Problems and solutions in dating Nabataean pottery of the post--annexation period

Abstract: In the desert regions of the Southern Levant, the dating of Nabataean sherds and vessels is a critical factor in determining the dates of archaeological strata, architecture, and even entire sites. In recent years, archaeologists working at Petra and related sites have tended to date most Nabataean sherds and vessels to the 1st century CE based on the proposed typo-chronology of the Swiss–Liechtenstein excavations at ez-Zantur in Petra, published by Stephan G. Schmid (2000). Accepted typo-chronologies must withstand scrutiny and can override imposed historical frameworks. However, an uncritical reliance on the ez-Zantur chronology has created an artificial gap in the material record of Petra and other Nabataean sites in the post-annexation period, that is to say, the 2nd and 3rd century CE. This paper provides a critique of the Nabataean fine-ware typo-chronology from ez-Zantur, based on finds from other excavations and sites, and proposes a revised chronology in which the production of Nabataean pottery, including painted and unpainted fine wares, unguentaria and lamps, continues unabated throughout the Middle Roman period until sometime in the first half of the 3rd century CE. The revised typo-chronology evinces a robust period of Nabataean culture at Petra and other related sites under Roman rule, like that found in other cities of the Roman East.

Keywords: pottery, Nabataean period, post-annexation period

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author's experience in the field of Nabataean archaeology has led to the identification of serious problems regarding the dating of Nabataean pottery of the Roman period. There is no need to emphasize the usefulness of Nabataean pottery in dating whole structures and sites in Petra and elsewhere. The implications are enormous. The problems that the author has come across range from the general to the specific, as the following remarks will demonstrate.

PETRA IN THE POST-ANNEXATION PERIOD

It is undisputed that Petra continued to be an important center in the post-annexation period and, like other cities in the East, it enjoyed an architectural and cultural renaissance under Roman rule. The city's financial standing in the Roman Empire was emphasized by Hadrian's declaring it "*Hadriane Petra Metropolis*" during his visit in 129–130 CE (Spijkerman 1978: 220–223, Nos 4–6, 8, 11, Pls 48–49; Bowersock 1983: 110–111; Birley 2000: 231, 234, 247, Note 47) and with Elagabalus granting it the honorific title of *Petra Colonia* (218–222 CE) (Bowersock 1983: 121; Spijkerman 1978: 236–237) [*Fig. 2*]. By way of contrast, the current typochronology of Nabataean pottery reflects a compulsion to compress the dates of Nabataean material culture into a narrow historical framework that effectively ends with the Roman annexation of Nabataea in the early 2nd century CE.

Fig. 1. Roman milestone with an inscription from the reign of Septimius Severus, discovered on the Incense Road in the Negev in March 2018 (Courtesy H. Ben-David and U. Avner)

The repertoire of Nabataean fine ware production in the post-annexation period was impressively broad, and surpassed that of the 1st century CE. This matches the large quantities of Nabataean piriform unguentaria produced at Petra in the post-annexation period to meet an ever-growing demand for perfumed oils in the Roman Empire (Johnson 1987: 29–33; for the large quantities of unguentaria produced see 'Amr 2004: 238). The erection of forts and milestones along the Petra–Gaza Incense Road during the reigns of the Roman emperors Pertinax and Septimius Severus (193–211) (Erickson-Gini and Israel 2013: 42, 50; Dolinka 2006: 189–190; Ben-David 2018; Ben-David and Isaac 2020) [*Fig. 1*] accentuates the importance of the lucrative trade in perfumed oils a full century after the establishment of the *Provincia Arabia*.

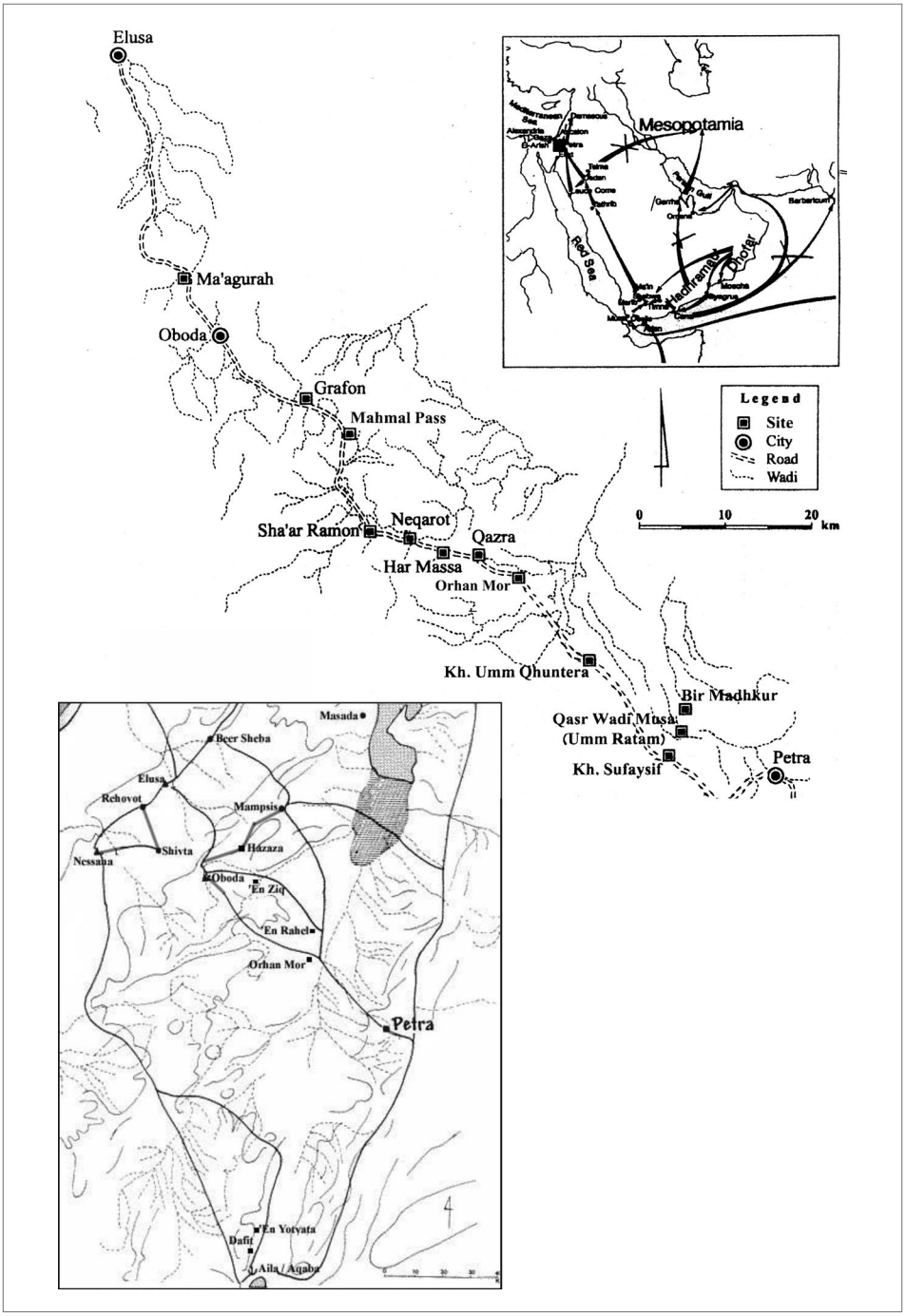

Fig. 2. Map of sites along the Petra–Gaza Incense Road; inset above, map of the region with the various trade routes; left, map with the location of other sites mentioned in the text (Maps above and inset, courtesy Israel Antiquities Authority; map on left T. Erickson-Gini)

UNCRITICAL RELIANCE ON THE EZ-ZANTUR CERAMIC CHRONOLOGY

The compression of the dates of the material culture in Petra, based on the ez-Zantur Nabataean fine ware typo-chronology and specifically Schmid's Phase 3 (Schmid 2000), has produced an artificial gap in the post-annexation period that is not justified either historically or materially. In relying on the typo-chronology from ez-Zantur, we are forced to accept an inexplicable paucity of material culture over an extremely long period of time, between 100 CE and well into the Early Byzantine period and the discovery of *in situ* assemblages sealed by the 363 earthquake: virtually 250 years in length.

With regard to ez-Zantur, the gap is described as follows: "due to the fact that the settlement on ez-Zantur was interrupted from the early second century A.D. until the first half of the fourth century A.D. there are very few pottery finds from the second and third centuries A.D." (Stucky et al. 1994: 284).

The over-reliance and uncritical use of the ez-Zantur ceramic typo-chronology by other researchers has perpetuated the acceptance of a compressed chronological framework and the aforementioned gap, despite data provided from other archaeological contexts in Petra and elsewhere, as is shown in this paper.

