

Time's Up!

Dating the Minoan eruption of Santorini

Acts of the Minoan Eruption Chronology Workshop,
Sandbjerg November 2007

initiated by

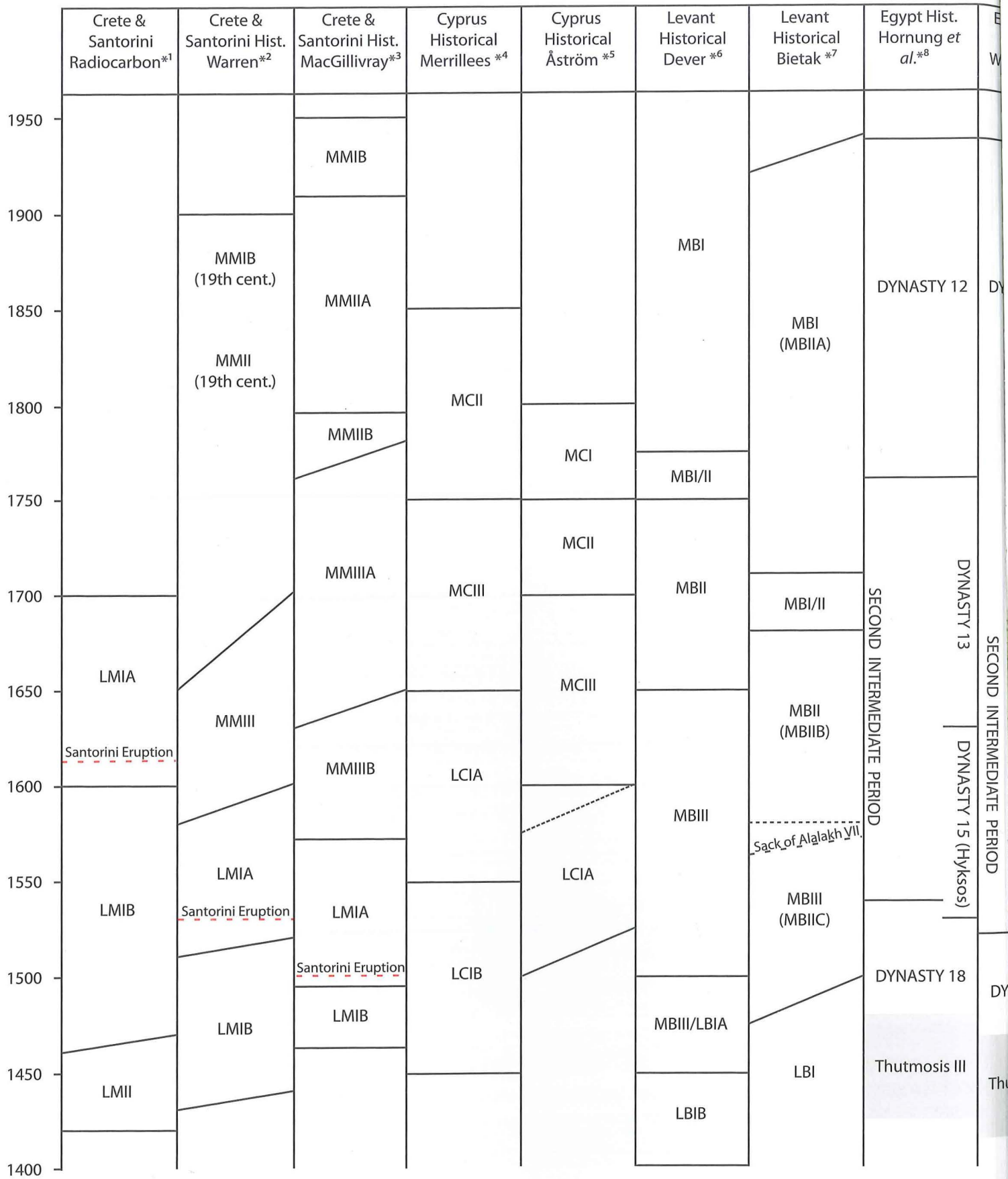
Jan Heinemeier & Walter L. Friedrich

Edited by

David A. Warburton



Monographs of the Danish Institute at Athens
Volume 10



Egypt Hist. Krauss, Warburton ^{*9}	Mesopotamia Historical Middle	Mesopotamia Historical Boese ^{*10}	Mesopotamia Hist. Gasche <i>et al.</i> ^{*11}	
			UR III	-1950
NASTY 12	Hammurabi			-1900
				-1850
				-1800
				-1750
				-1700
	OLD BABYLONIAN PERIOD		Hammurabi	-1650
				-1600
DYNASTY 15 (Hyksos)	Sack of Babylon	OLD BABYLONIAN PERIOD		-1600
			OLD BABYLONIAN PERIOD	-1550
		Sack of Babylon		-1500
NASTY 18			Sack of Babylon	-1500
				-1450
utmosis III				-1400

*1 Friedrich *et al.* 2006 (Eruption); Manning 2009

*2 Warren & Hankey 1989 (MMII-III);
Warren 2006 (LMI)

*3 MacGillivray forthcoming (MMIIB-MMIIIIB);
Pers. comm. March 2009 (MM IB-IIA, LMI)

*4 Merrillees 1992

*5 Åström 1972 (MC); 2001 (LCIA)

