

RADIOCARBON DATING AND PHILISTINE CHRONOLOGY

with an Addendum on el-Ahwat

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Results of the first phase of the Iron Age radiocarbon dating program, with a large number of new readings, have recently been published (SHARON *et al.* 2007). Some of the newly published measurements shed light on several debated issues related to the archaeology of southern Israel in the period covering the Iron I and the Iron IIA. In what follows we deal with some of these issues, mainly the date of the monochrome phase of the Philistine settlement and the date of two transitions: first, from the Iron I to the Iron IIA and next, from the Iron IIA to the Iron IIB. In an addendum we comment on the Iron I site of el-Ahwat in northern Israel in relation to the excavator's proposal to identify its inhabitants with a northern group of Sea Peoples.

RELATIVE AND ABSOLUTE DATES IN SOUTHERN ISRAEL: POTTERY SERIATION AND ^{14}C DATES

Pottery assemblages from clearly defined stratigraphical contexts provide the anchors for relative chronology. The latter can be tied to an absolute ladder by historical data and radiocarbon dating. Only one reasonably reliable historical anchor is available for southern Israel in the Iron I and Iron IIA: the destruction of Tell es-Safi (Gath) by Hazael king of Aram Damascus in the second half of the 9th century BCE (MAEIR 2004). This emphasizes the importance of connecting the relative sequence to a detailed absolute ladder based on ^{14}C readings.

The following sequence of Iron I–IIA pottery phases in southern Israel is well-established stratigraphically and typologically; almost each of these phases has now been sampled for radiocarbon dating (SHARON *et al.* 2007, table 1 in this article):

- The monochrome phase in Philistia, representing the initial stage of Philistine settlement in particular and the early Iron I in general. It is best represented at Tel Miqne-Ekron Strata VIIB–VIIA (DOTHAN and ZUKERMAN 2004: 3, 5; GITIN *et al.* 2006: 29). ^{14}C dates for Stratum VIIB have now been published.
- The bichrome phase in Philistia (middle Iron I). ^{14}C measurements for Strata VIB–VB at Tel Miqne and Strata 6 and 5 at Beth-shemesh

have just been published (for the sites and their stratigraphy see BUNIMOVITZ and LEDERMAN 2006; DOTHAN and ZUKERMAN 2004: 4–6 and GITIN *et al.* 2006: 44, 53 respectively).

- The late-Philistine phase (late Iron I) represented by Stratum X at Tel Qasile (MAZAR 1985; for the difficulty with the ^{14}C results see below), Stratum IV at Tel Miqne and Stratum 4 at Beth-shemesh (DOTHAN *et al.* 2006: 94; BUNIMOVITZ and LEDERMAN 2006: 418–419 respectively).
- The Iron IIA, divided into two phases – early and late (MAZAR and PANITZ-COHEN 2001: 275; HERZOG and SINGER-AVITZ 2004). The early Iron IIA is best represented by Lachish V, Masos II and the Negev Highlands sites. A single date for Lachish V was published a few years ago (CARMİ and USSISHKIN 2004). The Late Iron IIA is best represented by Lachish IV and Tell es-Safi IV. ^{14}C dates for this phase are available from the destruction layers of Tell es-Safi IV and Tel Zayit (for the latter see TAPPY *et al.* 2006: 15); two dates for Lachish IV were published by CARMİ and USSISHKIN (2004).
- A transitional Iron IIA/B phase, represented by Stratum 3 at Beth-shemesh (BUNIMOVITZ and LEDERMAN 2006: 419–420).

Table 1 presents all ^{14}C readings from southern Israel now available for these phases and thus used in this article. Following our method (FINKELSTEIN and PIASETZKY 2006a) all short-lived samples from safe stratigraphical contexts were included except for outliers which are different by more than 5σ from the average.

