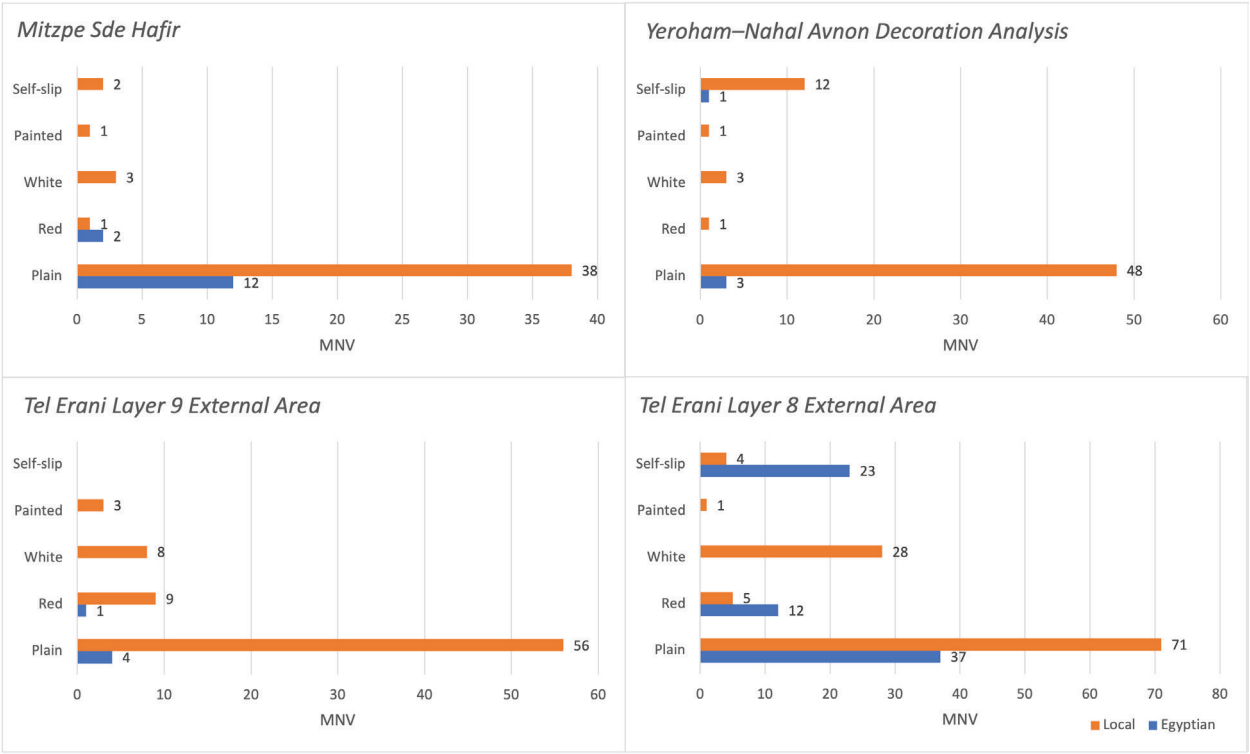

Figure 12: Comparison of decoration-type distributions in ceramic assemblages from Mitzpe Sde Hafir, Yeroḥam—Naḥal Avnon, and Tel Erani Layers 9 and 8.

vessels probably reflects this economic rather than stylistic orientation in manufacturing practice. The layer may predate the arrival of the Egyptian community that settled at the site, although to date, it was only investigated in a small exposure in Area D3-H, and its stratigraphic boundary with Layer 8 has not yet been clearly defined. Layer 9 exhibited almost no hybridity limited to Egyptian-type vessels made using local fabrics. The similarity of the decoration distributions between Mitzpe Sde Hafir and Tel Erani D3-H Layers 8 and 9 seems to indicate that similar kinds of relations with Egyptians were at play, complemented by the very high ratio of Egyptian imports (not hybridized). In fact, the overall ratio of Egyptian imports in the Mitzpe Sde Hafir assemblage far exceeds that of Tel Erani layer 9 and may bear a closer comparison to Layer 8. The most likely scenario is that the correspondence with both layers indicates contemporaneity with at least the foundational stages of the colony at Tel Erani.

Other Relevant Finds

In addition to the ceramic dataset, the flint assemblage from the excavated areas, mostly made up of ad hoc blades and small amounts of debitage, also contained some noteworthy elements. Almost all loci contained at least one item that could be said to belong to the family of tabular or fan scrapers (Fig. 13). There is remarkable variation in size, shape, and material selection within these forms, ranging from less than 3.5cm to 12cm in length. Unusual among the chipped stone assemblage is the presence of three Canaanean blade fragments (Fig. 14), a small quantity but very significant considering the modest archaeological exposure, testifying to connections with the sedentary zone to the north.[25] Ground stone tools, probably for processing agricultural products, were also present in surface finds and excavated areas.