RE-EXAMINING THE DATING OF THE EZ-ZANTUR ASSEMBLAGES

A re-examination of the grounds for dating the ez-Zantur assemblages throws light on a number of problems, methodological and otherwise. The material derived from the ez-Zantur excavations was categorized and largely published separately (Schmid 2000), with the fine ware typo-chronology used as a benchmark for work on other material assemblages, whereas a holistic approach to the publication may have prevented subsequent flaws in the chronology that is so widely used by other researchers. In addition, the comparanda used by the excavators was mostly derived from sites with similar secondary contexts, funerary contexts or excavations with very small quantities of ceramic material. Comparisons from Negev's Oboda publications (1974; 1986) are particularly problematic in light of a number of methodological errors and identifications on the part of the excavator.

The basic chronology of the ez-Zantur excavations was determined in the early years of the excavation (Stucky et al. 1992: 181). This chronology and the interpretation and dating of the layers of deposition were never revised as the excavations progressed between 1988 and 1997 despite an "ensemble of lamps" and coins of the later 2nd century CE discovered in Area EZ III, reported by Matthias Grawehr and published in 1999 (Kolb et al. 1999: 272–273). This ensemble of lamps, as well as other vessels, was found in a room with coins, the latest of which dates to the reign of Commodus (180–191 CE).

FLAWS IN DATING EZ-ZANTUR PHASE 3

Phase 3 in the ez-Zantur chronology was divided into three subphases (referred to as Dekorphases): 3a, 3b and 3c. The fine ware typo-chronology published from

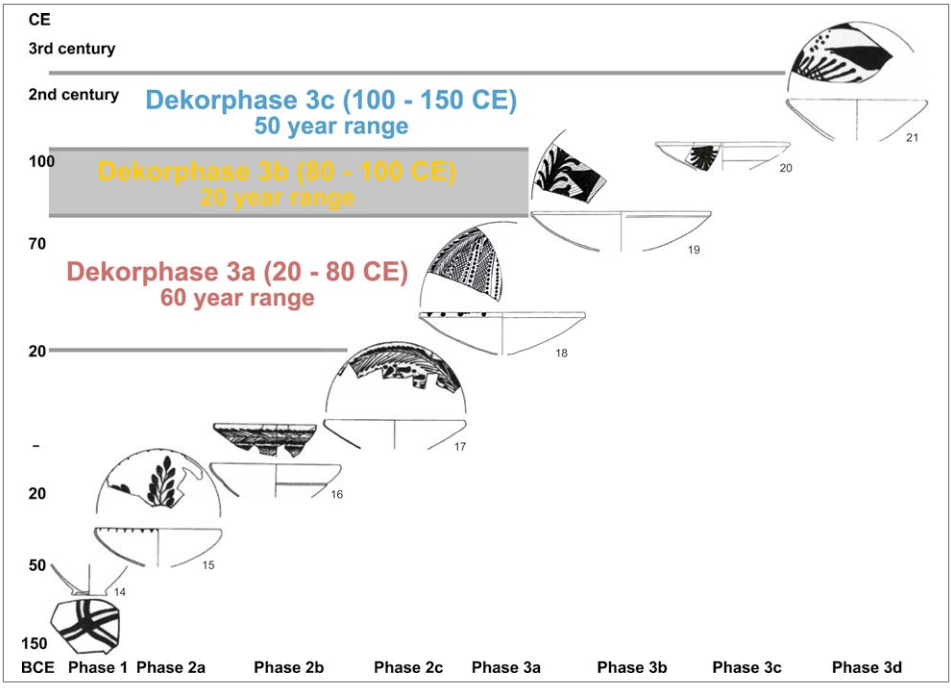

Fig. 3. Time ranges for the subphases of Phase 3 at ez-Zantur in Petra (After Stucky et al. 1994: Fig. 11)

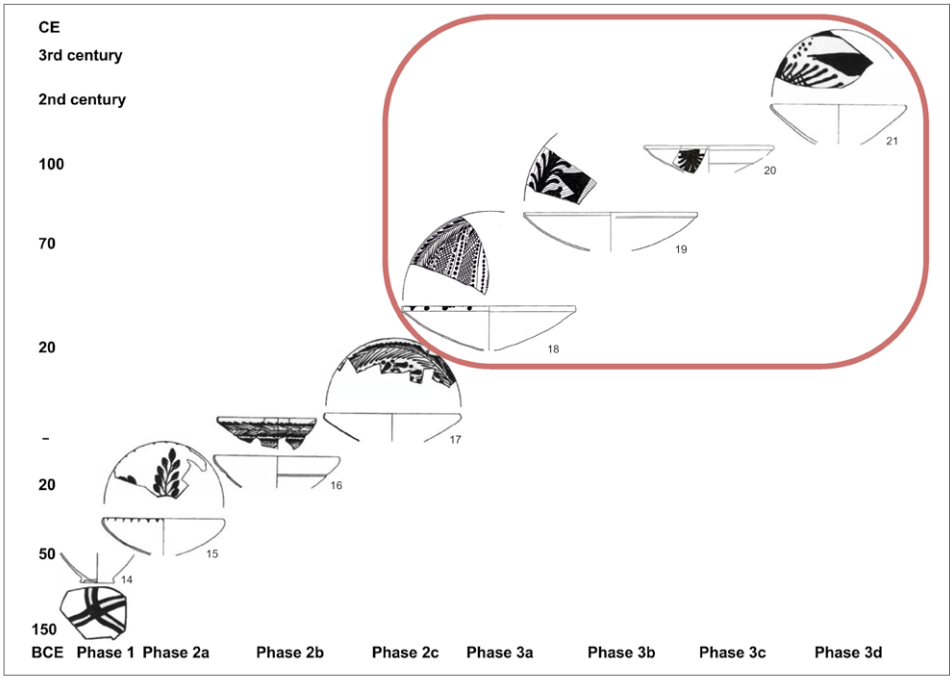

Fig. 4. Proposed dates for Phase 3 at ez-Zantur in Petra: 20–150 CE (After Stucky et al. 1994: Fig. 11)

ez-Zantur was largely based on the excavation of "five meters of uninterrupted layers" of deposition on the slope in Area EZ II (Schmid 2000: 19) and particularly from one of the layers closest to the surface: FK 3 Schicht 15 (Schmid 2000: Fig. 412). These depositional layers are of a secondary nature and the upper layers, close to the surface (FK 3) contained a mix of ceramic sherds assigned simultaneously to three subphases: 3a, 3b and 3c (Schmid 2000: 184). In addition, the chronology of Phase 3 at ez-Zantur was based on an extremely small amount of datable material: no coins were available to date either Subphase 3a or Subphase 3c (Schmid 2000: Fig. 420). The dating of Phase 3 depended heavily on a very small share of imported fine ware sherds, mainly Eastern Sigillata A (ESA).

Subphase 3a (20 to 70/80 CE)

Subphase 3a is dated primarily on the presence of a single sherd: WTS (Western Terra Sigillata) form, Conspectus 20, 4. (Schmid 2000: Fig. 420). Despite a proposed 60-year span for Subphase 3a, according to the excavators, very few 'homogenous' loci (FKs) of this subphase were found at ez-Zantur (Schmid 2000: 38). This raises the question of the apparent disproportion: how could such a long timespan be so underrepresented at the site?

Subphase 3b (80 to 100 CE)

Subphase 3b is the most important phase and it is represented by the most ubiquitous types of Nabataean pottery. In accepting the typo-chronology from ez-Zantur, researchers are required to accept an extremely short span of 20 years for a very large amount of pottery and types that make up the majority of the Nabataean ceramic corpus [*Fig. 3*]. This, in turn, implies accepting the introduction of this completely new and extensive ceramic assemblage within the span of approximately a decade, as well as its abrupt termination 20 years later.

Subphase 3c (100 to 150 CE)

The latest subphase, 3c, is considered the final stage of Nabataean ceramic production, which in the typo-chronology from ez-Zantur extends only to the middle of the 2nd century CE. A correct dating of the ranges of the two subphases, 3b and 3c, is critical for understanding the disappearance of Nabataean material culture [*Fig. 4*].

Chronological overlap in Subphases 3b and 3c

According to the excavators, the ceramic material from the three subphases of Phase 3 was not derived from sealed or "clean" loci and this material was frequently found in mixed contexts as reported in 1994: "the destruction layers of the very early second century always show quantities of pottery from phase 3b together with some specimens of 3c" (Stucky et al. 1994: 284) [*Fig. 5*].

