

KEYNOTE ADDRESS

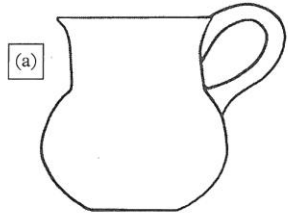
A PERSPECTIVE ON THE STATE OF THE SCIENCE
IN MEDITERRANEAN CULTURES, CLIMATE AND
CHRONOLOGY

Malcolm H. Wiener

Göbekli Tepe, Turkey

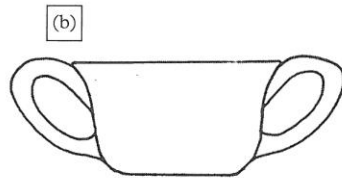


Kastri Group shapes & sites in the Aegean



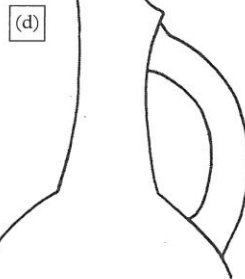
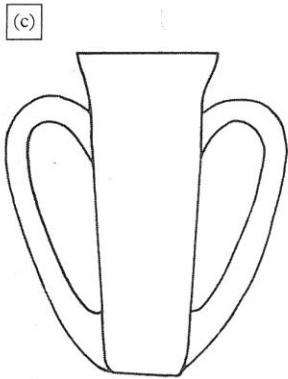
Tankard

