### IRON AGE "NEGEVITE" POTTERY: A REASSESSMENT

Juan Manuel Tebes imtebes@hotmail.com

CONICET (National Research Council)
University of Buenos Aires
Argentine Catholic University

# Summary: Iron Age "Negevite" Pottery: A Reassessment

Negevite pottery, a coarse, hand-made ware ubiquitously found in Iron Age Negev and southern Jordan sites, is almost our only archaeological source of information for the pastoral groups that inhabited these areas. This paper aims at studying some typological and technological aspects of the manufacture of this pottery, as well as its spatial distribution. An analysis of these issues may give a clue for a better interpretation of the Negevite wares and may help in gaining some insight into the socioeconomic framework that conditioned their producers. Based on ethnographic parallels, it is suggested that production of Negevite pottery was made in pastoral households for their own demand, and that its geographical distribution is a consequence of the movements of pastoral groups.

**Keywords:** Negevite pottery – Hand-made wares – Pastoral groups – Iron Age

## Resumen: Cerámica "negevita" de la Edad del Hierro: Un nuevo estudio

La cerámica negevita, un conjunto de vasijas toscas y hechas a mano encontradas en gran número en sitios del Negev y Jordania meridional de la Edad del Hierro, es casi nuestra única fuente de información respecto de los grupos pastorales que habitaron estas áreas. El objetivo de este trabajo es estudiar algunos aspectos tipológicos y tecnológicos de la manufactura de esta cerámica, así como su distribución espacial. El análisis de estas características puede darnos la clave para una mejor interpretación de la cerámica negevita, y ayudarnos a comprender el marco socioeconómico en el que vivieron sus productores. Basándonos en paralelos etnográficos, sugerimos que la producción de cerámica negevita se realizaba en los hogares pastorales para suplir su propia demanda, y que su distribución geográfica no es sino una consecuencia de los movimientos migratorios efectuados por los grupos pastorales.

**Palabras clave:** Cerámica negevita – Cerámicas hechas a mano – Grupos pastorales – Edad del Hierro

#### INTRODUCTION

We do not know much about the history of the pastoral groups of the Negev and southern Jordan (ancient Edom) in the Iron Age (ca. 1200-586 BC). One obvious reason is the fragmentary quality of our surviving evidence. The contemporary Biblical, Egyptian and Assyrian sources are rather reluctant to give information about these peoples, and when this data does exist is likely to be biased against them. Therefore, and not surprisingly, most of our information comes from archaeological excavations and particularly from studies on the pottery found in them. For our purpose, it is critical the study of the so-called "Negevite" pottery, a locally manufactured, coarse handmade ware. Most scholars agree that Negevite pottery should be closely associated with the pastoral and semi-pastoral groups that inhabited in and wandered through the Negev desert and southern Jordan, in the Iron Age but also in other periods. This paper aims at studying the Negevite pottery inside the original social and economic framework in which it originated. I intend to accomplish two goals. The primary one is a synthesis of old and new archaeological data on the Negevite wares. No effort at exhaustiveness is implied, but I attempt to consider some of the more conspicuous issues. The second goal is a re-interpretation of the current data. It seems to me that at present it is not sufficient to analyze the archaeological remains. We need to reconstruct the socioeconomic framework and try to present comprehensive models of pottery production and distribution.

This paper has three parts. The first section discusses the basic technological aspects of the Negevite wares. In the second section, a survey of the geographical distribution of this pottery will be undertaken. Lastly, I will suggest some ideas on its socioeconomic background, and especially on its producers and mode of production.

#### THE NEGEVITE POTTERY

Negevite pottery, also known as "Negebite" or "Negev" ware, is a crude, hand-made ware manufactured from coarse clay, containing straw and other organic materials. It is represented by a fairly limited range of forms and fabrics that can be seen as primarily local in manufacture. The most common type is a cylindrical cooking-pot with flat base, irregular hole-mouth rim,

<sup>&</sup>lt;sup>1</sup>Cf. the first complete description in Aharoni et. al. 1960: 98-100.

and vertical sides that can taper slightly inwards (e.g. Fig. 1); followed by different types of cooking-pots and bowls (Fig. 2). Mat-impressions are found on many bases of these wares, probably the result of their drying on textiles woven from the wool and goat-hair of the pastoralists' flocks.<sup>2</sup> According to petrographic studies, Negevite wares were manufactured from Negev clay sources located at a variety of locations, more remarkably Timna valley in the southern Arabah³ and the Ramon crater in the central Negev.<sup>4</sup> In addition, neutron activation analyses performed on samples of these wares proved to have originated in the north-western Negev and southern Jordan.<sup>5</sup>

A point of importance is that Negevite pottery is not exclusive of the Iron Age: it has a long time-span of existence, appearing in the Negev in periods earlier (Early Bronze II and Middle Bronze I Ages) and later (Early Islamic period) than the Iron Age. Because throughout these periods Negevite wares remained typologically very much the same, they do not possess independent chronology, that is, they can be dated only by the (mostly non-local) wheelmade pottery that is found associated with them.

Negevite pottery was firstly discovered by Woolley and Lawrence in their excavations at 'Ain el-Qudeirat.<sup>7</sup> Glueck<sup>8</sup> re-discovered similar pottery at Tell el-Kheleifeh, and interpreted them as crucibles for a local metallurgical industry. Glueck's theory was, however, totally rejected by a thorough study of Rothenberg,<sup>9</sup> who saw these artefacts as no more than domestic cookingpots and bowls, in the line of a previous work of Aharoni. It was Aharoni who firstly identified the Negevite pottery as the ware used by the pastoral peoples of the Negev: "It may be conjectured that the vessels were the work of nomads potters, who, being constantly on the move from settlement to settlement in the Negev and Aravah, could not make use of the more highly developed

<sup>&</sup>lt;sup>2</sup> Sheffer 1976; Sheffer and Tidhar 1988: 229-230.

<sup>&</sup>lt;sup>3</sup> Slatkine 1974: 108-110; 1978: 115-116; Glass 1988.

<sup>&</sup>lt;sup>4</sup>Haiman and Goren 1992: 148.

<sup>&</sup>lt;sup>5</sup>Gunneweg et. al. 1991; Gunneweg and Balla 2002.

<sup>&</sup>lt;sup>6</sup> Haiman and Goren 1992.

<sup>&</sup>lt;sup>7</sup>Woolley and Lawrence 1914-1945: 61.

<sup>8</sup> Glueck 1938: 11-12.