The uncalibrated dates for each phase shown in Table 1 were checked for consistency by fitting to a constant. The result of the fit was used as the combined uncalibrated date for that phase (Table 2). In cases where $\chi_\nu > 1$ for the fit, we increased the error by the square root of the χ_ν . The calibrated dates were obtained using the IntCal04 atmospheric calibration curve (REIMER *et al.* 2004) by means of the OxCal V 4.0 computer program of BRONK RAMSEY (1995; 2001). In cases where the program yielded close ranges we took the full 1σ range for each phase. In some cases historical and

Pottery Phase	Stratum sampled	Sample no.	Lab. And Method*	Type of sample	Uncalibrated results	Source
Monochrome (Early Iron I)	Miqne VIIIB	4286.3	R AMS	Seeds	2950±55	SHARON <i>et al.</i> 2007
		4286.4			2900±40	
		4286.5			2870±60	
Bichrome (Middle Iron I)	BS** 6	3934.3	R AMS	Olive pits	2830±50	SHARON <i>et al.</i> 2007
		3934.4			2925±50	
		3934.5			2810±50	
	BS 5	3935.3	R AMS	Olive pits	2830±53	
		3935.4			2750±55	
		3935.5			2770±65	
	BS 5	3936.3	R AMS	Olive pits	2810±50	
		3936.4			2850±55	
		3936.5			2855±65	
	Miqne VIB		4283.3	R AMS	Olive pits	
4283.4			2960±45			
4283.5			2880±45			
Miqne VB		4284.3	R AMS	Seeds	2835±45	
		4284.4			2830±45	
Late Philistine (Late Iron I)	Qasile X	3853.3	R AMS	Lathyrus	2680±35	SHARON <i>et al.</i> 2007
		3853.4	R AMS		2747±35	
		3953-1	T AMS		2884±45	
		3931.1	RW LSC	Lathyrus	2853±20	
		3931.3	R AMS		2820±55	
		3931.4	R AMS		2930±56	
		3931.5	R AMS		2936±41	
		3931-1	T AMS		2852±45	
		A25535	Gr AMS		2864±40	
		A25710	Gr AMS		2818±38	
		A25768	Gr AMS		2897±44	
		3932.3	R AMS	Lathyrus	2745±50	
		3932.4	R AMS		2765±75	
		3932.5	R AMS		2685±50	
		3932.6	R AMS		2650±40	
		3932a	T AMS		2780±35	
3932aa	T AMS	2862±40				
3933a	T AMS	Seeds	2885±40			
3933aa	T AMS		2878±40			
Early Iron IIA	Lachish V	3159	RW LSC	Seeds	2775±55	CARMI and USSISHKIN 2004
Late Iron IIA	Safi IV	4409.3	R AMS	Seeds	2630±45	SHARON <i>et al.</i> 2007
		4409.4	R AMS		2693±60	
		4409.5	R AMS		2679±55	
		4410.3	R AMS	Seeds	2748±60	
		4410.4	R AMS		2671±45	
		4410.5	R AMS		2712±45	
		A25536	Gr AMS		2700±42	
		A25711	Gr AMS		2733±38	
	A25770	Gr AMS	2780±44			
	Zayit	1	Gr	Seeds	2750±20	TAPPY <i>et al.</i> 2006
		2	Gr AMS	Seeds	2730±40	TAPPY <i>et al.</i> 2006
		4275-1.3	R AMS	Seeds	2640±40	SHARON <i>et al.</i> 2007 TAPPY <i>et al.</i> 2006
		4275-1.4			2646±45	
	4275-1.5	2745±55				
	4275-2.3	R AMS	Olive pits	2616±40	SHARON <i>et al.</i> 2007 TAPPY <i>et al.</i> 2006	
	Lachish IV	2908	RW LSC	Olive pits	2715±40	CARMI and USSISHKIN 2004
1418		H GPC	Pomegranate seeds	2650±90		
Iron IIA/B	BS 3	3937.1	RW LSC	Olive pits	2500±35	SHARON <i>et al.</i> 2007
		3937.3	R AMS		2524±36	
		3937.4	R AMS		2427±35	
		3937.5	R AMS		2478±34	
		3938.3	R AMS	Olive pits	2390±65	
		3938.4	R AMS		2425±40	
	3938.5	R AMS		2505±40		