Overall Characterization

The ceramic assemblage from Mitzpe Sde Hafir contains an unusually large quantity of EB I pottery for a Negev desert site of this period and especially unusual quantities of Egyptian (Naqada II–III) pottery. The archaeological stratigraphy for an EB I desert site is also unusually substantial, as yet mostly unexplored. There are phenomenological indications that the site functioned as a 'gathering place' for Negev desert communities of the region. A

clear storage orientation in ceramics and a tentative interpretation of architectural storage units may indicate a focus on exchange/redistribution. There are also possible indications of small-scale agricultural activity at the site in chipped and ground stone tool assemblages, including glossy Canaanean blades imported from the Shephelah region and grinding stones. Overall, it seems that activities at Mitzpe Sde Hafir represent a diverse desert economy.

Regarding the scale and form of Egyptian contact, correspondence with Tel Erani Layer 9 vessel-decoration ratios in both Egyptian and local components and the functional distribution and quantities of Egyptian imports are indicative of regular, systematic trade links with Egyptians via the Egyptian colony. The functional distribution of Egyptian and Shephelah/Judean Hills pottery components indicates bulk exchange, probably exceeding the amount that could be transported by EB Ib Negev pastoralist groups, leading to the conclusion that Egyptian traders actually arrived at the site from the Egyptian colony in the coastal plain for the purpose of exchange. The site's clear links with Jordan, demonstrated petrographically, offer a possible indication of a role in the trade of copper and/or tabular scrapers that the Egyptians may have sought to acquire.

Figure 13: Range of tabular/fan scraper forms recovered from Mitzpe Sde Hafir. Photography by Yevgeny Ostrovsky.

Figure 14: Canaanean blade fragments from Mitzpe Sde Hafir. Photography by Yevgeny Ostrovsky.

2. Yeroḥam—Naḥal Avnon

Yeroḥam—Naḥal Avnon is situated north of the modern town of Yeroham at the northern edge of the Negev highlands. The site was identified by Yigal Israel in surveys conducted in 1992, prior to the expansion of the modern town. Small-scale initial archaeological inspections were conducted at the site in 2013–2014 by Emil Alajem, with larger-scale salvage excavations held in 2015 under the direction of Ron Be'eri and Emil Alajem. The site spreads over an area of 900 m2 on a low hill and adjacent slope around 490 m above sea level and roughly 5 m above the surrounding plain, next to the dry wadi bed of Naḥal Avnon that flows into the Yeroḥam basin. The region is arid, receiving approximately 90 mm of rainfall per annum, and there is no reliable natural water source or pasture grounds in the surrounding area.

Interaction on the Desert Fringe in Late EB I

Excavations revealed a site that was clearly not permanently occupied during the Early Bronze Age, with also no evidence for the practice of agriculture of any kind. It certainly does not fit the profile of typical campsites of Timnian pastoralists of the 4th and 3rd millennia BCE, lacking animal pens or faunal remains. It is composed of a complex of industrial installations and domestic structures (Fig. 15) that seems to have been occupied on a semi-permanent basis during these periods. No remains of substantial stone-built architecture were identified, and it is reasonable to suggest that the low stone walls acted as bases for temporary shelters built from local brush vegetation. Most of the

