



Syenite and diorite: a unique stone heritage in north of Italy

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The Syenite from the Cervo Torrent Valley near Biella in northern Italy has been widely used as a building material. During the XXth century it has been exported all over the World for covering and paving slabs and monumental work. It is an intrusive magmatic rock found in the Cervo Valley pluton, which is part of the Balma pluton. It formed about 30 million years ago as a result of the Alpine Orogeny and is known to be post-orogenic because of the absence of metamorphism. Hydrothermal mineralization associated with the pluton includes minerals of molybdenum, tungsten, copper, lead, silver and gold.

Utilisation of the Syenite has been the only industrial activity in the high Cervo Valley sustaining the whole of valley life. During the second half of the XIXth century and during the first part of the XXth the competencies and the working skills of the Cervo Valley stonecutters was exported as far as Perù and China. It was e.g. used for the edification and refinement of the Oropa Sanctuary square in Piedmont, Italy. It has been recognized as an interesting building material because of the intrinsic characteristics such as its resistance to mechanical wear, durability of colour tone and intensity and resistance to water wear (e.g. in fountains) and maintains its mechanical integrity over time.

Diorite is also a magmatic intrusive rock and, similar to the syenite, differs from granite due to the low concentration of quartz (<10%). It consists of plagioclase, pyroxene, amphibole and quartz. It is exploited at the Vico Canavese quarry, near Turin, Italy. It is easy to cut and to process with the suitable tools. It has a number of variants, each with specific characteristics and behavior. It is multipurpose material and consequently it can be used in different shape and application, such as slabs, covering, bed river, building block and tiles. Although mainly used in Italy, it has also been used world wide for many different constructional and aesthetic purposes. These two stones from the Canavase area have an interesting history and a wide range of uses.