* Tu = Tucson; Gr = Groningen; R = Sample prepared in Rehovot and measured in Tucson; RW = Rehovot; H = Helsinki. AMS = Accelerator Mass Spectrometry; LSC = Liquid Scintillation Counting; GPC = Gas Proportional Counting

** BS = Beth-shemesh

Table 1 ¹⁴C readings for the Iron I and Iron IIA from southern Israel

Pottery phase	Strata (those providing ¹⁴ C results are underlined)	Uncalibrated date	Calibrated date
Monochrome	<u>Miqne VII B</u>	2907±28	1125–1050
Bichrome	<u>BS 6, 5; Miqne VII B, VB</u>	2853±16	1050–995
Late Philistine	BS 4; Miqne VA, IV; <u>Qasile X</u>	2850±24	995–946*
Early Iron IIA	<u>Lachish V</u>	2775±55	996–844
Late Iron IIA	<u>Safi IV; Tel Zayit; Lachish IV</u>	2706±16	894–820 (842–820)*
Transitional Iron IIA/B	<u>BS 3</u>	2505±30	766–745**

* Constrains were imposed to limit the range yielded by the radiocarbon measurements (see text for details)

** Constrain imposed on the date of destruction of Tell es-Safi - not before the accession of Hazael (see below)

Table 2 Relative pottery phases and absolute dates (¹⁴C) in southern Israel

archeological constrains were used in order to limit the range of the ¹⁴C results; these cases are discussed in detail below.

Table 2 specifies the pottery phases and their absolute chronological range according to the ¹⁴C results. Two issues should be taken into consideration:

A) Qasile X: The results assemble into two clear groups quite apart from each other and therefore posing a problem (SHARON *et al.* 2005: 84–87). The two lower dates fall in the 9th century BCE and are impossible even according to the low chronology system. Averaging the two sets of high readings one gets an uncalibrated date of 2867±12 – too high compared to the bichrome phase of Beth-shemesh 6–5 and Miqne VII B–VB. Assuming that the samples indeed originated from the well-defined destruction of Stratum X (MAZAR 1980: 33, 46; 1985: 127), we averaged all readings and reached an uncalibrated date of 2850±24. This is an example of $\chi_v > 1$ ($\chi_v \approx 4.8$); the great uncertainty reflects the quality of the fit. The calibrated date – 1050–946 BCE – can be limited to 995–946 BCE if one accepts that Qasile X postdates the bichrome phase (needless to say, since we are dealing with a range, a date shortly before 995 cannot be excluded). This is especially true because the samples of Qasile X come from its destruction layer, that is, from the end-days of this layer.

B) Beth-shemesh 3 presents a classical case in which the combination of ¹⁴C results and historical consideration provides a better result than each of them separately. The broad calibrated range for this stratum can be narrowed by entering the datum of ca. 750 BCE as the latest possible date for this phase (see below).

These results reflect on a few of the problems related to the history and archaeology of southern Israel in the 12th to 8th centuries BCE.

II. THE DATE OF THE MONOCHROME PHASE (THE PHILISTINE SETTLEMENT)

The date of the Philistine settlement in Canaan has been debated in recent years. Supporters of the conventional chronology accept the Philistine Paradigm (ALBRIGHT 1932: 58; ALT 1944), according to which the Philistines were settled by Ramesses III in Egyptian strongholds in the southern coastal plain of Canaan following his battles against the Sea Peoples in 1175 BCE. Accordingly, they date the earliest Philistine strata, characterized by monochrome pottery (also known as locally made Myc. IIIC: 1b), to ca. 1175–1150/40/30 BCE and the beginning of the second phase of Philistine settlement, characterized by bichrome pottery, to ca. 1150/40/30 BCE (e.g., MAZAR 2007; DOTHAN and ZUKERMAN 2004: 6; SHERRATT 2006 [for the monochrome phase]). Other scholars have noted that monochrome pottery does not appear in the many strata that represent the last phase of Egyptian domination in southwestern Canaan, and that Egyptian pottery of the 20th dynasty (we refer to vessels, to differ from stray sherds) does not appear in the monochrome strata. Accordingly, they date the monochrome phase of the Philistine settlement to ca. 1125–1100 BCE (following the Egyptian withdrawal: USSISHKIN 1985: 223; 2007; FINKELSTEIN 1995; NA'AMAN 2000 [for the monochrome phase]) and the bichrome phase from ca. 1100 BCE (FINKELSTEIN 1995). The latter scholars do not accept the explanation of the traditionalists – that the utter separation between the two cultures represents decades of coexistence of contained communities at sites located only a few kms distance from each other (e.g., Lachish VI and Miqne VII B),