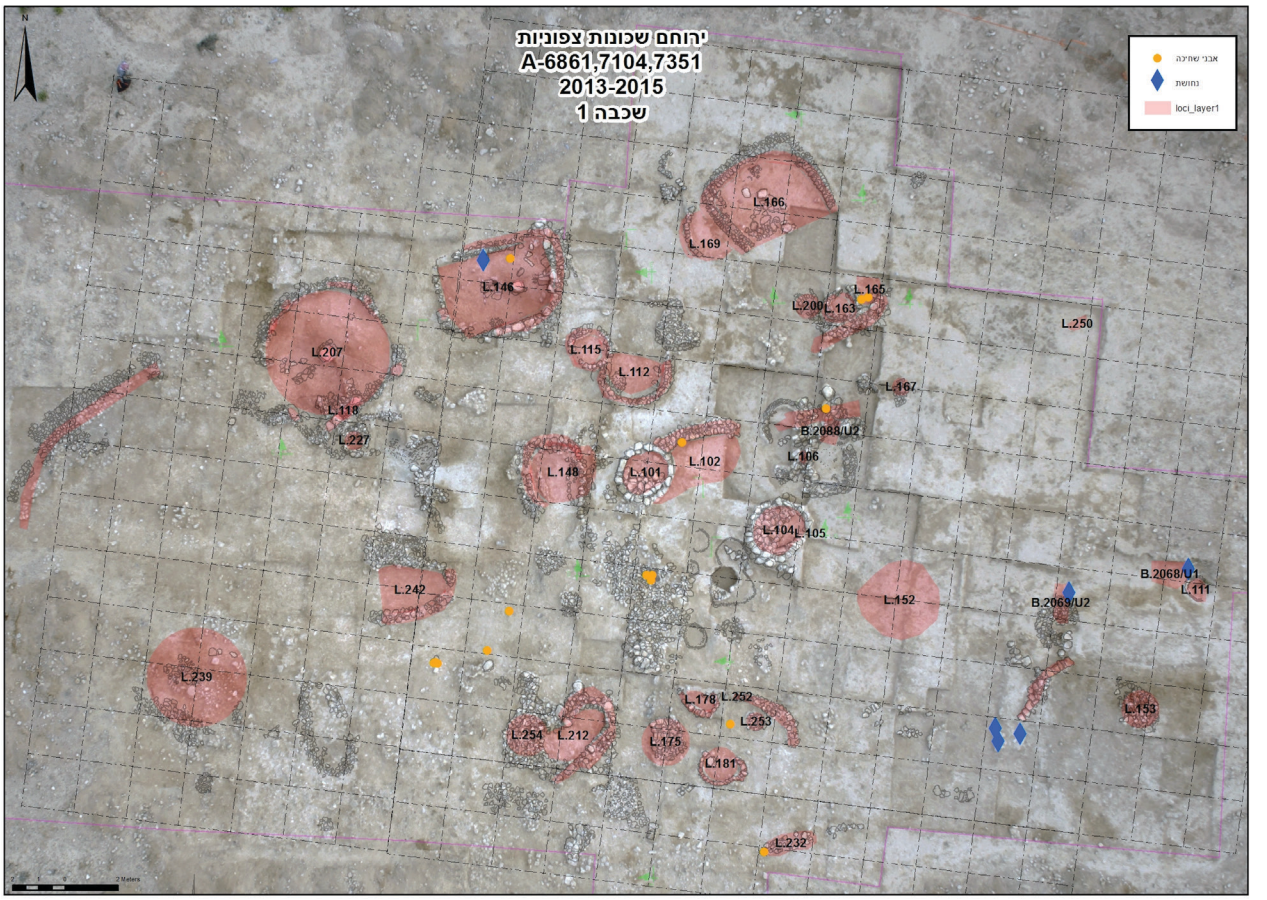

Figure 15: Aerial photo and plan of Yeroḥam Layer 2 (EB I) post-excavation. Courtesy of the Israel Antiquities Authority.

ceramic material is of an EB I–II date, mostly local, including a very small 'Erani C' component and some imported Naqada III vessels. One structure where much EB I–II pottery was found is almost rectilinear, perhaps an early form of the 'Aradian' type found at many sites in the Negev and Sinai and generally dated to the EB II period.

Four radiocarbon dates taken from areas of installations all fall early within the EB Ib, around 3300 BCE, but there are hints of copper processing in the same areas of the site during later periods with the retrieval of a copper ingot of a type typical of those from Jordan during the Intermediate Bronze Age (henceforth, IBA).[26] Due to the abundance of EB I material and the early Carbon 14 results, as well as clear connections with Nilotic society and Levantine sedentary society of the coastal plain during the EB I, the site offers an unusual insight into connectivity during a developmental stage of 'multi-resource' nomadism in connection with the settled zone.[27] Its location situated far from natural water sources along a natural route from the northern Arava to the coastal plain region of En Besor via the Yeroham basin, as well as the abundant quantities of locally manufactured grinding stones retrieved from the site, indicate that trade and perhaps industry were the principal motivations for the site's establishment.