Depas

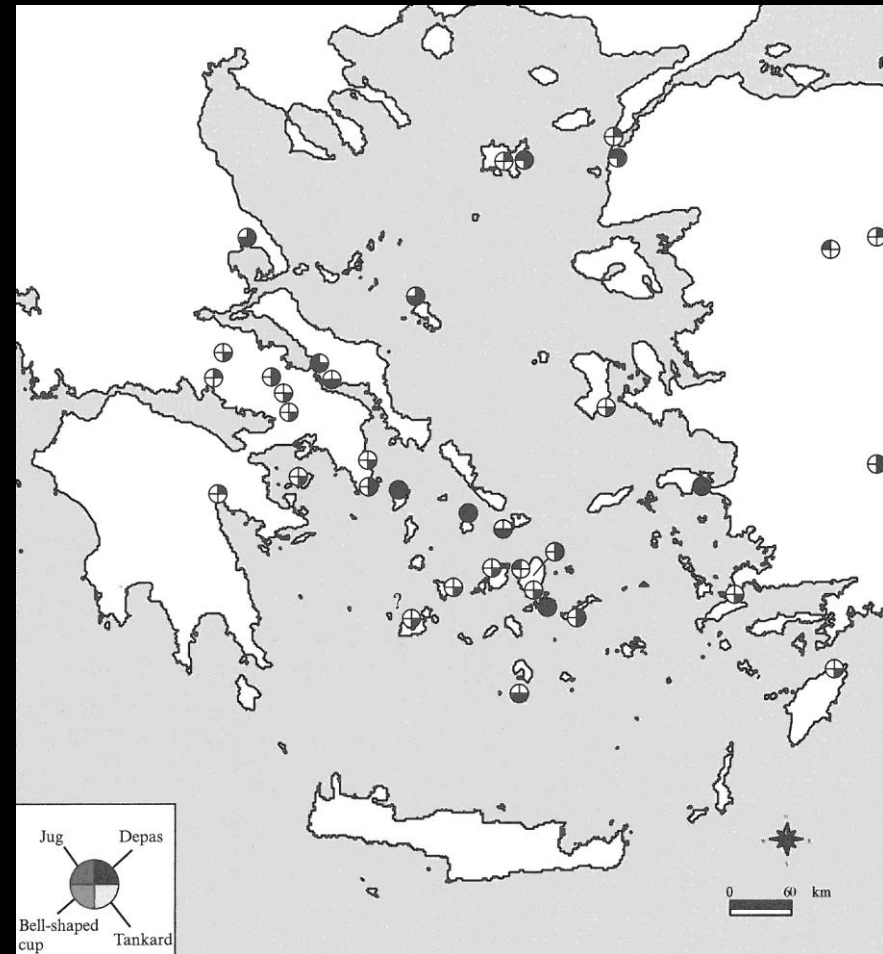


Bell-shaped cup

Jug



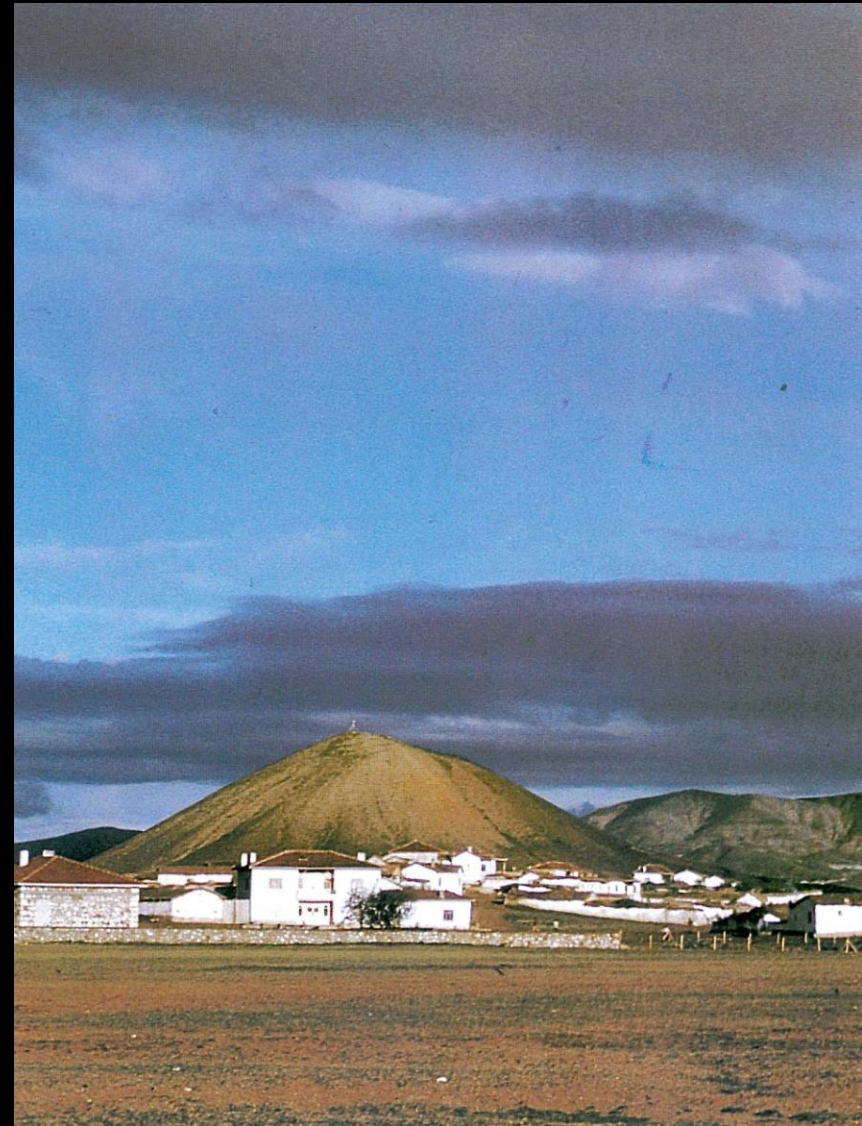
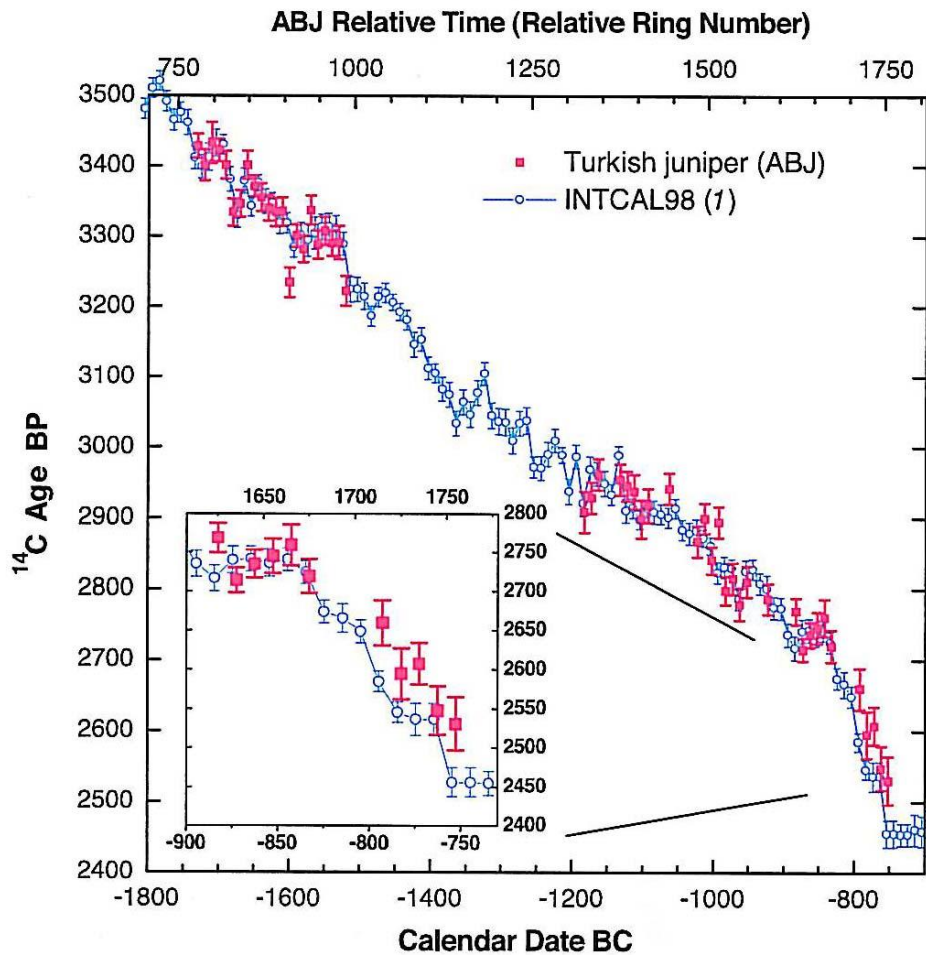
0 5 cm



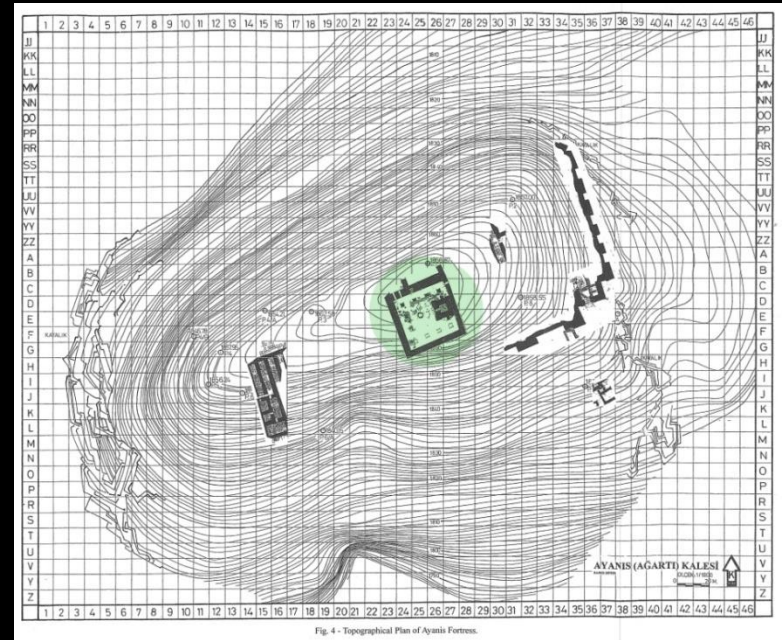
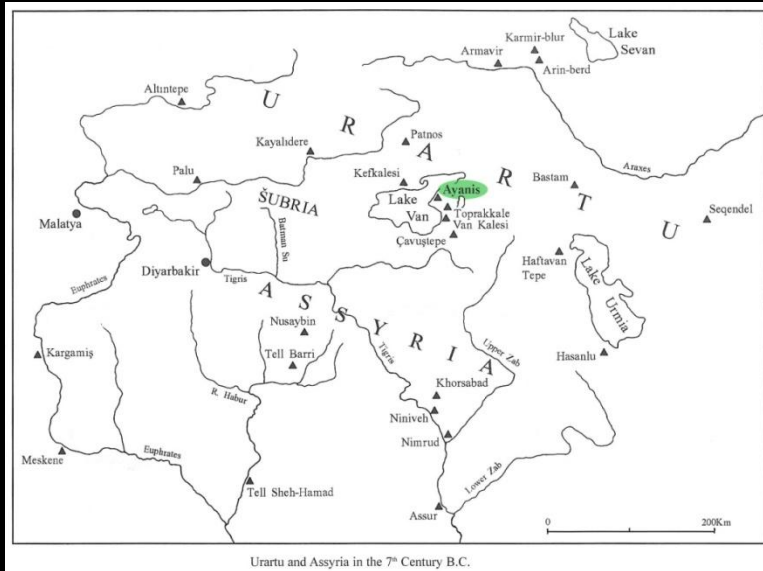
(Broodbank 2000, figs. 102 & 103)