<sup>&</sup>lt;sup>9</sup>Rothenberg 1962: 52-53.

instruments of their craft, such as the potter's wheel and a permanent clay oven". 10

Typologically, Negev wares share certain forms with other Iron Age pottery traditions. For example, some Negevite cooking-pots are typologically related to Late Iron II Edomite vessel types, 11 and Negevite traits are reminiscent of those found in Edomite vessels<sup>12</sup> and other Iron Age Palestinian and Jordanian pottery.<sup>13</sup> In addition, some Negevite shapes are comparable to the primitive shapes of the Iron I Midianite bowls. 14 Bowls with flat bottom, vertical or flaring sides are common among both pottery repertories. 15 Typological and petrographic studies do not rule out the possibility that the same potters manufactured both wares. Glass<sup>16</sup> has split the Negevite wares of Timna into two repertories: the Negevite pottery itself and the "rough hand-made pottery". The latter, though locally made, is a petrographically non-homogeneous group that comprises: a) some vessel types that deviate considerably from the typical shapes of the Negevite wares, and b) some wares that show petrographic affinity to the "normal" wheel-made pottery (i.e. the Egyptian and Midianite wares), as they were tempered with crushed fragments of "normal" pottery, as well as slag and coarse shale fragments that also occur in the "normal" pottery. Based on these differences, Glass postulates that the rough hand-made pottery was produced not only by the local Negev population, but also by Egyptians or "Midianites" –people from north-western Arabia 17

### GEOGRAPHICAL DISTRIBUTION

The second part of this paper will present the basic data sets for the Iron Age sites or areas in which Negevite pottery was found (Fig. 3). The Negev has

```
10 Aharoni et. al. 1960: 100.
```

<sup>&</sup>lt;sup>11</sup> Singer-Avitz 2002: 143; e.g. compare fig. 14:CP14 with Oakeshott 1978: pl. 28: 13-14.

<sup>12</sup> Eitam 1988: 326 n. 42; Hart 1995: 59.

<sup>13</sup> Pratico 1993: 38.

<sup>&</sup>lt;sup>14</sup> Rothenberg and Glass 1983: 100; Eitam 1988: 325.

<sup>&</sup>lt;sup>15</sup> E.g. compare Rothenberg 1988: figs. 4:1-7 and 14:1-11.

<sup>16</sup> Glass 1988: 108.

<sup>&</sup>lt;sup>17</sup> Glass 1988: 111.

seen a plethora of recent fieldwork, and the amount of new material that has been discovered is overwhelming, though regrettably a lot of this material has not reached the stage of publication yet. A great deal of effort has been done to include in this review unpublished material from old and new excavations.

The core area of concentration of Negevite wares is the *Negev Highlands*. In this area, a large number of settlements, about 350, were founded during the Iron Age. The architectural remains consist of mostly one-period sites that can be identified as fortresses, strongholds, towers, farmhouses and enclosures. A great deal of discussion has arisen about the date of these settlements, between those who supported a date in the 10th century<sup>18</sup> and those who preferred an 11th-early 10th centuries date,<sup>19</sup> though at present a 10th century date is defended even by Finkelstein.<sup>20</sup> Negevite wares are a typical characteristic of the findings in the Negev Highlands, and their large number and variety of types<sup>21</sup> point to this area as the geographical core of the production and distribution of these wares. Negevite pottery comprises a significant proportion of the local sites' ceramic assemblages, up to 39 % of the total ceramic finds.<sup>22</sup> After the wave of settlement of the 10th century, only sparse occupation existed in the Negev Highlands during the Late Iron II, and the quantity of Negevite pottery decreases substantially.<sup>23</sup>

At 'Ain el-Qudeirat (Kadesh-barnea), Negevite vessels were firstly described by the survey conducted in the site by Woolley and Lawrence in 1914.<sup>24</sup> 'Ain el-Qudeirat, being the only site with several strata (three superimposed fortresses) were Negevite wares have been found and adequately recorded, provides evidence that Negevite pottery underwent typological changes through the time.<sup>25</sup> Also, the proportion of Negevite wares changed throughout the layers: at the Earliest fortress (10th century BC) it consisted of 20 % of the total pottery assemblage, in the Middle fortress (eighth-seventh centuries BC)

<sup>&</sup>lt;sup>18</sup> Cohen 1980; 1986; Cohen and Cohen-Amin 2004.

<sup>&</sup>lt;sup>19</sup> Eitam 1988: Finkelstein 1995.

<sup>&</sup>lt;sup>20</sup> Finkelstein 2002.

<sup>&</sup>lt;sup>21</sup> Cohen and Cohen-Amin 2004: 7\*-8\*, 135-141, figs. 90-91; Jericke 1997: fig. 17.

<sup>&</sup>lt;sup>22</sup> Cohen 1986: 276-295, 363-364.

<sup>&</sup>lt;sup>23</sup> Cohen and Cohen-Amin 2004: 13\*.

<sup>&</sup>lt;sup>24</sup> Woolley and Lawrence 1914-1915: 61.

<sup>&</sup>lt;sup>25</sup> Cohen 1981: 102-103; 1983: XVII, figs. 25-27.

it increased to 80 %, and in the Upper fortress (seventh-sixth centuries BC) fell to a 10 %.<sup>26</sup> Neutron activation analyses on the Negevite pottery of the Upper fortress showed that these vessels matched the composition of northwestern Negev samples, although one cooking-pot had its origin in Edom.<sup>27</sup>

Negevite wares are strongly related to the Egyptian copper mining activities in the southern Arabah (13th-12th centuries BC), and they have been found in large numbers at the sites of Timna valley and Nahal <sup>C</sup>Amram together with Egyptian and Midianite pottery. At the Timna smelting sites excavated so far -Sites 2 and 30- they comprise the majority of the cookingpots (e.g. Fig. 1). Conversely, at the Mining Temple, dedicated to the goddess Hathor (Strata IV-II), only 10 % of the pottery assemblage was vessels of this group, which nonetheless contained smaller and more delicate types, such as juglets, pilgrim flasks and one goblet, clearly imitating vessels of the wheelmade pottery. These wares were likely used in the rituals performed in the temple or brought as offerings to Hathor.<sup>28</sup> The Negevite wares from Timna should be dated to the times of the Ramesside pharaohs of the Nineteenth and Twentieth Dynasties (from Seti I to Ramesses V, 13th-12th centuries BC), except for an assemblage found in Site 30 (Layer 1) associated with Egyptian pottery of the Twenty-Second Dynasty (10th century BC).<sup>29</sup> At a cluster of 13 sites, possibly open-air sanctuaries, at the foot of *Har Shani* (north-west of Eilat), fragments of Negevite pottery were found, together with Midianite and Egyptian pottery.<sup>30</sup>

Also, Negevite wares are characteristic of sites of the Arabah valley farther south-east and north. At *Tell el-Kheleifeh*, Glueck found, in his 1938-1940 excavations, a wide variety of wares, among them Negevite pottery, which he identified as "Kheleifeh ware". As already said, his identification of the Negevite wares as crucibles did not stand the criticism. Based on his identification of Tell el-Kheleifeh with the Solomonic port Ezion-Geber, Glueck

<sup>&</sup>lt;sup>26</sup>H. Greenberg, pers. comm., 2004.

<sup>&</sup>lt;sup>27</sup> Gunneweg et. al. 1991: 249, table 2.

<sup>&</sup>lt;sup>28</sup> Rothenberg 1972: 63-179, figs. 31 [pl. 44], 35, 45:7-12; 1988: 94-95, figs. 14, 15, 16:1-3, pls. 106:2-6; 1980: 192-201, fig. 209; 1999: 158-162, 170-72, fig. 16; Rothenberg and Glass 1983: 115.

