

Pottery Makers and Premodern Exchange in the Fringes of Egypt: An Approximation to the Distribution of Iron Age Midianite Pottery

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Abstract: This paper aims to study the distribution of Midianite pottery, a ware that was manufactured in the Hejaz and spread over the Negev (most notably Ramesside Timna), southern Palestine, and southern-central Jordan during the Iron Age. The admittedly meagre evidence from local sites suggests that the context of discovery is of particular significance. Since Midianite wares appear consistently in cultic contexts, administrative buildings and burial offerings, they may have been seen as valuable imports, probably due to their rich polychrome decorations, cultic character and/or imported nature. The presence of Midianite wares in these contexts implies that these goods were valued for their social significance as well as their functional content. This, in turn, points to the existence of exchange mechanisms of some kind, most notably gift-exchange and trade.

The combined results of several surveys and excavations conducted in the Negev and southern Jordan show the existence of a distinctive pottery tradition spanning (and most probably extending beyond) the Early Iron Age: Midianite pottery. The largest corpus of this ware has come largely from the 13th-12th centuries BC Ramesside sites at Timna valley. This evidence has recently been strengthened by evidence from the Faynan region of southern Jordan, where Midianite wares have been found in large numbers. In addition to its obvious importance for understanding the chronology of the Negev, Edom and the Hejaz, Midianite pottery is an invaluable source of information for the societies that the Egyptians encountered when they expanded into the Negev and Jordan during the last part of the Late Bronze and the Early Iron Ages.

The primary focus of this paper is the sociohistorical context in which the Midianite wares were manufactured and distributed over the southern Levant. In the first part I will survey the current data on Midianite wares, especially reassessing their spatial distribution in the southern Levant. In the second part, I will present a model that seeks to answer two central questions: What was the social significance of the Midianite wares? And how were they distributed? The conclusions are examined in the light of current knowledge of similar societies in the contemporary Near East and throughout the world. Although the complex forms of regionally centralized organizations are not manifested here, there appears to be evidence that the population of the Hejaz, Edom and the Negev were engaged in the exchange of ordinary goods, most notably Midianite painted wares. Midianite wares were deliberately taken out of circulation only when they were buried with an individual as grave goods or when they were buried in the ground as votive deposits. The presence of Midianite wares in burial, cultic, and administrative contexts would imply that these goods were valued for their social significance as well as their

functional content. The fact that these wares were considered to have certain degree of social significance would point to exchange mechanisms of some kind.

Midianite pottery

Midianite pottery, also known as “Qurayya pottery” (Parr 1988), “Hejaz pottery” (Knauf 1983: 151), and “Taymanite Painted Ware” (Abu Duruk 1990: 18), was discovered during the 1930s by Glueck in his surveys in southern Jordan and his excavations at Tell el-Kheleifeh in the southern Arabah valley. In the light of their decorative patterns, Glueck identified these vessels as “Edomite” and therefore dated them to the Iron Age II (Glueck 1967). During his surveys and excavations in the Arabah in the late 1950s and 1960s, Rothenberg found similar decorated wares, and following Glueck’s typology labeled them as “Edomite” pottery (Rothenberg 1962). Nonetheless, after the discovery at Timna valley of the several Egyptian findings belonging to the 19th and 20th Dynasties, Rothenberg re-dated this pottery to the 13th-12th centuries BC. Petrographic studies carried out on some of the Timna wares led to the conclusion that they originated in the Hejaz, that is to say, northwestern Arabia. This area was known by the ancients—as attested in biblical and classical sources—as Midian, so Rothenberg proposed the name “Midianite pottery” for these wares (Rothenberg and Glass 1983: 65-69).

To this day, the only clear archaeological context where Midianite wares have been found is provided by the Late Bronze/Iron I Ramesside activities at Timna valley. For this reason, Midianite ware has sometimes been used as diagnostic pottery for demonstrating Late Bronze/Iron I occupation in other areas, particularly Edom (cf. Rothenberg and Glass 1983; Finkelstein 1992a; 1992b; 1995: 127-137). It has become increasingly clear, however, that all of these findings are not precisely contemporary. Contrary to common opinion and according to new archaeological

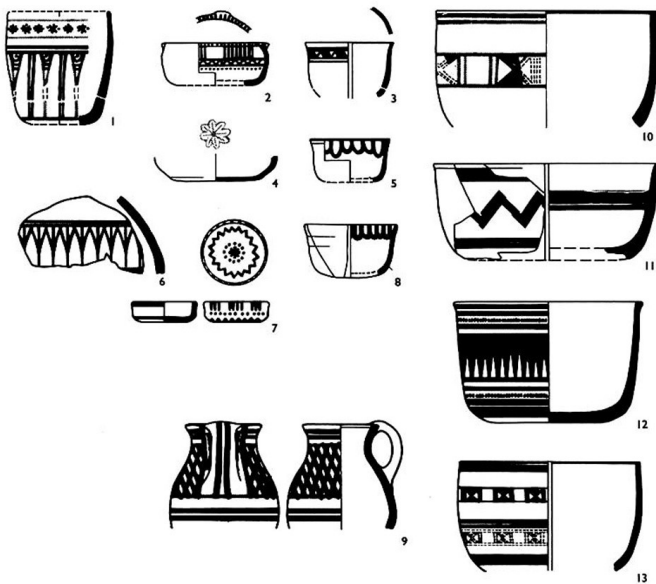


Figure 1: Midianite pottery from Timna (Site 2) (Rothenberg 1972: Fig. 32)

data, Midianite pottery very likely continued being used during the Iron Age II; in fact, Midianite wares overlapped geographically and chronologically with true “Edomite” ceramics, distinctive of the Late Iron Age II (Bienkowski 2001; Bienkowski and van der Steen 2001: 23 n. 2).

The distinguishing feature of the Midianite wares is their painted decoration (Figures 1 & 2). It consists of tones of black, brown, red and yellow applied to a thick buff or cream slip; however, plain wares are also present. The vast majority of these wares are wheel-made, though there are some coil and hand-made types too (Parr et al. 1970: 238; Parr 1992a: 595). They were possibly made on large thrower’s wheels, but using a slow moving work force (Kalsbeek and London 1978: 54; London 1999: 72). We owe much of our knowledge on Midianite wares to Rothenberg and Glass’ study on the Timna pottery assemblage (1983); their petrographic studies on Midianite pottery from Timna have shown that these wares were not manufactured locally but rather in the Hejaz, most probably in the site of Qurayya (Rothenberg and Glass 1983: 111-113; Glass 1988: 100-111; cf. also Slatkine 1974: 108, 110; 1978: 118-122; Kalsbeek and London 1978). Additionally, more recent instrumental neutron activation analyses (INAA) determined an origin in northwestern Arabia -maybe Qurayya- but also probably in southern Jordan (Gunnweg et al. 1991: 249-251).

The ease with which Midianite potters adopted foreign motifs, and perhaps underlying cultural concepts, is another distinctive feature of the Hejazi culture glimpsed during the end of the second millennium BC. There have been a number of propositions regarding as to which were the sources of the elaborated decorative patterns of the Midianite wares. Up until few decades ago, the assumption of some scholars was that the Midianite geometric patterns were reminiscent of the Hurrian pottery from Nuzi (Day-

ton 1972: 32; Aharoni 1982: 139; Dornemann 1983: 80 n. 5). However, present knowledge indicates that Hurrian pottery was too far away from the Midianite pottery’s geographical and chronological distribution to be a direct influence. Scholarly attention has also focused on the influence of the Eastern Mediterranean wares of the Late Bronze Age, especially Bichrome, Minoic, Mycenaean and Cypriot wares (Dayton 1972: 28-30; Bawden and Edens 1988; Knauf 1988: 23; Mendenhall 1992; Sherratt 1994: 73; Parr 1988; 1996; Barako 2000: 516 n. 23). Motives borrowed from the Egyptian ceramics (Dornemann 1983: 80 n. 5; Knauf 1988: 23) and the lotus-flower designs in the Egyptian faience (Kitchen 1997: 131) may be present as well. The idea that Midianite pottery came into the southern Levant from the Hejaz is supported by the depictions of bundles of plants, human figures and camels in these wares, which find parallels in the Arabian rock art (Knauf 1988: 23-24).