Regarding Subphases 3b and 3c, covering the period between 80 and 150 CE, the ESA form used in their dating, Hayes 56, is listed in both. However, according to Frederick O. Waagé, Form 56 was found at Antioch in Antonine deposits (138–192 CE) (Hayes 1985: 39). The contradiction was repeated: "The cornerstones [of the dating] are ESA forms, beginning with Hayes 37B (60 CE) un-

Nr.	FK	Feinkeramikphase	Objekt	Datierung	
1	263	1	RS Hayes 18	150-100 v.Chr.	
2	447	1	BS Hayes 20	150-100 v.Chr	
3	472	1	RS Hayes 17B	150-100 v.Chr.	
4	553	1 L	RS Hayes 2A	150-100 v.Chr.	
5	457	1	RS schwarzgef.	-100 v.Chr.	
6	457	1	2 WS schwarzgef.	-100 v.Chr.	
7	472	1	RS schwarzgef.	-100 v.Chr.	
8	472	1	WS schwarzgef.	-100 v.Chr.	
9	489	1	WS schwarzgef.	-100 v.Chr.	
10	551	1 L	WS megar. Becher	-100 v.Chr.	
11	II/11	1 L	RS Hayes 2A/B	150-75/50 v.Chr.	
12	449	1	WS Hayes 15A	100-50 v.Chr.	
13	263	1	RS Hayes 38	um 50 v.Chr.	
14	453	1	RS Hayes 22	Ende 2. Jh. v. - 10 n.Chr.	
15	457	1	RS Hayes 22B	Ende 2. Jh. v. - 10 n.Chr.	
16	474	1	RS Hayes 22	Ende 2. Jh. v. - 10 n.Chr.	
17	529	1	RS Hayes 22	Ende 2. Jh. v. - 10 n.Chr.	
18	578	1 L	RS Hayes 5B	Ende 2. Jh. v. - 14 n.Chr.	
19	582	1 L/1 W	BS Hayes 3	Ende 2. Jh. v. - 14 n.Chr.	
20	587	1	RS Hayes 5B	Ende 2. Jh. v. - 14 n.Chr.	
21	II/28/29	1 L/1 W	RS Hayes 4	Ende 2. Jh. v. - 20 n.Chr.	
22	299	2a fr	RS Hayes 7	50-1 v.Chr.	
23	501	2a fr-2a sp	WS Hayes 24	Ende 1. Jh. v.-Anfang 1. Jh. n.Chr.	
24	525	2a fr-2a sp	BS Hayes 22B	Ende 2. Jh. v. - 10 n.Chr.	
25	113	2a fr-2a sp	Bz-Münze	24/23 v.Chr.	
26	523	2a fr-2a sp (wenig 2b fr)	RS Hayes 8	50-25 v.Chr.	
27	113	2a fr-2b fr	RS Hayes 9	50-25 v.Chr.	
28	293	2a sp	WS WTS	ab 30 v.Chr.	
29	352	2a sp (wenig 2b fr-2b m)	Bz-Münze	6/5 v.-40 n.Chr.	
30	352	2a sp (wenig 2b fr-2b m)	RS Hayes 45	1-50/60 n.Chr.	
31	244	2a sp (wenig 2b fr-2b sp)	RS Pomp. RW	12 v.-16 n.Chr.	
32	244	2a sp (wenig 2b fr-2b sp)	WS Pomp. RW	12 v.-16 n.Chr.	
33	259	2a sp (wenig 2b m-2b sp)	Bz-Münze	9 v.-102 n.Chr.	
34	341	2a sp-2b fr	WS Pomp. RW	12 v.-16 n.Chr.	
35	241	2a sp-2b sp	Bz-Münze	5/4 v.Chr.	
36	2001	2b m-2b sp	RS Hayes 5A	Ende 2. Jh. v. - 14 n.Chr.	
37	170	2b m-2b sp	Bz-Münze	18-40 n.Chr.	
38	239/242	2b m-2c (wenig 3a)	WS WTS	ab 30 v.Chr.	
39	282	2b sp	WS Pomp. RW	12 v.-16 n.Chr.	
40	2002	2b sp-2c	WS Pomp. RW	12 v.-16 n.Chr.	
41	347	2c-3c	RS Hayes 37B	60-100 n.Chr.	
42	1122	3a (wenig 3b)	RS Hayes 36/37	60-100 n.Chr.	Dekorphase 3a/ 60-year span
43	1122	3a (wenig 3b)	WS Consp. 20, 4	25-75 n.Chr.	
44	2000	3a-3b	BS Hayes 40A	80-120 n.Chr.	
45	333	3a-3c	RS Hayes 22B	Ende 2. Jh. v. - 10 n.Chr.	
46	478	3b (wenig 3a)	Bz-Münze	18-106 n.Chr.	Dekorphase 3b/ 20-year span
47	314	3b (wenig 3a)	RS Hayes 35	40-70 n.Chr.	
48	495	3b (wenig 3a)	Bz-Münze	76-102 n.Chr.	
49	491	3b (wenig 3a)	RS/BS Hayes 57	100-150 n.Chr.	
50	314	3b (wenig 3a)	RS Hayes 57	100-150 n.Chr.	
51	390	2c-3c, v.a. 3b	RS Hayes 37B	60-80/100 n.Chr.	
52	494	3b	Bz-Münze	6 v.-18 n.Chr.	
53	335	3b	WS Pomp. RW	12 v.-16 n.Chr.	
54	353	3b	Bz-Münze	18-40 n.Chr.	
55	132	3b	Bz-Münze	18-106 n.Chr.	
56	464	3b	RS Hayes 54	75/80-130/50 n.Chr.	
57	470	3b	Bz-Münze	76-102 n.Chr.	
58	466	3b	Bz-Münze	76-106 n.Chr.	
59	335	3b	Bz-Münze	85-102 n.Chr.	
60	319	3b	RS Hayes 57	100-150 n.Chr.	
61	337	3b	RS Hayes 56	100-150 n.Chr.	
62	464	3b	RS Hayes 56	100-150 n.Chr.	
63	466	3b	RS Hayes 57/58	100-150 n.Chr.	
64	28	3b (wenig 3c)	Bz-Münze	18-40 n.Chr.	Dekorphase 3b/3c/ mixed
65	28	3b (wenig 3c)	Bz-Münze	25-40 n.Chr.	
66	1062	3b-3c	BS Hayes 48	ab 40 n.Chr.	
67	325	3b-3c	RS Hayes 39	60-100 n.Chr.	
68	339	3b-3c	RS Hayes 54	75/80-130/50 n.Chr.	
69	339	3b-3c	RS Hayes 54	75/80-130/50 n.Chr.	
70	339	3b-3c	RS Hayes 56	100-150 n.Chr.	
71	339	3b-3c	RS Hayes 58	100-150 n.Chr.	
72	1062	3b-3c	RS Hayes 58/60	100-150 n.Chr.	
73	351	3c (wenig 3b)	RS Hayes 51	70-120 n.Chr.	Dekorphase 3c/ 50-year span
74	366	3c (wenig 3b)	RS Hayes 51	70-120 n.Chr.	
75	366	3c (wenig 3b)	RS Hayes 60A	100-150 n.Chr.	
76	400	3c (wenig 3b)	RS Hayes 55/57	100-150 n.Chr.	
77	396	3c	RS Hayes 58	100-150 n.Chr.	
78	402	3c	RS Hayes 56	100-150 n.Chr.	

Fig. 5. Finds (coins and ceramics) dating the subphases of Phase 3 (After Schmid 2000: Fig. 420)

til 150 CE (Hayes 56 and 60A) and the synthesis of the two associations and the dating of the individual forms are around 100 CE or shortly thereafter" (Bignasca et al. 1996: 164). Since Hayes 56 dates later than 150 CE, most of the forms and motifs of the two subphases, 3b and 3c, actually belong to the second half of the 2nd century CE or later.

Regarding the painted decoration on Nabataean vessels, the excavators reported the 'phenomenon' of painted decoration attributed to Subphase 3c occuring on Subphase 3b closed forms (Schmid 2000: 79, Note 329, 82). This is yet another example of the problematic nature of the description of readily identifiable types. If Subphase 3c painted motifs appear on a vessel, that vessel (form and decoration) should be identified as a Subphase 3c type.

This 'phenomenon' was noted on cups and bowls: "3c decoration was found on vessels which occur mainly in 3b" (Schmid 2000) [*Fig. 6*]. Examples include a carinated bowl with Subphase 3c decoration (Schmid 2000: 57); cups with Subphase 3c decoration (Schmid 2000: 59), cups with Subphase 3c decoration (Schmid 2000: 62) and a juglet with Subphase 3c decoration (Schmid 2000: 79).

