Newly Discovered Refinements in the Architecture of Roman Asia Minor

This paper reports on the discovery of several new and significant examples of architectural refinements in Roman architecture in Asia Minor from the sites of Sardis and Aphrodisias. Documented during the fieldwork seasons of 2016-18, the refinements at the focus of this study are column inclination and upward stylobate curvature. These refinements as well as column entasis are associated in modern handbooks on classical architecture with Doric Greek temples of the fifth and fourth centuries BCE—the Parthenon on the Athenian Acropolis (447-432 BCE) being the most famous example (Haselberger 2005). Less well documented are many Hellenistic and Roman examples (Haselberger 1999; Hueber 1999).

The sites for refinements to be discussed in this paper are the Roman phase of the Temple of Artemis at Sardis, the Julio-Claudian Sebasteion at Aphrodisias, and the *skene*-building of the Theater at Aphrodisias. The methods of documentation and information gathering for this project combined digital photogrammetry, total station survey, and empirical measurement.

1. The discovery of inclination in the Temple of Artemis at Sardis, the fourth largest Ionic temple in the ancient world, occurred inadvertently in 2017. A new photogrammetric orthographic plan of the temple, being developed for an unrelated purpose, indicated that the two remaining fully preserved columns 6 and 7 do not stand today in perfect verticality. Subsequent study confirmed that both columns lean up to the 5-8 cm to the north and to the west. These features are original to the building and are best interpreted as examples of inclination.

2. The fortuitous finding of several previously unknown instances of the refinement of curvature in Roman buildings at Aphrodisias in Caria occurred during the fieldwork seasons of 2016-18. At Aphrodisias in the early 1980s the restoration architect Friedmund Hueber first

recorded a single instance of curvature in the Julio-Claudian imperial cult complex known as the Sebasteion (20-60 CE) (Hueber 1999). In conjunction with the ongoing project supervised by the present author to fully document and publish the Sebasteion's archaeology and architecture, Hueber's results were confirmed, and several previously unknown instances of curvature were also identified in other parts of the complex.

3. An additional example of curvature from Aphrodisias comes from the *skene*-building of the city's Theater, financed by a freedman of the household of Augustus and dedicated around 28 BCE. Curvature in the Doric colonnade of the *proskenion* had been long suspected but only documented for the first time in 2017.

There are specific takeaways from each case. The characteristics of inclination found at Sardis correspond well to the recommendations by the Roman architect Vitruvius for inclination in Doric and Ionic temples (*De arch*. 3.5.13). Still, it is shocking that ancient architects would attempt inclination with such tall columns (each 17.50 m in height!). Furthermore, it is surprising to find inclination at all in a monument from the Roman period, albeit from a temple begun in Hellenistic times.

From Aphrodisias, an intriguing pattern of curvature usage corresponding to the shared commissioning of the Sebasteion emerges. Two unrelated sets of brothers and their families paid for the Sebasteion's complex of four buildings including the Temple to Aphrodite Prometor. As it turns out, apparently the two groups could not agree on the necessity for curvature. In addition, a remarkable "curvature disjuncture" occurs at the precise vertical seam in the Sebasteion's west facade where the two independently funded project halves meet, with and without curvature. The combined evidence from the Sebasteion of Aphrodisias demonstrates that refinements like curvature were a design choice, not an absolute necessity. The Sebasteion also teaches us that

information about patronage, when available, is important to consider when thinking about why a monument has the particular siting or appearance that it does.

The discovery of curvature in the Theater of Aphrodisias demonstrates that the commissioners and designers of the later Sebasteion drew upon a strong local tradition for refinements. This find is also significant for the history of classical architecture, because never before has curvature been identified in a theater building.

Bibliography

Haselberger, L. 1999. "Old issues, new research, latest discoveries: curvature and other classical refinements," in L. Haselberger (ed.), *Appearance and essence: refinements of classical architecture - curvature: proceedings of the Second Williams Symposium on Classical Architecture, University of Pennsylvania, April 2-4, 1993* (Philadelphia) 1-68.

_____.. 2005. "Bending the Truth: Curvature and other refinements of the Parthenon," in J. Neils (ed.), *The Parthenon. From antiquity to the present* (Cambridge) 101-58.

Hueber, F. 1999. "Optical refinements in Roman imperial architecture," in L. Haselberger (ed.), *Appearance and essence: refinements of classical architecture - curvature: proceedings of the second Williams Symposium on Classical Architecture, University of Pennsylvania, April 2-4, 1993* (Philadelphia: University of Pennsylvania Press) 211-23.