Despite the scholarly energies that have been expended in trying to understand Midianite pottery, consensus on many issues eludes scholars. The result is that scholarly literature presents varied and sometimes opposed pictures of Midianite pottery. Two views have emerged in characterizing Midianite wares and their producers.

One line of reasoning stresses the foreign interconnections of Midianite pottery. It was Dayton (1974: 29) the first to relate Midianite pottery with the ancient exchange routes. Dayton drew attention to the similarities between the Midianite decorations and typical Mycenaean motifs and presumed that during the Late Bronze Age a trade route existed between the eastern Mediterranean basin and the Hejaz. In the same vein, Parr contended that Midianite wares were not articles deliberately and methodically traded, but rather items brought and used by their owners, either Midianites resident in Jordan, Canaanites (1982: 129) or Sea Peoples visiting northwestern Arabia or Timna (1996: 216; followed by Rothenberg 1998; 2003). Furthermore, Parr established a connection between this painted pottery and the Egyptian



Figure 2: Midianite juglet from southern Jordan (Rothenberg and Glass 1983: Fig. 1)

interests in the Arabian incense trade (1992a: 595-596; 1992b: 42; see also Jasmin 2006: 146; Sherratt 2003: 49). The extent to which the Midianite wares were connected with areas outside the Levant was pursued by Rothenberg and Glass in their study of the Midianite pottery found in Ramesside Timna (1983). Their reading of the results of the petrographic analyses led them to advance the rather unlikely thesis that this pottery was carried to Timna from the Hejaz by “probably skilled and experienced metallurgists”, and that these same people used the vessels in their daily activities in the smelting camps and presented them as offerings in the Temple of Hathor.

For other scholars a central tenet has been the simple manufacture of Midianite pottery, which has deep implications in the characterization of the society that produced them. Thus, Kalsbeek and London (1978: 54) noted the lack of uniformity in both shapes and decorations of the Midianite wares, and concluded that their manufacturers were neither skilled nor professional potters. The lack of standardization led them to infer two further possibilities. Either the wares were made by people with lack of skill (the knowledge had been lost or had been borrowed from another culture) or the pottery was manufactured for special purposes, possibly of cultic nature, by women or priests. A somewhat similar approach was adopted by Knauf (1988: 18), who based on the simple forms and manufacture of the Midianite wares, suggested that production was carried out by families or tribes for their own needs, and further pointed out that the rich, polychrome decorations are not incompatible with this mode of production.

While each of these approaches has merit, the ways in which such contradictory concepts may be used together in models of exchange deserve scrutiny. I will suggest an hypothesis that incorporates both of these views: that of a tribal society exchanging pottery with a powerful social significance.

A Hejazi pottery workshop industry

To date, the only Hejazi site that provides strong evidence for the manufacture of Midianite pottery is the site of Qurayya, but production in other places can not be discarded (cf. below the case of Tayma). Qurayya, about 125 km. south of Aqaba, was visited by survey teams led by Parr in 1968 (Parr et al. 1970) and Ingraham in 1980 (Ingraham et al. 1981), but has not yet been object of excavations. The site consists principally of one isolated outcrop (“Citadel Hill”) divided into three sections by two stone walls. To the northeast, are the ruins of a settlement surrounded by a wall; a number of long walls – probably part of a farming system- arise from the base of the citadel and connect with the settlement and small rectangular fields further north. Production of Midianite pottery is directly attested by the discovery, in the northern part of Citadel Hill, of at least six ruined kilns surrounded by discarded/vitrified pottery, burnt clay and clinker, as well as by two caves on the northern face of the citadel, probably used as claystone quarries (Parr et al. 1970: 219-240; Ingraham et al. 1981: 71-73; Parr 1992a).

The vestiges of pottery making at Qurayya were concentrated north of the Citadel Hill, between walls C and D (Parr et al. 1970: 240), suggesting production in an isolated workshop. The location of this workshop, in an open space outside the residential area, may be attributed to a number of factors. First, it can be attributed to the fact that the potters did not belong to the town’s community, thus probably being local pastoral groups. However, manufacture by pastoral potters is very unlikely, given that Midianite wares were professionally made and probably needed professional potters and permanent workshops. A more likely explanation is that a location outside the residential area was necessary for safety reasons –most notably, the danger of fire inside the town- and therefore having nothing to do with the social organization of the group.

Although the technology used at Qurayya was very simple, the overall evidence seems to imply production beyond the household level, pointing to what some researchers have called individual workshop industry (Peacock 1981: 188-189; Rice 1987: 184), a mode of production predominant in times of decentralized economy (e.g. the Iron Age I in Palestine) (cf. Wood 1990: 34). Since individual workshop industry is usually associated with poor agricultural areas, pottery making provides a supplement income to the local inhabitants. Furthermore, some villages might be specialized in the production of pottery in order to supply other areas (Peacock 1981: 189; Wood 1990: 37).

More recent excavations at Tayma, 264 km. southeast of Tabuk, have provided probable evidence of local manufacture of pottery. South of the city, in an area known as the “Industrial Site” (*Sinaeyya*) (termed so because the area is in between modern industries), numerous tombs were excavated, some of which revealed, among the buried items, several Midianite wares. According to the excavator, at least one vessel of this type was unbaked, which would indicate that pottery was locally produced at Tayma (Abu Duruk 1990: 16-17). A number of pottery kilns have also been found at many sites in Tayma (*ibid.*), but so far no relationship with the production of Midianite wares was reported.¹

The northern Hejaz is not an area well suited for extensive cultivation, and the low precipitation levels precluded any permanent settlement outside the low-lying inland drainage basins or broad valleys that collect the run-off waters subterraneanly, which later find their way to the surface through wells. This seems to be the case of Qurayya and Tayma, two towns situated in oases and with evidence of complex irrigation systems and agricultural fields. Parr (1992b: 42) has coined the term “oasis urbanism” for the settlement pattern that aroused in the northern Hejaz during the late second millennium BC, which was centered on the major oasis centers of Qurayya and Tayma. Although he explains the emergence of these towns as a result of the development of the incense trade coming from southern Arabia, the evidence of Qurayya points rather to a more regional role.

As aforementioned, a workshop industry focused on the production of pottery operated at Qurayya. Workshop industry usually implies allocation of pottery by some exchange means (Rice 1987: 184). I would suggest that the economy of Qurayya (and maybe Tayma) was based, in the local level, on the irrigation farming, and in the regional level on its role as production center (although not probably the only one) of local painted wares for the Hejaz, southern Jordan and the Negev. How much of this surplus was intended for local exchange and how much was deliberately produced for export abroad remains a problematic question.

Distribution Of Midianite Wares In The Southern Levant

An account of the distribution of Midianite wares in Iron Age sites of the southern Levant is provided below (cf. Table 1 and Fig. 3). Much information on the spatial and temporal distribution of these wares and their associations is already available scattered through the literature, while Rothenberg and Glass (1983) have made the most significant contribution. Due to the number of excavations and surveys constantly under way in the region and the amount of unpublished data, the following list is intended as a balanced outline rather than a comprehensive record of the pottery distribution.