Fig. 6. Subphase 3c decoration on a fine ware cup from the AEP excavations in Area I (Courtesy ACOR)

There appears to be no justification for the beginning dates of either 3b (80 CE) or 3c (100 CE), or their terminal dates (100 CE and 150 CE respectively). No 'clean' loci, that is to say, sealed contexts, were offered to prove the dating of Subphases 3b and 3c. Instead, the contexts are mixed with both earlier (3b) and later (3c) material. This begs the question as to why a terminal date of 100 CE was fixed for Subphase 3b. The coin evidence is scanty; some of the coins could date as late as 106 CE and there is a discrepancy between the dates of the coins and the imported fine wares, many of which date later than 100 or 106 CE [*Table 1*]. "Debased" painted fine wares, corresponding to Schmid's Dekorphase 3c, dated to the period between 100 and 150 CE, have created an artificial gap of nearly 200 years between the mid-2nd century CE and the painted non-fine ware vessels designated Dekorphase 4, E1 b 175–177 (Schmid 2000: Figs 94–96), which date 363 CE or later. The plain ware with painted decoration of this type was assigned to the Late Roman II phase (later 4th–early 5th century CE) (Fellmann Brogli 1996: 237, 240, 261).

Table 1. Phase 3 coins: breakdown by subphase

Subphase	Quantity	Date range
3a	0*	–
3b	8	18–106 CE
3b/3c (mixed)	2	18–40 CE
3c	0	–
Total	10	

DATING OF KEY TYPES OF PAINTED DECORATION: E 2A 378 AND E 1B 10

The best chronological peg for Subphase 3a is Type E 2a 378 (latticework motif), which is frequent at Masada, particularly in the Roman army camp of about 73/74 CE (Camp F) (Magness 2005: Figs 3:1–5, 6:11, 9:9, 10:5, 11). The latticework decoration of Subphase 3a Type E 2a 378 has been found in contexts with earthquake destruction from the early 2nd century CE, for instance, at ʻEn Yotvata (Erickson-Gini 2012: Figs 5:7–8), Horvat Dafit (Dolinka 2006: 123,

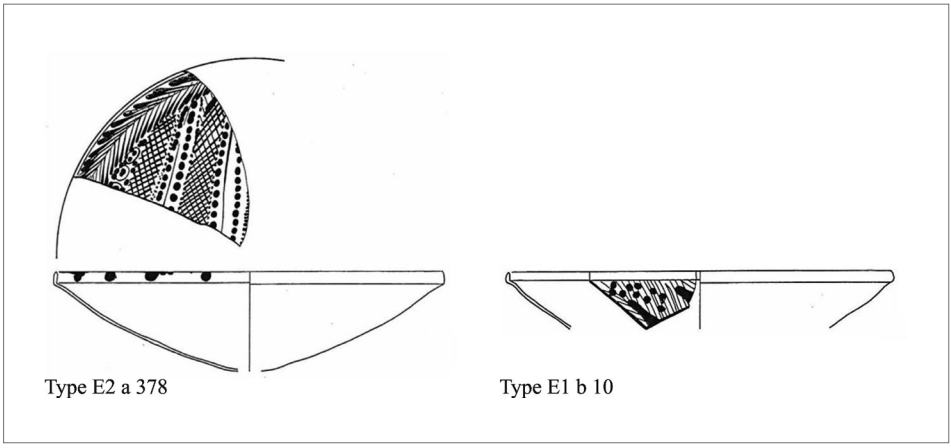

Fig. 7. Subphase 3a dating evidence: left, Type E2 a 378 from Masada; right, Type E1 b 10 not found in Masada (After Schmid 2000)

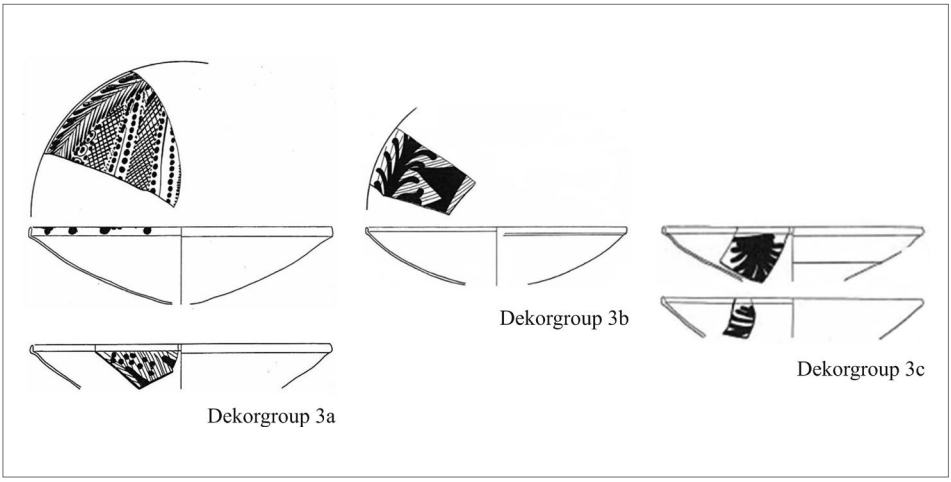

Fig. 8. Type E1 b 10 appearing in all three subphases: 3a, 3b and 3c, at ez-Zantur (After Schmid 2000)

126), Horvat Hazaza (Erickson-Gini 2019: 167) and the Nabataean fort at 'En Rahel (Erickson-Gini et al. forthcoming). Sherds with this kind of decoration were discovered in an early structure below the Roman army camp at Oboda, together with coins of the First Jewish Revolt (68 CE) (Erickson-Gini 2002: 115) [*Fig. 7* left]. No firm data is available to fix the beginning of the production of Subphase 3a Type E 2a 378 and the evidence referred to above indicates that it may have extended to the end of the 1st century CE.

The second type of painted decoration, also assigned to Subphase 3a, is Type E 1b 10, which is not found in Masada [*Fig. 7* right]. There does not appear to be any justification for including this type in Subphase 3a. It is frequent in the 2nd century CE (post-annexation contexts) and has a wide range, making it the most commonly identifiable type of painted fine ware at Nabataean sites and beyond.

A reliance, since 2000, on the Nabataean fine ware typo-chronology based on the ez-Zantur finds inadvertently produced a case of circular dating with regard to Garrison 2 at Masada (Erickson-Gini and Tuttle 2017: 117–118, Note 27). Schmid had based his terminal date for Subphase 3a at ez-Zantur on preliminary reports and photographs from Masada published by Yigael Yadin (1967), but none of these included examples of Type E 1b 10. Subsequently, Bar-Nathan used the typo-chronology from ez-Zantur in her Masada corpus and did not notice this discrepancy (Bar-Nathan 2006).

In the Nabataean fine ware typo-chronology from ez-Zantur, Type E 1b 10 is listed as appearing in different forms in all three phases (supposedly covering a period between 20 CE and 150 CE) (Schmid 2000: 184). The Type E 1b 10 motif is all that unites these three different forms under one type classification [*Fig. 8*].

Notably, Dekorphase 3b Type E 1b 10 was absent from the assemblage of the Nabataean fort at 'En Rahel and the two-storey structure at 'En Yotvata (Erickson-Gini 2012). Both of these structures are located in the Wadi Arabah and were destroyed by an earthquake in the early 2nd century CE and never reoccupied.

The bowl representing Dekorphase 3b Type E 1b 10 in Schmid's typo-chronology (2000: 184, Fig. 90) was excavated from EZ II, FK 3, Schicht 15. It is identical to a bowl discovered above the cover stones of Tomb 108 at Mampsis, in context with lamps and other vessels of the 2nd and 3rd century CE (Negev 1986b: 79, Note 19; Negev and Sivan 1977: 126, Fig. 7). At Oboda, this kind of decorated bowl was discovered in an abandoned pantry along with numerous other vessels including ones securely dated to the late 2nd–early 3rd century (Erickson-Gini 2010: Fig. 2:2), and at Petra it was discovered in a ceramic hoard on the lower floor of the antechamber in the Early House in Area I of the AEP excavations, together with other securely dated Middle Roman vessels (Erickson-Gini and Tuttle 2017: Figs 8: 20; 10:1–2).

Another high-quality painted fine ware bowl, with bold decoration in the form of a palmette, pomegranates, six-pointed stars etc. [*Fig. 9*], is also attributed to Type E 1b 10 (Schmid 2000: Pls 3:7; 4:9–10). These rather

well-preserved bowls are presented in the publication visually rather than textually, with photographs but little actually said in the text. Excavations at other sites suggest that they were produced towards the end of the fine ware tradition, sometime in the early 3rd century CE, parallel to the production of Subphase 3c painted Nabataean wares. Examples of high-quality bowls with this kind of decoration have been found in similarly good condition in abandoned contexts, such as the Oboda pantry (Erickson-Gini 2010: Fig. 2:3), the painter's workshop in the Temple of the Winged Lions, where a stack of six such bowls was discovered (1981 AEP Registry, Nos 39–44) (Erickson-Gini and Tuttle 2017: 128–129, Fig. 13:4) and in a ceramic hoard discovered on the lower floor of the Early House in Area I (Erickson-Gini and Tuttle 2017: Fig. 10:3).