Site	Laborat. and method*	Sample no.	Type of sample	Dates	Average	Source
Megiddo K-6	R AMS	4501.3**	Olive pits	2790±40	2928±11	Sharon <i>et al.</i> 2007
		4501.4		2764±50		
		4501.5		2767±40		
	R AMS	4499.3	Olive pits	2880±40		
		4499.4		2865±45		
	Tu AMS	4499.5	Olive pits	2925±40		
		4499a		2907±40		
	Tu AMS	4499aa	Olive pits	2876±40		
		4500.3		2940±40		
	R AMS	4500.4	Olive pits	2906±37		
4500.5		2909±37				
Tu AMS	4500a	Olive pits	3018±60			
	4500aa		2947±40			
R AMS	5080	Olive pits	2965±30			
	5081		2955±35			
	5082		2975±55			
	5083		3030±150			
	5084		2980±60			
Lachish VI	RW LSC	2912	Olive pits	2915±25	2931±21	CARMi and USSISHKIN 2004
	RW LSC	2755	Olive pits	2955±25		
	H GPC	1417	Seeds	2810±100		

* For legend see Table 1

** Though consistent with each other, the three measurements of Sample 4501 yielded an average uncalibrated date which is ca. 150 years (six standard deviations) younger than the average of the other samples from this stratum. We therefore removed this sample from our analysis

Table 3 ¹⁴C results from Megiddo Level K-6 (=Stratum VIIA of the University of Chicago excavations) and Lachish VI

without exchange of pottery (e.g., FINKELSTEIN 2002a contra DOTAN 1992: 97; BUNIMOVITZ and FAUST 2001). With no new material from the field, the debate has reached a stalemate.

The Miqne VIIB ¹⁴C dates (Table 1) may shed new light on this debate when supplemented by new readings from Megiddo and Lachish. We refer to samples from Level K-6 at Megiddo, which equals the University of Chicago's Stratum VIIA (BOARETTO unpublished – Table 3).¹ This stratum represents the last phase of the Egypto-Canaanite system (Late Bronze III according to USSISHKIN 1985; 1995; Iron IA according to MAZAR, e.g., 2005: 24). Level VI at Lachish represents the same horizon. Its three ¹⁴C determinations are consistent with those from Megiddo K-6.

The calibrated dates for Megiddo K-6 and Lachish VI are 1193–1113 and 1208–1112 BCE

respectively.² The uncalibrated date for the two sites combined is 2929±9, which provides a calibrated date of 1194–1114 BCE.

Looking at the uncalibrated dates, contemporaneity between Megiddo K-6 and Lachish VI on one hand and Miqne VIIB on the other hand cannot be excluded. This is due to the large uncertainty in the measurements compared to the small time difference between the strata (only 22 years difference between the two readings – smaller than 1σ). Yet, the radiocarbon data point to the sequential solution as the most probable one (Fig. 1). According to this scenario the two groups represent sequential horizons: Stratum VIIB at Miqne is *later* than Level K-6 (Stratum VIIA) at Megiddo, and Level VI at Lachish. In other words, according to this solution Miqne VIIB postdates the collapse of Egyptian rule in

¹ We wish to thank Ilan Sharon, Ayelet Gilboa and Elisabetta Boaretto for providing us with these preliminary results; the measurements are part of a research project supported by the Israel Science Foundation and the Israel Academy of Sciences and Humanities (grant No. 141/04).