Before surveying the Midianite pottery in the Levant, I want to point out some major problems. **First and foremost**, uncertainty about the dating of the Midianite pottery continues. Less equivocal evidence should be provided, surely, by the dateable Egyptian findings from the Negev. The chronology of Egypt has rarely been influenced by the Levant – mostly the other way around. With few exceptions and few clear archaeological or contextual clues, dating of Midianite wares is done through the chronology of Timna established by Rothenberg. Since the only firm historical peg for the Midianite wares is provided by the Ramesside findings at Timna, it has been tacitly, and sometimes explicitly, assumed that the presence of Midianite pottery in other sites is indication of 13th-12th century BC occupation (cf. Tebes 2004a). Close examination of the evidence, however, reveals likely indications that the Midianite pottery tradition was still alive in the Iron Age II. A concomitant problem lies in the fact that some Midianite sherds might be stray findings, sherds that somehow found their way into later strata. Second, efforts have been made to recognize Midianite pottery from early archaeological reports of the last century, thus providing identifications that in some cases have been successful (cf. below the cases of Tel Far'ah and Gezer). Nonetheless, one must be aware that Midianite wares share many decorative motifs with other polychrome wares. Additionally, not only are Midianite wares identified in base of their decorations but also through petrographic analyses and/or INAA. Hence some hasty identifications have been proved to be incorrect.² These problems aside, meticulous study of the sites where Midianite pottery occurs, including those

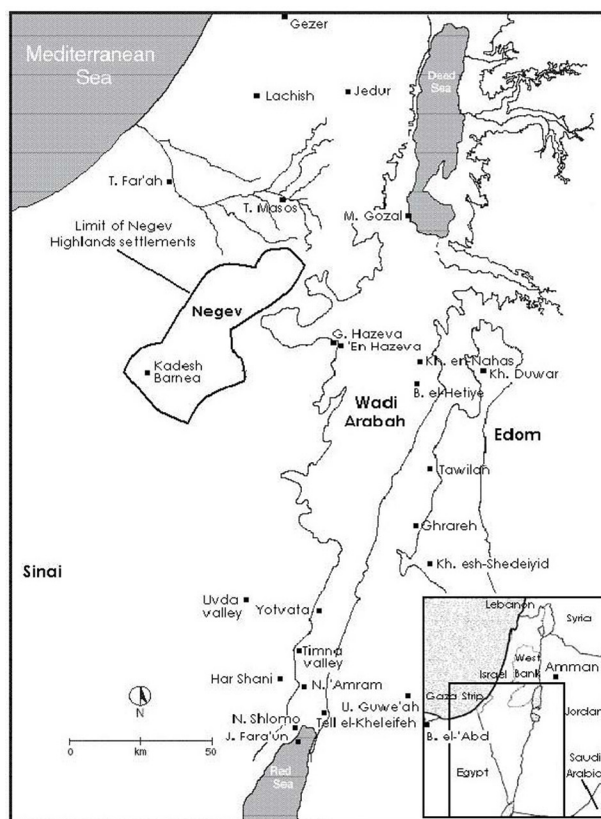


Figure 3: Geographical distribution of the Midianite pottery in the southern Levant (Map: J.M. Tebes)

coming from surveys, presents the most convincing basis for establishing the credibility of any chronology and the social/functional significance of these wares.

Southern Arabah valley. Midianite wares are strongly related to the Egyptian copper mining activities in the southern Arabah. These were principally investigated by the surveys and excavations directed by Rothenberg between 1959 and 1990. At Timna, archaeologists recovered large amounts of Egyptian, Negevite and Midianite pottery, dated, according to contemporary New Kingdom Egyptian findings, to the 13th-12th centuries BC. The chronology of Timna is relatively well attested: in the Temple of Hathor, several Egyptian cartouches were found, from the time of Seti I (c. 1294-1279 BC) to Ramses V (c. 1160-1156 BC); moreover, a rock-drawing of Ramses III is on a cliff next to the Temple (Rothenberg 1999: 149, 170).

Midianite wares appeared predominantly at Timna valley (*Wadi Mene'iyeh*), but also a great deal of sherds were found in locations further south, at Nahal 'Amran (*Wadi 'Amrani*), Nahal Shlomo (*Wadi Masri*), and Jezirat Fara'un (Coral Island) in the Gulf of Aqaba (Rothenberg and Glass 1983: 75-81).

At sites in Timna valley, archaeologists discovered large quantities of Midianite wares, most of which were concentrated in the Temple of Hathor (Site 200) and in the several work or residential camps: Sites 2, 30 (Layers 2-3), 34, 3, 13, 14, 15, 185, 419, 198, and 199. Apparently, the distribution of the different pottery types corresponds

Site	Date of Pottery (Century BC)							
	13th	12th	11th	10th	9th	8th	7th	6th
Negev								
Central Negev Highlands				M				
En Hazeva-Givat Hazeva							M?	M?
Gezer		M?						
Jezirat Fara'un	M?	M?						
Har Shani		Mc						
Kadesh-Barnea				M?				
Lachish		Ma?						
Mezad Gozal		M?						
Nahal 'Amram	M	M						
Nahal Shlomo	M	M						
Tel Far'ah (south)	Mab	Mab						
Tel Jedur	Mb							
Tel Masos				Mc?				
<i>Timna valley:</i>								
Work camps	M	M						
Site 2	Mc	Mc						
Site 199	Mbc	Mbc						
Site 200	Mc	Mc						
Uvda Valley		Ma						
Yotvata		M?						
Sinai								
Bir el-'Abd	M							
Southern Jordan								
Amman Airport	Mc							
Amman Citadel	M?							
Barqa el-Hetiye						M		
Ghrareh							M	
Khirbet Duwar	Ms?							
Khirbet en-Nahas			M	M	M			
Khirbet esh-Shedeiyid	Ms?							
Tawilan						M?	M?	M?
Tell el-Kheleifeh						M?	M?	
Um Guwe'ah	Ms?							
Keys:								
M: Midianite pottery		b: burial context		s: survey finding				
a: administrative context		c: cultic context		?: uncertainty of identification or date				

Table 1: Chronological distribution of the Midianite pottery in southern Levantine sites

with their function. Midianite wares found in the smelting sites consist mainly of relatively large-size domestic types, especially large bowls –some undecorated- and jugs; their shapes are very primitive, attesting the use of a very slow wheel. All vessels are slipped and often burnished, whereas the decorations are usually in dark colors –black, brown and red-brown. The simplicity of the vessels' morphology contrasts strongly with the sophisticated bichrome decorations on most of these wares, in which the geometrical forms are the most usual motif. A noteworthy feature is that large vessels for storage or transport are completely absent in the Midianite pottery assemblage. On the other hand, most of the wares found in the Timna sanctuaries were small, perhaps used as offerings (Rothenberg and Glass 1983: 87-100).

In several of the Timna sites, Midianite pottery consistently appears related to cultic and funerary contexts. The most striking remains were found in Site 200, where a temple dedicated to the cult of the Egyptian goddess Hathor was

excavated (Figure 4). There, Midianite wares comprised 25% of the total ceramic assemblage; they consisted of sophisticated vessels, probably brought as votive gifts, as small decorated bowls, jugs and juglets. In the vicinity of this site, on the top of the so-called "King Solomon's Pillars", was located a burial place (Site 199), where one Midianite jug was found. Not far from this burial, about 50 m. to the south, was a small shrine with quantities of Midianite sherds.

Site 2, a work camp with profuse evidences of copper smelting, also provided Midianite pottery. At this site, two cultic structures were uncovered: a small building identified as a "Semitic Shrine" (Area A) and, on the top of a nearby hill, a "High Place" (*bamah*) (Area F) (Rothenberg and Glass 1983: 75-81, Pl. III-IV, Figs. 3-8; Rothenberg 1972: 63-179 and figs.; 1988: 93-95 and figs.; 1999).