The Ceramic Assemblage

A total of 83 indicative sherds belonging to a minimum number of 66 distinct vessels were recovered from loci dated to the EB I phase at Yeroḥam—Naḥal Avnon. The general character of the majority of the ceramic assemblage is coarse, hand-smoothed wares with poorly sorted sand inclusions, although more well-levigated wares also constitute a significant component. All the EB I material was analyzed after full completion of fieldwork at the site and following preliminary on-site sorting by excavators Ron Be'eri and Emil Alajem. The assemblage contained an extremely high ratio of holemouth cooking pots. However,

imports from the Shephelah and Judean Hills identified typologically show clear connections with the southwest Levantine sedentary zone, including a loop-handled juglet and larger storage jars, some examples with wavy ledge handles. Five Egyptian vessels were identified, including a bottle (Fig. 16), a small jar with an incomplete rim (Fig. 17), two medium storage jars, and one large storage jar. All were composed of Nile clay, confirmed petrographically as true imports rather than locally manufactured wares.[28]

Functional Distribution Comparative Analysis

The functional distribution of vessels at Yeroḥam—Naḥal Avnon fits more the standard profile of desert campsites with around 60% cooking pots (Figs. 8-9). Its closest parallel proportionally is the Camel site. However, the proportion of imported storage jars exceeds almost all desert sites, as reflected by petrographic analysis and the visual examination of fabrics in the entire assemblage detailed below. As with the case of Mitzpe Sde Hafir, the large number of storage vessels implies that exchange was essential to the economy of the site and, by extension, its function.

Examination of functional distribution by fabric class confirmed that the vast majority of storage jars were imported from the Shephelah and Judean Hills regions, suggesting that the site possessed strong ties to the Levantine sedentary economic sphere. Also noteworthy is the presence of holemouths apparently imported from the Judean Hills regions. The overall distribution by fabric class seems to indicate a closer connection with the culture of the sedentary Levantine zone and connections also in daily life practices such as cooking, if perhaps not serving (Fig. 10).

Fabric Distribution Analysis

Five main fabric groups were identified in the assemblage showing links with Shephelah, Judean Hills, Jordan, and Egypt, as well as vessels probably manufactured locally. Imports from the Shephelah and Judean Hills show clear connections with the southwest Levantine sedentary zone (Figs. 10-11). The five Egyptian vessels, as mentioned above, were composed of Nile clay.[29] The lack of hybridization in form or fabric defines these vessels as true imports, possibly received via down-the-line mechanisms through contacts in the Levantine sedentary sphere. In this sense, the composition of the Egyptian element corresponds most closely to Tel Erani D3-H Layer 7, which is interpreted as a period of tension between Levantines and Egyptians, with no hybridity and clearly established boundaries between cultures.

Figure 16: Egyptian bottle fragment. Courtesy of the Israel Antiquities Authority.

Figure 17: Egyptian globular jar fragment. Courtesy of the Israel Antiquities Authority.

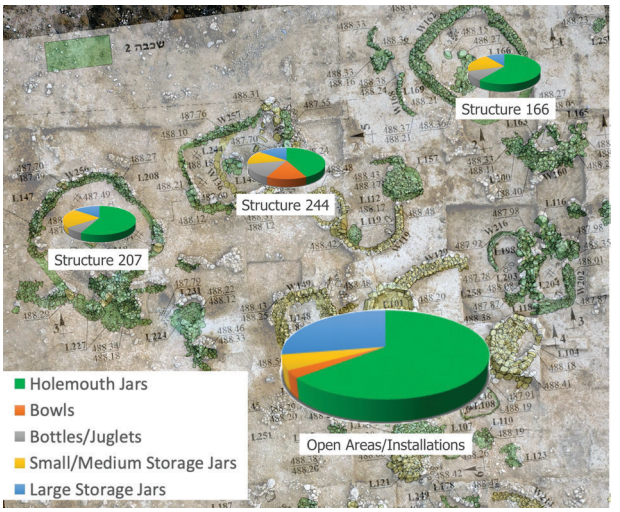

Figure 18: Intra-site vessel distribution.

As with the case of Mitzpe Sde Hafir, the fabric distribution shows a clear link with the eastern side of the Arabah valley and specifically the region of Faynan, establishing a possible driving force for the economic connections between this site situated clearly within the desert economy but strongly connected to the sedentary world. The IB layer at Yeroḥam—Naḥal Avnon contained a few copper artifacts, and it is possible that the site may have also played a role in copper exchange during the EB I period.

Ceramic Coding to Reveal Spatial Functions and Divisions

Due to the comprehensive fieldwork carried out at Yeroḥam—Naḥal Avnon, with the site excavated almost in its entirety, it was possible to perform more detailed spatial queries using the ceramic database for the EB I phase. Essentially, proportional distribution of function, cultural provenance, and material composition could be considered across different areas of the site, revealing implied divisions of functional and social space.

A comparative analysis was conducted on the percentage distribution of vessel types in the three main structures of Layer 2 (Structures 166, 207, and 244) and the surrounding open areas and installations (Fig. 18). The results support the interpretation of the three structures as the domestic hub of the site during the EB I phase, with a much greater ratio of serving wares and small/medium storage vessels (31%). Vessels from surrounding open areas and installations were almost exclusively holemouth jars (64%) and large storage jars (38%), supporting the interpretation of the function of these spaces as areas of industrial activities, waste disposal, and cooking.