<sup>&</sup>lt;sup>29</sup> Rothenberg 1980: 198-201, 212; 1999: 162.

<sup>&</sup>lt;sup>30</sup> Avner 1982: 84; 2002: 111, cf. also fig. 6:2.4.

<sup>&</sup>lt;sup>31</sup> Glueck 1938: 11-12.

dated the earliest occupational level and its ceramics to the 10th century BC. In a recent reappraisal of the evidence, Pratico<sup>32</sup> demonstrated that the pottery assemblage uncovered by Glueck was fairly representative, and a new survey at the site found 63 Negevite sherds, the largest pottery group. However, the excavation and recording methodology employed by Glueck made it very difficult to associate the pottery assemblages with each of the occupational periods. Furthermore, the conclusions of Pratico 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.<sup>33</sup> The largest pottery horizon at Tell el-Kheleifeh is the Negevite pottery, both in the early casemate fortress and in the later offsets/insets settlement, with wide range of types. Among the most common types in the Negevite repertoire are the cooking-pots and bowls.<sup>34</sup>

Moving from south to north along the Arabah valley, we reach the oasis of *Yotvata* (*CAyn el-Ghadian*), where an irregular casemate fortress was excavated. In view of the occurrence of Midianite pottery, the excavator Meshel prefers an Iron I date for the fortress. The finds in the site, still unpublished, include several fragments of Negevite wares -mainly cooking kraters-. Further north, at *En Hazeva* (*Ain Husb*), a complete Negevite cooking-pot was retrieved from Stratum VI's south-eastern room (10th century BC). At *Givat Hazeva* (*Givat Parsa*), a hill to the north-west, a smelting site was found with pottery dated to the seventh-sixth centuries BC, including Negevite wares. Gunneweg *et. al.* analyzed samples of Negevite pottery found in the site, finding that two samples originated in the north-western Negev.

North of the Negev Highlands, Negev wares appear in low numbers, most of them in sites in the Beersheba valley. At *Tel 'Arad (Tell 'Arad)*, one

```
32 Pratico 1985; 1993.
```

<sup>&</sup>lt;sup>33</sup> Pratico 1993: 13, table 1.

<sup>&</sup>lt;sup>34</sup> Fig. 2; Pratico 1993: 37-38, pls. 11-15; cf. also Oakeshott 1978: pl. 77:5-9.

<sup>35</sup> Meshel 1993: 1518.

<sup>&</sup>lt;sup>36</sup>Cohen and Yisrael 1995a: 229; 1995b: 17; 1996: fig. 6.

<sup>&</sup>lt;sup>37</sup> Cohen and Yisrael 1983.

<sup>&</sup>lt;sup>38</sup> Y. Yisrael, pers. comm., 2005.

<sup>&</sup>lt;sup>39</sup> Gunneweg *et. al.* 1991: table 2.

Negevite cooking-pot was found in Stratum VIII (late eighth century BC).40 At Beersheba (Tel Sheva) two Negevite sherds were found, and it is not clear whether a third sherd belongs to this group or is a fragment of a crude handmade vessel. One sherd originated in Stratum V's glacis (10th or ninth century BC), and the other two in Stratum III (late eighth century BC).<sup>41</sup> At Tel Masos (Khirbet el-Meshash), one Negevite vessel was discovered in Area F, Stratum II.<sup>42</sup> The excavators dated this layer to the 12th-11th centuries BC, <sup>43</sup> although some scholars have lowered its date to the 10th century BC.44 From Horvat Oitmit, a one-period site of the early sixth century BC, Freud and Beith-Arieh45 published a number of crude, usually hand-made shallow vessels of large diameter, most of which were found in Building A rooms and identified as clay basins. Bienkowski et. al. 46 are of the opinion that the shapes, fabric and manufacturing technique of some of these vessels<sup>47</sup> indicate that they are Negevite wares. In a cluster of structures along the bank of the Nahal Tale (Site 75) surveyors found a sherd of a Negevite krater dated, according to the Israeli terminology, to the Iron II-III. 48 In the Nahal Besor area, a multi-period campsite was found (Site 107) with a Negevite hole-mouth jar, tentatively dated to the Iron I 49

In southern Jordan, east of the Arabah valley, Negevite wares also appear though in less quantities. The majority is concentrated in the *Faynan* area, the richest zone in copper in the southern Levant, associated with Edomite, "Early Edomite" pottery<sup>50</sup> and Midianite wares. The recent excavations at the

<sup>&</sup>lt;sup>40</sup> Singer-Avitz 2002: 143-144, fig. 15:CP14.

<sup>&</sup>lt;sup>41</sup> L. Singer-Avitz, pers. comm., 2003.

<sup>42</sup> Fritz 1983: 91, pl. 161:7.

<sup>&</sup>lt;sup>43</sup> Fritz and Kempinski 1983.

<sup>&</sup>lt;sup>44</sup>Finkelstein 2002: 114-116; Herzog and Singer-Avitz 2004.

<sup>45</sup> Freud and Beith-Arieh 1995: 215.

<sup>46</sup> Bienkowski et. al. 2002: 276.

<sup>&</sup>lt;sup>47</sup>Cf. Freud and Beith-Arieh 1995: figs. 4.5:24, 4.7:3-5, 4.12:18, 20.

<sup>&</sup>lt;sup>48</sup> Beit-Arieh 2003: 18\*, 34\*, 45, fig. 75.1.

<sup>&</sup>lt;sup>49</sup> Gazit 1996: 25\*, 50\*, 53, fig. 107.1. At Nahal Besor Site 87, in a collapsed installation, fragments of hand-made pottery were found, although they are suggested to be oven fragments. The site provided Iron I and Byzantine pottery; cf. Gazit 1996: 46\*, 87.

<sup>&</sup>lt;sup>50</sup> Hart and Knauf 1986: Hart 1989: 125.

main fortress at *Khirbet en-Nahas* (12th-ninth centuries BC?) found a large number of Negevite bowls and jars with slag temper, clearly associated with the local production of copper.<sup>51</sup> At the same site, a small pillared building (House 200; ninth century BC) provided Negevite wares associated with Edomite pottery.<sup>52</sup> At *Barqa el-Hetiye*, four-room Building 2 (House 108; ninth century BC?) provided several Negevite vessels in association with Midianite and other Iron Age pottery.<sup>53</sup>

Leaving the Faynan area we move to the Edomite plateau, where Negevite wares are found in association with Late Iron II Edomite pottery, generally dated to the seventh-sixth centuries BC. At *Busayra*, the most prominent Edomite site, several fragments and one complete Negevite bowl were found,<sup>54</sup> and neutron activation analyses on one sample indicate it originated locally.<sup>55</sup> Excavations at *Tawilan* have found fragments of Negevite bowls, and a cosmetic palette similar to a Negevite ware.<sup>56</sup> Edomite *Ghrareh* has also produced several samples of Negevite ware.<sup>57</sup> At the mountain settlement of *Ba' ja III*, a knob handle of a Negevite ware was found associated with Edomite pottery.<sup>58</sup> A similar picture emerges at *Feifa*, which has produced just one Negevite sherd near the south-east corner of the town wall, probably constructed in the seventh century BC.<sup>59</sup> The Wadi el-Hasa survey published several wares allegedly belonging to the Iron I. Hart has identified one sample from *Ash-Shorabat*<sup>60</sup> as a possible Negevite ware, but has re-dated it to the Iron II.<sup>61</sup>

To sum up, during the Iron Age the geographical distribution of Negevite pottery appears to have been limited to a central area with large concentration

```
<sup>51</sup> Levy et. al. 2004: 875.
```

<sup>&</sup>lt;sup>52</sup> Fritz 1996: 4-5, fig. 4:1-8.