Anatolian Floating Chronology

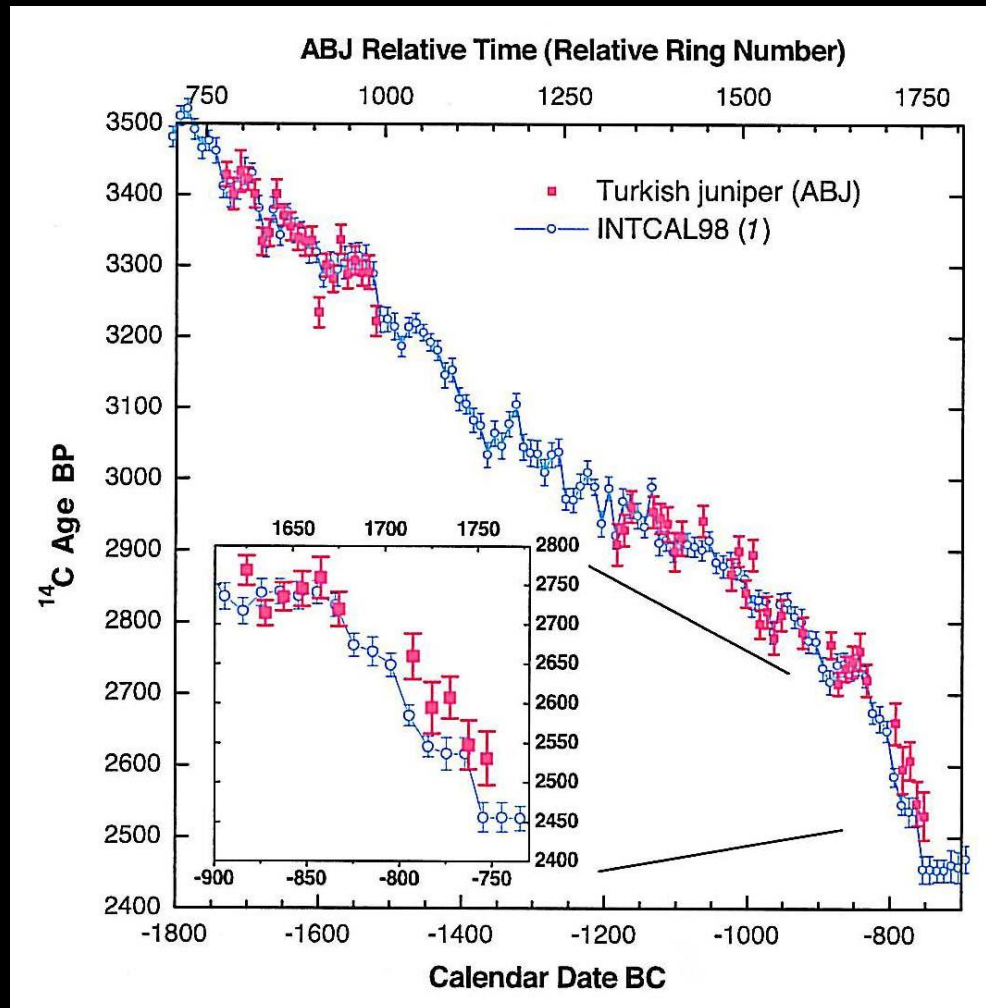
Midas Mound Tumulus, Gordion, Turkey



Temple of Rusa II, Ayanis



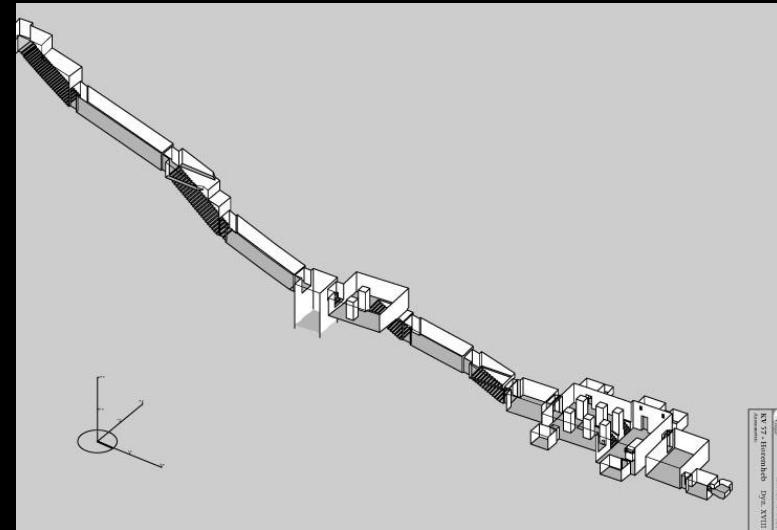
Anatolian Floating Chronology



Egyptian chronology (post-Horemheb)

Axonometric drawing & paintings from the Tomb of Horemheb (KV 57)

Pharaoh	Consensus dates pre-Horemheb adjustment	Revised dates if accession date of Ramses II raised by 11 years
HOREMHEB	c. 1323–1295 BC	c. 1320–1306 BC or 1316–1302 BC
Ramses I	1295–1294 BC	1306–1305 BC or 1302–1301 BC
Seti I	1294–1279 BC	1305–1290 BC or 1301–1290 BC
Ramses II	1279–1213 BC	1290–1224 BC
Merneptah	1213–1203 BC	1224–1214 BC
Amenmesses	1203–1200 BC	1214–1211 BC
Seti II	1200–1194 BC	1211–1205 BC
Siptah	1194–1188 BC	1205–1199 BC
Tawosret	1188–1186 BC	1199–1197 BC
Setnakht	1186–1184 BC	1197–1193 BC
Ramses III	1184–1153 BC	1193–1162 BC
Ramses IV	1153–1147 BC	1162–1156 BC
Ramses V	1147–1143 BC	1156–1152 BC
Ramses VI	1143–1136 BC	1152–1143 BC



The Mediterranean



Cretan olive tree



Theran olive branch & hypothetical reconstruction

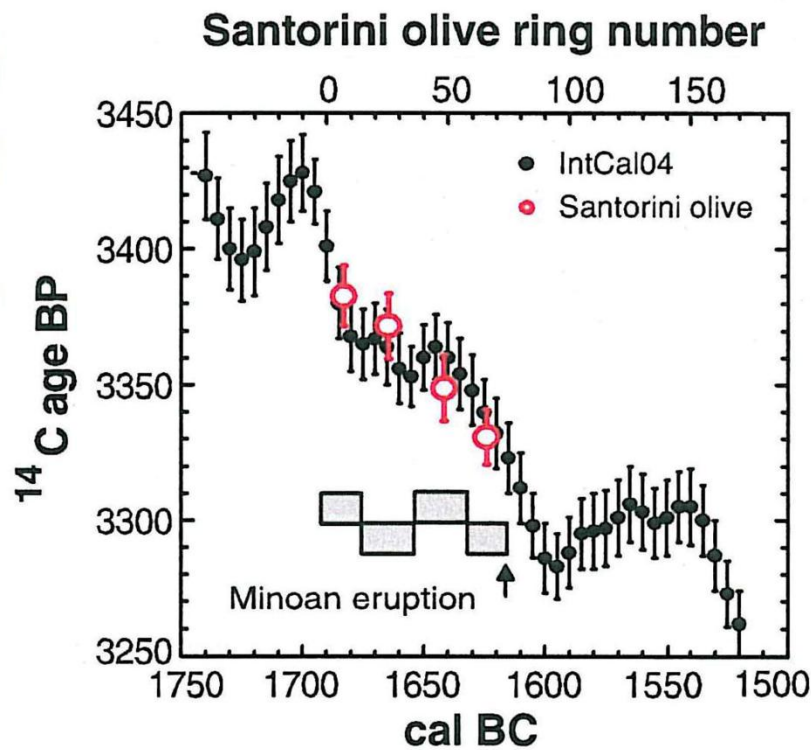


(Photographs from the 2006 Aarhus University media release)