Tell el-Kheleifeh. Glueck excavated the site between 1938 and 1940, finding a wide variety of wares, among them Midianite, Negevite and Edomite pottery (cf. Glueck



Figure 4: Cultic context: Temple of Hathor at Timna
(Photograph: J.M. Tebes)

1967). Based on his identification of Tell el-Kheleifeh with Solomon's port Ezion-Geber, Glueck dated the earliest occupational level and their ceramics to the 10th century BC. The next important work on Tell el-Kheleifeh was carried out more recently by Pratico, who made a reappraisal based on the archaeological evidence discovered by Glueck. Pratico identified two main occupations in the site: a casemate wall associated with a four-room structure, followed by an offsets/insets settlement related to the four-room building (Pratico 1985; 1993). Pratico's conclusions contradicted in part the dates offered by Glueck, since the former has shown that the wheel-made pottery actually belongs to the eighth-early sixth centuries BC (Pratico 1993: 13, Table 1). To complicate matters, a recent analysis of the earlier casemate structure and the four-room building has not found any pottery earlier than the seventh century or later than the sixth century BC (Mussell 2000).

Glueck published as "Edomite" six pottery sherds found in an uncertain stratigraphic context (Glueck 1967: Figs. 1:2 [5:1], 4:3-5). Pratico considered these wares to belong to the Midianite pottery group because of their fabrics and geometric motifs (Pratico 1993: 43, 47, 49).³

Yotvata ('Ain el-Ghadian). At this site, an irregular casemate fortress was surveyed by Glueck and Rothenberg in the 1950s, and excavated by Meshel since 1974. The findings in the fortress, still unpublished, include several fragments of Midianite pottery, as well as Negevite wares. In view of the occurrence of Midianite pottery, Meshel prefers an Iron I date for this casemate fortress (Rothenberg and Glass 1983: 74; Meshel 1993: 1518; Kalsbeek and London 1978: Fig. 2a-b).

Har Shani. A group of thirteen open-air shrines were surveyed at the foot of Har Shani, 17 km. N-NW of Eilat, of which one (Har Shani X) was excavated. The findings associated with these structures range from the Chalcolithic to the Roman-Byzantine periods. The three pottery types common in Timna were found (Egyptian, Negevite and Midianite wares), along with the fragment of an Egyptian *ushabti* figurine (Avner 1982; 1984: 124; 2002: 107, 111, Fig. 5:121.2)

Uvda valley (Wadi 'Uqfi). Surveys in the late 1970s

directed by Avner collected Midianite pottery sherds in the eastern Uvda Valley (Site 87a), along with Egyptian and Negevite pottery (Avner 1979). At Site 87a there is a "four-room building", structure that according to Avner most probably served as an administrative center for the tent camps spread on the area. The population of the tent camps, which probably were not nomads, supplied the cereal grains for the workers in Timna. In several threshing floors and on the cultivated surface surveyors found several pottery sherds of the types present in Timna, among other types and periods (U. Avner, pers. comm., December 2004). Occasionally Midianite sherds were collected at road trails, such as Ma'aleh Shaharut (Avner 2002: Fig. 6:3.2). These findings illuminate the connection between Uvda and Timna, which are less than one day walk away of each other.

Central Negev Highlands. Isolated findings of Midianite sherds originated in unstratified assemblages are reported in some of the 10th century BC sites of the central Negev Highlands (Cohen and Cohen-Amin 2004: 8*, 141; e.g. one body sherd from Har Romem (Borot Loz): *ibid.*, 113, Fig. 80.1). Some scholars have argued that the presence of Midianite pottery in the central Negev Highlands may hint that activity in the area began during the Late Iron I (Fantalkin and Finkelstein 2006: 20), but the dates and composition of these few wares are suspect.

Kadesh-Barnea ('Ain el-Qudeirat). Excavations in Kadesh-Barnea (1956: Dothan; 1976-1982: Cohen) uncovered the remains of three superimposed fortresses belonging to the Iron Age. Cohen's excavations unearthed Midianite pottery in the site, which is in process of publication. This pottery was found in the Early Fortress (late 10th century BC); its identification is based on decoration, whereas petrographic analyses are still lacking. The local Midianite pottery assemblage consists of one part of a decorated jug, an incomplete bowl, and lots of sherds. Most of them are closed forms, except for the jug and bowl. All are decorated on a pinkish slip (H. Greenberg, pers. comm., January 2005).

Radiocarbon analyses from the Early Fortress have provided a surprisingly early date (11th century BC) (Bruins 1986: 112-116; Bruins and van der Plicht 2005: 352). Given that the radiocarbon sample seems to be stratigraphically connected with the destruction of the Early Fortress, this raises the question of whether the construction of the fortress can be dated to the Late Bronze Age or the beginnings of the Iron Age. Bearing in mind the Timna's findings, this date would be more congruent with the Midianite pottery found in the Early Fortress, but completely disagrees with the 10th century BC date proposed by the excavators.

'En Hazeva ('Ain Husb) - Givat Hazeva (Givat Haparsa). Under the direction of Cohen and Yisrael, 'En Hazeva was excavated in 1972 and later on since 1987 (Cohen and Yisrael 1995a; 1995b), although the final report is still unpublished. According to the preliminary reports, the site consists of a series of superimposed fortresses, of which the

earliest one possibly dates to the 10th century BC. The level that is of interest here is Stratum IV (seventh-sixth centuries BC), where Late Iron II pottery was found in two places: a *favissa* (a cultic pit) north of the fortress' northern wall; and deposits inside the fortress (Cohen and Yisrael 1995b: 23-27). The fills in the fortress area provided Edomite and Negevite pottery. One of the excavators, Yisrael, has also reported two possible Midianite pottery sherds from disturbed fills inside the fortress (pers. comm., January 2005). One sherd is red or pinkish slipped, burnished, and decorated in black, white, and brown. The other one is white slipped, with brown decoration (visual examination, Israel Museum, Jerusalem).

At Givat Hazeva, a nearby hill to the northwest, the same team exposed a site that seems to be chronologically contemporaneous to Stratum IV of 'En Hazeva (Cohen and Yisrael 1983). The site consists of three main areas, of which two are important for our purposes. One cultic area, where Edomite pottery -similar to the cultic wares found in the above-referred *favissa*- has been found. In addition, one smelting area with Edomite pottery and one possible Midianite pottery sherd (pinkish slip, decoration in black and red; visual examination, Israel Museum). The pottery at Givat Hazeva has been dated to the seventh-sixth centuries BC (Y. Yisrael and S. Ben-Arieh, pers. comm., January 2005).⁴

Mezad Gozal (Khirbet Umm Zoghal). Rothenberg's survey (1957) and Aharoni's excavations (1964) investigated Mezad Gozal, a small fort located on the southwestern shores of the Dead Sea. Initially Aharoni identified the site as an "Edomite" fort of the 11th-10th centuries BC (Aharoni 1962; 1965). Rothenberg recovered very few Midianite sherds in the site and, based on the dates of Timna, concluded that the fort dates to the 12th century BC (Rothenberg and Glass 1983: 73-74). Yet the "Edomite" or "Midianite" character of the fort of Mezad Gozal seems to be at odds with the Hellenistic/Early Roman-type architecture of the site and the presence of pottery from that period. Because of these factors, Mezad Gozal has been identified quite recently as a Nabatean roadside fort (Hirschfeld 2006: 167-169).