<sup>&</sup>lt;sup>53</sup> Fritz 1994: 146, fig. 13.

<sup>&</sup>lt;sup>54</sup> Bienkowski et. al. 2002: 276, figs. 9.23:1-4.

<sup>55</sup> Gunneweg and Balla 2002: 485, BUS 18.

<sup>&</sup>lt;sup>56</sup> Hart 1995: 55, 59, figs. 6.36, 6.37:11, 14; cf. also Bienkowski 1990: 100; 1992: 101.

<sup>&</sup>lt;sup>57</sup> Hart 1989: 18, 67, pls. 24, 28:7-17.

<sup>&</sup>lt;sup>58</sup> Lindner and Farajat 1987: 180, fig. 4:8.

<sup>&</sup>lt;sup>59</sup> Lapp 1994: 223-224, fig. 13-2:6.

<sup>60</sup> WHS site 147; listed in MacDonald 1988; pl. 8:25.

<sup>61</sup> Hart 1992: 95

of wares -the Negev Highlands-, with important points of concentration further south at Timna valley and Tell el-Kheleifeh. To this might be added a number of wares discovered north of the Negev Highlands, in Beersheba valley sites<sup>62</sup>. East of the Arabah, in the lowland-area of Faynan and the Edomite plateau, Negevite pottery is an important feature although certainly a not very impressive one.<sup>63</sup> On the question of chronology, albeit not all Negevite wares mentioned above are securely dated, it can be stated that Negevite pottery is a characteristic of the entire Iron Age, from the early assemblages of Ramesside Timna (13th-12th centuries BC) down to the Late Iron II settlements in the Negev and the Edomite plateau (seventh-sixth centuries BC).

#### THE SOCIOECONOMIC BACKGROUND

Determining the characteristics and spatial distribution of the Negevite pottery leads us straight into the current debate on its producers and socioeconomic background.

The terrain of the Negev area is, in general, not suitable to extensive or intensive agriculture, but rather to livestock breeding. The Negev economy was therefore based on pastoralism of sheep and goats, which the Negev inhabitants grazed in great numbers. Pastoralism, in turn, implied that mobility was a central feature of the local communities. Consequently, any discussion on the material culture of the Iron Age Negev should take into account the centrality that pastoralism and mobility had in the local communities.

The model that Aharoni constructed, that viewed the Negev pottery as the ware manufactured and used by the nomadic peoples of the Negev, has been very influential in the research on the archaeology of the Iron Age Negev. However, attempts to equate the producers of Negevite wares with Biblical peoples –e.g., Kenites, Rechabites, Calebites, and Yerahmeelites, <sup>64</sup> Kenites, <sup>65</sup>

<sup>&</sup>lt;sup>62</sup> No Iron Age Negevite pottery has been reported in or near the Mediterranean coast. The recent excavations at the coastal site of Blakhiyah, 3 km. north-west of ancient Gaza, have not found Negevite wares (J.-B. Humbert, pers. comm., 2005).

<sup>&</sup>lt;sup>63</sup> However, surveys and excavations in the Negev have been very much intensive than in southern Jordan.

<sup>64</sup> Glueck 1965: 76.

<sup>65</sup> Cohen 1980: 77.

Edomites,66 and Amalekites67- do not take into account the typological similarities of this ware with Iron Age wheel-made pottery traditions, especially Midianite and Edomite wares. In fact, the presence of Negevite pottery at both sides of the Arabah valley shows that the Negev and Edom belonged to the same socio-economic system, and that the Arabah acted as a bridge between areas, rather than a barrier between two states (Judah and Edom).<sup>68</sup> Also, the longevity of the Negevite pottery, documented also for other ceramic traditions elsewhere,<sup>69</sup> goes against its identification with a single ethnic group. Moreover, previous equations between material culture and ethnicity have been criticized in recent anthropological research, on the grounds that ethnicity is not a stable and permanent entity but rather a flexible phenomenon adopted, and manipulated, by social groups. 70 Therefore, I will by-pass the rather naïve identifications of ethnicity based on the Negevite pottery. The technological and typological characteristics of the Negevite wares, instead of being considered markers of ethnic groups, should be seen as partial reflections of the distinct socioeconomic and geographic conditions, as well as cultural backgrounds, of the groups that manufactured them.<sup>71</sup>

To analyse Negevite pottery, we have to consider what socioeconomic mechanisms were behind its production and distribution. We do not have enough information about the Negev inhabitants, not to say the Negev potters, to know who they were and how they produced and distributed their wares. Again, our understanding comes from the analyses of the artefacts themselves. As already said, Aharoni saw the Negevite potters moving from one site to the other. In a more recent study, Haiman and Goren, based on their hypothesis that the only clay source for the Negevite pottery was the Ramon crater area, claimed that production took place seasonally, either when the community reached the clay source area or by "semi-qualified potters" who carried the clay from one site to the other.

<sup>66</sup> Eitam 1988: 333.

<sup>&</sup>lt;sup>67</sup> Rothenberg 1972: 153-154; 1988: 276.

<sup>&</sup>lt;sup>68</sup> Cf. Bienkowski and van der Steen 2001: 36.

<sup>69</sup> Stark 2003: 206.

<sup>70</sup> Jones 1997.

<sup>&</sup>lt;sup>71</sup> Cf. Herzog and Bar-Yosef 2002; Tebes 2004.

<sup>&</sup>lt;sup>72</sup> Haiman and Goren 1992: 149

Aharoni's model and Haiman and Goren's second approach, of nomadic potters that travelled from one camp-site to the other, are very appealing, taking into consideration the numerous parallels that appear in the ethnographic record. While, indeed, these simplistic pictures are not drawn in thin air, they need to be re-examined because an unstated and possibly implicit conclusion would be that the Negevite wares were exchanged between producers and users, and that therefore production occurred outside the households. However, Negev potters should not be considered outside the group in which they lived, that is, there was no difference between producers and consumers. Economic reasons account for this. The most important one is that there is little reason to assume that the manufacture of Negevite pottery was aimed at fulfilling the demand outside the household community.

