

# Ancient construction drawings and new methods of documentation: 3D white light scanning and 3D modeling

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Easily the most impressive and ingenious ancient construction drawing we know of today is the Hellenistic incision of the entasis curve and column base at the Temple of Apollo in Didyma (fig. 1 in colour on p. 391). A new engagement with this extraordinary document was recently triggered by the invitation to contribute to the Munich exhibition “Der Architekt. Geschichte und Gegenwart eines Berufsstandes” (2012/13), an overview of the history and self-identification of the architectural profession organized by W. Nerdinger.<sup>1</sup> In this context the drawing at Didyma set a new challenge: how can the extremely delicate incised lines of this drawing, which remains exposed to weathering (and touching by humans), be documented at its full scale using the most advanced technology currently available? Could any progress be achieved, some 30 years after the drawing’s discovery and documentation by traditional methods (fig. 2), by applying the latest 3D scanning and 3D modeling techniques? What follows is a report on my experience in applying 3D technology to the most challenging drawing of its kind. These results were presented at the Munich exhibition as a 3D-printed polyurethane model of the Didyma drawing (fig. 3).<sup>2</sup> If it should prove acceptable to scholars (further improvement notwithstanding), then any other such evidence will lend itself to this innovative method.



Fig. 2. Didyma, Temple of Apollo. L. Haselberger in the 1980s documenting the ancient construction drawings on the interior socle wall (W. Schiele, DAI Istanbul).

- 1 The exhibition, presented in Munich’s Pinakothek der Moderne from September 2012 to February 2013, was accompanied by a two-volume catalogue with the contributions of 50 international experts: W. Nerdinger (ed.), *Der Architekt. Geschichte und Gegenwart eines Berufsstandes* (exh. cat., München 2012).
- 2 Nerdinger *ibid.* 759 (3D model of Didyma drawing, listed as exhibition object); cf. H. Bankel, “Die Werkzeuge des Architekten in der Antike,” in Nerdinger (*supra* n.1) 462-73. While presented in the exhibition itself, the 3D replica of the Didyma drawing is published here for the first time. As a permanent loan of the Architekturmuseum München, the replica is now deposited in the storerooms of the Munich Glyptothek.