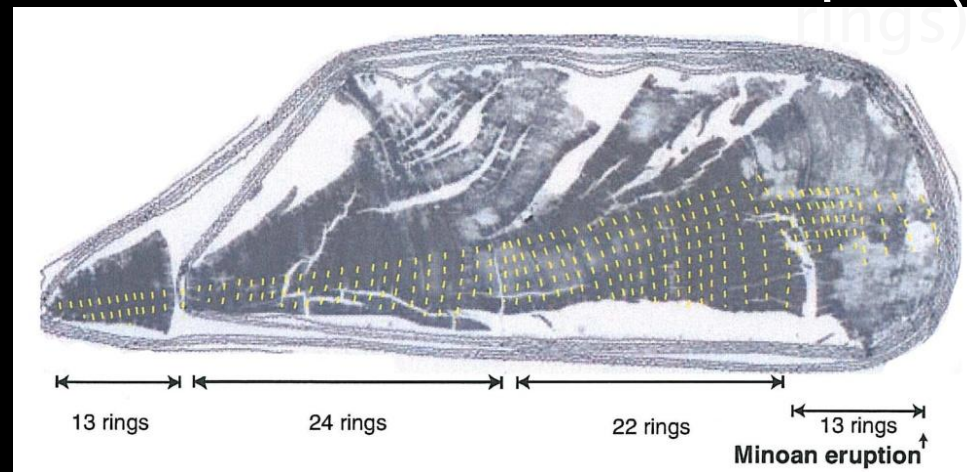


(Friedrich et al. 2009, fig. 2)

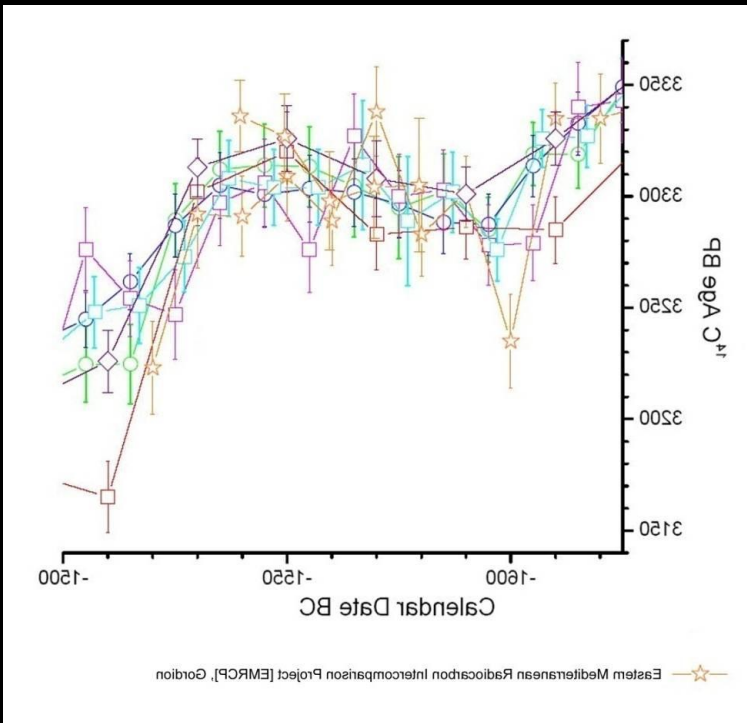
^{14}C dates of 4 segments of Thera olive branch section & proposed wiggle-match



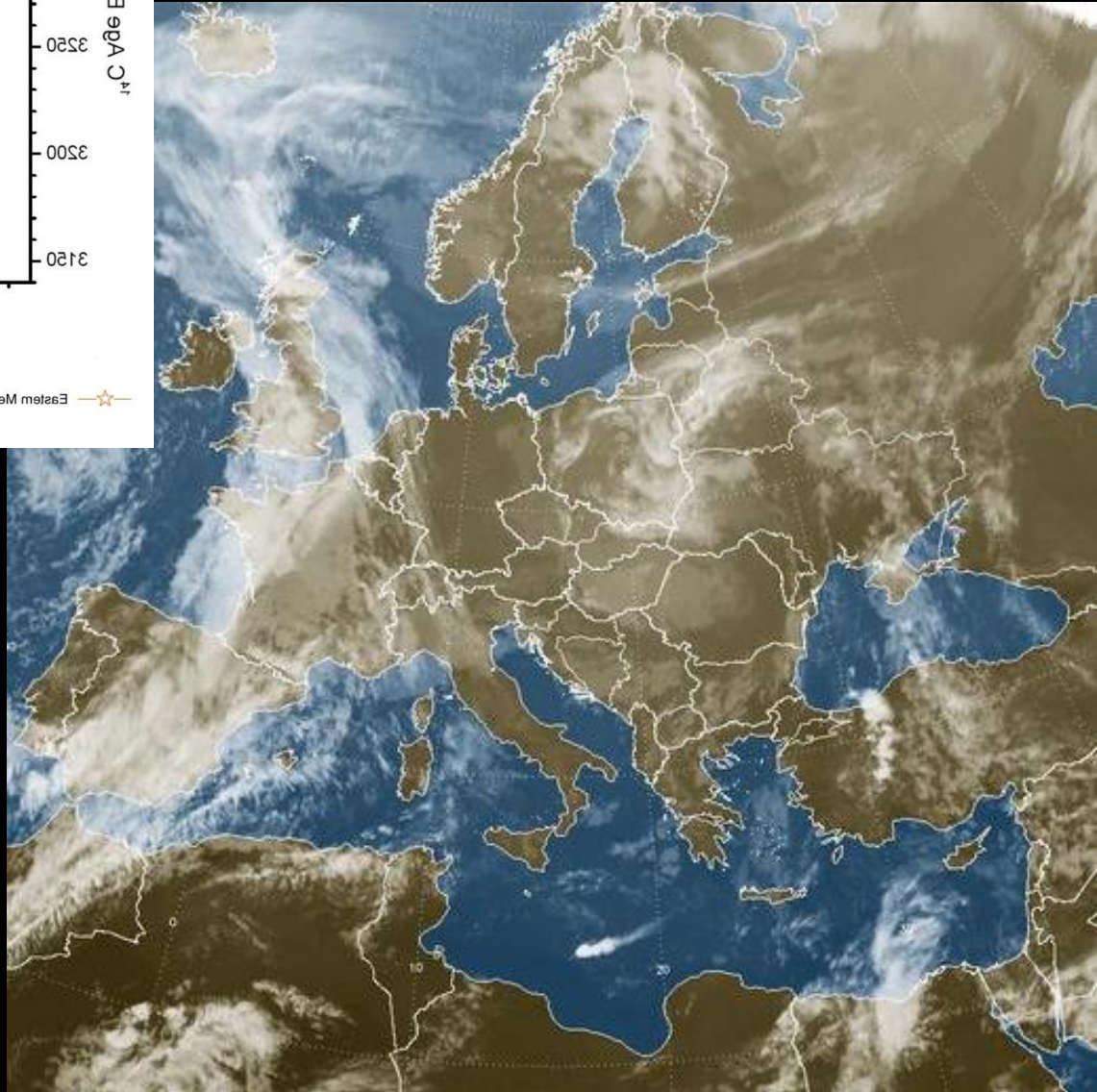
X-ray tomography of a section of the branch (yellow lines indicate purported annual growth)