Most imported vessels were located within or immediately adjacent to the three structures, and all the Egyptian vessels were found in the vicinity of Structures 207 and 244, possibly indicating a functional division of external relations with the domestic spaces. Structure 166 may have been preserved as a purely 'local' and 'domestic' environment, while business was conducted with outsiders in Structures 207 and 244. The site's overall layout with the three domestic structures at the northeastern edge, enclosing the scatter of installations and pits between them and the dry wadi bed opposite, may have a protective significance. The domestic structures were positioned on the edge of the site, closest to the Egypto-Levantine interaction sphere to the northeast with which the site apparently conducted an exchange relationship, perhaps further indicating a certain amount of social anxiety in these exchanges. The notion of explicit definitional division of spaces and the indications of social anxiety lend further credence to the concept suggested above, that is, that relations between desert groups at Yeroham and the Egypto-Levantine interaction sphere to the north existed on a similar basis to Egypto-Levantine interactions in Tel Erani Layer 7.

Decoration Distribution Analysis

The range of exterior surface decorations at Yeroḥam—Naḥal Avnon in the Levantine cultural component is notably similar to Tel Erani Layer 8, with a possible chronological implication in the stages of stylistic development (Fig. 12). This early period in the Egyptian colony would also fit well with radiocarbon dates obtained from Yeroḥam—Naḥal Avnon. The comparison also reveals a clear alignment between the cultural and particularly stylistic spheres of Yeroḥam—Naḥal Avnon and the Shephelah region of Tel Erani. These sites were undoubtedly connected, if not directly, then certainly as part of the same social system.

General Summary and Implications

It is clear from the above results that Yeroḥam—Naḥal Avnon was a site embedded in the desert economy, although, as with Mitzpe Sde Hafir, it does not fit the typical profile of EB I–II pastoral

nomadic encampments of the Negev. With no evidence of stabling of herds, very few animal bones, an absence of sickle segments suggesting no agricultural practice, and a geographical situation remote from the nearest water sources, the economy and subsistence of the site remain an enigma. It is certainly evident that only periodic use of the site was possible, although it also seems clear that it did not function as a pastoral camp. There is evidence of industrial activity at the site, including grinding stones, a few copper fragments, and various poorly defined installations, and its focus is at present obscure.

Agricultural goods were evidently processed for consumption at the site in food-preparation areas, and storage jars from Israel's southern coastal plain and Judean Hills indicate that the site played an important role in the exchanges between nomadic and Levantine settled communities. The relatively small Egyptian component may be best explained by indirect exchange mechanisms. Limestone grinding stones, probably manufactured in Makhtesh Ramon offer a hint as to the substance of exchange, alongside typological and material links with Jordan in the pottery assemblage. The site may have played some role in the exchange of copper or the bitumen trade.

Based on the above evidence, the most likely explanation seems to be one of two possibilities: the site was either founded by groups from the settled zone for the purpose of exchange with nomadic tribes or represents an early example of an emergent intermediary class from within the nomadic world. The above-described factor of social anxiety in encounters, expressed in the spatial organization of domestic structures and apparently directed towards the settled zone, seems to lend more weight to the latter suggestion that the site was a foundation, an emergent nomadic social sector engaged primarily in desert-sown exchanges. This phenomenon has many known ethnological parallels, such as among the Basseri of South Persia[30] or the Shammar of North Arabia,[31] situations in which elites emerged from nomadic societies as a result of wealth accumulation born out of exchanges with sedentary societies. For these groups, their ability to traverse both worlds became social currency.

Such a developmental trajectory for pastoral nomadic populations has been posited for EB II pastoral nomads of the Negev and Sinai, with Arad framed as the sedentarization of an elite sedentary merchant sector specializing in trade with regions to the north.[32] The archaeological evidence, both from Arad itself and 'Aradian' outposts in the Negev and Sinai, seems to reflect a reverse process of southward intrusion of sedentary society into the desert regions.[33] However, that does not preclude the possibility that a small elite class may have emerged as intermediaries either in the desert zone itself or in a permanent sedentary role at Arad. A similar process has also been proposed for nomadic sedentarization in the Negev Highlands during the IBA.[34] Yeroḥam—Naḥal Avnon may represent a precursor to these later processes.

