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JALAME RESTUDIED AND REINTERPRETED

Jalame is a rural site in Israel a few kilometers southeast of Haifa¹. It was chosen by Gladys Weinberg and Paul Perrot from among a number of sites surveyed as the most likely location of a Roman glass factory. Excavated by the University of Missouri and the Corning Museum of Glass between 1964 and 1967, it was at that time one of a handful of stratigraphically excavated Roman sites in the East. At the time of the excavation LR fine wares in the East could be subdivided by fabric² but were still dated “late 4th–6th cent.”. The chronology of the site was therefore established on the basis of the identifiable coins³: the main period of the villa with its wine and oil presses was dated before 350 AD. (phase 2), the glass furnace and its associated dumps and sorting floors between 351 and 378 AD. (phase 3), and a single later phase of the villa was dated 383–408 AD. (phase 4).

Publication was delayed for over 20 years, however, and Barbara Johnson, who studied the pottery, was able to take account of Hayes’ 1972 classification of the main LR fine wares (hereafter *LRP*) as well as to cite numerous publications of fine and coarse wares from Jerusalem, the Galilee, and Samaria⁴. The pottery she published includes numerous examples of Cypriot Red Slip ware (CRS) and of Late Roman C/Phocæan Red Slip ware (LRC) as well as of coarse wares including amphoras of Benghazi LR Amphora 1, LR Amphora 3 (Gaza), and LR Amphora 10 (micaceous water jar with two handles and a solid toe). After the publication of *LRP* all of the fine ware forms were dated in the 5th or 6th century AD. rather than the 4th, and the 1980s saw similar dates proposed for the amphoras⁵. Johnson, adhering strictly to S. Weinberg’s interpretation of the coin finds, had coped with the problem by simply omitting all references to stratification and stating that their “*contexts [dated (our italics) the fine wares at Jalame] to the second half of the 4th century*”⁶. It has become increasingly apparent, however, that using this interpretation Jalame is the earliest occurrence, sometimes substantially the earliest occurrence, of *all* these types, and first John Hayes and more recently Jodi Magness and Henryk Meyza have called for Jalame to be redated at least into the 5th century AD.⁷

Since the fall of 2000 we have examined the excavation records, which are stored at the University of Missouri, and made a new record of all the pottery still in Jerusalem. Our investigation of the notebooks showed that the problematic late pottery was stratified rather than simply present in surface levels of the site. Furthermore, CRS and LRC together make up 90% of all the fine wares recorded, and many pieces were clearly found below “floors” on the site. Finally, nearly half the coins found (196 out of 403) were illegible (or disintegrated), so the numismatic evidence from legible coins only is not really compelling⁸. It is therefore worthwhile to ask what the result would be if Jalame were reinterpreted, using the fine wares as dating evidence? This paper is a first

notice of the results of our restudy of the Jalame stratified pottery. It is limited to the fine wares.

With one exception, Johnson’s identification of the fine ware is consistent and correct. Although **table 1** shows there is a strong bias in favor of the earlier, more exotic fabrics in the report (30–50% of the inventoried AfRS was published compared to 20% or less of the CRS), it is likely that the inventory reflects the quantity of each ware found⁹. Never-

¹ WEINBERG 1988, vi, map.

² After F. O. WAAGÉ, *The Roman and Byzantine Pottery*, Hesperia 2, 1933, 279–328, especially 294–308 defining Late Roman A–D.

³ A date of second half of the 4th c. AD. on the basis of the coin finds appears in the first summary report, which distinguished the earlier glass factory from later domestic buildings producing large “quantities of pottery, lamps, and coins”: S. S. and G. D. WEINBERG, *Roman Glass Factories in Western Galilee*, AJA 69, 1965, 177–178 (abstract). This report also concerns a similar site, Kafr Yasif dated to the 5th and early 6th c. AD.

⁴ JOHNSON 1988, 137–226.

⁵ The evidence that all three types begin before c. 395 AD. is tenuous; they are primarily attested in 5th and 6th c. AD. contexts. — For a general statement see D. P. S. PEACOCK/D. F. WILLIAMS, *Amphorae and the Roman Economy* (London 1986) classes 44, 49 and 45, respectively; they depend heavily on J. A. RILEY, *The Coarse Pottery from Berenice*. In: J. A. LLOYD (ed.), *Excavations at Sidi Khrebish Benghazi (Berenice) II* (Tripoli 1979) 212–216; 219–222, and 229–230. — More recently see P. REYNOLDS, *Trade in the Western Mediterranean A.D. 400–700: The Ceramic Evidence*, BAR Int. Ser. 604 (Oxford 1995) 71.

