CHAPTER 11

The Influence of Building Materials on Architectural Design: Dalmatian Stone at the Cathedrals in Korčula and Šibenik

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Some of the achievements of 15th- and 16th-century Dalmatian architecture should be considered significant contributions to European art, with reference to the use of materials and their decisive role in determining the forms, the structural systems, and the technical solutions adopted. In this context, the notions of “provincial,” “bordering,” and “peripheral” art as defined by Ljubo Karaman are key to my argument. According to Karaman, working outside the dominant artistic centers can result in greater freedom and a profusion of creative solutions, which is indeed the characteristic feature of many Croatian monuments.1

Two ancient buildings remained a source of inspiration for Dalmatian builders for centuries: the Mausoleum and the so-called Temple of Jupiter, both within Diocletian’s Palace in Split. While the bulk of the structure of Diocletian’s Mausoleum was made of stone, its dome was constructed as a double shell of bricks. The inner shell, with bricks arranged in a complicated fan-shape pattern remains the dome’s most interesting structural feature (Fig. 1). The arches thus created were self-supportive and required no heavy, costly, and time-consuming timber centering (see Fig. 2). Only the top of the dome, where the curvature comes close to being horizontal, was constructed with a light centering. The inner brick shell served to support the outer shell of equal thickness, so that the complete dome could be erected without any substantial timberwork.2

During most of its history, the dome of the cathedral was covered with mosaics, still visible around 1500 and obscuring the brickwork beneath. Even if the intricate design of the brick dome had been visible, its full meaning would

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FIG. 1  *Inner view of brick dome, Diocletian's Mausoleum, Split* (photo by the author).

FIG. 2  *Segment of brick dome, Diocletian’s Mausoleum, Split*, after Niemann.