(Friedrich et al. 2006, figs. 1b and 1c)



Dendro intercomparison



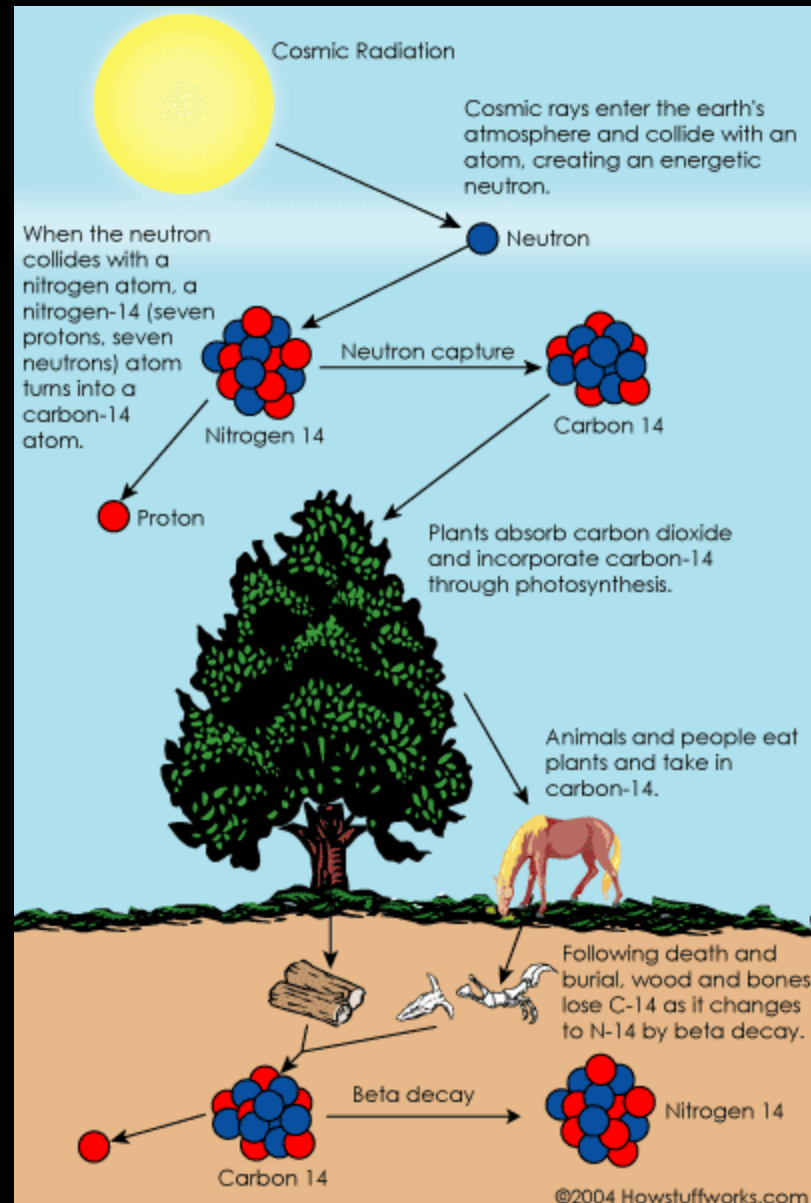
60° N

50° N

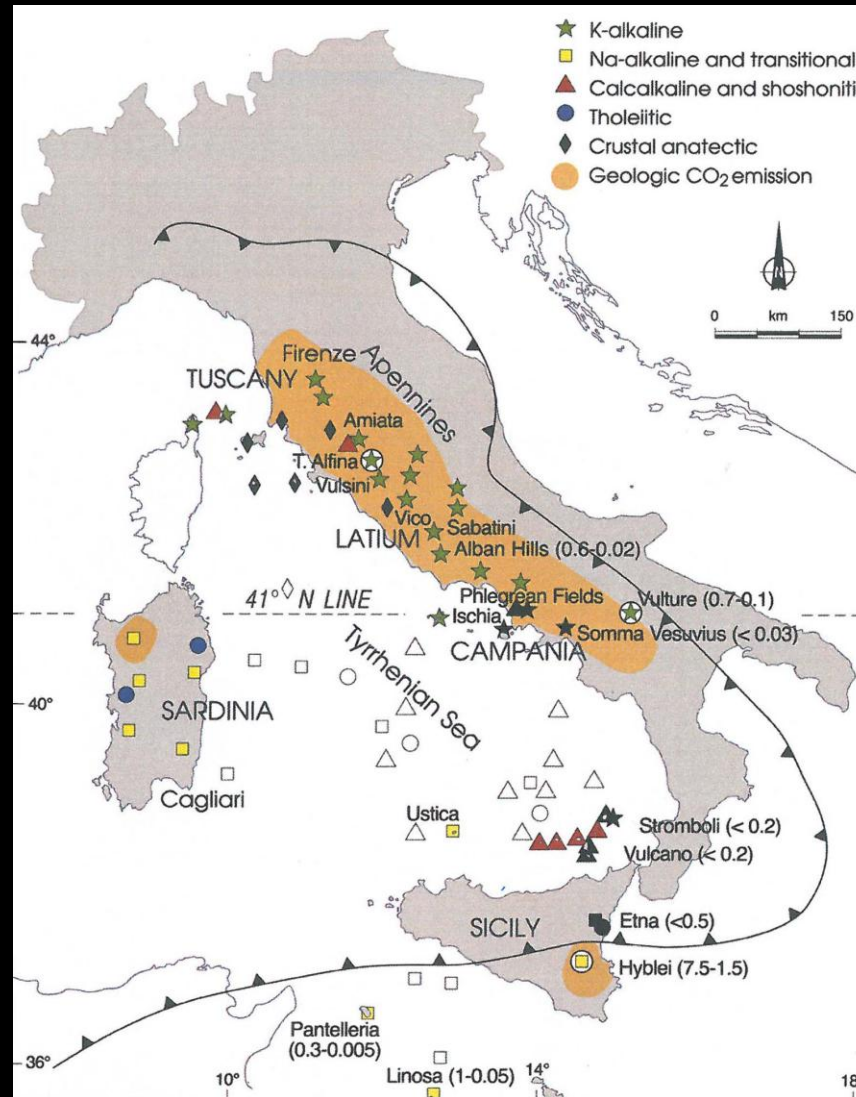
40° N

30° N

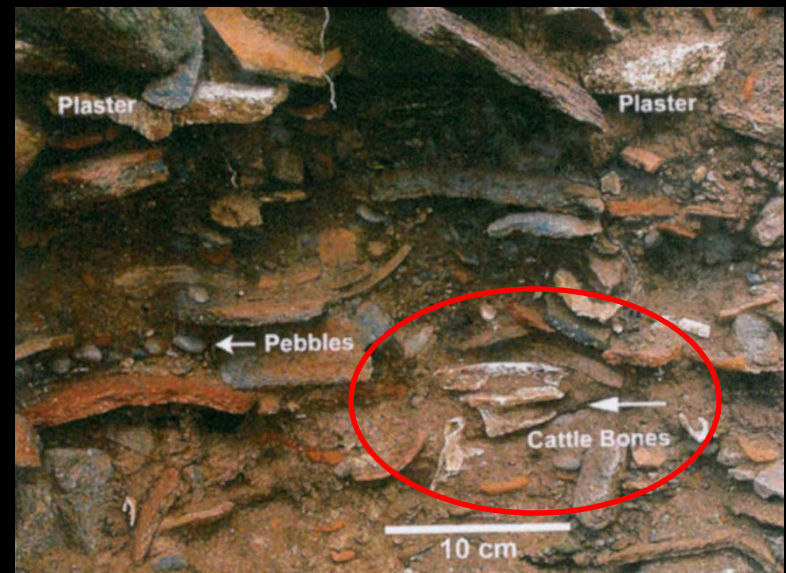
Production and Absorption of Carbon 14



Gas-emitting fields in Italy

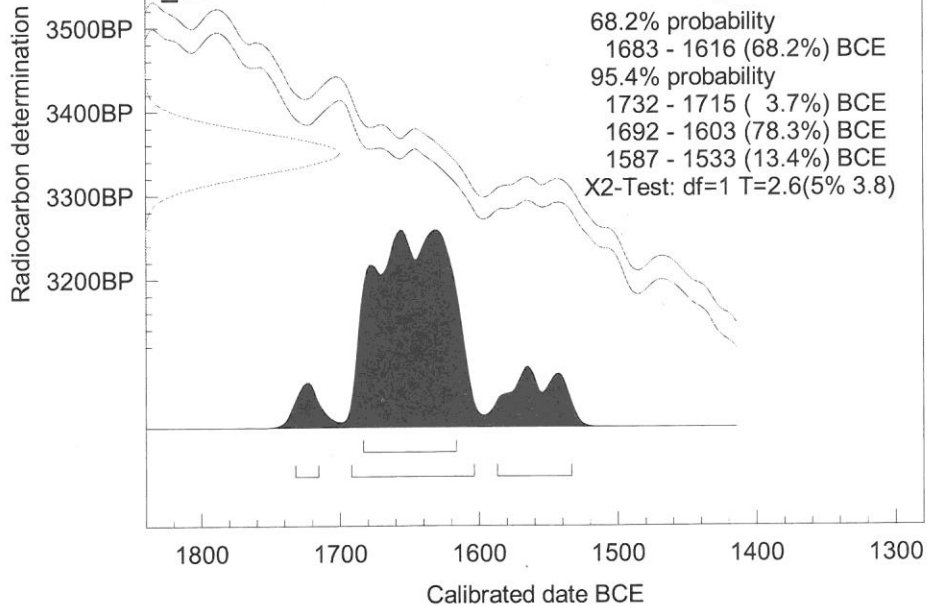