² For Megiddo K-6, 42.8% + 20% probability together,

excluding the 5.3% probability which falls in the 11th century BCE – too low according to what we know about this city from Egyptian finds and historical sources (e.g., SINGER 1988–89; USSISHKIN 1995). For Lachish VI, 57.85% probability, excluding the 7.7% and 2.7% probabilities for the same reason (USSISHKIN 2004: 69–70).

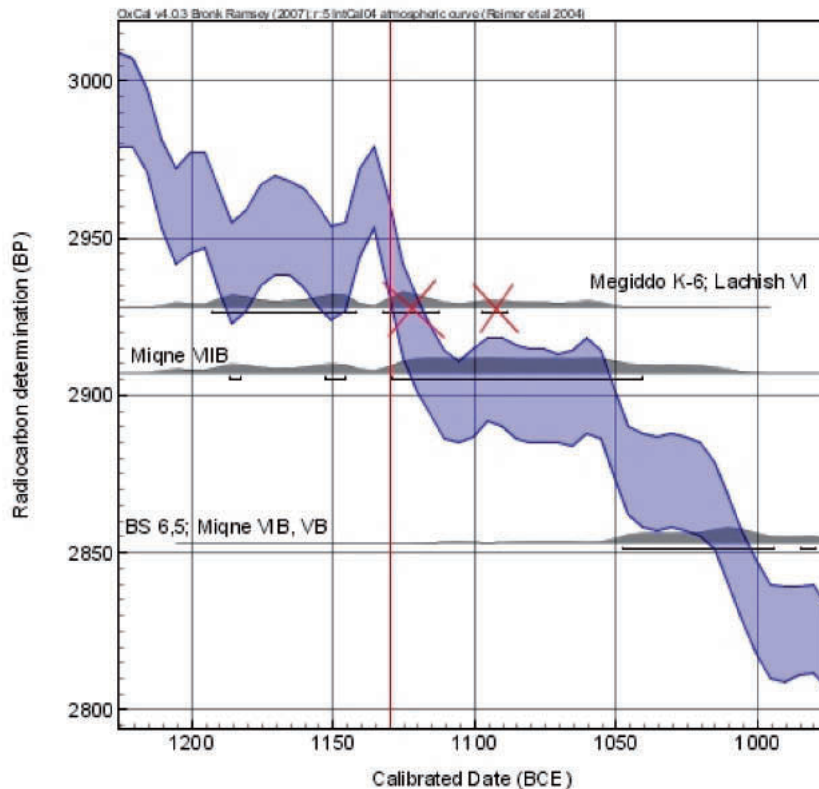


Fig 1 The uncalibrated and calibrated dates of Megiddo K-6 and Lachish VI, Miqne VIIIB and the bichrome strata superimposed on the calibration curve. Egyptian finds and historical sources make it clear that Megiddo K-6 and Lachish VI (Late Bronze III) cannot be dated much later than 1130 BCE (SINGER 1988–89; USSISHKIN 1995 for Megiddo; USSISHKIN 2004: 69–70 for Lachish). We entered the 1130 limit into the figure as a vertical red line; it eliminates the possibility of some of the later Megiddo K-6 and Lachish VI solutions (red crosses)

Canaan (USSISHKIN 1985: 223; 2007; FINKELSTEIN 1995).

THE BICHROME PHASE AND THE IRON I/IIA TRANSITION

Beth-shemesh 6 and 5 and Tel Miqne VIIIB and VB – the only bichrome strata which provided radiocarbon results thus far – make one group with results in the same range which postdates the Tel Miqne VIIIB horizon. This phase, which should be classified as ‘middle Iron I’ (contemporary to Shiloh V in the highlands – FINKELSTEIN and PIASETZKY 2006b), falls in the second half of the 11th century BCE.