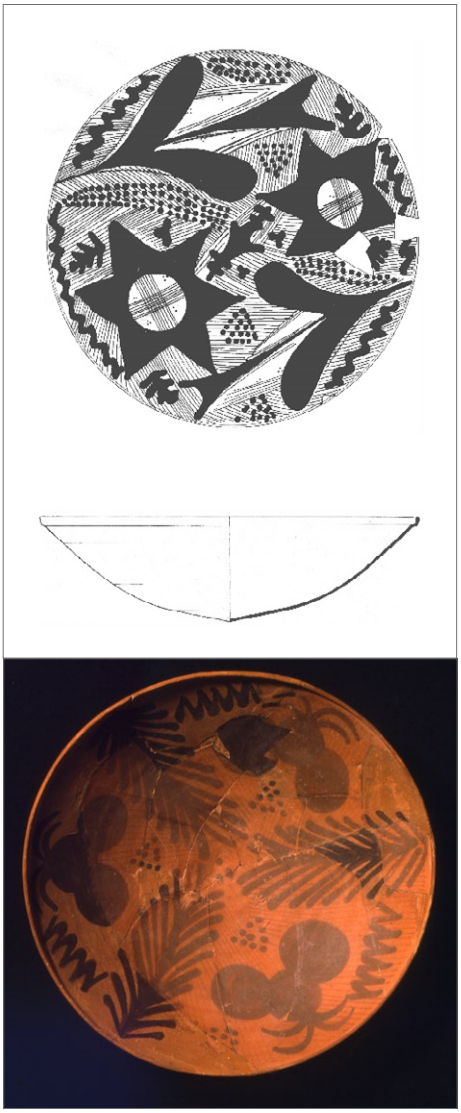

Fig. 9. Painted fine ware bowl Type E 1b 10: top, Oboda, late 2nd–early 3rd century CE; bottom, Orhan Mor, late 2nd–early 3rd century CE (After: top, Erickson-Gini 2010: Fig. 2:3; bottom, Erickson-Gini and Israel 2013: Fig. 28)

The same type of decoration was observed on painted fine ware bowls in Tomb 2 of the North Ridge Tombs (Bikai and Perry 2001: Fig. 7:7–8), together with those classified as Subphase 3c (Bikai and Perry 2001: Fig. 7:9–10), as well as other vessels of the Middle Roman period referred to below. However, due to dependence on the typo-chronology from ez-Zantur, this tomb was misdated to an extremely short period of use between 80 and 100 CE: "Indeed, the indications are that these two tombs present two distinct Nabataean ceramic horizons of the first century AD" (Bikai and Perry 2001: 67). Moreover, the excavators ignored the presence of Subphase 3c painted fine ware bowls (Bikai and Perry 2001: Fig. 7:9–10), as well as the latest forms of Nabataean piriform unguentaria (Bikai and Perry 2001: Fig. 9:7, 11), Johnson Type XII, dated to 225–250 CE (Johnson 1987: Fig. 7) (see below).

MASSIVE INCREASE OF KEY FORMS

Schmid reported a massive increase of three particular groups of unpainted fine wares, referred to as "key forms", (Groups 7, 8 and 9). Regarding Group 7, Schmid noted that whereas the earlier key form groups rarely exceeded 100 sherds in any given locus, hundreds of sherds of Group 7 bowls were often collected per locus (Schmid 2000: 10). He further adds that bowls of this group were usually accompanied by dozens of vessels belonging to Groups 8 and 9, the former being a small, shallow bowl or cup with a plain or rouletted base (Type E 3 a 2; Schmid 2000: Figs 57–60); and the latter a wide, carinated bowl that often comes with rouletted decoration (Types E8 a 94, 95, 97; Schmid 2000: 9, Figs 62–65) or with no decoration (Type E 8a 96; Schmid 2000: Fig. 61). Schmid reports an "overwhelming preponderance" of Group 7 vessels and associated vessels of Groups 8 and 9 in EZ III, while only "sporadic amounts" of any other forms were found there (Schmid 2000: 21). A close examination of finds from EZ II, FK 3 (Schmid 2000: Fig. 420) reveals bowls with rouletted bases, carinated rims, and carinated, rouletted bowls (Groups 7–9) and a late, painted ware cup (No. 212) that clearly dates much later, even when using the Nabataean fine ware typo-chronology from ez-Zantur.

Despite the impressive quantities of these forms reported at ez-Zantur and noted by the writer at numerous other sites, Schmid's ceramic typo-chronology confines them largely to Subphase 3b, an extremely short span of only 20 years(!). Moreover, while Groups 7, 8 and 9 are assigned to Subphase 3b, they were also present in Subphase 3c (Schmid 2000: 10).

These three groups make up the most ubiquitous types of Nabataean fine wares, not just at ez-Zantur, but throughout Petra and at other sites as well. They are strikingly numerous at sites along the Incense Road (Erickson-Gini and Hirschfeld forthcoming), as well as in the AEP excavations in Petra, where they are designated "late" Nabataean and even "Byzantine" by Hammond and Russell in the find registers and their notes from 1974–1977 (Erickson-Gini and Tuttle 2017: 121–122).

One of the most ubiquitous bowls, which Schmid assigned to Group 7, Type E1 c 8, is a Nabataean plain fine ware bowl with low base (Schmid 2000: Fig. 52) that also appears in semi-coarse fabrics. The form of this plain fine ware bowl appears to be a variation of Group 6 (Schmid 2000: Figs 44–51) rather than the Group 7 bowls with carinated rims (and rouletted bases). Thus, it has a particularly long tradition (1st century CE through the early 3rd century CE) with only slight modifications. The example presented (Schmid 2000: Fig. 52) came from Area EZ I, FK 314, which also produced ESA Form 57. Hayes describes this ESA form as one of the most common of the first half of the 2nd century CE (Hayes 1985: 39), thus corresponding to Schmid's Subphase 3c. Type E1 c 8 continued to be produced until the cessation of the fine ware tradition in Petra. A number of complete bowls of this type, some of which were stacked together, were uncovered at sites along the Petra–Gaza Incense Road, in Orhan Mor (erroneously identified as Mo'a/

Arabic: Moyat Awad) and Sha'ar Ramon (Erickson-Gini and Hirschfeld forthcoming) [see *Fig. 2*]. Their state of preservation suggests that they were left behind in the early 3rd century, possibly in the wake of an epidemic. Regarding this bowl, Dolinka has demonstrated, based on a find from Horvat Dafit (near Aila), that the Aqaba Ware form of this bowl (his Form B2) continues to occur frequently throughout the 2nd and early 3rd century CE:

> Of importance regarding these B2 bowls from Horvat Dafit is their date: they all come from Phase 3. In the initial study of this form of Aqaba Ware bowl, it was suggested that the vessel walls became thicker and coarser toward the end of the 1st century and then the form disappeared altogether sometime in the mid-2nd century (Dolinka 2003: 66). Their presence in Severan-era deposits from Dafit, with vessel walls that are as thin as their 1st-century counterparts, demonstrates a strong continuity of the form into the early-3rd century and perhaps beyond. Therefore, this form cannot and should not be used as a dating tool for strata in the absence of other ceramic or numismatic evidence (Dolinka 2006: 167–168).

Numerous complete examples of these three groups have been discovered in contexts of the 2nd and even early 3rd century CE (particularly Group 7) (Dolinka 2006), while the latter two types are strongly represented in contexts of the early 3rd century CE. These latter two groups reflect a preference for carinated bowls and cups and also rouletted (actually pared) decoration on the base or wall of the bowls towards the end of the fine ware tradition in the early 3rd century CE.

The small, shallow bowl or cup of Group 7 with a plain or rouletted base (Type E 3a 2; Schmid 2000: Figs 57–60) is a type that has been discovered in the Oboda pantry (Erickson-Gini 2010: Fig. 2:9) and the Petra North Ridge Tomb 2 (Bikai and Perry 2001: Figs 8:6–7).