Radiocarbon determinations of two cattle bones from Palaikastro, Crete



Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:2 sd:12 prob usp[chron]

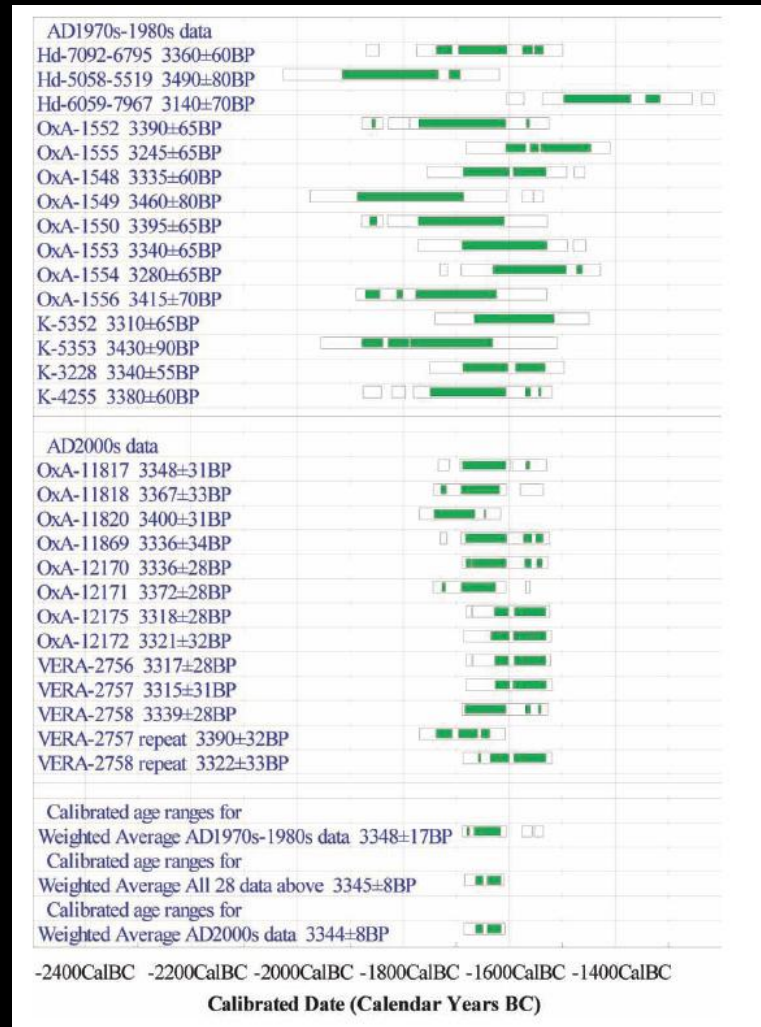
R_Combine Palaikastro Tsunami Promontory : 3350 ± 25 BP



Akrotiri, Thera (Santorini)



Manning et al.'s post-AD 2000 Akrotiri radiocarbon datasets



(Manning et al. 2009, fig. 2)

