

# Italian stoneworkers in America – stonemasonry in Curitiba, Paraná (Brazil)

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# Interfaces of stonemasonry research

- History
- Culture
- Geology
- Mineral extraction
- Mining engineering
- Geography

Stonemasonry technique is an ancient craft which came to Brazil from Europe with Portuguese and Spanish settlers.

In Curitiba has also been developed through Italian colonization, producing stone works for pavements, walls, fountains, landmarks and monuments.

Stonemasonry is considered to be an activity which is declining to extinction.

Curitiba presents, besides countless works constructed with this technique, stonemason-artisans still in activity.

# Curitiba – most european of brazilian capitals



- Curitiba is a city with about 2 million people, located in Southern Brazil
- It was founded in 1693, but its development as a modern city began at the end of the 19<sup>th</sup> century because of geopolitical factors, and coincided with the beginning of the immigration

# Italian migration to Brazil



Greca family working stones in 1894

Italian immigration in Brazil occurred from 1860 until the 1940s

From 1875 until 1895 the migration of workers connected to urban services started, as builders, potters and, among them, stonemasons

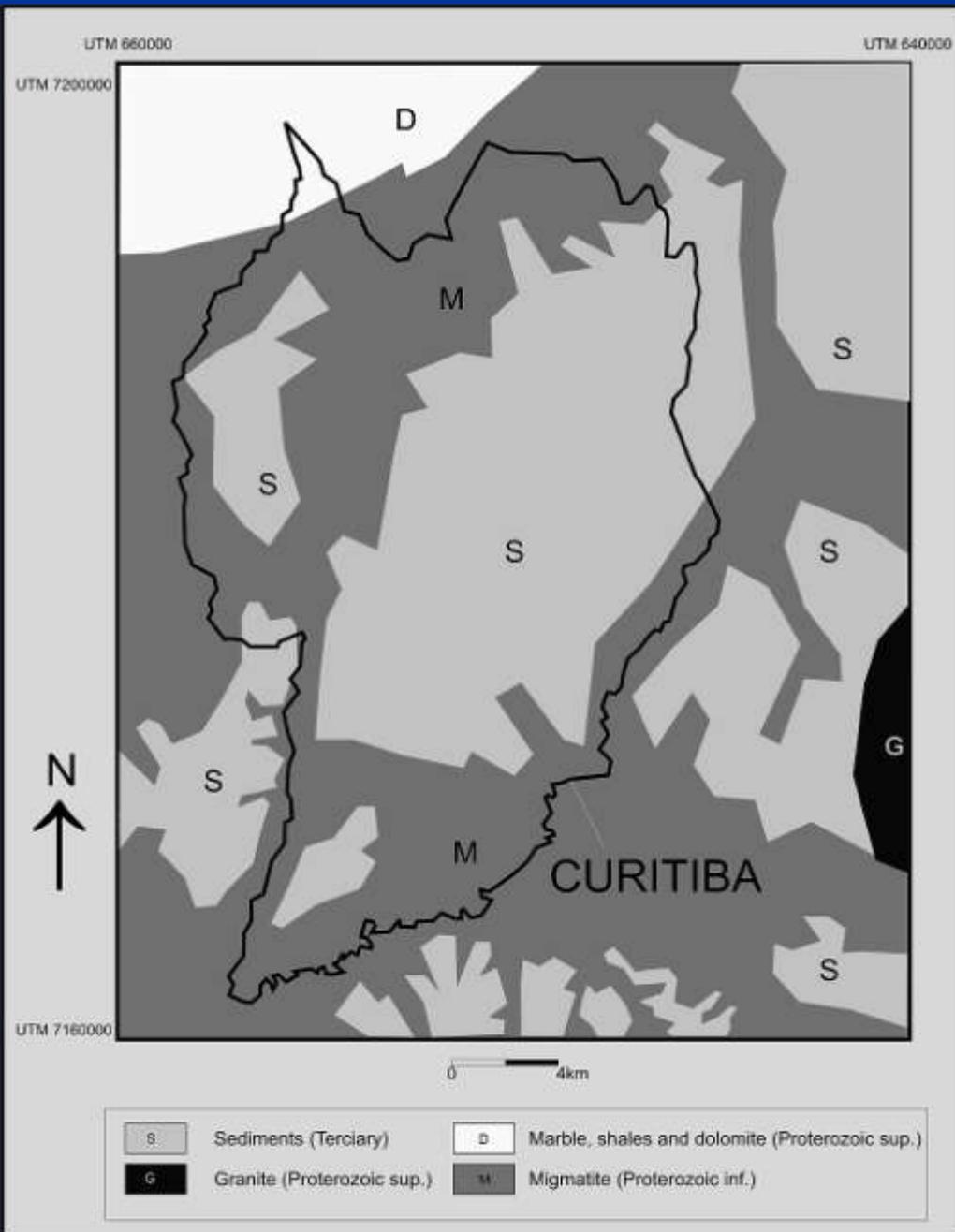
Researches about Italian emigration show an exodus of stonemasons and stoneworkers in cities known for this activity, mainly in the Veneto region.