*6 Dever 1992

*7 Bietak 2002, 2007

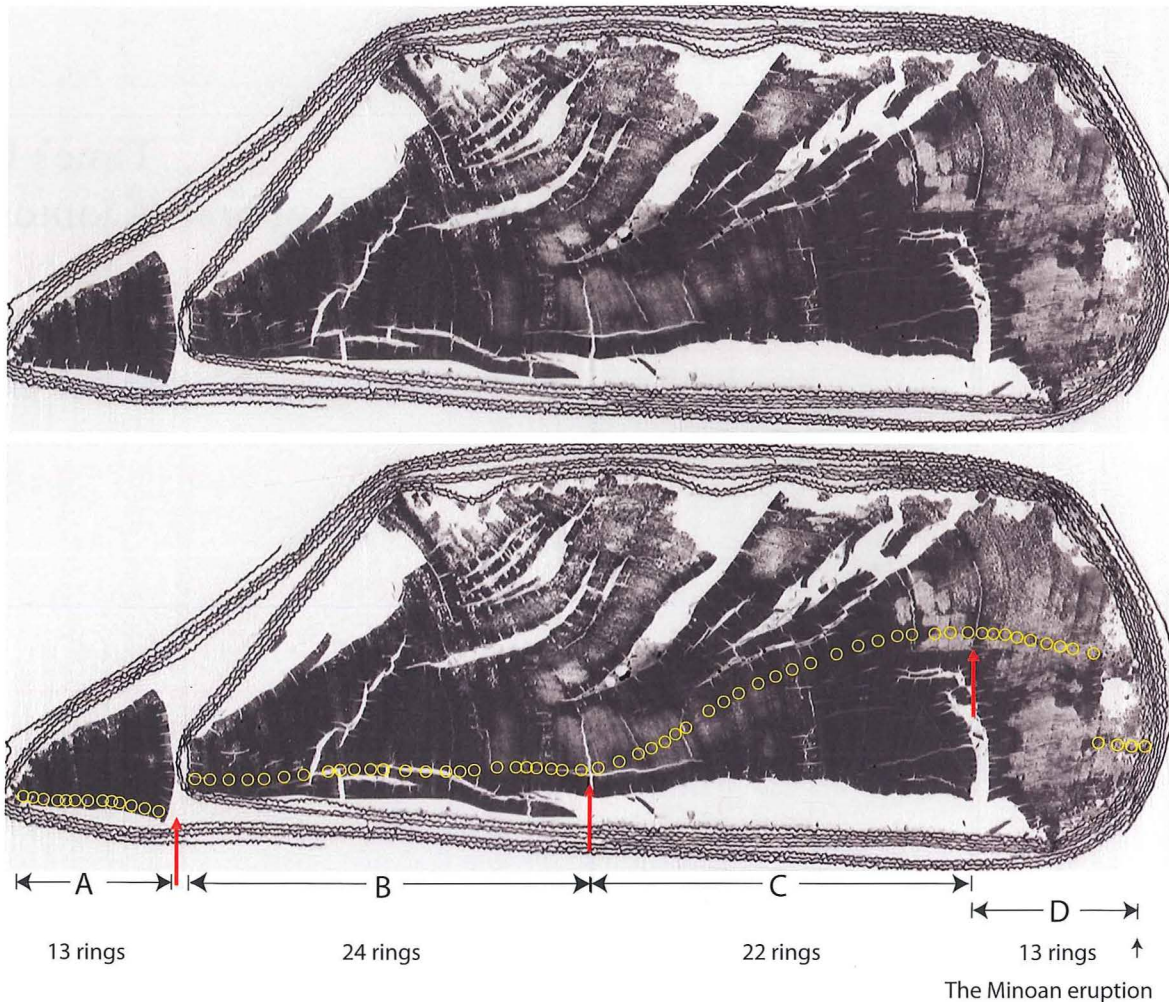
*8 Hornung *et al.* 2006

*9 Krauss & Warburton 2009

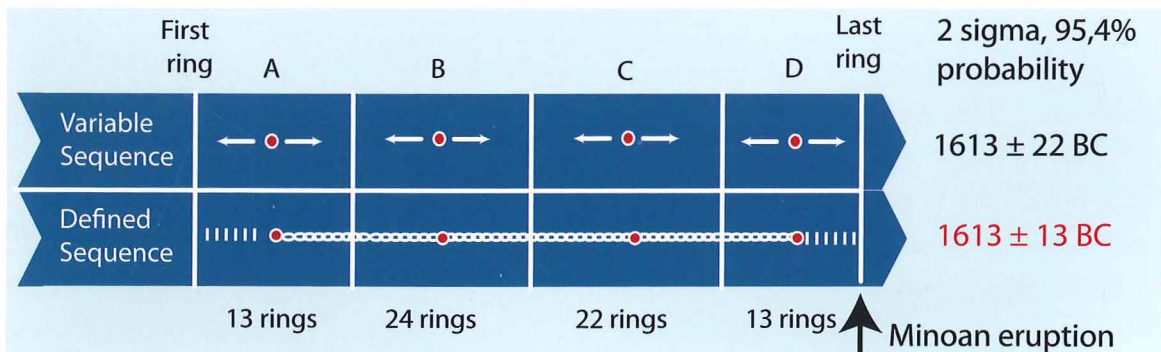
*10 Boese 2008

*11 Gasche *et al.* 1998

The olive branch (above)
and the results of the OxCal programme (below) used to date the Minoan eruption of Santorini



Using 3D X-ray tomography it was possible to count 72 growth rings in four groups. The last ring was formed in the year of the eruption. The upper illustration shows the original (inverted) X-ray picture, while on the lower image circles have been added to indicate the position of the individual rings.



The diagram shows the effect of the options “Variable Sequence” and “Defined Sequence” of the OxCal programme. The option “Defined Sequence” was used, since we knew the number of rings in each group. The red dots show the measured means of the ring groups A-D. The option “Variable Sequence” allows for a possible uncertainty in the annual ring count and leads to slightly higher uncertainty in the calibrated age. In the example shown, the gap width is increased by 25% and the uncertainty in the gap width is set to 25%.

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Für meine geliebte Tochter Margareth,

die sich für die Physik entschlossen hat

*– in der Meinung, dass die Physik mit der Archäologie
nichts zu tun hätte...*

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Cover illustration: drawing volcanic eruption, © Walter Friedrich

Front cover:

Stone vase NM 592, © National Museum, Athens

Olive branch from Thera eruption, © Walter Friedrich

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