

Stucco fluting the columns of the temple at Kh. Omrit

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Greek and Roman stone columns were typically fluted in a sculpting process which created narrow vertical channels, more or less semicircular in plan and evenly spaced around the circumference of the shaft. The number of flutes varied according to the architectural order, but 16, 20 and 24 were common. Each flute was separated from its neighbor by the Ionic and Corinthian flat fillet or the Doric sharp arris.¹ Fluting a stone column was a subtractive process. The stone-carver removed the extra stock or protective mantle from the standing column shaft with a chisel and rasp based on incised or drawn measuring and guide lines. The process has been reconstructed by A. Claridge and P. Rockwell from surviving evidence at the Hadrianeum and Templum Divi Vespasiani in Rome.²

Stucco fluting, by contrast, was an additive sculpting process in which the stuccoists built up and moulded the flutes with layers of plaster applied to stone or brick-built shafts. Although ubiquitous in Greek and Roman architecture, the process of modeling or moulding flutes in plastic relief has not been accorded much consideration. Stucco relief, particularly figural and floral decoration, was either worked by hand with a set of simple modelling tools or moulded with floats and pre-made stamps.³ Stamp-moulds worked well on flat surfaces for repeated patterns executed in shallow relief, such as egg-and-dart and bead-and-reel. Shaped floats were used for continuous stucco moldings, such as crown moldings at the top of a wall.⁴ However, because a typical column shaft tapered upward and because of entasis (the slight thickening of the diameter at or near the column's mid-height⁵), the dimensions of individual flutes changed over the height of the column. Consequently, the width of the fillet was slightly larger at the bottom of the column than at the top, and a shaped float or stamp with fixed dimensions could not have been used in the fluting process.

The columns of a Roman temple recently discovered at Khirbet Omrit (N Israel) were stucco-fluted.⁶ The temple underwent two major building phases: an initial construction in the late 1st c. B.C. and an enlargement and remodelling in the second half of the 1st c. A.D.⁷ In its final form, the temple had a peristyle of 6 x 12 Corinthian columns. The podium still stands partially intact with a footprint of c.34.60 x 19.58 m. The superstructure, which collapsed probably in the late 4th c., suffered much pilfering of its nicely squared blocks, but many architectural members not suitable for re-use survive, especially column bases, drums, capitals, architraves, friezes, cornices, and pilasters. These blocks show that plaster was applied liberally to all surfaces of the temple, both inside and out. The stucco had multiple functions: as a protective coat covering the limestone blocks; as a means of concealing the joints; and a base for polychrome paint, some of which survives *in situ*. Plaster was also used as a plastic sculptural material. To the exterior face and underside of the architraves of the façade, cut from limestone with the typical profile of three fasciae crowned by a quarter-round and a cavetto moulding, stucco was applied in a

1 For recent descriptions of fluting in the classical orders, see A. Claridge, "Fluting," in *Grove Art Online. Oxford Art Online*. <<http://www.oxfordartonline.com/subscriber/article/grove/art/T028712>> and M. Wilson Jones et al., "Orders, architectural," *ibid.* <<http://www.oxfordartonline.com/subscriber/article/grove/art/1063721>>.

2 A. Claridge, "Roman methods of fluting Corinthian columns and pilasters," *Ant/Rom Suppl.* 10 (1983) 119-28 and P. Rockwell, "Carving instructions on the temple of Vespasian," *RendPontAcc* 60 (1987-88) 53-69.

3 J.-P. Adam, *Roman building: materials and techniques* (Bloomington 1994) 224-27, illustrates these three methods in his fig. 528 on p. 226.

4 R. Ling, "Stuccowork," in D. Strong and D. Brown (edd.), *Roman crafts* (New York 1976) 213-21.

5 M.-C. Hellmann, "Entasis," in *Grove Art Online. Oxford Art Online*. <<http://www.oxfordartonline.com/subscriber/article/grove/art/T026389>>

6 The excavations at Omrit are conducted by Macalester College under J. A. Overman.

7 J. A. Overman, J. Olive and M. C. Nelson, "Discovering Herod's shrine to Augustus," *BAR* 29 (2003) 43-67; *ibid.*, "A newly discovered Herodian temple at Khirbet Omrit in northern Israel," in N. Kokkinos (ed.), *The world of the Herods* (Oriens et Occidens Bd. 14, Stuttgart 2007) 177-95