Italian descendants working granite –  
Curitiba - 1928

# General geology of Curitiba

- Proterozoic Age (1800-2600 Ma). There are migmatites and gneiss which shape the base of almost the whole region;
- Younger metamorphic rocks Upper Proterozoic Age (570-1000 Ma) with marbles, metacalcareous and dolomites;
- Upper Proterozoic Age (570-1000 Ma) with granites too;
- Dykes of diabase related to the time of the separation of continents, South-America-Africa (Mesozoic Age - 65 a 235 Ma);
- Over these ancient rocks was formed the Sedimentary basin of Curitiba presenting shales, graywackes, siltites and argilites, stored at the end of the Tertiary Age (1,5 Ma)



## Geological map of Curitiba and region around

- S – sedimentary rocks
- G – granites
- D – dolomites and marbles
- M – migmatites and gnaisses

# Available rocks for stonemasonry

- Granite
- Dolomitic marble
- Diabase
  
- Sedimentary rocks and migmatites aren't suitable for masonry



Stonemasonry special pieces produced by Prodescimo family in 1960's.



Pavements using diabase and granite cut in regular shapes.

Petit-Pavé paving in diabase and dolomitic marble cut in polyhedral blocks and inserted drawing several artistic styles from different epochs.



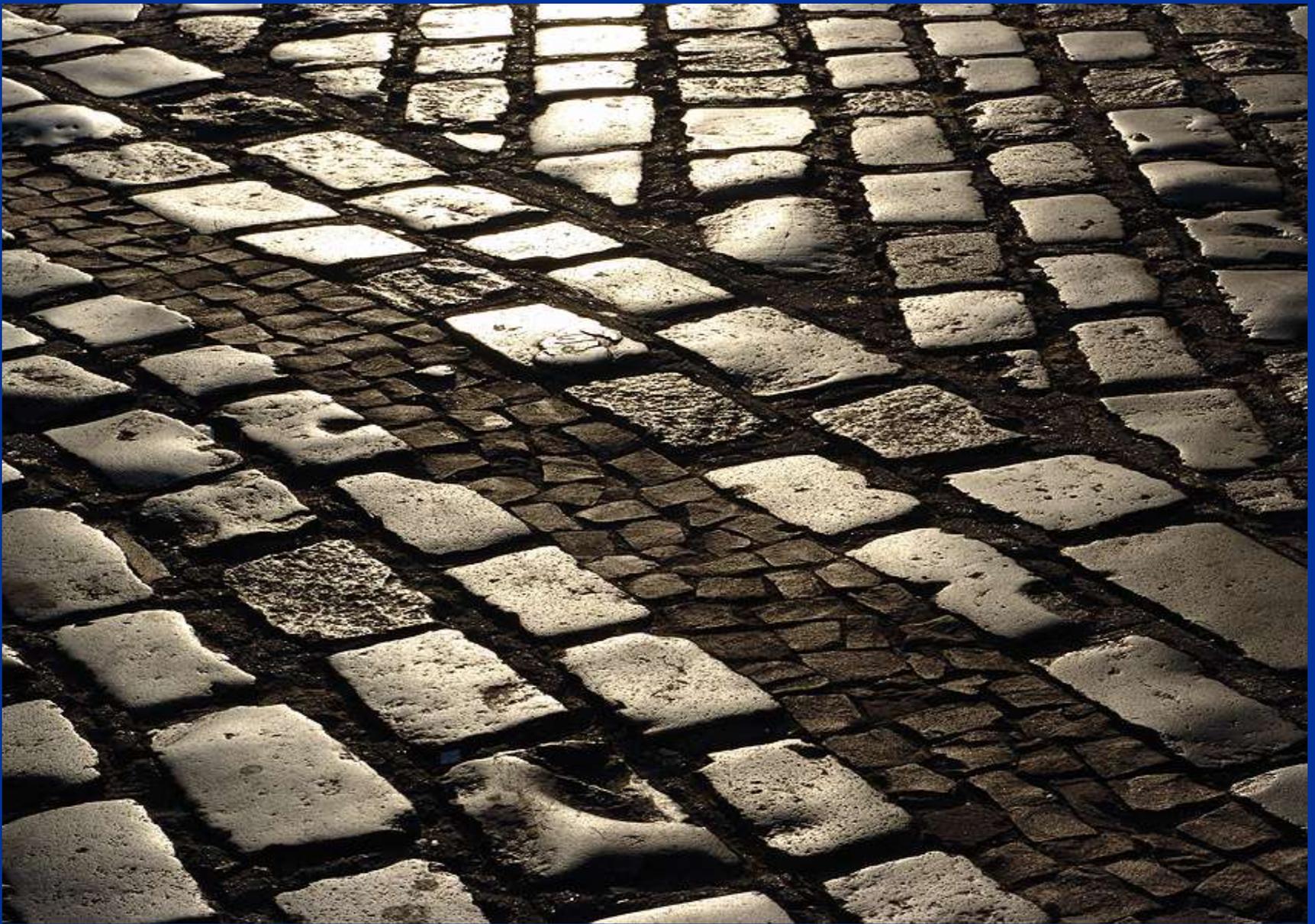
Dolomitic marbles are cut in polyhedrons destined mainly to special paving called “petit pavé”

