

Qualitative analysis of some brooches from Chelmsford temple

Justine Bayley
April 1986

A total of 26 brooches were analysed qualitatively by energy dispersive X-ray fluorescence (XRF). The 3 separate brooch pins were not analysed. The results are presented in the Table.

Table: The XRF results

Ref No	CAT		Brooch type	Alloy
CHK Ae217	1106	2/110	Colchester B	brass
CHK Ae247	1131	2/168	Colchester B	gunmetal
CHK Ae196	236	2/68	Colchester B	gunmetal
CHK Ae241	518	2/155	Colchester B	gunmetal
CHK Ae267	1132	2/216	Colchester B	gunmetal
CHK Ae232	496	2/134	Colchester B	gunmetal
CHK Ae213	403	2/102	Colchester B	bronze
CHK Ae238	1072	2/148	Colchester B	lead bronze
CHK Ae246	1148	2/164	Colchester B	lead bronze
CHM Ae288	22	2/14	Colchester B	lead bronze
CHK Ae190	219	2/59	Colchester B	lead bronze
CHD Ae333	?	?	Colchester B	lead bronze
CHK		2/60	Headstud	brass (enamelled)
CHK Ae216	1105	2/107	Hod Hill	brass (tinned)
CHK Ae239	532	2/151	Hod Hill	brass
CHK Ae243	1145	2/158	Hod Hill	brass
CHD Ae308	?	?	Hod Hill	brass (tinned)
CHK Ae207	290	2/89	Nauheim deriv	gunmetal
CHM Ae277	12	2/3	Nauheim deriv (part)	bronze
CHM Ae275	11	2/1	Nauheim deriv	bronze
CHK Ae206	284	2/88	Nauheim deriv	bronze
CHK Ae209	293	2/91	Nauheim deriv	bronze
CHK Ae245	851	2/162	Plate: crescent	brass
CHK Ae215	1105	2/106	Plate: cruciform	gunmetal
CHK Ae208	293	2/90	Polden Hill	bronze (enamelled)
CHK Ae189	1169	2/57	T-shaped	lead bronze

For some brooch types, eg Hod Hill, the results are the expected ones (Bayley and Butcher 1981, Fig 4) while for others, eg Nauheim derivatives, they fall within the usual range. More notable are the results for the two-piece Colchester brooches where only five of the twelve brooches are lead bronzes, the alloy that is normally used for these brooches (ibid, Fig 6). The rest are low-lead or lead-free alloys ranging from brass to bronze, the majority being of a mixed composition.

Some of the brooches were sampled for quantitative analysis by atomic absorption. A fuller report and discussion will appear with the results of these analyses.

Ref:-

J. Bayley & S. Butcher (1981) Variations in alloy composition of Roman brooches. *Revue d'Archéométrie*, supplément.