⁶ JOHNSON 1988, 146 (AfRS); 148 (LRC); 154 (CRS: third quarter of the 4th c. AD.). — Note that the chapters on coins and on lamps in WEINBERG 1988 did report the findspots of all catalogued objects.

⁷ A dating discrepancy was first pointed out by Hayes in regard to the Jalame glass: J. W. HAYES, *Roman and Pre-Roman Glass in the Royal Ontario Museum – A Catalogue* (Toronto 1975) 3. — See also J. W. HAYES, *Introduction. The Study of Roman Pottery in the Mediterranean: 23 Years after Late Roman Pottery*. In: L. SAGUI (ed.), *Ceramica in Italia: VI–VII secolo*. (Firenze 1998) 11–12. — H. MEYZA, *Cypriot Red Slip: Development of the Ware (an Attempt at Refinement)*. In: *Third International Congress of Cypriot Studies* (Nicosia 2000) 507–529 only became available to us after this paper had been read to the fautores.

⁸ G. MERKER, Chapter 5. *The Coins*. In: WEINBERG 1988, 103–115, especially 103; it seems worthwhile to point out that the chronology actually rests on the *relative quantities* of coins of various dates, beginning with a sharp increase in the numbers struck under Constantius II or Julian after 351 AD. and ending with between 18 and 23 coins struck between 395 and 474 AD. Merker’s *caveat* “assuming that the number of preserved coins of different periods reflects in a general way the [...] commercial activity at the site” has been ignored. The phenomenon of legible 4th c. AD. coins and illegible bits as a characteristic of the 5th c. AD. is now familiar in several areas of the eastern Mediterranean. For instance at Corinth, only three of the 12 coins in a first half of the 5th c. AD. assemblage (zero of the four from the robbing trenches) were 5th c. AD. and there were four illegible *minimi*, and in a group of c. 500 AD. (also a robbing trench) the six coins were two legible of the mid-4th c. AD. and four illegible; see SLANE/SANDERS 2005. — Although I know of no general treatment of the problem, it has been discussed by G. BUOVSKY, *The Currency of the Fifth Century C.E. in Palestine – Some Reflections in Light of the Numismatic Evidence*. *Israel Numismatic Journal* 14, 2000–02, 196–210.

⁹ Preliminary comparison of the field descriptions of the pottery with the inventory for the same year suggests that, at least for the fine wares, most were inventoried, but this point needs further confirmation.

Fabric	Form	No. Inv. (No. Pub. 1988)	% of finewares	Comments and Changes
AfRS	14	5 (2)		3 (1 dubious)
	50B	28 (10)		27 (50A and 50B) and 1 form 53
	58A or variant	27 (9)		14 form 32/58 12 form 58
	59A and 59B	2 (1)		1
	60	3 (1)		3
	61	1 (1)		1 form 61A, 1 prob. imit.
	62	0		1 (pub. as LRC 1)
	63	2 (1)		1
	67	2 (2)		3 (1 publ. as form 70)
	70	1 (1)		0
	81	1 (0)		not seen
	83–84	0		1
	91A and 91B	8 (5)		9 (1 not inv.)
	104A	1 (1)		or 105?
	Misc. and stamps	4 (4)		2
		85 (38)	8,8%	81
LRC/PRS	1	30 (8, and 5 variants)		22
	2	4 (1)		1
	3	101 (28)		85
	4 or 3/4	3 (3)		5
	8	2 (1)		
	Misc. and stamps	22 (22)		15
		170 (68)	17,7%	127
CRS	1	155 (24)		116
	2	233 (29)		241
	7	135 (12)		56 and 1 dubious
	8	4 (1)		1 and 10 form 3, 5 or 8
	9	137 (35)		107
	Misc. and stamps	38 (38)		34 (and 1 CypSig)
		702 (139)	73,2%	565
ERS		3? (called imit. AfRS)		ERS-A 4 (2 unpub.) ERS-C 9 (and 42 handmade RS basins in the same fabric)

Table 1: Based on JOHNSON 1988 and pottery stored in Jerusalem.

The right-hand column does not include a small study collection in Missouri (about 20–30 sherds of fine wares).

theless, it is immediately apparent that very few of the fine wares are dateable to the 4th century AD., particularly to its middle or second half. Instead what we see is an early peak of AfRS, probably in the first half of the 4th century AD.¹⁰ Later 4th and mid-5th-century AD. forms are few¹¹. The forms 91A–B (there is no 91C–D and no form 99) and 105 attest a spurt of African imports just before or after 500 AD.¹² The LRC is predominantly form 3, including early variants, of the second quarter of the 5th to mid-6th century AD.¹³ and form 1 is also present in considerable quantity¹⁴; the later 6th-century AD. form 10 seems to be absent¹⁵.