An alternative picture, congruent with the evidence as it continues to emerge, is that pottery-making was an activity carried out in households, what some scholars have called "household production". According to this, pottery manufacture is occasional, techniques are simple, and no wheel or kiln is used. Pottery is made mainly for the household's own requirements, with little or no incentive for intensification and surplus production; therefore, pottery is normally not exchanged. According to the characteristics of this mode of production, manufacture of Negevite pottery may have been occasional and primarily concerned in supplying the household demand for domestic wares. Since, as we know, the requirements of pastoral households for pottery are usually small, household production may have been sufficient to cope with that low demand. This approach avoids falling back on doubtful hypotheses about experienced potters who travelled through the desert selling their goods. It follows that these wares were not normally exchanged outside the local groups nor were seen as trade commodities. Therefore, the postulate of the existence of a class of specialized potters and traders is not a requisite for explaining the wares' spatial distribution. If, as we maintain, Negevite wares were primarily the result of household manufacture, then trade did not play any role in their distribution.

To be sure, the range of forms of the Negevite wares was very limited, concentrating on cooking-pots and bowls, a characteristic that appears in other pastoral archaeological assemblages as well. Archaeologists working on nomadic societies agree that their pottery should bear a narrower range

<sup>&</sup>lt;sup>73</sup> E.g. Stark 2003: 208-209.

<sup>74</sup> Peacock 1981: 188; Rice 1987: 184; cf. Wood 1990: 39 n. 1.

of vessel typology than the pottery assemblages of sedentary communities.<sup>75</sup> Specifically, Cribb maintains that nomadic sites are expected to have a distinctive pattern of pottery. Small items (teapots, cups, jars) are generally regarded as valuables, circulate from one site to the other more frequently than other pottery types, and thus enter, occasionally, in the archaeological record. On the contrary, large vessels like cooking pots, storage jars or bowls, tend to bear a much higher rate of breakage and abandonment, and therefore are incorporated into the archaeological assemblage in the form of broken pots.<sup>76</sup> Juli,<sup>77</sup> working on prehistoric periods, argue that in pastoral sites "ceramic artifacts related to food storage and processing would be absent, while utilitarian forms associated with domestic activities would be present". However, studies on Negev pastoral archaeology have demonstrated that cooking or storage vessels do appear at pastoral sites.<sup>78</sup>

Nomadic groups used and still use pottery imported from the sedentary societies. This is so, among other things, because pastoral nomadism is not an autarkic activity, namely, it is inseparable from supplementary forms of economic activity, and particularly it depends on supplies of commodities and goods (e.g. pottery, foodstuff, clothing, etc.) imported from the sedentary neighbours. This has deep implications in the archaeological record, since there is a dichotomy between the different chances of preservation of the material cultures of nomads and sedentaries. As Orme has pointed out, "the [pastoral] home-made goods are manufactured from animal products and normally perish, whereas the imported metal objects have a much higher chance of survival. Therefore a pastoral society could leave an archaeological record that was dominated by the artifacts of another culture". 80

I would argue that the pattern presented by scholars working on archaeology of nomadic groups is congruent with the Iron Age Negevite pottery assemblages. Negevite cooking-pots and bowls did not adequately cope with all the needs of the nomadic group (especially storage and transport), and for that reason imported wheel-made wares –especially from

<sup>75</sup> Juli 1978: 115-116; Cribb 1991: 76; Saidel 2002: 191.

<sup>&</sup>lt;sup>76</sup> Cribb 1991: 76.

<sup>&</sup>lt;sup>77</sup> Juli 1978: 116.

<sup>&</sup>lt;sup>78</sup> Banning and Köhler-Rollefson 1992: 191-192; Saidel 2002: 187.

<sup>79</sup> Khazanov 1994: 69-84.

<sup>80</sup> Orme 1981: 263.

Palestine and Egypt—, which appear with the Negevite pottery in the same sites, were intended to supplement the needs not covered by the Negevite wares. This pattern is fully congruent with the non-autarkic nature of pastoral nomadism, which, as already stated, models an archaeological record with a high proportion of artefacts imported from sedentary societies.

At any rate, one can almost certainly assume that, although Negevite wares were certainly not used as containers for commodities, their wide distribution can only be explained as an outcome of movements of people. Patterns of pastoral movements in the Negev are well known for recent periods. In pre-modern Negev, the grazing period (late winter and spring) was spent anywhere pasture land was found, even in the arid areas of the central Negev; while in the dry summer the herds were moved to the higher-rainfall areas of the northern Negev, the southern coastal plain and Palestine. Similar models of long-distance movements have been proposed for other periods, as the Early Bronze and the Intermediate Bronze Ages, according to which people moved seasonally from the Negev Highlands to the Beersheba valley, the Hebron hills and even central Palestine. 82

As in other periods in its history, the backbone of Negev's economy in the Iron Age was nomadic pastoralism. Because nomadic movements were performed by all or parts of the pastoral community, Iron Age Negevite vessels are found precisely where the daily pursuits occurred. Even though their area of distribution is large enough, it exhibits a sharp fall-off in frequency outside the Negev Highlands and the southern Arabah. In the light of the pastoral socioeconomic context in which the users of the Negevite pottery

<sup>81</sup> Amiran and Ben-Arieh 1963; Marx 1967.

<sup>82</sup> E.g. Dever 1985: 25; Finkelstein 1995: 95; Saidel 2002: 189-191. All of this is admittedly circumstantial: as these models are based on interpretations of the archaeological evidence, and sometimes on parallels drawn from recent times, they are open to criticism. For the Early Iron Age, for example, Knauf-Belleri (1995: 98), based on ethnographic records of Bedouin of the Petra region, supports the idea that the *shasu* of the Egyptian sources only migrated very short distances. However, one must note that several ethnographic examples can be cited to argue the opposite view. Thus, Wood cites the case of the distribution of the Midianite pottery as an archaeological example of the "movement of consumers" that is known in contemporary societies, as the Fogny and Kasa in southern Senegal or the Fulani in northern Cameroon. According to Wood, "There can be little doubt that the people of antiquity were as mobile as their counterparts in contemporary peasant cultures, probably in response to economic conditions" (Wood 1990: 79-80). Although the examples cited by Wood refer to small peasant societies, the important point is that the presence of an homogeneous ceramic style over a large region does not necessarily imply itinerant peddling by the producers or by intermediaries, since it can be explained by the movements of consumers through large areas.

lived, it is not a surprise that just a handful of sherds have been discovered at sites outside the Negev Highlands, since those sites seem to have been the terminal point of their movements.<sup>83</sup> No Negevite ware appears to be found in south-central Palestine (which is the traditional grazing resource in dry summers), and therefore the pastoral movements should have been limited, in the north, to the Beersheba valley.

The only significant exception to this pattern seems to have been the large quantity of Negevite wares found in the southern Arabah. This area is too hot and has no grazing in summer or early winter, and indeed not a lot of grazing at any time. The occurrence of Negevite wares in this zone, especially in Timna valley, should be connected with the presence of local population working at the mines and workcamps. To this one must add the small Negevite pottery assemblage found at the Mining Temple of Timna, where the wider ware typology should be understood in the terms of the cultic framework in which the vessels were used, i.e. either as ritual utensils or votive offerings in a predominantly Egyptian cult.