Tel Masos (Khirbet el-Meshash). According to the excavators, the Iron Age occupation at Tel Masos consists of three strata: Stratum III (late 13th-middle 12th centuries BC), II (late 12th-second half 11th centuries BC) and I (late 11th-early 10th centuries BC) (see Tebes 2003). This dating may well be correct, but it is not beyond dispute. More recent studies have lowered the date of the site, dating Stratum II to the 10th century BC (e.g. Herzog and Singer-Avitz 2004: 222-223). Eight Midianite sherds, probably part of a single vessel, were found in House 314 (Area H/Stratum II) along with other imported pottery, such as Phoenician and Egyptian wares and imitations of Mycenaean pottery (Fritz 1983: 87, Pl. 142:10, 148:11). It has been suggested that the Midianite wares should be assigned the earliest layer, i.e. Stratum III (e.g. Yannai 1996: 144-145).

Evidence indicates that in House 314 functioned a workshop for working copper. It may have been connected to a ritual function, as has been suggested by the appearance of four "figurines", that is to say, natural molded stones resembling human figures, very similar to the offerings found in the Temple of Hathor of Timna, along with other cultic wares (Fritz and Wittstock 1983: 40-41).

Tell Jedur: In a small burial cave at Tell Jedur, near Hebron, a small Midianite round bowl with flaring rim and flat base was found among the burial offerings. An early 14th to late 13th century BC date for this tomb seems appropriate (Ben-Arieh 1981: 120, 81*, Pl. 5:1; 1993).

Tel Far'ah (south). Decorated sherds found by Petrie's excavations at this site during 1928-1929 (Starkey and Harding 1932: Pl. LXIII:42, 52-56) have been found similar to Midianite wares because of their decorations (Parr et al. 1970: 239; Dayton 1972: 28; Parr 1982: 128) and this identification has been confirmed through petrographic analyses (Rothenberg and Glass 1983: 82). These were found in Building YR, termed the "Governor's Residency" by Petrie, on the cobbled courtyard YX and beneath its pavement, as well as in pit ZZW that cut the "Residency" (Starkey and Harding 1932: 28-29; Yannai 2002: 372-374). This building is at present dated to the 13th-12th centuries BC (Figure 5). Buildings known as "Governor's Residences" are architectural structures that are usually associated with managerial functions of the Egyptian rule in Canaan (Oren 1984).

Rothenberg and Glass (1983: 82) have added to this corpus a complete Midianite juglet from Tomb 542, identified through petrographic analyses. Tomb 542 (Figure 6) is one of Petrie's "tombs of the Philistine Lords", which included Egyptian and Philistine ceramics as well as several prestige items (cf. Bloch-Smith 1992: 175). Additionally, Dothan

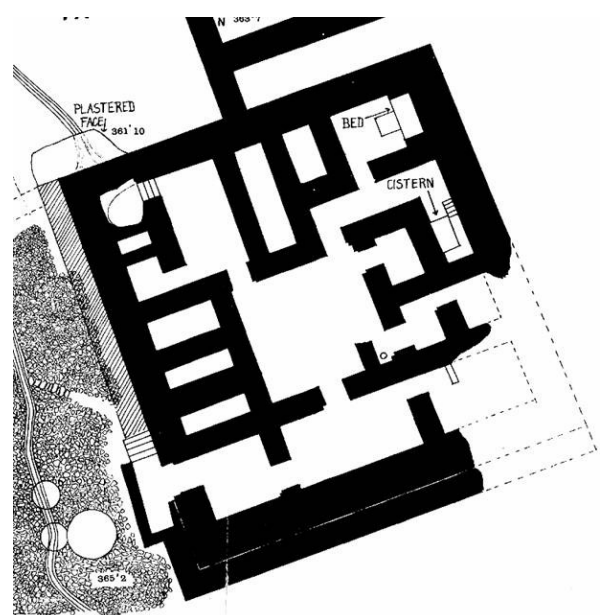


Figure 5: Administrative building: Plan of the "Governor's Residence" at Tel Far'ah (south) (Starkey and Harding 1932: LXIX)

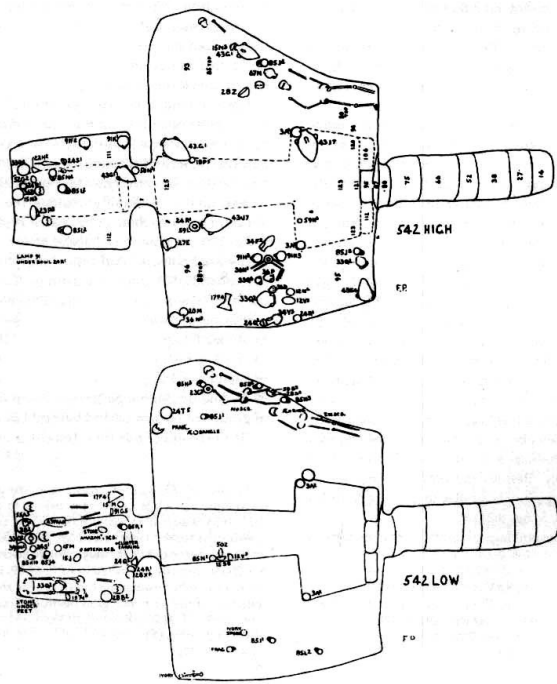


Figure 6: Mortuary structure: Tomb 542 at Tel Far'ah (south) (Dothan 1982: Fig. 1)

(1982: 28) suggested that a sherd from the area of Cemetery 900 also belongs to the Midianite pottery corpus, although based solely on its decorative patterns.

Lachish (Tel ed-Duweir). The excavations directed by Ussishkin (1973-1987), which recently reached the stage of final publication (Ussishkin 2004a), found three Midianite painted sherds in the foundation fills of Judaeon Palace B (Level IV), which contains debris removed mostly from Levels VII, VI and V (Singer-Avitz 2004: 1280, Figs. 20.55-56). The builders of this palace-fort apparently used the remains of the Late Bronze acropolis as constructional fill for the structure's foundations. The Midianite sherds were uncovered in loci adjacent to the Enclosure Wall of Levels IV-III (eastern part of Area S), opposite the southwestern corner of Palace B, along with Early, Middle and Late Bronze pottery (Barkay and Ussishkin 2004: 473, 485). In view of the Ramesside context in which the Midianite wares were found at Timna, the Lachish Midianite sherds were attributed to Level VI (c. 1200-1150/1130 BC) (Singer-Avitz 2004: 1285). Petrographic analyses carried out on three of these sherds showed the same provenance than the Timna pottery assemblage, namely, the Hejaz (Goren and Halperin 2004: 2558-2559, Table 36.4:49-51).

It is not completely clear where the constructional fill of the Judaeon palace-fort, which was taken from mound debris, came from. Ussishkin has pointed out that it may have originated in the Late Bronze acropolis, which would have risen to the east of the palace-fort (Area D) (Ussishkin 2004c: 1243). Unfortunately, the remains of Area D were in poor state of preservation. However, it can be said that during the Late Bronze Age (Level VI) this area was occupied by the acropolis of the Canaanite city, which according to

some findings possibly included an Egyptian administrative center of the time of the 20th Dynasty (Ussishkin 2004b: 304-305). Since no other recognizable architectural remains were found in Area D/Level VI, I would suggest that the Midianite wares' original deposition area was this administrative quarter.

Gezer (Tell Jezer). During the first excavations at Gezer directed by Macalister (1902-1909), a bichrome bowl with flat base was found (Macalister 1912: II: 183; III: 10, Pl. CLXI:16). Brandl has classified this vessel as Midianite ware (Brandl 1984). Macalister did not provide the exact find-spot of this vessel, but it was published among the pottery of his "Third Semitic Period" (1400-1000 BC) (1912: 131).

Bir el-'Abd. One of the silos at Bir el-'Abd in northern Sinai, a New Kingdom Egyptian fortress in the "Way of Horus" dated to the 19th-20th Dynasties, yielded three Midianite sherds (Rothenberg and Glass 1983: 83).