CRS is clearly the dominant fine ware and unfortunately remains the most poorly dated. Form 2, the mid-5th to mid-6th-century AD. form, is more than twice as common as any other fine ware form at Jalame, and the stamps most likely

also belong to this form. CRS form 1, which may have begun in the 4th century AD. but continues through most of the 5th AD., is also common at Jalame¹⁶. And form 9, the later 6th and 7th-century AD. type, is the third most common fine ware form on the whole site¹⁷! A form that Johnson identified as “CRS form 7” is also frequent but seems to be found with

¹⁰ JOHNSON 1988, fig. 7–6.

¹¹ JOHNSON 1988, fig. 7–7 top two rows.

¹² JOHNSON 1988, fig. 7–7 three lower rows.

¹³ JOHNSON 1988, fig. 7–9.

¹⁴ JOHNSON 1988, fig. 7–8 except the last row.

¹⁵ Most of the LRC 3 is in fact 3B or 3C with a few examples of 3H: by and large the 6th-century AD. forms of LRC are infrequent.

¹⁶ JOHNSON 1988, fig. 7–11.

¹⁷ JOHNSON 1988, figs. 7–15 and 7–16. — Note also her comment on 160.



Fig. 1: Jalame site plan. The area of the glass furnace is marked with "x"

form 2 rather than form 9¹⁸. This must be either a different form or an earlier variant than that in *LRP*: although it has the grooved triangular rim and carinated wall of form 7, the wall is thinner; it is not rouletted, is rounded rather than flat, and normally has a wave pattern, as well as two handles, above the carination; where preserved it has a base ring similar to CRS form 2. Finally we can confirm the presence of Egyptian Red Slip (ERS) at Jalame. Johnson had suspected two or three sherds but there are others of both ERS-A and ERS-C, again of late 6th and 7th-century AD. date¹⁹. More common are a series of *handmade basins* with red slip on their rims which display the same fabric as the ERS-C plates²⁰. The basins, however, seem to come in 5th-century AD. contexts and are presumably an earlier product of the ERS-C production site.

Because the glass factory was the *raison d'être* of the Jalame excavations, it was also the focus of the architectural study²¹. When we investigate the site from a different viewpoint, we would also describe it with a different emphasis²². The latest architectural phase is a sprawling "villa" which covered the whole area excavated, Saul Weinberg's period 4, shown here in black (fig. 1). At the top of the hill and in the north it was built on bedrock, but to the south and west many walls were built on top of earlier walls. Half a meter below the period 4 floor was the glass furnace, therefore defined by Weinberg as period 3²³. It is a single room measuring 2,4 × 3,6 m; sorting floors and glass debris almost devoid of pottery were found around the furnace and across the SW slope and were also assigned to period 3. Elsewhere it was not possible to distinguish between periods 2 and 3, and Weinberg adopted the terminology period 2/3 phases A through C. Over much of the slope earlier walls with stone-lined doorways and thresholds served as the foundations for the fieldstone and ashlar walls of period 4; these were called 2/3 phases A and B (although one such doorway is in the N wall of the glass furnace). For reasons of superposition (see below) Weinberg assigned the wine press and the olive press to 2/3 phase C but in our opinion these, too, should be assigned to period 4²⁴.

A major problem in understanding the Jalame stratigraphy is that nowhere were more than two "floors" superposed. S. Weinberg suggested that what is preserved of period 4 is mostly foundation walls (that is, below the floor level) because no doorways were preserved²⁵. He identified floors of period 4 in only two places: 1) along the northern edge of the excavation where a white plaster floor 0,50 m below the modern surface was preserved at the level of the tops of the walls, and 2) to the W of the long western retaining wall where an extensive white lime floor 0,30 m below the surface runs up to L-shaped wall and cist – and it sealed an earlier pottery deposit which was cut through by the long retaining wall here. To these may be added the floor over the glass factory associated with the east-west ashlar wall described in footnote 23. A third area is probably the wine press: Weinberg placed it in 2/3 phase C because it was built on top of two earlier periods²⁶; but its internal arrangements were altered after it was built, and he suggested the large tank had been filled with earth in period 4²⁷. The pottery from the tank includes multiple examples of CRS forms 2

and 7, one example of form 8, at least three of AfRS 91 and three more of LRC 3B and 3C²⁸. There are joins between these vessels and the trenches on the N edge of the site²⁹ so, whenever it was built, we should postulate that the whole wine-press structure remained in use to the late 5th century AD. or later. One may also note a CRS 9, mended from numerous fragments, found below the pebble floor immediately to the E of the wine press³⁰.