So much for the general mode of distribution; however, we have pointed out that the spatial distribution of Negevite pottery is neither geographically homogeneous nor temporally uniform. An important point to note is that whereas much of the Negevite wares have been found in the Negev Highlands settlements, dated to the Iron II, this same area has a conspicuous dearth of Negevite wares dated to the Iron I (though in fact this only means that no Iron I wheel-made pottery was found associated with them). Although this absence is puzzling, it is a pattern not unique to the Iron I, since this archaeological lacuna seems also to have occurred in the cases of the Midianite pottery in the Iron I and the Edomite pottery in the Late Iron II. Two interpretations may be offered. First, it can be argued that the Iron Age mobile groups only manufactured pottery in great quantities when they settled down (Ramesside Timna, the Iron II settlements of the Negev Highlands, etc.)<sup>84</sup> Second, it may be evidence that the mobile groups by-passed rather than crossed the Negev

<sup>&</sup>lt;sup>83</sup> In comparison, the distribution of the Midianite pottery is far broader, reaching sites as far north as Amman, in Jordan, and Lachish, in Palestine, even though its homeland was situated in north-western Arabia (cf. Rothenberg and Glass 1983). However, Midianite wares were probably seen as "exotic" imports due to their rich polychrome decorations and/or cultic significance, being valued for their social as well as their functional content, and therefore their large geographical distribution would point to exchange mechanisms of some kind (cf. Tebes 2005).

<sup>84</sup> Cf. Meshel 2002: 295-296.

Highlands. An alternative north-south route would have been the Arabah valley, and this last option can indeed be supported by the pottery findings at Timna, Yotvata and Faynan.

One last observation concerning the scientific analyses. Meshel<sup>85</sup> remarks that the conclusions from the petrographic and neutron activation analyses are sometimes contradictory, and that the principal cause is the use of a small number of samples. However, contradictions seem to be solved once one acknowledges that the groups that manufactured these wares moved across different areas. Although the raw data from the analyses are too complex for immediate assertions on the characterization of sources to be made, the hypothesis that mobile groups were present in the Negev and southern Jordan seems to be confirmed by them, showing a wide geographical horizon of these ceramics, a complex picture of both local and non-local pottery manufacture.

## CONCLUSION

In this paper, we have analyzed several questions concerning the Negevite pottery of the Iron Age. This analysis strongly suggests that production and consumption of Negevite wares was a matter of the nomadic pastoral groups of the Negev and Edom in that period. Technological aspects were taken as evidence that part-time potters manufactured these wares under the "household production" mode; while their distribution might have been a consequence of the mobility of the pastoral communities. These remarks are to be taken as suggestive of no more than a broad explanatory direction. We do not of course expect that all the various problems surrounding this issue can be resolved. However, what we have attempted to show is that study of the Negevite wares does provide important clues on the inhabitants and the social and economic conditions of the Negev and Edom in the Iron Age.

## ACKNOWLEDGMENTS

The research and writing of this paper were carried out during 2004-2006 at the W. F. Albright Institute of Archaeological Research (AIAR) in Jerusalem, where I was George A. Barton Fellow, at the American Center of Oriental Research (ACOR) in Amman, where I was the Pierre and Patricia Bikai Fellow, and at the Department

<sup>85</sup> Meshel 2002: 293-294.

of Egyptology, National Research Council (CONICET), Buenos Aires, where I am a Doctoral Fellow. I express my appreciation to these institutions for their support.

## REFERENCES

- AHARONI, Y., M. EVENARI, L. SHANAN and N. H. TADMOR. 1960. "The Ancient Desert Agriculture of the Negev, V: An Israelite Agricultural Settlement at Ramat Matred". In: *Israel Exploration Journal* 10, pp. 23-36, 97-111.
- AMIRAN, D. H. K. and Y. Ben-Arieh. 1963. "Sedentarization of Beduin in Israel". In: *Israel Exploration Journal* 3, pp. 161-181.
- AVNER, U. 1982. "Excavation of an Open Air Sanctuary at Har Shani". In: *Excavations and Surveys in Israel* 2, pp. 84-85.
- AVNER, U. 2002: Studies in the Material and Spiritual Culture of the Negev and Sinai Populations, During the 6th-3rd millennia B.C. Unpublished Ph.D. Dissertation. Jerusalem, Hebrew University of Jerusalem.
- Banning, E. B. and I. Köhler-Rollefson. 1992. "Ethnographic Lessons for the Pastoral Past: Camp Location and Material Remains near Beidha, Southern Jordan". In: O. Bar-Yosef and A. Khazanov (eds.), *Pastoralism* in the Levant: Archaeological Materials in Anthropological Perspectives. Monographs in World Archaeology No. 10. Madison, Prehistory Press, pp. 181-204.
- BEIT-ARIEH, I. 2003: Archaeological Survey of Israel: Map of Tel Malhata (144). Jerusalem, Israel Antiquities Authority.
- BIENKOWSKI, P. 1990. "Umm el-Biyara, Tawilan and Buseirah in Retrospect". In: *Levant* 22, pp. 91-109.
- BIENKOWSKI, P. 1992. "The Date of Sedentary Occupation in Edom: Evidence from Umm el-Biyara, Tawilan and Buseirah". In: P. BIENKOWSKI (ed.), Early Edom and Moab: The Beginning of the Iron Age in Southern Jordan. Sheffield Archaeological Monographs 7. Oxford, Collis, pp. 99-112.
- BIENKOWSKI, P., M. F. OAKESHOTT and A. M. BERLIN. 2002. "The Pottery". In: P. BIENKOWSKI (ed.), *Busayra: Excavations by Crystal-M. Bennett 1971-1980*. British Academy Monographs in Archaeology No. 10. Oxford,

- Oxford University Press, pp. 233-351.
- BIENKOWSKI, P. and E. VAN DER STEEN. 2001. "Tribes, Trade and Towns: A New Framework for the Late Iron Age in Southern Jordan and the Negev". In: *Bulletin of the American Schools of Oriental Research* 323, pp. 21-47.
- COHEN, R. 1980. "The Iron Age Fortresses in the Central Negev". In: *Bulletin of the American Schools of Oriental Research* 236, pp. 61-79.
- COHEN, R. 1981. "Excavations at Kadesh-barnea 1976-1978". In: *Biblical Archaeologist* 44, pp. 93-104.
- COHEN, R. 1983. *Kadesh-barnea: A Fortress from the Time of the Judaean Kingdom*. Jerusalem, The Israel Museum.
- COHEN, R. 1986. The Settlements of the Central Negev in the Light of Archaeology and Literary Sources During the Fourth to First Millennia B.C.E. Unpublished Ph.D. Dissertation. Jerusalem, Hebrew University of Jerusalem.
- COHEN, R. and R. COHEN-AMIN. 2004. Ancient Settlements of the Negev Highlands. Vol. 2: The Iron Age and the Persian Periods. Israel Antiquities Autority Reports No. 20. Jerusalem, Israel Antiquities Authority.
- COHEN, R. and Y. YISRAEL. 1983. "En Ḥaẓeva Giv'at Haparsa". In: Excavations and Surveys in Israel 2, pp. 45.
- COHEN, R. and Y. YISRAEL. 1995a. "The Iron Age Fortress at 'En Ḥaṣeva". In: *Biblical Archaeologist* 58, pp. 223-235.
- COHEN, R. and Y. YISRAEL. 1995b. On the Road to Edom: Discoveries from 'En Hazeva. Jerusalem, The Israel Museum.
- COHEN, R. and Y. YISRAEL. 1996. "The Excavations at 'Ein Ḥazeva / Israelite and Roman Tamar". In: *Qadmoniot* 29, pp. 79-92.
- CRIBB, R. 1991. *Nomads in Archaeology*. Cambridge, Cambridge University Press.
- DEVER, W. G. 1985. "Village planing at Be'er Resisim and Socio-Economic Structure in Early Bronze IV Palestine". In: *Eretz Israel* 18, pp. 18\*-28\*.
- EITAM, D. 1988. "The Settlement of Nomadic Tribes in the Negeb Highlands During the 11<sup>th</sup> Century B.C." In: M. Heltzer and E. Lipiński (eds.), *Society and Economy in the Eastern Mediterranean (c. 1500-1000 B.C.)* Orientalia Lovaniensia Analecta 5-6. Leiden, Peeters, pp. 313-40.