Two "Zones" of Nomadic Contact During the EB Ib Period

The analysis of the two desert zone case studies and their comparison of their ceramic assemblages with layers of Egypto-Levantine interactions at Tel Erani revealed two distinct arenas of connectivity with separate regional and perhaps also chronological associations (Fig. 19). The site of Mitzpe Sde Hafir seems to be situated at the southernmost extent (as far as is presently known) of a contact corridor stretching from the Egyptian colony in the Mediterranean littoral and northeastern Sinai into the Western Negev Highlands. Yeroḥam—Naḥal Avnon seems conversely more integrated with the Levantine sedentary economy while apparently socially remaining situated within the sphere of Negev desert pastoral nomadic tribes. These are both claims which demand further explanation and elaboration.

Western Negev Highlands

Based on the very high ratio of Egyptian pottery uncovered in the small archaeological exposure of Mitzpe Sde Hafir, as well as the presence of an Egyptian style vessel made using local Shephelah region clays, it seems clear that Mitzpe Sde Hafir was connected to the core region of Egyptian activity in the Mediterranean littoral and/or sites of primarily Egyptian character in northeastern Sinai. Furthermore, the apparently large volumes of products implied by the dominance of the storage component among the imports suggest that Egyptians probably had arrived at Mitzpe Sde Hafir. The interpretation of a "contact corridor" by which expeditions of Egyptian traders would have arrived at Mitzpe Sde Hafir further explains the scattering of small quantities of Egyptian materials at sites in

Figure 19: Model for two zones of nomadic connectivity in the Negev desert. Blue arrows show Egyptian access to desert products (striped, blue arrows are potential additional access routes). Orange arrows show a Levantine sedentary access route to desert products at Yeroḥam—Naḥal Avnon. White arrows show probable movements of desert products within the Timnian sphere.

the intervening region: Be'erotayim, Giv'at Salit, and Kadesh Barne'a.[35]

Based on evident contacts with South Jordan in the region of Faynan, it seems likely that desert products, perhaps including copper and tabular scrapers, were the motivation for Egyptian demand. Copper exchange is not well understood in the EB Ib, but Negev nomadic involvement in copper trade has been convincingly discussed for the Chalcolithic–EB Ia and the EB II.[36] The level of contacts at Mitzpe Sde Hafir, as expressed in the ceramic assemblage profile, most closely resemble Layer 9 or 8 at Tel Erani, with a high number of Egyptian imports and low levels of hybrids. These layers at Tel Erani are the phases immediately prior to and immediately following the establishment of Egyptian permanent habitation at the site and were most likely phases of intercultural negotiation, and conceptual and material exchange.

Mitzpe Sde Hafir has a unique functional profile, represented both by the high ratio of imported storage vessels in the ceramic assemblage, implied secondary agricultural practices with sickle segments and grinding stones, an unusual overall layout, and a high ratio of tabular scrapers in the chipped stone assemblage, as well as the notable absence of certain elements typical of campsites, such as arrowheads and burins. In this sense, this site might fit the concept of a 'negotiated periphery,' with its potential for reordering and restructuring social norms and value standards.[37] In contexts of complex encounters between highly disparate cultures, and considering the inherent flexibility of nomadic lifeways, it would be expected to see considerable socio-cultural transformation or the order that might ultimately shape the unique profile of a site such as Mitzpe Sde Hafir, unparalleled in its diverse archaeological elements among contemporary desert sites. As such,

the complexity of features at Mitzpe Sde Hafir, in the context of direct contacts and exchanges with Egyptian groups conducted at the site, implies a form of relations that might be suitably characterized as a "contact zone," with its accompanying features of social struggle and restructuring.

Taken together, the symbolic elements at the site, including complex iconography in the rock-art panels, the theatre-like phenomenology of the layout, and the large quantities of tabular scrapers, which have been interpreted to exhibit ritual associations in other contexts, suggest that Mitzpe Sde Hafir was a site of considerable local significance.[38] The extent of Egyptian contact at the site further implies that the site's importance extended well beyond the nomadic sphere.

Central Negev Highlands

A complex impression is conveyed by the data processing and analysis of finds from Yeroḥam—Naḥal Avnon. As stated above, the site does not fit the profile of a pastoral nomadic campsite in its location (distant from water sources), scarcity of animal bones, absence of stabling pens, absence of any signs of agricultural practice, and its array of typologically obscure installations. However, the ceramic assemblage shows clear alignment with desert assemblages with a majority of coarse, poorly fired holemouths. Concurrently, the remainder of the assemblage shows diverse connections with Egypt, Jordan, and Levantine sedentary society, mostly large storage vessels that imply an exchange economy.