The popularity of carinated bowls and cups corresponding to Schmid's Groups 8 and 9 extends to undecorated fine wares and plain wares. Plain carinated bowls were discovered in contexts dated to the mid-2nd century CE in Kiln VI at al-Zurraba ('Amr and al-Momani 1999: Fig. 9: 12). An *in situ* assemblage of bowls and other vessels was uncovered in the painter's workshop in the Temple of the Winged Lions with a coin of the 3rd century CE (Erickson-Gini and Tuttle 2017: 126, Fig. 12:24). Plain fine ware carinated bowls, cups and late versions of Groups 6 and 7 were found in large quantities in the 'antechamber' of the Early House of Russell's Area I from the same excavations (Erickson-Gini and Tuttle 2017: 133–134).

No examples of any of the three groups described above (Types E 1c 7, E 3a 2 and E 8a 94, 95, 97) were noted in the 1st century CE Nabataean structures at 'En Yotvata (Erickson-Gini 2012) or the Nabataean forts of 'En Rahel and 'En Ziq, all of which were abandoned at the same time prior to the Roman annexation in 106 CE. Complete examples of all three groups were discovered along the Petra–Gaza Incense Road in early 3rd century CE contexts, for example, Orhan, Sha'ar Ramon and Oboda (Erickson-Gini and Hirschfeld forthcoming) [see *Fig. 2*].

BEYOND EZ-ZANTUR: DIAGNOSTIC VESSELS OF THE LATE 2ND–EARLY 3RD CENTURY CE

In addition to the types of vessels and decorative motifs discussed above, there are other "key" vessels and decoration that are very useful in correctly dating Nabataean assemblages of the late 2nd and early 3rd century CE. These include fine ware bowls, cups and beakers, globular decanters, jugs and juglets, cooking wares, flasks, ceramic unguentaria and oil lamps. The ubiquity of these forms suggests that they are more useful for dating assemblages than the long-lived painted-ware motif (Type E 1b 10) discussed above that is most commonly used by researchers.

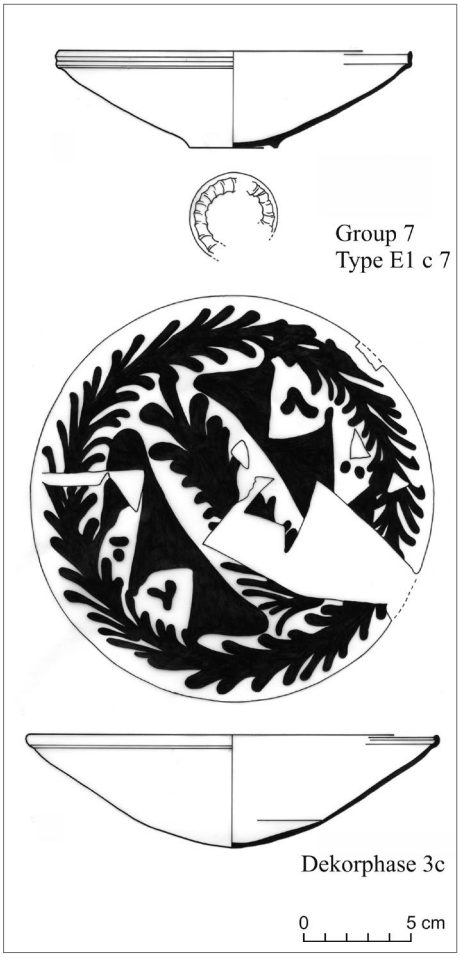

Fig. 10. Fine ware bowls found together in a cache of abandoned vessels at Petra's Upper Market: top, Type E1 c 7, with carinated rim and rouletted base; bottom, Dekorphase 3c painted fine ware bowl (Courtesy BUPAP)

ROULETTED DECORATION

Rouletted decoration, which rarely appears in contexts of the 1st century CE, becomes a dominant form of decoration, even on closed forms such as barrel-shaped jugs and decanters, towards the end of the fine ware tradition in the early 3rd century CE as is made apparent at sites along the Petra–Gaza Incense Road (Erickson-Gini and Hirschfeld forthcoming). This kind of decoration is found in abundance on vessels discovered in the Petra North Ridge Tomb 2 assemblage (Bikai and Perry 2001: Figs 7:1; 8:1, 9, 11–12). Obviously, due to their abundance, these types of vessels are particularly important diagnostic indicators that outweigh the highly visible painted-ware sherds at Nabataean Roman sites.

A particularly ubiquitous and valuable diagnostic vessel is a fine ware bowl with carinated rim and rouletted base, corresponding to Type E1 c 7, included in Group 7 (Schmid 2000: Figs 54–56) [*Fig. 10* top]. A complete example of this form was discovered in a cache of abandoned ceramic vessels in a disused water channel in the Upper Market at Petra in 2010, together with Dekorphase 3c painted-ware bowls, rouletted jugs and

other fine ware vessels [*Fig. 10* bottom]. Likewise, this type of bowl appears to have been discovered in the Qasr al-Bint assemblage of the first half of the 3rd century CE (Augé et al. 2014: 24, Fig. 1.6).

FINE WARE CUPS AND BEAKERS

Undecorated and painted fine ware cups are an important diagnostic feature of the late 2nd and early 3rd century CE, as attested by numerous cases at most of the sites along the Incense Road (Erickson-Gini and Hirschfeld forthcoming). The painted examples are usually decorated with a running wreath and/or 'stylized dolphin' motifs, the former being a common motif on painted vessels from the very end of the painted ware tradition in the 3rd century CE. Both motifs show up on heavy plain ware bowls in late (Phase 4) contexts at ez-Zantur (Fellmann Brogli 1996: Figs 844–849) and at other sites, including the Hazeva *quadriburgium*, in 363 CE earthquake destruction levels (Erickson-Gini 2010: Fig. 4:1), as well as the Yotvata *quadriburgium* (Magness and Davies 2015: Fig. 1.3) and Dajaniya (Parker 2006: Fig. 16.68: 340). The presence of these motifs on thick-walled, semi-coarse ware bowls of the later 4th century CE points to its continuity well into the 3rd century CE.

Several undecorated cups with a pedestal base were discovered at al-Zurraba, in contexts demonstrating an abrupt abandonment of the kilns in the late Roman period (Zayadine 1982: 390, Pl. CXL, 1–2). More recently, undecorated cups of this type, as well as a painted-ware beaker, were uncovered in the Qasr al-Bint assemblage dated to the first half of the 3rd century CE (Augé et al. 2014: 24, Figs 1.4–1.6). Painted cups and beakers of this type, discovered at Khirbet al-Nawafla, were correctly referred to as "Late Nabataean" by 'Amr (2004: 240, Figs 7–8). A completely preserved, undecorated fine ware cup was discovered in the Oboda pantry dated to the early 3rd century CE (Erickson-Gini 2010: Fig. 2:24). Identical cups with painted decoration were found on the surface in the Mampsis necropolis (Negev and Sivan 1977: Fig. 9:64), while a nearly identical painted cup from a Roman *caravanserai* in Oboda was discovered with a coin of the mid-3rd century CE (Cohen 1980: 46). Negev describes these cups as painted-ware vessels that appear at the end of the painted-ware tradition in the 3rd century CE (Negev 1977: 167, right). By comparison, Schmid assigns painted fine ware cups (Schmid 2000: Figs 212–214; 227–229) to Subphase 3c, effectively limiting their terminal date to 150 CE. At the same time, undecorated cups of the same form (Type F 2b 246) are assigned a date covering Subphases 2c to 3c (20 CE to 150 CE).

GLOBULAR DECANTERS, JUGS AND JUGLETS

Globular decanters, popular in this period, come in different forms: plain, with rouletted decoration, painted decoration or both together. An unusual number of intact decanters comes from contexts of abandonment, such as those uncovered in the AEP excavations at Petra, in the painter's workshop (Erickson-Gini and Tuttle 2017: 122; Fig. 12:15–17). Philip C. Hammond recognized the fact that these decanters show up in later contexts: one bearing traces of tan and black paint from Area III.10 SU 11 was dated to 363 CE in the AEP 2000 finds registry (Erickson-

Gini and Tuttle 2017). The unusual preservation of these fragile vessels suggests that they were left untouched in wake of an epidemic in Petra and along the Petra–Gaza Incense Road sometime in the early to mid-3rd century CE. Globular decanters, with and without rouletting, were also discovered in the Petra North Ridge Tombs 1 and 2 (Bikai and Perry 2001: Figs 5:19–20; 8:8, 14). A globular decanter is also present in the Qasr al-Bint assemblage dated to the first half of the 3rd century CE (Augé et al. 2014: 24, Fig. 1.4).