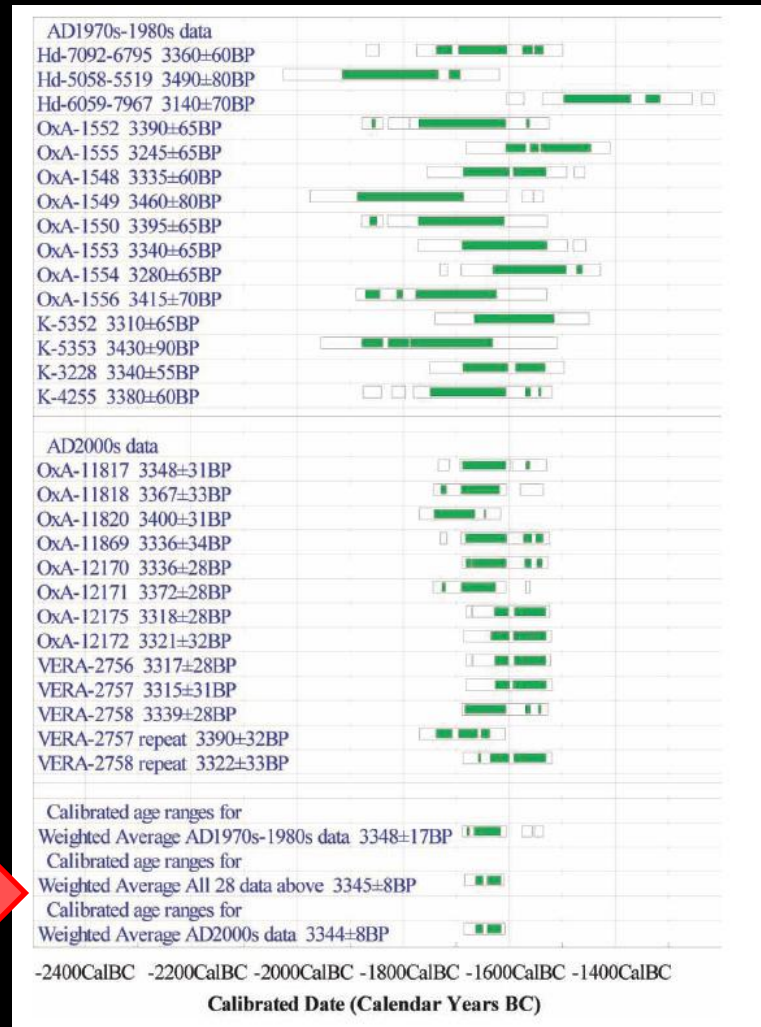
Table S1 from the Manning et al. 2006 Science article

Miletos, Turkey	1RY1000-1010 2 C-TU-MIL- 1RY1010-1020	charcoal	Quercus sp.	12303	3467	31	-25.5	LMA(late)	Secure
Miletos, Turkey	1RY1020-1030 3 C-TU-MIL-	charcoal	Quercus sp.	12304	3404	31	-25.5	LMA(late)	Secure
Miletos, Turkey	1RY1020-1030 4 C-TU-MIL-	charcoal	Quercus sp.	12305	3459	31	-25.7	LMA(late)	Secure
Miletos, Turkey	1RY1030-1040 5 C-TU-MIL-	charcoal	Quercus sp.	12306	3416	31	-25.7	LMA(late)	Secure
Miletos, Turkey	1RY1030-1040 6 C-TU-MIL-	charcoal	Quercus sp.	12307	3425	31	-25.6	LMA(late)	Secure
Miletos, Turkey	1RY1040-1050 7 C-TU-MIL-	charcoal	Quercus sp.	12308	3361	31	-26	LMA(late)	Secure
Miletos, Turkey	1RY1040-1050 8 C-TU-MIL-	charcoal	Quercus sp.	12309	3397	31	-26	LMA(late)	Secure
Miletos, Turkey	1RY1050-1060 9 C-TU-MIL-	charcoal	Quercus sp.	12310	3345	32	-26.3	LMA(late)	Secure
Miletos, Turkey	1RY1050-1060 10 C-TU-MIL-	charcoal	Quercus sp.	12311	3397	32	-26.3	LMA(late)	Secure
Miletos, Turkey	1RY1060-1070 11 C-TU-MIL-	charcoal	Quercus sp.	12312	3388	30	-26.3	LMA(late)	Secure
Miletos, Turkey	1RY1060-1070 12 C-TU-MIL-	charcoal	Quercus sp.	12313	3352	31	-26.1	LMA(late)	Secure
Miletos, Turkey	1RY1010-1020	charcoal	Quercus sp.	12407	3385	34	-25.8	LMA(late)	Secure
Trianda, Rhodes	Trianda 8	charcoal		10641	3498	39	-24.4	LMA(late)	phased - single, TPQ
Trianda, Rhodes	Trianda 13	charred twig	Quercus sp.	10643	3367	39	-26.3	LMA(late)	Secure
Trianda, Rhodes	Trianda 13	charred twig	Quercus sp.	11864	3344	32	-26	LMA(late)	Secure
Tsougiza, Nemea	Tsougiza 4	charcoal		11312	3215	33	-24.2	(LMA(late))% LFI(late)	phased*
Tsougiza, Nemea	Tsougiza 5	charcoal		11313	3261	39	-24.1	(LMA(late))% LFI(late)	phased*
Tsougiza, Nemea	Tsougiza 8	charcoal	Allium sp.	11314	3202	33	-22.7	(LMA(late))% LFI(late)	phased*
Akrotiri, Thera	M2/76 N005	charred seed	7 Lathyrus sp.	11817	3348	31	-22.9	LMA(VDL)	Secure
Akrotiri, Thera	M7/68A N004	charred seed	Hordeum sp.	11818	3367	33	-25.8	LMA(VDL)	Secure
Akrotiri, Thera	M10/23A N012	charred seed	Hordeum sp.	11820	3400	31	-25.2	LMA(VDL)	Secure
Akrotiri, Thera	M3/143 N047	charred seed	Hordeum sp.	11869	3338	34	-22.8	LMA(VDL)	Secure
Akrotiri, Thera	M2/76 N005	charred seed	7 Lathyrus sp.	12170	3338	28	-22.9	LMA(VDL)	Secure
Akrotiri, Thera	M7/68A N004	charred seed	Hordeum sp.	12171	3315	31	-24.1		2757 repeat
Akrotiri, Thera	M3/143 N047	charred seed	Hordeum sp.	12172	3322	32	-24.7		2758 repeat
Akrotiri, Thera	M3/143 N047	charred seed	Hordeum sp.	12172	3321	32	-23.1	LMA(VDL)	Secure