Most of the imported storage vessels originate in the Shephelah and Judean Hills and indicate that the site's main economic partners can be traced to these regions. The additional factor of a modicum of serving wares also from the Shephelah or Judean Hills suggests a further level of socio-cultural relations beyond simply materialist exchange. These data lead to the natural conclusion that the site was a dedicated locus for barter exchange of desert products for agricultural goods from the sedentary zone. The complex array of installations may have been engaged in the processing of a diversity of materials from the desert regions, including grinding stones and perhaps copper, with clear links to Faynan demonstrated in the ceramic assemblage.

The Egyptian component, represented by a small number of imports of Nile clays, is best explained as having arrived at the site indirectly via exchanges with Levantine sedentary trading partners. As such, the indirect relations with permanent Egyptian settlements in the region, carried out via second-hand economic mechanisms, were probably socio-culturally non-transformative. However, the overall integration of desert communities within local sedentary economic processes, which may in large part have catered to and been accelerated by Egyptian demand, seems to have been highly transformative for nomadic lifeways in the region.

The unusual function of Yeroḥam—Naḥal Avnon, apparently catering in some as yet undefined capacity to external exchange demands and apparently lacking any infrastructure to support pastoral nomadic subsistence, is suggestive of nomadic groups whose main occupation was commercial. As such, the case of Yeroḥam—Naḥal Avnon may represent the early emergence of an intermediary trading class from within the nomadic world, which would later reach full expression in partial settlement of a sub-sector of nomadic society at EB II Arad and the institution of a systematic exchange system. Processes of social stratification and institution of "parasocial" elites resulting from nomadic pastoral integration with sedentary economics are well documented in ethnographic contexts such as among the Yomut Turkmen, the Basseri of South Persia, and the Shammar tribes of North Arabia.[39] This model seems to provide an explanation for the overall dataset from Yeroḥam—Naḥal Avnon. Indications of social anxiety in exchanges with the outside world, identified in the spatial distribution of imports and the layout of domestic structures at the site, are further indication that the form of relations between the emergent nomadic traders and sedentary society was still in formative stages of negotiation and institution of shared orders of value.

Notably, while radiocarbon dates place Yeroḥam—Naḥal Avnon early within the EB Ib2, a comparative assessment of the ceramic assemblages from the site and layers at Tel Erani revealed a strong parallel in the distribution of vessel decoration types in the Levantine component with that of Layer 8 of D3-H, providing apparent typological support to specific phasing early in the phase of Egyptian permanent habitation in the southwestern Levant. The contemporaneity of the Egyptian arrival in the region and the emergence of the nomadic intermediary exchange activities at Yeroḥam—Naḥal Avnon is unlikely to be coincidental, with

new Egyptian demands in the region likely acting as an economic stimulant for exchanges between the desert and sown.

Conclusions

Overall, Egyptian involvement in the region seems to have been highly stimulative (both directly and indirectly) to the transformation of the Negev nomadic society and the acceleration of its integration with sedentary economic systems, with additional implications for social stratification among nomadic groups. The extent of direct contacts at Mitzpe Sde Hafir also indicates that the desert economy was a far more serious motivation for Egyptian colonial enterprise in the region than has previously been appreciated. Ceramic coding is a useful means of investigating and comparing culture contact mechanisms through the construction of local and regional ceramic variation databases, processing complex statistical queries to situate datasets in relation to one another, and observing variation at multiple levels (intra-site, inter-site, regional, interregional). This methodology acts as a fertile ground for the emergence of unusual and unexpected correlations and correspondence.

Examination of the two desert sites above adds to the huge variance that is becoming visible in late 4th-millennium Egypto–Levantine encounters, even at relatively localized levels. In examining such interaction contexts, relations should be expected to change over time, even at the intra-site level, but especially across regions. The study of these kinds of relations demands the pursuit of diverse and inventive theoretical modeling, new hypotheses, and multi-level contextualization in local and regional trajectories, in which the actions and responses of individual agents are informed by the entirety of the structures and systems of which they are a part.

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Notes

1 Saidel and van der Steen 2007; Frachetti 2008; Szuchman 2009; Kardulias 2015.

2 For a recent overview of this subject, see Atkins 2017, 135–164.

3 The concept of a core region of Egyptian presence fading with distance has been proposed by many scholars but is most extensively elaborated upon by de Miroschedji 2002, 39–57; de Miroschedji 2015, 1003–1038; Yekutieli 2004, 163–171; and Braun 2011, 105–124.

