

Age estimations attest to infant sacrifice at the Carthage Tophet

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Two articles in recent issues of Antiquity have taken opposing views of the infant burials in the ‘Tophet’, the precinct at Carthage, sacred to the goddess Tanit, that contained funerary urns of thousands of cremated infants. The first (Smith et al. 2011) held that these must be evidence of the infant sacrifice that was so loudly condemned by Greek and Roman writers, since the infants were not perinatal, although most were under two months old at the time of death. In a rejoinder, Schwartz et al. (2012) argued that the Carthage Tophet was the place of burial for the very young regardless of the cause of death. They estimated age at death between prenatal and six months, consistent with the recorded incidence of perinatal mortality in certain societies in recent periods.

Here we close the debate with two related papers. In the first of these, Patricia Smith and her co-authors return to argue that infant sacrifice is still (in their view) the most likely interpretation of the data, based on the age distribution of the deceased. In the second, Paolo Xella and colleagues, too, are convinced that infant sacrifice took place. They step aside from the details of the cremated remains, however, to emphasise a range of other social and archaeological aspects of the Tophet in Carthage and elsewhere that are critical for understanding these sanctuaries and their rituals.

Table S1. Human skeletal elements identified in urns.

Note: most bones are fragmentary.

Skeletal element	Number of urns	Number of bones
Petrous portion of temporal bone	273	350
Cranial (frontal, parietal, occipital)	3	3
Sphenoid	2	2
Clavicle	3	6
Scapula	7	7
Humerus	25	35
Radius	14	15
Ulna	7	8
Vertebrae	12	26
Rib	2	8
Pelvis (ilium, pubis)	17	17
Femur	23	28
Tibia	11	11
Fibula	3	3
Talus	2	2
Phalanges	4	8

Table S2. Urns with measured petrous bones (in mm).

Note: some urns contained more than one individual shown by presence of more than one bone of the same side or differences in size between right and left. Measurements in parentheses (b) denote damaged specimens.

Urn no.	Side	Bone length	Breadth
3090	r	30.2	15.0
3090	r	24.2	13.2
3092	r	35.3	16.9
3092	r	broken	16.5
3092	l	34.0	broken
3093	l	30.2	16.9
3093	r	30.7	15.25
3156	r	32.8	17.6
3156	r	31.0	16.3
3160	r	29.0	15.8
3160	l	29.9	15.5
3164	l	33.0	15.3
3165	r	29.4	15.5
3165	l	27.1	15.0
3168	l	31.2	16.4
3168	r	34.3	16.3
3169	r	35.0	14.9
3169	l	broken	15.1
3177	r	28.0	14.4
3177	l	28.8	16.05
3178	r	31.5	14.8
3181	r	35.8	18.3
3185	r	29.8	17.3
3192	l	29.1	14.5
4438	l	31.1	15.5

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
4614	r	31.9	15.7
4614	l	broken	15.2
4939	r	33.3	16.7
5172	r	36.6	16.6
5173	r	30.1	15.3
5173	l	31.1	15.3
5190	r	broken	16.2
5191	r	30.8	15.7
5407	l	34.4	15.4
5409	r	31.6	15.13
5409	l	29.9	15.8
5410	r	32.5	15.5
5412	l	37.5	17.07
5414	r	34.5	15.2
5414	r	33.4	15.4
5416	l	29.3	15.0
5416	r	29.1	15.3
5417	r	broken	14.8
5417	l	broken	14.7
5516	l	33.3	16.4
5517	l	31.4	15.5
5519	l	31.5	15.6
5522	l	28.2	15.1
5524	l	broken	15.0
5524	l	broken	15.1
5526	r	broken	15.4
5528	l	34.1	15.2
5528	l	28.2	16.6
5528	r	29.3	14.9

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5529	r	31.4	15.2
5529	l	30.2	18.8
5531	r	33.9	16.1
5533	l	30.5	15.3
5541	l	29.9	14.5
5541	r	broken	14.4
5541	l	broken	14.3
5542	r	38.4	15.0
5542	l	36.9	15.2
5544	r	28.1	13.7
5544	l	broken	14.4
5546	l	31.1	16.2
5550	l	30.0	15.6
5550	r	29.8	15.1
5551	l	33.9	16.8
5555	r	26.0	14.8
5561	l	27.7	13.4
5561	r	27.2	13.0
5561	l	broken	14.0
5561	r	broken	15.0
5561	r	broken	13.0
5563	r	33.25	15.55
5567	l	28.6	14.3
5569	l	29.6	broken
5573	l	32.5	18.5
5574	r	48.8	24.5
5574	l	46.3	21.4
5574	l	45.11	22.9
5574	r	43.7	25.0

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5577	l	31.2	15.1
5577	r	27.76	15.6
5578	r	24.9	13.3
5578	l	25.75	14.19
5579	r	28.14	17.4
5581	r	26.21	15.05
5581	l	broken	17.5
5582	r	27.5	14.6
5582	l	24.9(b)	13.2(b)
5585	l	25.1(b)	14.9
5585	r	27.7	15.3
5586	r	45.85	18.9
5586	l	35.28(b)	broken
5586	r	28.0	14.0
5587	r	31.15	14.38
5588	l	28.4	15.85
5588	r	28.7	14.9
5589	r	26.53	16.06
5589	l	broken	16.7
5591	r	38.9	16.7
5594	r	29.8	16.3
5594	l	28.4	broken
5595	l	36.62	14.74
5595	r	36.56	16.35
5597	l	29.6	15.7
5597	r	28.66	15.02
5598	r	27.3	12.7
5603	l	31.6	16.57
5604	r	28.4	15.9