39

Akrotiri, Thera	M10/23A N012	charred seed	Hordeum sp.	12175	3317	28	-21.6			2756
Akrotiri, Thera	1	charred seed	Lathyrus sp.	1048	3335	60	-23	LMA(VDL)	Secure	
Akrotiri, Thera	1	charred seed	Lathyrus sp.	1649	3460	80	-23	LMA(VDL)	Secure	
Akrotiri, Thera	2	charred seed	Lathyrus sp.	1650	3365	65	-23	LMA(VDL)	Secure	
Akrotiri, Thera	4	charred seed	Lathyrus sp.	1652	3360	65	-23	LMA(VDL)	Secure	
Akrotiri, Thera	8	charred seed	Lathyrus sp.	1653	3340	65	-23	LMA(VDL)	Secure	
Akrotiri, Thera	8	charred seed	Lathyrus sp.	1654	3280	85	-23	LMA(VDL)	Secure	
Akrotiri, Thera	9	charred seed	Lathyrus sp.	1655	3245	65	-23	LMA(VDL)	Secure	
Akrotiri, Thera	11	charred seed	Hordeum sp.	1656	3415	70	-23	LMA(VDL)	Secure	
Akrotiri, Thera	041079-1, 220876	pulses			5352	3310	65	-22.5	LMA(VDL)	Secure
Akrotiri, Thera	011079-1, 021099	pulses			3228	3340	55	-20.6	LMA(VDL)	Secure
Akrotiri, Thera	20579-3	pulses			4255	3380	60	-23.8	LMA(VDL)	Secure
Akrotiri, Thera	250780	charred twig	Tamarix sp.							
Akrotiri, Thera	West House	peas			7932					
Akrotiri, Thera		peas			6755	3390	80		LMA(VDL)	Secure
Akrotiri, Thera		grains			6058	3490	80		LMA(VDL)	Secure
Akrotiri, Thera		grains			5519					
Akrotiri, Thera		grains			6058	3140	70		LMA(VDL)	Secure
Tsougiza, Nemea	Tsougiza 2	charred seed	Vicia vinifera	11309	3508	39	-23.4	(LMA/LMIB) LFI-II	phased*	
Tsougiza, Nemea	Tsougiza 3	charcoal	? Quercus sp.	11310	3503	38	-24.5	(LMA/LMIB)	phased*	
Tsougiza, Nemea	Tsougiza 3	charcoal	? Quercus sp.	11311	3487	38	-22.7	(LMA/LMIB) LFI-II	phased*	
Chania, Crete	15/TR10, Rm E	charred seed	Pisum sativum	2517	3380	80	-25.6	LMIB	Secure	
Chania, Crete	13/TR17, 1984, Rm C	charred seed	Vicia faba	2518	3340	80	-24.9	LMIB	Secure	
Chania, Crete	14/TR17, 1984, Rm C	charred seed	Hordeum sp.	2646	3315	70	-23.9	LMIB	Secure	
Chania, Crete	16/TR24, 1989, L6, 5A1	charred seed	Hordeum sp.	2647	3315	70	-23.9	LMIB	Secure	
Chania, Crete	13/TR17, 1984, Rm C	charred seed	Vicia faba	10320	3208	26	-22.8	LMIB	Secure	
Chania, Crete	14/TR17, 1984, Rm C	charred seed	Hordeum sp.	10321	3268	27	-22.1	LMIB	Secure	
Chania, Crete	15/TR10, Rm E	charred seed	Pisum sativum	10322	3338	28	-22.9	LMIB	Secure	
Chania, Crete	16/TR24, 1989, L6, 5A1	charred seed	Pisum sativum	10323	3253	25	-23.3	LMIB	Secure	
Kermiras, Crete	TP-KE-29	charcoal		10617	3190	40	-24.2	LMIB	phased - single	
Myrtos-Pyrgos, Crete	17/KS_2.1	charred seed	Hordeum sp.	3167	3230	70	-22.2	LMIB	Secure	
Myrtos-Pyrgos, Crete	18/KS_2.4	charred seed	Hordeum sp.	3188	3200	70	-26.5	LMIB	Secure	
Myrtos-Pyrgos, Crete	19/KS/KS_2.1	charred seed	Vicia ervilia	3189	3270	70	-26	LMIB	Secure	
Myrtos-Pyrgos, Crete	20/KS/L_2.2	charred seed	Vicia ervilia	3225	3160	80	-23.6	LMIB	Secure	
Myrtos-Pyrgos, Crete	17/KS_2.1	charred seed	Hordeum sp.	10324	3270	26	-22.4	LMIB	Secure	
Myrtos-Pyrgos, Crete	19/KS/KS_2.1	charred seed	Vicia ervilia	10325	3228	26	-23.4	LMIB	Secure	
Myrtos-Pyrgos, Crete	20/KS/L_2.2	charred seed	Vicia ervilia	10326	3227	25	-22.4	LMIB	Secure	
Myrtos-Pyrgos, Crete	18/KS_2.4	charred seed	Hordeum sp.	10411	3150	40	-26.5	LMIB	Secure	
Miletos, Turkey	AT 99.787	bone	sheep/goat	11955	3233	23	-17.8	LMIB/III	phased (non-	

Manning et al.'s post-AD 2000 Akrotiri radiocarbon datasets

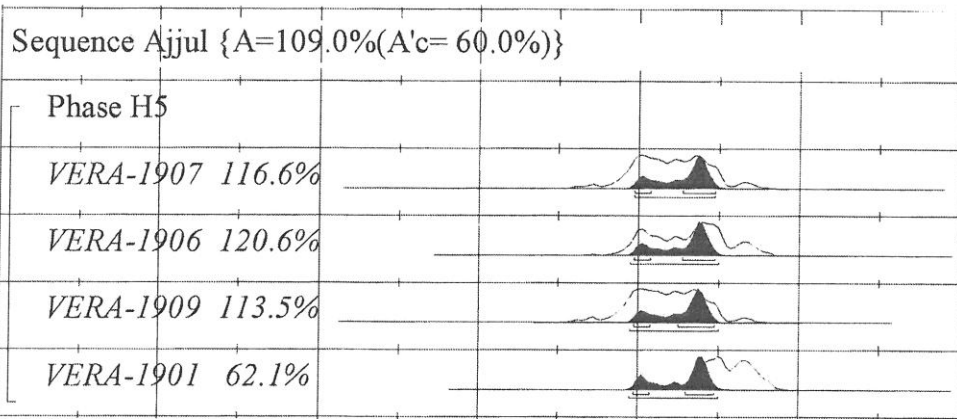


(Manning et al. 2009, fig. 2)

Theran pumice & tephra in stratified contexts

Pumice				Tephra
(1) Kolonna	(5) Miletos	(9) Tel Megadim	(13) Tell el-Dab'a	(16) Iasos
(2) Knossos	(6) Maroni	(10) Tel Nami	(14) Tell el-Herr	(17) Megiddo
(3) Palaikastro	(7) Tell el-'Ajjul	(11) Tel Gerisa	(15) Tell el-Hebwa	(18) Lachish
(4) Çeşme	(8) Ashkelon	(12) North Sinai		(19) Qantir

Atmospheric data from Reimer et al (2004); OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]



2400BC 2200BC 2000BC 1800BC 1600BC 1400BC 1200BC
Calendar date

¹⁴C dates from Stratum H5
at Tell el-'Ajjul

