Chapter 6
Black “Marble”: The Characteristic Material in the Baroque Architecture of Cracow (Poland)

Mariola Marszałek and Andrzej Skowroński

6.1 Introduction

The oldest examples of architectural use of Polish black limestone date back to the late 16th century. The rock was commonly applied starting from the beginning of the 17th century, both as a structural and decorative stone used above all in tombstones and epitaph tablets, but also in fragments of altars, inner and outer portals, railings, floor slabs, baptisteries, even whole chapel interiors, etc. The rock became so popular because it is very suitable for being polished, resulting in glassy, mirror-like surfaces. The black, solemn colour was thus a perfect choice in the Counter Reformation period. The sculptors working in Dębnik, where the quarries were situated, and in Cracow, the then capital of Poland located nearby, produced countless works of small-scale architecture that spread all over the Commonwealth of Two Nations, as Poland was called. In terms of its territorial range, Poland was then the largest country in Europe, reaching the Dnieper and the Dvina to the east; and it consisted of two united parts, i.e., the Crown lands of proper Poland and the Grand Duchy of Lithuania. As a result, examples of the use of the Dębnik limestone are so numerous that in the Polish history of art the 17th and 18th centuries have been given the name “the period of the black marble”. It should be added that artifacts made of the Dębnik limestone were widely exported to the neighbouring countries. Today they can be found, e.g., in Germany (Frankfurt am Main) and Austria (Vienna, Graz, Salzburg) (Rajchel 2004; Niemcewicz 2005).

Black marble-like limestones and marbles were also commonly used in Baroque architecture all over Europe. Some occurrences of these rocks are well known on a regional scale, among others in Belgium (Namur province: Belge Noir—Upper Devonian, eastern Belgium near Sankt Vith: Rechter Blaustein—Lower Devonian),
Germany (Aachen: *Aachener Blaustein*—Lower Carboniferous; Zehnder 2006, Schupbach near Limburg: *Schupbach Marmor*—Middle Devonian), northern Italy (the Southern Alps, the region between Lake Como and Lake Garda: *Calcare di Varena, Grigi Carnico, Nero di Rovere*—Triassic; Marinoni et al. 2002, 2007), Spain (Vizcaya province near Marquiña: *Negro Marquiña*—Cretaceous, Alicante province, the Betic External Zone: *Jabalina Stone*—Triassic; Benavente et al. 2006) and Switzerland (the Northern Alps: *Alpenkalk*—Triassic and Jurassic; Zehnder 2006). The stones mentioned here without reference have been found on respective web pages, where they are identified as black in colour, although in the web photographs the colour of not all of them seems to be really black. The Dębnik limestones being Middle Devonian are one of the oldest rocks among those specified above.

### 6.2 Materials and Methods

#### 6.2.1 Characteristic of the Stone

The deposits of black, compact limestone discussed in this chapter occur in the southern part of Poland, about 20 km west of Cracow, in the vicinity of the Dębnik village. The rock is of the Middle Devonian age and represents Givetian (Fig. 6.1; Narkiewicz and Racki 1984; Baliński 1989; Bednarczyk and Hoffmann 1989). Another deposit of black limestone, but with stones of inferior quality, is situated in Kajetanów (the Holy Cross Mts, central Poland). They were used on a very limited, regional scale.

The Dębnik limestone also known as the Dębnik marble (although the name “marble” should properly be limited to metamorphic rocks) was recorded as early as the Middle Ages. The first reference about quarrying the Dębnik stones comes from 1415 (see Rajchel 2004). In the 17th and 18th centuries there were 15 or so quarries close to the Dębnik village. The oldest of them, with stones of the best quality and owned by the monks from a nearby monastery of the Discalced Carmelites, has been duly named the Carmelite quarry (Fig. 6.2). The rocks quarried include pelitic limestone with fossils as well as detrital and laminated limestone (Bromowicz 2001), making up approximately 36 and 41% of the profile, respectively. The third type, i.e., homogeneous, pelitic limestone, makes up the remaining 23%. The average thickness of the limestone beds usually ranges between 40 and 60 cm. Fossils identified in the limestone include corals, brachiopods, pelecypods, gastropods, and hydrozoans (*Amphipora* sp. and *Stromatopora* sp.).

The decorative properties of the Dębnik limestone include its deep black colour and taking excellent polish, as well as the presence of veins, fossils, and sparite calcite nests within the micritic background. These elements combined with structural and textural features provide a diversified appearance to polished stone surfaces. Considering the Dębnik limestone as an ornamental material, three varieties have been distinguished: