



The Dora-Maira Unit (Italian Cottian Alps): a reservoir of ornamental stones locally and worldwide employed since Roman age

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The Dora-Maira is a geological unit belonging to the Penninic Domain of the Western Alps (NW Italy), which covers over 1000 km² from the Susa to the Maira valleys, in the inner part of the Cottian Alps. It consists of different superposed complexes made of micaschists, fine-grained gneisses, quartzites, impure and dolomitic marbles, metabasites and various types of orthogneisses deriving from metamorphic transformation, during alpine orogeny, of a Palaeozoic upper continental crust and its Mesozoic carbonate cover.

Thanks to the presence of different varieties of rocks, the Dora-Maira Unit can be considered as a reservoir of ornamental stones, locally employed, since Roman age, for military and religious buildings. Furthermore, these materials were used in Piedmont region for the construction of important historical palaces (17th and 18th centuries).

Several varieties of gneisses, quartzites and marbles, exploited in the past and up to now, come from the Paleozoic basement. The most famous variety of gneiss is the so called "Luserna stone", a leucocratic gneiss characterized by a mylonitic fabric deriving from highly differentiated granitoids of Permian age. The first traces of Luserna Stone exploitation arise to the medieval age in the Pellice Valley). This material was widely employed in Turin, from Savoia kingdom period up to now. The very peculiar and precious application of Luserna stone were: Royal Palace and Venaria Reale Palace, Mole Antonelliana. Recently, it has been employed for the construction of Turin Metro stations (launched in 2006). Other varieties of orthogneisses, not yet exploited, are: Borgone and Vaie Stones, Villarfocchiardo and Cumiana Stones. They were used for the realization of the columns characterising the façade of several churches in Turin and in the piers of different bridges over the Po River. Another gneiss variety, with dioritic composition, is the Malanaggio Stone employed in the Fenestrelle Fortress.

As for the palaeozoic marbles, the so called "Rocca Bianca marble" have to be quoted. It has been extensively exploited from the 17th century up to 2003, in two different quarries at an altitude of ca. 2000 m a.s.l. in the Germanasca Valley and the Varaita Valley (Brossasco Marble variety). As regards to Mesozoic carbonate cover, the Foresto and Chianocco white dolomitic marbles have to be cited. They were exploited in the lower Susa Valley and were employed since Roman age (eg. for the construction of the Arch of Augustus at Susa, dating to 9 BC). They were also used during the Renaissance for the façade of the Turin Cathedral.

Finally, it must be highlighted the Bargiolina quartzite variety belonging to the Palaeozoic basement: it was known from XVI century (Leonardo Da Vinci wrote about the beauty and the high quality of this material), and was widely employed for historical baroque buildings (palaces and churches).

The high number of exploited ornamental and building stones, used over the centuries in local and worldwide historical buildings and infrastructures, allow to think the Dora-Maira Unit as a source of Global Heritage Stones and therefore it could be considered as a Global Heritage Stone Province.