The radiocarbon dates for these strata have implications for the debate on the date of transition from the Iron I to the Iron IIA. Mazar’s Modified Conventional Chronology (2005) would place it at ca. 980 BCE, while supporters of the Low Chronology would put it in the late-10th century BCE (e.g., FINKELSTEIN and PIASETZKY 2003; FINKELSTEIN 2005; SHARON *et al.* 2007).

In order to absorb the meaning of these results, one needs first to look at the stratigraphy and chronology of Beth-shemesh and Tel Miqne – the two sites that provided the dates (Tables 4–5):

Beth-shemesh 4 and Tel Miqne VA and IV are late Iron I strata. They postdate the bichrome layers at these sites, which are radiocarbon dated to ca. 1050–995. They should therefore be placed in the 10th century BCE (dark-gray cells in Tables 4–5). This would render the dating of the Iron I/IIA transition to ca. 980 BCE unlikely (only 70–15 years left for the late Iron I strata – Fig. 2).

Another clue comes from Beth-shemesh 3, which was probably destroyed during the 766–745 range (see below). Even if this stratum, with some monumental construction (BUNIMOVITZ and LEDERMAN 2006: 415–418) was long-lived, placing the Iron I/IIA transition at ca. 980 BCE would make it a more than 200 year-long stratum, which is also unlikely (Fig. 2).³

³ The single date from early Iron IIA Lachish V is of no help due to its large uncertainty.

Str.	Period	¹⁴ C Date	Comments
6 5	Middle Iron I, bichrome	1050–995	
4	Late Iron I		BUNIMOVITZ and LEDERMAN 2006: 411, 418–419
3	Iron IIA, destroyed during Iron IIA/B transition	766–745	Destruction in the “first half of the 8 th century” BUNIMOVITZ and LEDERMAN 2006: 419

Table 4 Beth-shemesh stratigraphy

Str.	Period	¹⁴ C Date	Comments
VIIIB	Early Iron I, monochrome appears	1125–1050	DOTHAN and ZUKERMAN 2004: 3
VIIA	Early Iron I, monochrome, still pre-Bichrome	Also down to 1050?	
VIB–VB	Middle Iron I, bichrome	1050–995	
VA IV	Late Iron I		e.g., DOTHAN 2003: 194–195; DOTHAN et al. 2006: 94

Table 5 Tel Miqne stratigraphy

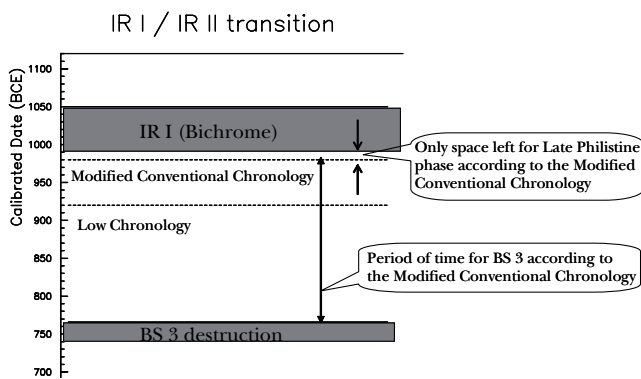


Fig 2 Unlikely consequences of the Modified Conventional Chronology hypothesis. The proposed dates for the Iron I/IIA transition according to the Modified Conventional Chronology and the Low Chronology are shown as dashed lines. Dates of strata are shown as gray areas

THE IRON IIA/B TRANSITION IN THE SOUTH

There can be no doubt that the assemblage of Tell es-Safi IV (e.g., SHAI and MAEIR 2003) belongs to the late Iron IIA horizon. It is radiocarbon dated to 2707±27, which translates to a calibrated range of 895–820 BCE. Historically, it seems safe to assume that Gath (identified with Tell es-Safi) was assaulted and destroyed by Hazael king of Damascus sometime in the second half of the 9th century BCE (MAEIR 2004), after 842 BCE. Therefore, the combination of the ¹⁴C results and the historical argument defines the

destruction of Tell es-Safi IV to the 842–820 BCE range.