In trenches A-4, A-5, A-6, H, F-4, F-5, that is the north central part of the site, we have been able to identify sequences of two, sometimes three, strata below topsoil, in which we find sherds of CRS 9 immediately above a "floor" and CRS 2, LRC 1 and 3B and LRC stamps below it, that is later 6th century AD. above the floor and mid or late 5th century AD. below it. In trenches A-3 and J-2, on the other hand, we have CRS 9 and LRC 3H, 6th-century AD. forms, below a floor. But in trenches A-2 (over the glass furnace) and K the vessels among tumbled blocks immediately above the upper floor are CRS 2 and 7, LRC 3/4 and LRC 3E or H (several half preserved or complete), again probably 5th century AD. or very early 6th (In the area west

¹⁸ JOHNSON 1988, fig. 7-14.

¹⁹ JOHNSON 1988, 148 no. 129 and probably no. 128. — Confirmed by us from the sherds and from the photograph on the inventory cards. To these may be added no. 4: 138 fig. 7,1 (Magness).

²⁰ JOHNSON 1988, 183–187 nos. 494–512 fig. 7,32, identified by Magness.

²¹ S. WEINBERG 1988, 5–23 and G. D. WEINBERG, Chapter 3. The Glass Factory and Manufacturing Processes. In: WEINBERG 1988, 24–37. — See also G. D. WEINBERG/S. S. WEINBERG, Chapter 1. The Site. In: WEINBERG 1988, 1–4.

²² The latest occupation was some 40 Muslim graves on the west slope which were not recorded on the site plan (WEINBERG 1988, 4); locations of many, but not all, are illustrated in the notebooks. They are individual interments without accompanying grave goods; unless the dozen pieces of Abbasid white ware are contemporary (JOHNSON 1988, nos. 870–882 fig. 7,60 [identification by Magness]), these graves are undateable but clearly medieval or later. There is no architecture associated with these graves nor identifiable floors; all architecture belongs to the Late Roman or earlier Roman periods.

²³ The best evidence was an ashlar wall laid east-west over the glass furnace (formerly unit V); although unfortunately omitted from the site plan fig. 2,1 (adapted here as fig. 1), it is shown in pl. 2,10B and C, where the caption reads "period 4" and in fig. 3,1 labelled "buildings of the upper level" (running NE-SW at the southern edge of trench A2).

²⁴ In his introduction to the final report, Paul Perrot, who had been a collaborator on the project since its conception, refers to both wine and olive presses as belonging to the pre-glass factory phase of the villa (WEINBERG 1988, xii).

²⁵ S. WEINBERG 1988, 20–21 and fig. 2,1.

²⁶ Note that a stamped fragment of CRS (JOHNSON 1988, no. 323 fig. 7,18) was found under the cobblestone surface of one of the upper vats.

²⁷ S. WEINBERG 1988, 14 (with fig. 2,4). — See also G. D. WEINBERG/S. M. GOLDSTEIN, Chapter 4. The Glass Vessels. In: WEINBERG 1988, 38–102, especially 38.

²⁸ Fourteen fragments of CRS as well as four pieces of AfRS and three of LRC are catalogued from the lowest 0,40 m of the tank; of these only the following were published: JOHNSON 1988, nos. 118; 120 (AfRS); 151 (LRC); 252; 259 (CRS form 7); 318 (probably AfRS rather than CRS); 321; 327 and 335 (CRS stamps). The fragment of CRS form 8, no. 264 comes from the layer above these.

²⁹ That is, where Weinberg recognized the period 4 floors. — See below.

³⁰ JOHNSON 1988, 163 no. 285 fig. 7,16.

of the long terrace wall no pottery was inventoried below the “period 4” white floor).

To conclude, our review of the fine wares and of the stratigraphy at Jalame demonstrated that CRS and LRC rather than AfRS are the major fine wares at the site. Furthermore the post-glass factory occupation lies over the whole area excavated and in some areas extends to bedrock. It begins in the second quarter or second half of the 5th century AD. with CRS 1 and 2, LRC 1 and 3B and 3C, and a handful of accompanying AfRS sherds. Less well represented numerically is a later 6th-century AD. phase, probably including some new construction, attested by CRS form 9 and some ERS³¹. Whether occupation between these times was continuous or whether there is a gap between them remains uncertain: AfRS disappears by the end of the 5th century AD. and LRC follows a little later, but it is possible that the supply of CRS was continuous. Far from being a short-lived phase,

period 4 at Jalame thus extends from ca. 450 – ca. 575 or 600 AD. During these years it was a rural villa typical of the region from here north into Syria and eastern Turkey with wine and oil presses, imported fine wares and some amphoras – all traces of the former glass factory long forgotten.

³¹ Our efforts have been concentrated on establishing the date of period 4 and we have not looked yet at the glass-factory deposits (which contain almost no fine ware); it is theoretically possible that they could be associated with the 5th-century AD. material identified here.

Bibliography

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