4 Sites with clear evidence of a permanent presence of Egyptian communities during the late EB I: 1) Tel Erani –Yeivin 1960, 193–203; Brandl 1989, 357–388; Kempinski and Gilead 1991, 164–192; Ciałowicz, Yekutieli, and Czarnowicz 2016; Andelkovic 1995, 39–47; 2) Tel Halif Terrace – Levy et al.; Kansa 2001; Kansa and Levy 2002; 3) Lod –Braun 2014.

5 E.g., at Tel Erani, Czarnowicz et al. 2016.

6 Yekutieli 2004; de Miroschedji 2015.

7 Pratt 1991.

8 See especially Lehmkuhl, Lüsebrink, and McFalls 2015a; and Wodianka and Behrens 2017.

9 Turner 1964; Turner 1998; for the application of Turner's concept of liminality to the thresholds of cultural encounter, see especially Lehmkuhl, Lüsebrink, and McFalls 2015b.

10 See notes 4 and 6.

11 Yekutieli 2004.

12 For the sherd of an Egyptian wine jar from Rogem-Be'erotayim, see Saidel et al. 2006, fig. 6.13. For parallels from sites in the coastal plain: 1) Tel Erani, Czarnowicz 2016, fig. 6; 2) En Besor, Gophna 1990, fig. 9; 3) Tel Ma'ahaz, Beit-Arieh and Gophna 1999, fig.10. For an EB Ib1 parallel from North Sinai, see Oren and Yekutieli 1992, fig. 9; and Yekutieli 1998, 149.

13 The research at Mitzpe Sde Hafir and Tel Erani was conducted as part of a more comprehensive project funded by a grant from the Israel Science Foundation (ISF no. 1321/17) to examine Egyptian interactions with Southwest Levant at the end of the EB I.

14 See Yekutieli 1998 for the original coding system. The coding system was later with the assistance of Dr. Masatoshi Yamafuji and Dr. Taichi Kuronoma of the Japan Institute for Cultural Properties, who also assisted with some of the preliminary analyses of ceramic materials from Tel Erani, Area D3-H.

15 Ciałowicz, Yekutieli, and Czarnowicz 2016. Renewed excavations at Tel Erani were conducted under the direction of Dr. Yuval Yekutieli, Prof. Krysztof Ciałowicz, Dr. Eli Cohen-Sasson, and Dr. Marcin Czarnowicz.

16 For a full discussion of Area D3-H stratigraphy, see Atkins 2021, 127–128.

17 Ciałowicz, Yekutieli, and Czarnowicz 2016 define the architectural complex as belonging to building phases H5–H1.

18 For C14 results, see Yekutieli et al. 2022.

19 Data collected from the Camel Site (Saidel 2011); Har Horesha (Saidel and Haiman 2014); and Ḥorvat Akhdir and Ḥorvat Avnon (Cohen 1999).

20 Sample taken from published ceramic data from Arad (Amiran 1978).

21 Sample taken from Yekutieli 1998.

22 The petrography study was carried out by Yarden Pageson (not yet published).

23 Parallels are known from Jericho (Amiran 1969, pl. 13:9, 11) and Arad (Amiran 1978, pl. 11).

[24] The ceramic assemblage from Tel Erani has not yet been published but was analyzed by the author in collaboration with Yuval Yekutieli, Masatoshi Yamafuji, and Taichi Kuronuma.

[25] For a discussion of production and distribution zones of Canaanean blades in the EBA, see, for example, Milevski 2011, 94–98.

[26] For C14 results, see Beeri et al. 2022.

[27] The beginning of the EB II is characterized by Rosen (2017, 199) as the beginning of "multi-resource nomadism" in the Negev.

[28] The petrography study was conducted by Anat Weinberger-Cohen (not yet published).

[29] See note 22.

[30] Barth 1961.

[31] Al-Rasheed 1987.

[32] Finkelstein 1990, 67–86; 1995; Finkelstein et al. 2018.

[33] For discussion and references, see Atkins 2021, 62–65.

[34] Haiman 1996; Dunseth et al. 2018.

[35] See notes 11 and 12.

[36] For the Chalcolithic, see, for example, Knabb et al. 2018; for the EB Ia, see Khalil and Schmidt 2009; for the EB II, see, for example, Ilan and Sebbane 1989.

[37] For detailed elaboration on the concept of a "negotiated periphery," see Kardulias 1999, xvii–xxi; Kardulias 2007; Morris 1999.

[38] For the ritual association of tabular scrapers, see mainly Bar-Adon 1989.

[39] For examples of the emergence of "parasocial leaders" in various social contexts, see the sites of Yomut Turkmen (Irons 1971; Irons 1974; Bates 1973; Spooner 1973); Basseri of South Persia (Barth 1961; Rowton 1974); and Shammar of North Arabia (Al-Rasheed 1987).