From the perspectives of both pottery typology and radiocarbon results the destruction of Beth-shemesh 3 is later than that of Tell es-Safi IV. Typologically, this stratum already carries Iron IIA/B transition forms (for the pottery see BUNIMOVITZ and LEDERMAN 2006: 419–420). The ¹⁴C results from this stratum – 2505±30 – is significantly lower than that of Tell es-Safi IV. Due to the nature of the calibration curve, Beth-shemesh 3 provides a very broad absolute date of 766–551 BCE (Fig. 3). But this can be narrowed to 766–745 if one introduces an historical consideration (Fig. 3). The Lachish III assemblage in Judah, which is typical of the Iron IIB, originates from destruction layers that represent Sennacherib’s campaign against Judah in 701 BCE. But the *appearance* of this assemblage must be dated earlier, probably no later than ca. mid-8th century BCE (see vertical red line in Fig. 3). This eliminates the calibrated possibilities of 688–664 and 647–551 BCE (red crosses in Fig. 3).

The date of the Iron IIA/B transition in the south has been fixed between ca. 800 and 760 BCE (see recent summaries in HERZOG and SINGER-AVITZ 2004: 230; FANTALKIN and FINKELSTEIN 2006: 22–24). The ¹⁴C results support the archaeological observations by showing that the assemblage from a destruction that occurred in the 766–745 range is already characterized by transition forms.

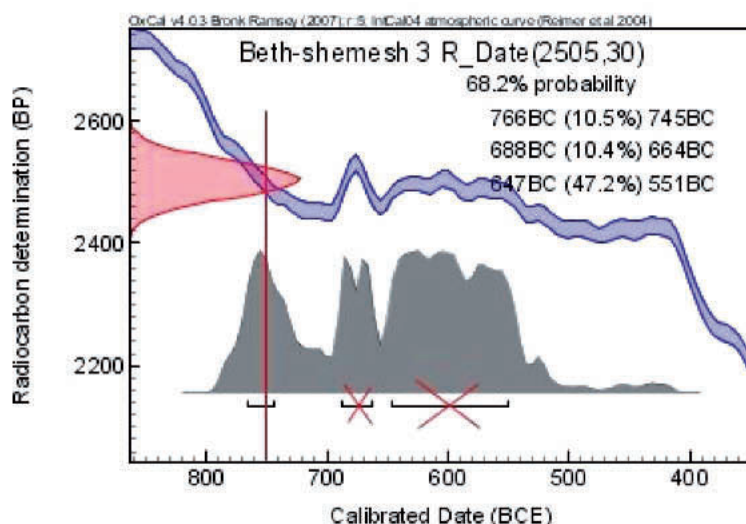


Fig 3 Calibration dates for Beth-shemesh 3. The vertical red line marks the year 750 BCE – the approximate beginning of the Lachish III assemblage (Iron IIB) – limiting Beth-shemesh 3 to the early option in the curve (766–745 BCE)

ADDENDUM: EL-AHWAT

We wish to comment here on the date of the Iron I site of el-Ahwat, located on a ridge overlooking Wadi Ara in northern Israel, in the context of Zertal's proposal (e.g., ZERTAL 2001) to identify it as a site founded by a northern group of Sea Peoples. One of us has already rejected this interpretation on purely material culture grounds (FINKELSTEIN 2002b). The ^{14}C date provided for el-Ahwat by a relatively large number of consistent readings (SHARON *et al.* 2007) adds another argument against Zertal's theory.