Khirbet en-Nahas. This important site, located in Faynan (the richest copper area in the southern Levant), is ubiquitous in Midianite pottery findings. In 1931 a survey conducted by Horsfield, Head and Kirkbride found a large decorated bowl in the site (Glueck 1967: 12-13, Fig. 2:3), subsequently identified as Midianite ware by Rothenberg and Glass (1983: 85).

Recent excavations at Khirbet en-Nahas directed by Levy have provided a significant number of Midianite wares, found both in the fortress' western gate complex (Area A) and in a nearby metal-working building (Area S) (Levy et al. 2004: 875-876, Fig. 6). Due to the limited exposure of the fortress, the current understanding of the site's strata and their relationships is somewhat limited. Scholarly controversy raged about the date of the occupation in the site. Calibrated C14 dates indicate occupation in the 10th-ninth centuries BC in Area A, and during the 11th-early ninth centuries BC in Area S (ibid., Table 1). Findings of Midianite and Negevite pottery led Levy to suggest earlier dates for the occupation of the site, as early as the 12th century BC (Levy et al. 2005). However, findings of Midianite pottery in late contexts at other sites would make Levy's amendments unnecessary (van der Steen and Bienkowski 2006: 15).

Barqa el-Hetiye. At Barqa el-Hetiye, another site in the Faynan area, Midianite pottery was found both in House 2 and in a nearby work platform. The excavator, Fritz, based on comparisons with the Midianite pottery from Tel Masos, suggested a 11th century BC date for these wares (Fritz 1994: 144-145, Fig. 12, Pl. 7-8; 2002: 96-98, Fig. 3).⁵ However, this site was later radiocarbon dated to the ninth century BC (Hauptmann 2000: 66 Table 7).

Ghrareh. Hart's excavations found one small Midianite sherd in a courtyard house of Area A. The Iron Age occupation of the site appears to be a single period; local pottery is standard Edomite, dated to the seventh-sixth centuries BC (Hart 1989: 18, Pl. 25:4).

Tawilan. Glueck published several decorated wares from his survey at Tawilan (Glueck 1967: 13), and one sherd (ibid.: Fig. 2:1) appears to be Midianite ware (Rothenberg and Glass 1983: 84). Bennett's excavations at Tawilan (1968-1970) found one sherd of a small Midianite painted jug in Area I (late eighth-sixth centuries BC) (Hart 1995: 60).

Amman Airport structure. Following the discovery in 1955 of a Late Bronze Age structure at the Amman Airport, rescue excavations were carried out by Saleh. The findings were studied in 1965 by Hankey, who reported one Midianite bowl and sherds from other bowls (Hankey 1995: 182, Fig. 11, Pl. 14:4). During the subsequent excavations in 1966, Hennesy found more Midianite sherds (Parr et al. 1970: 239 n. 56). Midianite pottery was only a minimum part (0,1%) of the rich material assemblage, which included local items and goods from Egypt, Greece, Syro-Mesopotamia, Crete and Cyprus (Mumford 2002). This building was dated to the end of the 14th and beginnings of the 13th centuries BC. It is commonly designated a temple, although it lacked specific cultic items; for some scholars it was, rather, a mortuary installation (Burdajewicz 1993: 1246).

Amman Citadel (Jebel Qal'ah). In 1976, Bennett conducted excavations at the Amman Citadel, finding the neck of a jug that subsequently Kalsbeek and London identified as Midianite ware (1978: 47). Bennett's excavations were carried out at the southwestern slope of the Citadel, and no Iron Age architectural remains were reported in this dig season (Bennett and Northedge 1977-1978; Northedge 1992).

Surveys in southern Jordan. Material from surveys supplements the repertoire of Midianite wares in southern Jordanian sites. All of these wares were found without any stratigraphical context, and given the uncertainties regarding the Iron I period in Edom, it is doubtful whether they belong to the Iron I or Iron II periods. Glueck's surveys provided Midianite pottery from Khirbet esh-Shedeiyid (one body sherd of a juglet) (Glueck 1967: 15, Fig. 2:2) and Khirbet Duwar (one sherd) (Rothenberg and Glass 1983: 83-85; Finkelstein 1992b: 161-163; 1995: 131). Jobling's survey between Aqaba and Ma'an found one Midianite sherd, probably the base of a small bowl, at Um Guwe'ah in the Wadi Rumman (Jobling 1981: 110, Pl. XXXI).

A model of Early Iron Age regional exchange

So in the area taken as a whole there lived a mixed population, consisting of local and Hejazi groups, who played an important role in the circulation of decorated pottery. This, however, is still a static picture that tells us nothing of the means by which these goods reached its users in the southern Levant.

The following is an interpretation of data that diverges in diverse points from traditional views. I believe that the study of the circulation of Midianite wares should consider

the archaeological data as much as current anthropological models about the circulation of goods.

Local groups and circulation of Midianite wares

From the overview presented in the previous section it is clear that Midianite wares were spread over a wide area, which included Edom, central Jordan, the Negev and southern Palestine. Quantitatively, both Timna and Faynan possess the highest concentration of wares; by contrast, outside these areas the number of vessels that have been found is minimal. Additionally, at northwestern Arabia (the homeland of the Midianite pottery) Midianite wares are found in large numbers in several local sites that have not been excavated (not published here; cf. Rothenberg and Glass 1983; Knauf 1988: 15-17).

The wide distribution of Midianite pottery may be the result of various processes. Certainly, Midianite wares were not used as containers for commodities, for most of them seem to be tablewares and, to a lesser extent, cooking pots. However, it would be misleading to conclude that they were not transported by nomads,⁶ since their wide distribution can only be explained as an outcome of movements of people. Nomadic life entails a great deal of hanging around; it is conceivable that mobile peoples carried these wares with them from one site to the other and left their personal ceramic possessions in the places that they visited. The introduction of Midianite wares into the southern Levant may be attributed to people straddling the interface between the northern Hejaz, Edom and the Negev. Whereas the evidence found in Qurayya seems to point to pottery production by the local villagers, the appearance of non-locally made Midianite wares in the southern Levant points to movements of people and/or exchange. The clustering of pottery findings in Timna may be evidence that Hejazi people lived in this area; on the other hand, the paucity of findings in southern Palestine and central Jordan seems to be indication of non-permanent contacts with the Hejaz, possibly through mobile pastoral groups. Therefore, I would suggest that the main agents of distribution of these wares in the southern Levant were a combination of Hejazi villagers and pastoralists that moved between the Hejaz, Edom and the Negev, carrying and exchanging their local painted wares (cf. Tebes 2004b). Thus, Rothenberg and Glass' proposal that the Midianite potters travelled to Timna to make use of their own wares seems to be redundant. It was the consumers, not the producers, who circulated the Midianite wares over such a wide area.

The social significance of Midianite wares

This brings us into a problematic area since we need to assess not only the spatial distribution of the Midianite wares but also to study the contexts in which these were discovered. The admittedly meagre evidence from sites in Palestine and Jordan suggests that the context of discovery is of particular significance. The occurrence of

these objects in unusual, non-domestic contexts is particularly conspicuous and demands explanation. Since some Midianite wares appear in cultic contexts, administrative buildings and burial offerings, they may have been seen as “exotic” imports (Knauf 1988: 20), probably due to their rich polychrome decorations, cultic character and/or imported nature. In this light, the presence of Midianite wares in these contexts would imply that these goods were valued for their social significance as well as their functional content. While this conclusion remains unexamined in detail, there are encouraging reasons to think that this linkage has some merit.