One type of globular decanter has a wide neck and flattened, triangular rim. This type of rim is markedly present in assemblages of the late 2nd through early 3rd century CE, making it a particularly important dating tool. These contexts include the Oboda pantry (Erickson-Gini 2010: Fig. 2:43), Orhan Mor (Cohen 1987: 29) [*Fig. 11* left], and the AEP excavations in Petra, where examples were uncovered together with Middle Roman vessels of the late 2nd–early 3rd century CE in Area I.5N, SU 162, and in the painter's workshop (Erickson-Gini and Tuttle 2017: 122, Figs 9:12–14; 12:15). These rims have also been recorded with drippy 'debased' painted decoration, additional confirmation of its production in the late 2nd and early 3rd century CE (Erickson-Gini and Hirschfeld forthcoming). Variations of this type of decanter rim were published from ez-Zantur: Types G 13b 53 and G 13b 54 (Schmid 2000: Figs 310–312), re-

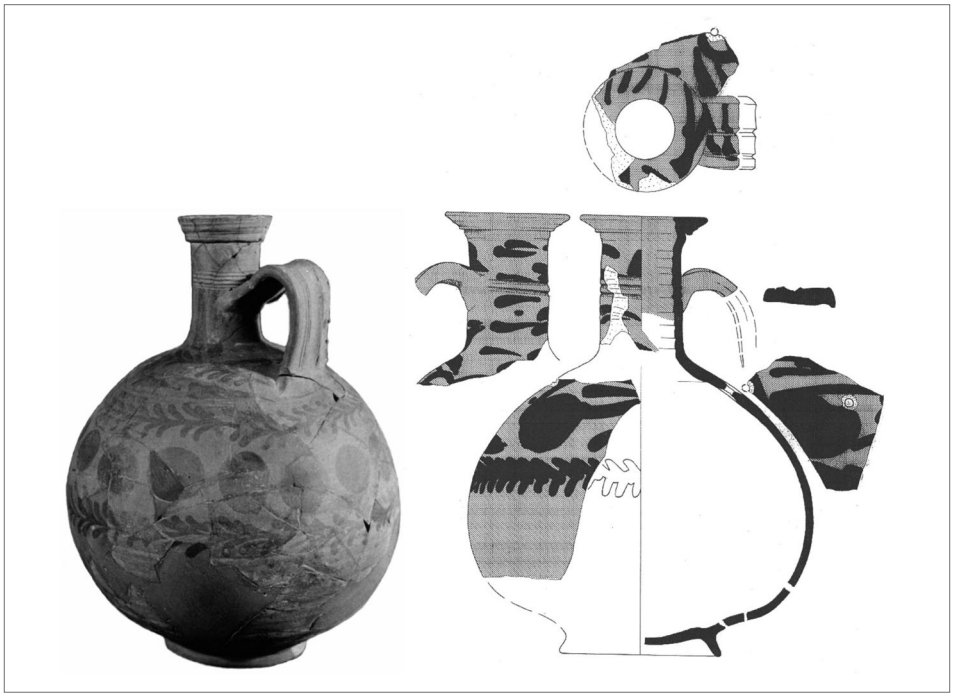

Fig. 11. Painted globular decanters: left, from Orhan Mor; right, from the Neqarot Fort (with a flattened, triangular rim (Photo after Cohen 1987: 29; drawing courtesy Israel Antiquities Authority | T. Erickson-Gini)

ported in Subphases 3b and 3c (Schmid 2000: 74). At Mezad Neqarot on the Petra–Gaza Incense Road, a complete painted-ware, globular decanter with this type of flattened-triangular rim [*Fig. 11* right] was discovered in a fort established in the Severan period (Erickson-Gini and Hirschfeld forthcoming), a date recently confirmed by the discovery of milestones from the reigns of Pertinax and Septimius Severus between the Mahmal and Grafon forts (Ben-David 2018: 1–3; Ben-David and Isaac 2020) [see *Fig. 1*].

Globular decanters can also have triangular, upturned rims, which is a variation of the flattened type described above. They were found in Petra North Ridge Tombs 1 and 2 (Bikai and Perry 2001: Figs 5:19–20; 8:8, 14), as well as at sites along the Petra–Gaza Incense Road (Erickson-Gini and Hirschfeld forthcoming). In the AEP excavations, an example of this type was discovered in the marble workshop (Erickson-Gini and Tuttle 2017: Fig. 13:18).

Burnished "barrel-shaped" jugs and juglets with flat bases (Erickson-Gini and Tuttle 2017: Fig. 15:2–3,5) [see *Fig. 12:2, 5*] also appear frequently in abandonment contexts of the first half of the 3rd century CE at, for example, Orhan Mor and Sha'ar Ramon (Cohen 1987: 29; Erickson-Gini and Tuttle 2017: 122) and the Qasr al-Bint assemblage (Augé et al. 2014: 24, Fig. 1.5). While most examples are not decorated, some have rouletted decoration (Erickson-Gini and Israel 2013: 29).

COOKING WARES

Certain plain ware forms, such as casseroles with horizontal handles, cooking ware jugs and other jug types [*Fig. 12:1, 4*], and even the curious zoomorphic 'ibex'

Fig. 12. Cooking ware from Orhan Mor: 1 – jug, 2, 5 – burnished, barrel-shaped jug and juglet, 3 – globular juglet, 4 – plain ware jug (Courtesy Israel Antiquities Authority | T. Erickson-Gini)

aquamanile, are vessels that are found in middle Roman contexts continuing well into the early Byzantine period, as demonstrated by debris levels from the 363 CE earthquake found at several sites (Erickson-Gini 2010: Fig. 4:60). Complete casseroles with horizontal handles have been found in the Oboda pantry (Erickson-Gini 2010: Fig. 2:70) and at Orhan Mor (Erickson-Gini and Hirschfeld forthcoming), and fragments representing the same type were uncovered in the remains of the Early House in Russell's Area I at Petra (Erickson-Gini and Tuttle 2017: Figs 8:24–25).

The typical Nabataean cooking form from the pre-annexation period, with slight variations, is well-represented in post-annexation contexts from the Oboda pantry (Erickson-Gini 2010: Fig. 2:63), the Early House in Area I at Petra (Erickson-Gini and Tuttle 2017: Figs 7:14; 10:30) and the Qasr al-Bint assemblage (Augé et al. 2014: 24, Figs 1.5–1.6).

FLASKS

Complete 'football-shaped' flasks are another type discovered in the Oboda pantry (Erickson-Gini 2010: Fig. 2:39) and in the latest phases (early 3rd century CE) at Horvat Dafit (Dolinka 2006: Fig. 4:35), Orhan Mor and the Neqarot forts (Erickson-Gini and Hirschfeld forthcoming) as well as on the Mediterranean coast at Shikmona in the 3rd century CE (Elgavish 1977: Pl. II:13).

CERAMIC UNGUENTARIA

David J. Johnson's chronology of Nabataean ceramic piriform unguentaria (Johnson 1987; 1990) has demonstrated that they were produced continuously from the end of the 1st century BCE through the first half of the 3rd century CE. The types represented in the ez-Zantur excavations (Schmid 2000: 75–76, Figs 317–319) appear to correspond to Johnson's later two groups rather than the earlier ones as published. Johnson's Groups 3 and 4 date to the 2nd and early 3rd century CE respectively. In the AEP excavations, the vast majority of piriform unguentaria, including a cache discovered in a storeroom in Area II.1 West (see Erickson-Gini and Tuttle 2017: 129–130, Figs 13:7–12), were discovered together with coins of the 2nd and 3rd centuries CE and Dekorphase 3c bowls: "The hoard of unguentaria suggests revitalization of the unguent trade. The number of recovered coins also indicated increased wealth and prosperity. Nabataean black-painted ware finally predominates the phase" (Hammond and Johnson 2000: 70).

Of the Nabataean piriform unguentaria, Johnson Type XII has the most secure date. In the AEP excavations at Petra, a cache of nine vessels of this type was discovered together with a number of coins, mainly from the first half of the 3rd century CE, in Area II.1 W, SU 64, in a room abutting the western side of the monumental stairway leading to the roof of the temple treasury (Erickson-Gini and Tuttle 2017: 129–131). The coins found with the cache include several issues of Septimius Severus (193–211 CE), one of Julia Domna (173–217 CE), one of Elagabalus (218–222 CE), one of Alexander Severus (222–235 CE), and one of Philip I (244–249 CE). A rare coin of Vabalathus of Palmyra (271–272 CE) was found above SU 69, in SU 67; a coin of Hadrian came from SU 68.