ZERTAL (2001: 215) dated the foundation of the site to ca. 1230 BCE according to the "XIXth dynasty" glyptic material (ZERTAL 1999: 34), and its latest phase of occupation before abandonment some 50-60 years later, according to his reading of the Iron I pottery found at the site. Only two of the scarabs have been published to date. Brandl dated them to the 19th dynasty, in the 13th century BCE, "since this is the period of time when the frequency of scarabs bearing the name of Amon-Re is the greatest" (BRANDL 1996: 75). Yet, according to another view, their date cannot be fixed more accurately than to the period of the late 19th and 20th Dynasties, ca. 1230–1075 BCE (KEEL 1997: 526). Elsewhere, BRANDL (1997) reported briefly on the entire collection of glyptic material from el-Ahwat, which includes "Hyksos", 19th Dynasty and 20th Dynasty scarabs. Thus, from the chronological point of view the glyptic assemblage ostensibly points to a foundation date in the early 12th century. Yet,

even this is not mandatory, as the scarabs could have been brought to the site as amulets at a somewhat later date.

Most of the el-Ahwat pottery has not yet been published. Elsewhere, one of us noted (FINKELSTEIN 2002b) that from the few vessels which have thus far been presented (ZERTAL and MIRKAM 2000: 137), from ZERTAL's description (mainly 1996: 44–45) and from what he presented during a visit to the site, they seem to be similar to the Iron I pottery found in scores of hill country sites. Late Bronze vessels of the 13th century and cooking pots in the Late Bronze tradition are absent (ZERTAL 2001: 219–220). The assemblage is dominated by collared rim jars, erect or slanted cooking pots with elongated rim, crude round bowls, Iron I jugs, etc. FINKELSTEIN (2002b: 194) suggested that the pot-

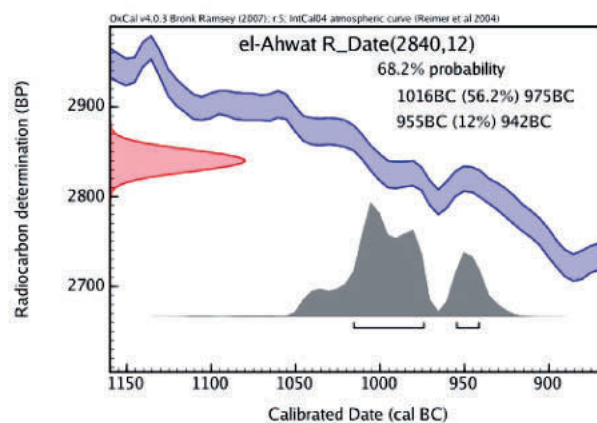


Fig 4 ^{14}C results for el-Ahwat

Laboratory and method*	Sample no.	Type of sample	Dates	Average	Date BCE
R AMS	4270.3	Olive pits	2828±40	2840±12	1016–942 (68%) 1016–975 (56%)
	4270.4		2807±40		
	4270.5		2809±40		
	4271.3		2858±40		
	4271.4		2854±40		
	4271.5		2868±40		
	4272.3		2822±40		
	4272.4		2838±40		
	4272.5		2935±40		
	4273.3		2847±40		
	4273.4		2819±40		
	4273.5		2780±40		

* R = Sample prepared in Rehovot and measured in Tucson

Table 6 ¹⁴C results from el-Ahwat

tery of el-Ahwat postdates Megiddo VIIA and that the few published vessels should be dated to the time-frame of Stratum VI at Megiddo.

Recently published ¹⁴C dates from el-Ahwat (SHARON *et al.* 2007) seem to resolve this issue (Table 6, Fig. 4).

The dates for el-Ahwat are somewhat later than those obtained for Shiloh V (2888±12: FINKELSTEIN and PIASETZKY 2006b). Megiddo K-5 (=Stratum VIB of the University of Chicago excavation) has recently provided an uncalibrated date of 2885±40 (BOARETTO unpublished, see

n. 1), while a large set of readings from Megiddo K-4 (=Stratum VIA of the University of Chicago dig) gave an average uncalibrated date of 2848±20 (FINKELSTEIN and PIASETZKY 2006b). El-Ahwat falls close to Megiddo VIA, in the later phase of the Iron I. Even if the el-Ahwat samples represent the end-days of the site, it is clear that it was founded much later than proposed by the excavator. From this point of view as well, el-Ahwat is unrelated to the settlement of the Sea Peoples on the coast of the Levant in the 12th century BCE.

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