- FINKELSTEIN, I. 1995. Living on the Fringe. The Archaeology and History of the Negev, Sinai and Neighbouring Regions in the Bronze and Iron Ages. Monographs in Mediterranean Archaeology 6. Sheffield, Sheffield Academic Press.
- FINKELSTEIN, I. 2002. "The Campaign of Shoshenk I to Palestine. A Guide to the 10<sup>th</sup> century BCE Polity". In: *Zeitschrift des Deutschen Palästina-Vereins* 118, pp. 109-135.
- Freud, L. and I. Beit-Arieh. 1995. "Pottery". In: I. Beit-Arieh (ed.), *Ḥorvat Qitmit: An Edomite Shrine in the Biblical Negev*. Monograph Series of the Institute of Archaeology No. 11. Tel Aviv, Institute of Archaeology, Tel Aviv University, pp. 209-257.
- Fritz, V. 1983. "Areale F<sub>1</sub> und F<sub>2</sub>". In: V. Fritz and A. Kempinski, *Ergebnisse der Ausgrabungen auf der Hirbet el-Mšāš (Tēl Māśōś) 1972-1975.* Vol. 1, *Textband.* Wiesbaden, Harrassowitz, pp. 90-91.
- Fritz, V. 1994. "Vorbericht über die Grabungen in *Barqā el-Hetīye* im Gebit von *Fēnān*, *Wādī el-'Araba* (Jordanien) 1990". In: *Zeitschrift des Deutschen Palästina-Vereins* 110, pp. 125-50.
- Fritz, V. 1996. "Ergebnisse einer Sondage in Hirbet en-Naḥās, Wādī el-'Araba (Jordanien)". Zeitschrift des Deutschen Palästina-Vereins 112, pp. 1-9.
- Fritz, V. and A. Kempinski. 1983. Ergebnisse der Ausgrabungen auf der Hirbet el-Mšāš (Tēl Māśōś) 1972-1975. Vol. 1, Textband. Vol. 2, Tafelband. Wiesbaden, Harrassowitz.
- GAZIT, D. 1996. *Archaeological Survey of Israel: Map of Urim (125)*. Jerusalem, Israel Antiquities Authority.
- GLASS, J. 1988. "Petrographic Investigations of the Pottery". In: B. ROTHENBERG (ed.), *The Egyptian Mining Temple at Timna*. Researches in the Arabah 1959-1984 vol. 1. London, Institute for Archaeo-Metallurgical Studies, Institute of Archaeology, University College London, pp. 96-113.
- GLUECK, N. 1938. "The First campaign at Tell el-Kheleifeh (Ezion Geber)". In: *Bulletin of the American Schools of Oriental Research* 71, pp. 3-17.
- GLUECK, N. 1965. "Ezion-Geber". In: Biblical Archaeologist 28, 70-87.
- Gunneweg, J. and M. Balla. 2002. "Instrumental Neutron Activation Analysis, Busayra and Judah". In P. Bienkowski (ed.), *Busayra: Excavations by Crystal-M. Bennett 1971-1980*. British Academy Monographs in

- Archaeology No. 10. Oxford, Oxford University Press, pp. 483-485.
- Gunneweg, J., T. Beier, U. Diehl, D. Lambrecht and H. Mommsen. 1991. "Edomite', 'Negevite' and 'Midianite' Pottery from the Negev Desert and Jordan: Instrumental Neutron Activation Analysis Results." In: *Archaeometry* 33, pp. 239-53.
- Haiman, M. and Y. Goren. 1992. "Negevite' Pottery: New Aspects and Interpretations and the Role of Pastoralism in Designating Ceramic Technology". In: O. Bar-Yosef and A. Khazanov (eds.), *Pastoralism in the Levant: Archaeological Materials in Anthropological Perspectives*. Monographs in World Archaeology No. 10. Madison, Prehistory Press, pp. 143-152.
- HART, S. 1989. *The Archaeology of the Land of Edom.* Unpublished Ph.D. Dissertation. Sydney, Macquarie University.
- HART, S. 1992. "Iron Age Settlement in the Land of Edom". In: P. BIENKOWSKI (ed.), *Early Edom and Moab: The Beginning of the Iron Age in Southern Jordan*. Sheffield Archaeological Monographs 7. Oxford, Collis, pp. 93-98.
- HART, S. 1995. "The Pottery". In: C.-M Bennett and P. Bienkowski, *Excavations at Tawilan in Southern Jordan*. Oxford, Oxford University Press, pp. 53-66.
- HART, S. and KNAUF, E.A. 1986. "Wadi Feinan Iron Age Pottery". In: Newsletter of the Institute of Archaeology and Anthropology, Yarmuk University 1, pp. 9-10.
- Herzog, Z. and O. Bar-Yosef. 2002. "Different Views on Ethnicity in the Archaeology of the Negev". In: S. Ahituv and E. D. Oren (eds.), *Aharon Kempinski Memorial Volume: Studies in Archaeology and Related Disciplines*. Beer-sheva: Studies by the Department of Bible and Ancient Near East Vol. 15. Beersheba, Ben-Gurion University of the Negev Press, pp. 151-181.
- HERZOG, Z. and L. SINGER-AVITZ. 2004. "Redefining the Centre: The Emergence of State in Judah". In: *Tel Aviv* 31, pp. 209-244.
- Jericke, D. 1997. *Die Landnahme im Negev: Protoisraelitische Gruppen im Süden Palästinas. Eine archäologische und exegetische Studie.* Abhandlungen des Deutschen Palästina-Vereins 20. Wiesbaden, Harrasowitz.
- JONES, S. 1997. The Archaeology of Ethnicity: Constructing Identities in the Past and Present. London and New York, Routledge.