Let me sketch such a linkage. As aforementioned, Midianite wares have been found in or in the vicinity of architectural structures identified as shrines or temples. At Timna, Midianite wares are a prominent feature of the Temple of Hathor (Site 200), the “Semitic Shrine” and “High Place” (both in Site 2), and the small shrine of Site 199. In addition, they also have been unearthed in the open-air sanctuaries of Har Shani, the Amman Airport structure (a temple or mortuary installation), and House 314 at Tel Masos (cultic context?) The most plausible reason for the deposition of Midianite wares as votives is in connection with the cult of an other-worldly power. Gifts made to the gods establish a relation of reciprocity in which the return is uncertain in time and nature (Osborne 2004: 2-4). Except for the offerings made in the Temple of Hathor, the question of whom these objects were dedicated to is tantalizingly vague. Votive offerings to the goddess Hathor made at temples in Egypt, Serabit el-Khadem in Sinai, and Timna, usually consisted of broken or pierced objects, such as pottery and faience. Hathor was a goddess that was connected with the caves of the netherworld and of the mines. The ritual of breaking offerings was performed to invoke her help and guidance in the search for turquoise and copper ores (Kertesz 1976).

Certainly, production of ceramics in contemporary societies, which bears many resemblances to the ancient manufacture of metals, is known to be rich in ritual meaning (Stark 2003: 204). Unfortunately, lack of research in the only known workshop of Midianite wares (Qurayya) prevents any conclusion about the symbolic significance of their production.

Midianite wares would have very possibly functioned as burial offerings at Tel Far‘ah (south) (Tomb 542), Tell Jedur, and Timna’s Site 199. Again, we seem to be dealing with a significant, valuable product. I would suggest that another example of Midianite pottery used as burial offering can be found at the Hejazi site of Tayma. Recent excavations at several collective tombs located in the “Industrial Site” at Tayma revealed several Midianite wares along with two Egyptian scarabs, terracotta figurines, metal bracelets, rings and bead types (Abu Duruk 1990: 15-18). Except probably for Tomb 542 at Tel Far‘ah, all of these mortuary structures were not large nor very elaborated, and did not possess prestige goods, features that are normally

indicative of burials belonging to people of high social status (cf. discussion in Pearson 2000: 72-94). Therefore, I would suggest that the Midianite wares deposited in these burial contexts were not used as markers of social distinction. This would imply that the people that included Midianite wares in their funeral rituals did not belong to the local elites, but to more average social groups.

Midianite pottery is also a feature of structures or areas testifying a certain level of wealth and high status. This is the case of the “Governor’s Residency” at Tel Far‘ah (south) and probably Area D/Level VI (the Canaanite acropolis) at Lachish, which have been associated with administrative functions. At Tel Far‘ah and Lachish, the ruling elite did make use of Midianite pottery, albeit not to the same degree as with other wares, such as Mycenaean and Egyptian pottery. Less compelling evidence that nevertheless warrants mentioning is represented by Uvda valley’s Site 87a, which could have functioned as an administrative building. The presence of Midianite wares in these contexts suggests that they were used as tablewares. Then a question arises as to whether the use of Midianite tablewares had a special meaning in food consumption. Ethnographic research has demonstrated that food consumption can be used to establish social bonds of solidarity between peers, or to uphold unequal relations of status and power (van der Veen 2003: 413-414). The archaeological and textual record is mute on these meanings, yet due to the utilization of Midianite wares as cultic votives and burial offerings, their use for signaling social relations should not be ruled out. Some caution must be expressed, however, for two reasons. The first is the lack of data concerning the specific context in which the Midianite wares were found in these administrative areas. The second is intercultural barriers: consumers’ use of tablewares can be very different from the behavioral patterns that are predominant in the society that produced them (e.g. Yassur-Landau 2005: 171).

It would be premature to say what defining factor in the distribution in these unusual contexts might be, but the fact that these painted wares were considered to have a certain degree of significance would point to exchange mechanisms of some kind (gift-exchange or trade). I would propose that the Midianite wares were items that were exchanged, and that consequently they should be considered as commodities. With Appadurai, I consider that a commodity is “any thing intended for exchange” (2003: 9). Appadurai has made a case of treating gift exchange and commodity exchange in preindustrial, nonmonetary societies, as not being fundamentally contrasting nor mutually exclusive (2003: 18-22). For Midianite wares to be considered commodities, they should have possessed some intrinsic values worth of acquisition. The recurrent presence of Midianite wares in special, non-domestic archaeological contexts is understandable given the symbolic content these wares apparently possessed. In stateless societies, the demand for ordinary, domestic goods may have a social meaning that can provide the main motivation for the development and viability of trade networks.

The proposed model of Early Iron exchange draws much of its theoretical background from Smith's (1999) important contribution on the existence of trade networks in premodern, stateless societies. The assumption of this author is that the need for ordinary goods with symbolic significance is an incentive for the development and success of regional trade patterns because production of those items by households was aimed at meeting both functional and social requirements. The manufacture of some of these goods for exchange provided participation in a wider social sphere, maintaining long-distance kinship networks and in doing so generating a social cohesion in the absence of a bureaucratic state apparatus. This is because, without political integration, the necessary information and information-transfer points can also be provided by other agencies, such as merchant groups, religious institutions and kin-based networks (Smith 1999: 109-112). More specifically, redistribution of pottery has been used, internally, to forge or maintain bonds of loyalty with clients and factions, and externally, to appease commercial partners and in doing so keeping open the commercial roads (e.g. Navajas 2006).

The presence, in the Negev and southern Jordan, of peoples that exchanged ordinary goods with symbolic significance such as Midianite decorated wares and other goods (most notably, copper items; cf. Tebes 2005), would naturally have created not only an exchange network of regional significance, but also a social mechanism to create and maintain social bonds within the broader sphere of kin relationships.

The overview of the evidence indicates that Midianite pottery was used by different social groups in the southern Levant. It was a common item in the pastoral and semi-pastoral contexts of the Hejaz, southern Arabia and Faynan. It was also used, albeit in far lower numbers, by the urban communities of southern Palestine and central Jordan. It is fairly significant that in southern Palestine and central Jordan Midianite pottery is usually found associated with other imported ceramics, such as Egyptian, Mycenaean, Cypriot, Philistine and Phoenician wares, pottery types that similarly possessed a high degree of cultural significance (e.g. Hankey 1981; Bloch-Smith 1992: 78-81; van Wijngaarden 2002: 109-124). **This complexity in the pattern of distribution indicates that the social significance of Midianite pottery was not the same everywhere.** However, the comparatively wide use by urban groups of wares originated in northwestern Arabia and brought by pastoralists indicates that there was not an impassable cultural barrier between urban and rural populations.

Gift-exchange and trade of Midianite wares

Much evidence points to the likelihood that the distribution of Midianite wares operated some kind of exchange mechanisms. Economic anthropology and ethnography have traditionally defined two ideal ways by which items can be exchanged, namely, reciprocity and trade (Polanyi 1957: 250; Dalton 1975: 91-94; Hodder 1978c: 200-211).

Reciprocity and exchange are not easy to set apart. The mere circulation of goods does not tell us anything about the economic mechanisms implicated. A major problem is that where the upholding of socially equitable relationships between partners is considered vitally important, and where the incentive of giving and returning is strong, the spatial distribution of goods often gives the appearance as if market forces are operating (Hodder 1978b: 165-166). With respect to trade, supply-and-demand price mechanisms may have been involved in the distribution of Midianite decorated pottery in the southern Levant. However, ethnographic researches have made an important point in revealing how the material profit gained from an exchange is frequently less important than the social and symbolic relationships involved. Gift-exchange, in its numerous forms, stresses the friendly relationships between partners, as expressed in the obligation to give, receive and repay, very often in symbolically significant contexts (feasts, public meetings, ceremonial presentations, etc.), with a noticeable lack of concern for profit (Polanyi 1975: 149; Hodder 1978c: 200-202). Assuming that the mobility of the Negev pastoralists facilitated, if not encouraged, partnerships between groups, gift-exchange is likely to have occurred. There is little doubt that the significant status of decorated pottery and other goods facilitated their use as gift-exchange goods.

