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THE FORGOTTEN EARTHQUAKE OF 1440 AD IN ISTRIA - ARCHAEOSEISMOLOGICAL EVIDENCE FROM THE EUPHRASIUS CATHEDRAL, POREČ, CROATIA

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Supplementary Material

Table S1. Fracture orientation on the pillars of Euphrasius Cathedral. The height and width of the broken parts on the capitals at a height of 3 m are estimates only. Azimuth is the direction towards which the broken surface is facing. For graphical representation, see Fig. 7.

Pillar	Capital/ Plinth	Azimuth degrees	Height cm	Width cm	Depth cm	Remarks
northern side						
A	plinth	336	4	22	3	
B	plinth	28	4	12	1.5	
		56	>130	48		
C	plinth	236	3	14	1	
		176	14	11	repaired	
		130	13	10	repaired	
D	plinth	270	12	13		
E	plinth	286	3	6	0.5	
F	not broken					
G	plinth	306	2	8	repaired	
	plinth	230	7	14	repaired	
	capital	70			repaired, missing	
H	plinth	290	5	11		
	capital	280	~10	12		
I	plinth	352				
J	plinth	74	5	8	1	
	plinth	288	12	6	repaired	
K	capital	348	~8	~20	repaired	
	plinth	56	5	7	1	
L	plinth	284	3	12	2	
	capital	48	~20	25		conjugate fractures
M	plinth	272	10	13	repaired	
	plinth	104	9	11		conjugate fractures
	capital	342	~25	30	repaired	
south side						
N	plinth	288	7	6	repaired	
		204	8	5		
		118	3	8		
		34	11	14	repaired	
		34	9	15		on the plinth block
O	repaired	72	>14	15		conjugate fractures
	capital	50	~10	~20	repaired	
	capital	160	~8	~8	repaired	
	capital	360	~20	~20	repaired	
P	plinth	50	>9	20		conjugate fractures
	plinth	110	66	43		conjugate fractures
	capital	70	~15	~15	repaired	
Q	capital	358	>40	~30		conjugate fractures
R	capital	24	~20	~20	repaired, missing	
	capital	322	~20	~20	repaired, missing	

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Table S2. Earthquake damage in the Euphrasius Cathedral and similar features worldwide. Wording in the list of analogues is word-for-word from the original source.

Euphrasius Cathedral, Poreč	Location	Comparison
Column and capital displaced	St. Simeon monastery, Syria	Supporting column head displaced from overlying arch (Karakhanian et al. 2008, fig. 16)
Chipped corners (Figs. 6-8)	Israel	„Chipped block corners" (Marco, 2008: Fig. 2I)
	Baelo Claudia, Spain	„Dipping broken corners in masonry blocks" (Rodriguez-Pascua et al., 2011: Fig. 11A)
	Acropolis, Athens, Greece	„Fractured plinth supporting the base of the column" (Ambraseys & Psycharis, 2012, Fig. 5(a))
		„Flaking off the skin of the stone of the 2nd drum indicating rocking between 2nd and 3rd drums" (Ambraseys & Psycharis, 2012, Fig. 8(b))
	Sha, Thessaly, Greece	„fractures... affecting the corners of the blocks" (Caputo & Helly, 2005, Fig. 5) „Some of the blocks show conchoidal fractures at their corners. These rupture conditions are associated to the dynamic motion of an overlying block that acted as a hammer after a sudden uplift caused by a strong upwards acceleration" (Caputo & Helly, 2005: 209)
Diagonal fractures in columns	Thessaly, Greece	„Columns are diagonally cut" (Caputo & Helly, 2005, Fig. 6)
	Sagalassos, Turkey	„fracture in monolithic column caused by axial loading" (Sintubin et al., 2003, fig. 5(c))
	Samos Island, Greece	„multiple initial and completed diagonal fractures, causing large-size chippings of drums" (Stiros et al., 2000, Fig. 11)
Tilted / twisted / folded walls		Rodriguez-Pascua et al. 2011, Fig. 6C
	Old Cairo	„Tilting crack... in wall" developed after the 1992 earthquake in Cairo Kamh et al. (2008, Fig. 9)
	Jerusalem	Strong tilting of walls (Karcz & Kafri, 1978, fig. 13)
	Avdat, Israel	Counterclockwise and clockwise rotation of the wall (Korjenkov & Mazor, 1999: Figs. 14 (a, b))
	Ein Rahel fort, Arava Valley, Israel	Tilt of wall (Korjenkov & Erickson-Gini, 2003, Fig. 8)
	Mamshit, Israel	Average inclination 79°. The lower stone rows are tilted northward up to 60° (Korjenkov & Mazor, 2003, figs 3a,b)
		Westward bulging of the central part of the western city wall (Korjenkov & Mazor, 2003, Figs 19a,b)
	Bedouin Halssa, Israel	Tilted up to 77° (Korjenkov & Mazor, 2013, Fig. 3)
	Crete, Greece	The western wall of the atrium in Phaistos Palace tilted 25° to the west. Westward titled stone wall of a magazine (Monaco & Tortorici, 2004, Figs. 5, 8)
	Sagalassos, Turkey	Tilted wall (15°) in the Roman theatre (Similox-Tohon et al., 2006).
	Pont de la Lône, Nîmes, France	Arch warping (Volant et al., 2009, Fig. 5)
	theatre, Larissa, Greece	Shear fractures in columns (Caputo et al., 2011, Fig. 3b)
	Pınara, Turkey	Sinuously deformed wall (Yerli et al., 2011, Fig. 8B)