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5604	l	24.9(b)	14.67(b)
5605	l	27.77	15.27
5605	r	28.3	15.5
5623	l	31.65	14.53
5623	r	29.37	14.23
5646	l	30.74	13.6
5647	l	28.9	14.11
5816	r	28.63	16.02
5816	l	33.22	15.6
5817	r	broken	15.05
5822	r	33.3	17.33
5822	l	38.53	26.16
5824	r	33.4	16.1
5824	l	38.5	16.8
5827	l	32.85	14.65
5827	r	broken	14.45
5829	l	35.6	15.8
5830	l	31.81	14.8
5830	r	33.65	15.9
5831	l	26.04	14.8
5831	r	24.18	13.66
5834	l	35.16	14.84
5834	r	37.41	17.55
5838	l	30.12	15.2
5838	r	28.1(b)	14.8(b)
5839	l	29.4	15.65
5840	l	27.9(b)	16.12
5840	r	34.18	16.4
5843	l	25.4	14.7(b)

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5843	r	32.0	15.0
5844	l	35.85	15.45
5844	r	33.83	14.1(b)
5845	l	28.0	14.52
5845	r	28.8	14.1
5849	l	37.86	18.4
5849	r	32.23	14.36
5850	l	28.9	16.05
5850	r	22.36(b)	14.0(b)
5850	l	31.44	14.21
5850	r	27.47	14.8
5852	r	30.7	14.9
5852	l	25.5(b)	15.7
5854	r	30.6	14.8
5856	r	22.7	12.5
5861	r	34.1	15
5867	l	36.8	16.4
5867	r	33.6	15.9
5867	l	33.76	14.7(b)
5867	r	33.86	16.3
5874	r	38.17	16.9
5875	r	32.9	18.2
5876	r	34.45	20.4
5878	r	25.63	15.1
5882	r	33.14	15.5
5883	r	33.6	15.3
5883	l	34.2	16.2
5884	l	37.9	15.55
5884	r	38.4	15.45

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5886	l	30.0	17.5
5887	l	29.9	15.1
5887	r	24.86	14.4
5887	l	30.6	14.34
5888	l	24.64	15.12
5888	r	34.83	14.23
5888	l	24.2(b)	14.45
5890	r	38.6	16.2
5891	l	37.3	16.1
5898	l	26.24	14.95
5898	r	32.2	16
5899	l	31.04	15.6
5899	r	31.22	15.6
5902	l	34.7	16.1
5903	l	28.9	14.1
5903	r	21.9(b)	13.8(b)
5903	l	36.3	17.8
5904	r	36.1	17.5
5920	r	27.46	16.62
5920	r	25.6	15.4
5920	r	29.05	14.5
5920	l	34.9	17.5
5923	r	33.2	broken
5923	l	33.2	18.1
5923	r	29.2	15.1
5924	l	29.4	16.1
5924	r	32.34	15.8
5927	l	30.9	15.0
5927	r	27.73	14.9

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5928	l	30.4	15.2
5928	r	31.05	15.6
5929	l	29.0	16.4
5929	r	30.4	15.6
5930	r	27.2	15.8
5930	l	broken	16.5
5931	l	30.04	14.8
5931	r	21.9(b)	15.04
5932	r	35.3	17.1
5933	r	37.1	18.2
5935	l	31.8	16.8
5938	l	35.2	15.5
5938	r	33.3	16.3
5939	l	35.2	15.7
5939	r	40.8	16.12
5942	l	30.6	16.6
5942	r	31.8	14.8
5944	l	31.8	15.1
5944	r	broken	broken
5946	l	27.2	15.2
5946	r	31.4	14.1
5947	l	29.5	16.7
5947	r	35.61	17.6
5948	l	29.7	15.2
5948	r	28.65	15.1
5950	l	37.3	15.9
5950	r	31.8	16.05
5950	l	25.5	15.3
5950	r	31.2	14.9

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5952	l	22.9	15.2
5952	r	24.6	13.9
5954	r	30.1	15.7
5954	l	32.05	15.6
5956	l	27.0	15.02
5956	r	25.1	broken
5957	r	27.5	15.4
5957	l	broken	broken
5959	l	34.65	16.4
5959	r	29.4	14.1
5959	l	broken	15.0
5963	l	27.0	14.0
5963	r	26.8	13.8
5965	l	27.7	14.4
5966	l	27.6	16.6
5966	r	26.8	14.8
5967	l	36.6	16.6
5967	r	36.1	15.5
5968	l	32.4	15.7
5970	l	30.6	16.1
5970	r	25.4(b)	15.2
5971	l	33.6	16.3
5975	l	20.5	13.1
5975	r	22.8	13.6
5975	r	24.3	18.3
5983	l	32.8	17.1
5983	r	29.6	21.01
5985	r	23.9	14.24
5986	l	40.4	19.02

Table S2. Continued.

Urn no.	Side	Bone length	Breadth
5987	l	30.9	18.0
5987	r	21.5	14.02
5990	l	25.4	16.4
5990	r	31.8	16.8
5991	r	34.4	15.35
5992	l	35.9	14.9
5992	r	27.1	15.6
5995	l	24.6	14.55
5995	r	26.6	14.5
5995	r	35.9	15.9
5997	r	35.5	16.2
6000	r	38.66	15.0
6000	l	29.7	16.1
6005	r	34.2	15.6