A number of exchange models have been described by Renfrew (1975: 41-43), and our artifactual analysis may indicate whether any or perhaps several of these apply to the exchange network of Midianite pottery. I will suggest three modes of movement of goods for the Negev and southern Jordan, which are not mutually exclusive. First, goods could have been transported by one group from the source areas to the consumers in southern Palestine and Jordan ("direct access"). Second, middlemen could have taken the goods from the producers and exchanged them with the consumers ("middleman trading"). Third, goods could have traveled across successive groups and through successive exchanges ("down-the-line trade").

Any discussion of the movements of wares in the Iron Age must consider the logistics of transport at that time. During the Late Bronze and Early Iron Ages, pastoralism was primarily based on sheep and goat breeding; the most common means of land transportation was the donkey (*equus asinus*) (Grigson 1995: 250, 258). There has been a lot of dispute concerning when the camel (*camelus dromedarius*) began to be used as beast of burden in the Near East (cf., for discussion and references, Retsö 1991; Zarins 1992). The classical viewpoint is Albright's (e.g. 1970), who argued for a c. 1300 BC date for the domestication of the camel in Arabia. Albright also defended that transport by the Midianite caravans was carried out mainly by donkeys, and that the references to the use of camels in the Hebrew Bible were anachronistic in date (1970: 205). It has been postulated that the domestication of the camel allowed control over areas and markets previously impenetrable, which consequently made pastoral societ-

ies more independent in front of peasant villagers (Knauf 1992: 635; Köhler-Rollefson 1993). Although there are some indications that the camel was used as early as the Late Bronze Age (Ripinski 1975; Bulliet 1990: 58-64; Stone 1992), textual and pictorial evidence from Syria and Assyria shows that it was not utilized significantly as beast of burden until the ninth century BC (Bulliet 1990: 77-86; Retsö 1991: 205; 2003: 126-127; Mitchell 2000), and for that reason desert routes could not have been very long before that time.

Therefore, there is no compelling reason to resort to models of extensive movements of people across the Negev and southern Jordan (e.g. Renfrew's models of "direct access" and "middleman trading"). These patterns of long-distance movements do not seem to correspond well with the nature of pastoralism in the Early Iron Age. We are not dealing with the kind of caravan trade carried out by specialized middlemen that was characteristic of later periods.

Renfrew's third mode, down-the-line exchange, seems more attractive. Not only does it not need to account for extensive movements of people; it also may operate with or without market-price mechanisms. Reciprocal exchange has important implications in the distribution of goods, as the chain of gift-exchanges may move artifacts far beyond the original contexts, crossing over different social, cultural and political boundaries (Hodder 1978c: 203-204). I would argue that an important part of the Midianite wares (and maybe the Arabah copper) that found their way into Palestine and Jordan did so by down-the-line exchanges between pastoral groups and between pastoral groups and villagers.⁷

It is not clear from the distribution of the items whether these exchanges were reciprocal or trade mechanisms; as aforesaid, the resultant archaeological records can be very similar. In fact, it can be the case that both exchange types were present at the same time. This set of exchanges may have operated through the territories controlled by the local tribes, clans and/or chieftains, a picture not very different of the complex, decentralized trade of the Late Iron Age II (Tebes 2006). A significant difference, however, resides in the fact that the Early Iron exchange network consisted of relatively short local routes. Its importance was therefore regional, restricted to the Negev and southern Jordan areas. Beyond the radius of the Negev/southern Jordan down-the-line interactions, goods were circulated through the chain of villages and towns of southern Palestine and central Jordan, in which in all likelihood other modes of exchange were in operation.

Conclusion

The development of the Midianite pottery tradition in late second millennium Hejaz has long been viewed as the product of impinging external influences, specifically, the Egyptian imperialism and the introduction of Mediterranean trade items, as well as the ideological impact of cultural interactions with these older civilizations. The

consequences of such long-distance contacts included the development of a local pottery industry, the establishment of interregional exchange networks and the emergence of towns. While the importance of external influences can not be discounted, what has been lacking heretofore is an understanding of why the Hejazi communities were so responsive to external demands that necessitated higher labor inputs in the sphere of economic production. This paper has attempted to show how a foreign demand for symbolically-laden painted wares triggered the development of a phase of "oasis urbanism" in this periphery relatively lacking of resources.

To what extent the Early Iron Age exchange of Midianite wares continued in the Iron Age II is not clear. It seems that the exchange that had hitherto taken place came to a standstill, or at least their distribution networks seem to have diminished in volume and geographic scope as well. Though not well attested, the end of the phase of "oasis urbanism" in the Hejaz may have depleted the local production of pottery. Concurrently, the development of new indigenous pottery traditions in the southern Levant during the Iron Age II (slipped, burnished, and subsequent ware types; cf. London 1999: 88-96) may have decreased the demand for Hejazi decorated wares. The major problem still remains that much of this picture depends on chronological factors that, as we have seen, are not properly understood.

The data reviewed in this study have important ramifications in the debate on the origin of the Iron Age exchange networks, the nature of the goods traded, and the peoples that carried them. In discussing the preceding issue, I have attempted not to describe a number of attributes of exchange networks that I think could hypothetically have occurred in the past. But I consider that the archaeological material does indeed suggest the existence of reciprocity and trade mechanisms in the Early Iron Age Hejaz, Negev and southern Jordan. To be sure, I do not wish to argue that the specific attributes of networks I have emphasized taken individually or together are sufficient. There is much need for experimentation and debate before a definitive approach will be devised.

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Endnotes

1. Since 2004 Tayma has been excavated by the Saudi Deputy Ministry of Education, Riyadh, and the German Archaeological Institute, Berlin. Although the final report from this excavation has not yet come to light, preliminary reports have informed about sherds of polychrome painted pottery found in one building (Area A) and in several tombs located between the outer and inner wall and in Area S. These sherds, which are similar to those found in the "Industrial Site", have been dated from the late second millennium to the early first millennium BC. The correct identification of these pottery sherds should wait for the final report of the Saudi-German dig; see <<http://www.dainst.org/index.php?id=3258&sessionLanguage=en>>
2. The issue is well illustrated by the painted pottery found by Petrie's excavations at Tell el-'Ajjul, identified as Midianite ware by Parr et al. (1970: 239) and Dayton (1972: 28), but subsequently recognized as "Chocolate-on-White" ware by Rothenberg and Glass (1983: 86).
3. Rothenberg, based on the Timna's findings, speculates that the occurrence of Midianite pottery in Tell el-Kheleifeh attests occupation in the Iron I (Rothenberg and Glass 1983: 76), but that would be going too far due to the few sherds that were recovered in the site.
4. The possible findings of Midianite pottery at 'En Hazeva and Givat Hazeva raise several questions. Although these wares have been identified as Midianite pottery because of their decorations, until now no petrographic analyses have been carried out on them. Also, caution should be expressed due to the limited number of sherds that have been unearthed, and the resemblance between some of the Midianite decorative patterns with those of the Edomite painted pottery.
5. In the face of the erstwhile low dating, Rothenberg (1998: 203) suggested that the Midianite pottery from Barqa el-Hetiye came from an unexcavated stratum below House 2.
6. As, e.g., Knauf (1983: 151) and Herr (1999: 73) suppose.
7. The resultant distribution of down-the-line transactions is a gradual fall-off in the quantity of goods in relation to the distance from the supply zone (Renfrew 1975: Fig. 11; 1977: Fig. 4.a). However, we have to acknowledge one weakness in our interpretation of the data, the surviving evidence is very unevenly distributed. The large amount of Midianite pottery found at Timna outnumbers the quantity of items found elsewhere in southern Palestine and Jordan to the extent that it is currently impossible to calculate any statistically meaningful numerical proportion to the spatial allocation of goods.