LAMPS

The reliance on the Nabataean fine ware typo-chronology from ez-Zantur has also its consequences for the lamps produced in Petra, where one ubiquitous type, Grawehr's Type I.1 (circular lamp with a small filler hole and ovoli motif on the shoulder) (Grawehr 2006: 310–314) [*Fig. 13* left] is categorized as three virtually identical subtypes that allegedly appeared in 80 CE and remained in use as late as 363 CE, an incredible span of nearly 300 years(!). A complete example of Grawehr's Subtype I.1c was discovered next to a hearth in the Early House, while the assemblage from the 'antechamber' of the house yielded an intact example of Grawehr's Type I.5 (identical to one found in EZ III with material from Phase 3c, a "local lamp of the later 2nd century AD"; Erickson-Gini and Tuttle 2017: Fig. 11:24). A lamp of this type was also discovered in Phase 3 (late 2nd–early 3rd century CE) at Horvat Dafit (Dolinka 2006: 153–154; Fig. 4:36).

The earliest lamp subtype, I.1a, was found at Petra in Tomb 64b, Loculus 5, in proximity with a coin of Septimius Severus (Zayadine 1982: 371). However, no examples of I.1a, which was so common in the ez-Zantur excavations, were present among the many sherds of lamps from the 1st century CE in the sealed midden underlying a room north of the marble workshop next to the Temple of the Winged Lions in Petra (1985 AEP register; Area II.I SU 92–93). The evidence points to its manufacture in the later 2nd /3rd century at Petra.

A lamp of particular interest, discovered by Cohen in the late 2nd–early 3rd century CE assemblage at Orhan Mor is a "Silenus lamp" [*Fig. 13* right] produced from the same mold as an identical lamp

Fig. 13. Clay oil lamps: left, Grawehr's Type I.1; right, "Silenus" lamp from Orhan Mor, early 3rd century CE (Photo courtesy Israel Antiquities Authority; drawing after Grawehr 2006: 310–314)

discovered in the excavations at Aqaba/Aila (Dolinka 2003: 133, No. 29). The excavators assigned a late 1st century CE date to the Aila lamp. A third, identical Silenus lamp, presented by François Renel at the 2014 roundtable at ACOR in Amman, was found as part of yet another abandoned cache of pottery in a water channel at Petra, this time in the C4 building in the area of the Qasr al-Bint. This assemblage was dated to the first half of the 3rd century CE by the excavators. Although it remains to be published, other vessels from the assemblage can be viewed in an online excavation report (Augé et al. 2014: 24, Figs 1.4–1.6; see also Renel 2021: 652, Fig. 22, in this volume).

ASPECTS OF NABATAEAN CERAMIC PRODUCTION IN THE POST-ANNEXATION PERIOD

The current model of Nabataean ceramics is linear, in which fine ware production is assumed to have peaked in the last three decades of the 1st century CE, and steeply declined in the 2nd century CE. This model has contributed to the nomenclature, "debased" when describing late Nabataean painted fine ware (Gunneweg et al. 1988). However, the high quality and decoration of Schmid's Type E 1b 10 (Schmid 2000: Pls 3:7; 4:9–10) discussed above belies this assumption. As late as the early 3rd century CE, the production of painted-ware bowls bifurcated, with different workshops producing different quality and decoration, some superior and others inferior. The simultaneous production of different qualities of painted-ware bowls underlies the confusion encountered by those who profess a linear model of painted fine ware development.

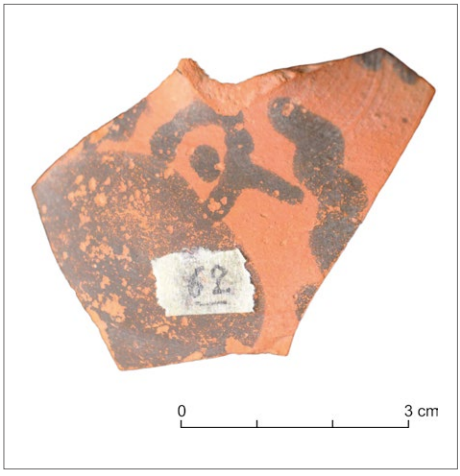

Fig. 14. Bird-eating-grapes motif on a fine ware vessel from Petra, exemplifying continuity of motifs between the middle Roman and early Byzantine periods (Courtesy ACOR)

The artificial gap created by the Nabataean fine ware typo-chronology from ez-Zantur is belied by Fawzi Zayadine's excavation of the al-Zurraba kilns that revealed stacks of "melted plates" (wasters) decorated with palmettes and pyramids in dark brown, comparable to Parr's later phase of occupation of the Colonnaded Street in Petra (Zayadine 1982: 390, Pl. CXXXIX). Zayadine notes that a hoard of lamps points to a date in late Roman times (2nd and 3rd centuries CE) for these painted fine ware bowls (Zayadine 1982: 392, Pl. CXLIII:1, No. 6).

The artificial gap created by the time span assigned to Subphase 3c is also belied by the continuity of painted motifs

that appear on the latest Nabataean fine wares and on non-fine ware vessels dated to the Byzantine period, an issue raised by Khairieh 'Amr (2004: 237–238). A specific example of this continuity in decoration is the bird-eating-grapes motif [*Fig. 14*]. This motif is frequently found on lower quality ('debased') Nabataean painted ware, for example in the al-Zurraba kilns, where the motif is painted in black (Zayadine 1982: 390, Pl. CXXXVIII,2:No. 29). Zayadine correctly assigned this plate to late Roman times. The motif also appears on higher-quality fine ware (see 'Amr et al. 2006: Fig. 6). The survival of the nearly identical motif on non-fine ware bowls of the later 3rd or 4th centuries CE (at Sha'ar Ramon, Mahmal (Erickson-Gini and Hirschfeld forthcoming) [see *Fig. 2*] as well as at ez-Zantur, points to a close proximity in time for its appearance, that is, decades and not centuries, as the ez-Zantur typo-chronology would lead one to think.

A similar 'rooster-pecking-at-grapes' motif is found on a number of oil lamps from the ez-Zantur excavations (Grawehr 2006: 319, Nos 309–310). The motif has parallels in Palmyra, Temple 36, constructed in the 3rd century CE and occupied until 273 CE (Grawehr 2006: 318) (see above for a discussion of issues with the dating of lamps). At ez-Zantur, a lamp with the 'rooster-pecking-at-grapes' (Grawehr 2006: 319, No. 310) was uncovered in Area EZ I, FK 167, together with two late painted-ware cups (Schmid 2000: Figs 213–214). These cups should be dated to the late 2nd–early 3rd centuries CE rather than the early 2nd century CE.

DEMISE OF THE NABATAEAN POTTERY TRADITION

The production of fine ware of both qualities ended abruptly in the 3rd century CE. A number of assemblages with complete vessels uncovered *in situ* suggests the abandonment of structures and entire sites sometime in the early to mid-3rd century CE. Striking similarities, both in architecture and assemblages, are apparent between the Oboda dwelling (2nd–early 3rd centuries CE) and Russell's Early House in Area I in Petra (Erickson-Gini and Tuttle 2017: 142–143). Both contained abandoned pantries (called an 'antechamber' in the Early House), with numerous *in situ* pottery vessels from the same dating horizon. These abandoned contexts, and the cessation of the production of Nabataean unguentaria and demise of international trade along the Petra–Gaza Incense Road, coincide with the early cessation of coinage minted in Petra and other cities in southern Jordan (during or immediately after the reign of Elagabalus, 218–222 CE) as compared to other cities in the Roman East (Kindler 1983: 78; Fiema 1991: 114).

The mode of abandonment, and subsequent reluctance to reuse many of the structures and sites in which the assemblages were located, is unusual, suggesting flight in the wake of an epidemic (Erickson-Gini and Tuttle 2017: 124–125). This has strong parallels with the hastily constructed structure and interments of Tomb 2 on the North Ridge in Petra (Bikai and Perry 2001: 65; Perry 2002: 268–269).

SUMMARY

In conclusion, I have tried to bring many, if not most, of the important points concerning problems and solutions in dating Nabataean vessels of the Roman period. Even more details remain to be addressed. The study of ceramic wares, by virtue of their ubiquity, offers a high degree of resolution for the dating of ancient remains. However, fine discrepancies and errors can easily result in circular reasoning. It is important that the accepted typo-chronology withstands scrutiny and is able to override imposed historical frameworks.

Nabataean material culture did not die out with the Roman annexation; nor did it go into deep slumber, like Sleeping Beauty, to be awakened and noticed once again with the earthquake of 363 CE. Nabataean Petra remained a vibrant and productive city well past the demise of its political independence. New edifices were built, old buildings repaired; trade continued and people died and were buried. The Nabataean inhabitants of Roman Arabia enjoyed a relatively high standard of living and security.

The chaotic events that brought about drastic change in the 3rd century CE also resulted in the termination of the tradition of making Nabataean fine wares and ceramic unguentaria. Life went on and pottery continued to be produced in Petra, but the exceptional, fine ceramic wares of the Roman period never returned.

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