- Juli, H. D. 1978. Ancient Herders of the Negev: A Study in Pastoral Archaeology. Unpublished Ph.D. Dissertation. Providence, Brown University.
- Khazanov, A. 1994. *Nomads and the Outside World*. 2nd. ed. Madison, The University of Wisconsin Press.
- KNAUF-BELLERI, E. A. 1995. "Edom: The Social and Economic History". In: D. V. EDELMAN (ed.), *You Shall Not Abhor an Edomite for He is Your Brother: Edom and Seir in History and Tradition*. JBL and ASOR, Archaeology and Biblical Studies No. 3. Atlanta, Scholars Press, pp. 93-117.
- LAPP, N. 1994. "Who is This that Comes from Edom?" In: M. D. COOGAN, J. C. EXUM and L. E. STAGER (eds.), *Scripture and Other Artifacts: Essays on the Bible and Archaeology in Honor of Philip J. King.* Louisville, Westminster John Knox, pp. 217-29.
- LEVY, T. E., R. A. ADAMS, M. NAJJAR, A. HAUPTMANN, J. D. ANDERSON, B. BRANDL, M. A. ROBINSON and T. HIGHAM. 2004: "Reassessing the Chronology of Biblical Edom: New Excavations and <sup>14</sup>C Dates from Khirbat en-Nahas (Jordan)". In: *Antiquity* 78, pp. 863-876.
- LINDNER, M. and S. FARAJAT. 1987. "An Edomite Mountain Stronghold North of Petra (Ba'ja III)". In: *Annual of the Department of Antiquities of Jordan* 31, pp. 175-185.
- MacDonald, B. 1988. The Wadi elḤasā Archaeological Survey 1979-1983, West-Central Jordan. Waterloo, Ontario, Canada, Wilfrid Laurier University Press.
- MARX, E. 1967. Bedouin of the Negev. Manchester, Manchester University Press.
- MESHEL, Z. 1993. "Yotvata". In E. Stern (ed.), *The New Encyclopedia of Archaeological Excavations in the Holy Land.* Vol. 4. Jerusalem, The Israel Exploration Society & Carta, pp. 1517-20.
- MESHEL, Z. 2002. "Does Negevite Ware Reflect the Character of Negev Society in the Israelite Period?" In: S. Ahituv and E. D. Oren (eds.), *Aharon Kempinski Memorial Volume: Studies in Archaeology and Related Disciplines.* Beersheva: Studies by the Department of Bible and Ancient Near East Vol. 15. Beersheba, Ben-Gurion University of the Negev Press, pp. 283-300.
- Oakeshott, M. F. 1978. A Study of the Iron II Pottery of East Jordan with Special Reference to Unpublished Material from Edom. Unpublished Ph.D. Dissertation. London, University of London.

ORME, B. 1981. *Anthropology for Archaeologists: An Introduction*. Ithaca, New York, Cornell University Press.

- Peacock, D. P. S. 1981. "Archaeology, Ethnology and Ceramic Production". In: H. Howard and E. L. Morris (eds.), *Production and Distribution: A Ceramic Viewpoint*. Oxford, BAR International Series 120, pp. 187-94.
- Pratico, G. D. 1985. "Nelson Glueck's 1938-40 Excavations at Tell el-Kheleifeh: A Reappraisal". In: *Bulletin of the American Schools of Oriental Research* 259, pp. 1-32.
- Pratico, G. D. 1993. *Nelson Glueck's 1938-1940 Excavations at Tell el-Kheleifeh: A Reappraisal*. ASOR Archaeological Reports No. 3. Atlanta, Scholars Press.
- RICE, P. M. 1987. *Pottery Analysis: A Sourcebook*. Chicago and London, The University of Chicago Press.
- ROTHENBERG, B. 1962. "Ancient Copper Industries in the Western Arabah". In: *Palestine Exploration Quarterly* 94, pp. 5-65.
- ROTHENBERG, B. 1972. *Timna: Valley of the Biblical Copper Mines*. London, Thames and Hudson.
- ROTHENBERG, B. 1980. "Die Archäologie des Verhüttungslager Site 30". In H. G. Conrad and B. Rothenberg (eds.), *Antikes Kupfer im Timna-Tal. 4000 Jahre Bergbau und Verhüttung in der Arabah (Israel)*. Der Anschnitt, Beiheft 1. Bochum, Deutsches Bergbau-Museum Bochum, pp. 187-213.
- Rothenberg, B. (ed.) 1988. *The Egyptian Mining Temple at Timna*. Researches in the Arabah 1959-1984 vol. 1. London, Institute for Archaeo-Metallurgical Studies, Institute of Archaeology, University College London.
- ROTHENBERG, B. 1999. "Archaeo-Metallurgical Researches in the Southern Arabah 1959-1990. Part 2: Egyptian New Kingdom (Ramesside) to Early Islam". In: *Palestine Exploration Quarterly* 131, pp. 149-175.
- ROTHENBERG, B. and J. GLASS, J. 1983. "The Midianite Pottery". In: J. F. A. SAWYER and D. J. A. CLINES (eds.), *Midian, Moab and Edom: The History and Archaeology of Late Bronze and Iron Age Jordan and North-West Arabia.* JSOT Supl. 24. Sheffield, JSOT Press, 65-124.
- SAIDEL, B. A. 2002. "Pot Luck? Variation and Function in the Ceramic Assemblages of Pre-Camel Pastoralists in the Negev Highlands, Israel". In: *Journal of The Israel Prehistoric Society* 32, pp. 175-196.

- Sheffer, A. 1976. "Comparative Analysis of the 'Negev Ware' Textile Impression from Tel Masos". In: *Tel Aviv* 3, pp. 81-88.
- SHEFFER, A. and A. TIDHAR. 1988. "Textiles and Textile Impressions on Pottery. In: B. ROTHENBERG (ed.), *The Egyptian Mining Temple at Timna*. Researches in the Arabah 1959-1984 vol. 1. London, Institute for Archaeo-Metallurgical Studies, Institute of Archaeology, University College London, pp. 224-231.
- SINGER-AVITZ, L. 2002. "Arad: The Iron Age Pottery Assemblages". In: *Tel Aviv* 29, pp. 110-214.
- SLATKINE, A. 1974. "Comparative Petrographic Study of Ancient Pottery Sherds from Israel". In: *Museum Haaretz Yearbook* 15-16, pp. 101-111.
- SLATKINE, A. 1978. "Étude microscopique de poteries anciennes du Negev et du Sinai". In: *Paleorient* 4, pp. 113-130.
- STARK, M. T. 2003. "Current Issues in Ceramic Ethnoarchaeology". In: *Journal of Archaeological Research* 11, pp. 193-242.
- Tebes, J. M. 2004. "Cerámicas 'Edomita', 'Madianita' y 'Negevita': ¿Indicadoras de grupos tribales en el Negev?" In: *Antiguo Oriente* 2, pp. 27-49.
- Tebes, J. M. 2005. "The Socioeconomic Evolution of the Negev and Southern Jordan in the Iron Age". In: *American Schools of Oriental Research Newsletter* 55-3, p. 12 = *Albright News* 10, p. 11.
- Wood, B. G. 1990. The Sociology of Pottery in Ancient Palestine: The Ceramic Industry and the Diffusion of Ceramic Styles in the Bronze and Iron Ages. JSOT Supl. Series 103. JSOT/ASOR Monographs 4. Sheffield, JSOT.
- Woolley, C. L. and T. E. Lawrence. 1914-1915. "The Wilderness of Zin". In: *Palestine Exploration Fund Annual* III.