This is the paving which lines Copacabana Beach (Rio de Janeiro) and was furnished from Curitiba region mainly by Chimelli’s family



# Stonemasonry in Curitiba

- In Curitiba, in spite of some register of works in rocks in the beginning of the 19<sup>th</sup> century, the activity of carving and stonemasonry became significant only when the 20<sup>th</sup> century dawned, when the great urbanization in the city developed.
- From 1900 all the streets began to receive granite and diabase for surfacing.
- Around 1920 important examples of *funerary art* in granite appeared. It is also from that epoch the sidewalk known as *petit-pavé* or Portuguese sidewalk, made of polyhedral blocks of dolomitic marble with diabase inserted



Typical paving in diabase parallelepiped and a modern stripe of sandstone polyhedral blocks



Rocks were cut in parallelepiped measuring ca. 12x12x20cm totally by manual work. Even now this production means survival to many families.

# Tool and techniques



Tools utilised in Curitiba and surroundings by stonemasons are very simple and universally known, with no change through the centuries. The technique is totally manual utilising quills, hammers, levers and wedges.



As granite is a very hard material, stonemasons have their own set of tools and they themselves are responsible for the temper and preparing the metals. All granite stonemasons are also blacksmiths.

Modern stonemason working with wedges and hammer to define a breakline in the block of granite.



# Monuments

- From the beginning of the 1920s, Curitiba began its urbanization and modernization. Besides the intensive paving of the city streets, commemorative monuments carved in granite began to appear.
- In the decades 1930 to 1950, with the diffusion of the nationalist thinking all over the world, many monuments to national heroes were produced in rocks and put in Curitiba main squares.

Membrança do Centenário  
Instrução do Obelisco 7-9-1922



Italian descendants working on a stonemasonry piece, which is commemorative of the first centenary of Brazilian independence (1822-1922). Greca family.



Modern monument produced by Andreatta family in granite - 1993

# Conclusions

- For geological and historical reasons, it is possible to state work techniques were brought by Italian immigrants and adapted to local rocks (harder) for the most part.
- Curitiba urban and economic development has been intimately linked to street and square paving, mainly to the granite and, later, to the dolomitic marble and diabase for paving with *petit-pavé*.
- *Petit-pavé*, known as “Portuguese mosaic” in other places of Brazil, is bound to Italian influence, with the carving technique coming here with the immigrants.
- Abundant rocks with quite good resistance in the region and Italian immigrants’ workmanship were fundamental historical factors for Curitiba urban development throughout the last century, and stonemason activity represents a strong cultural heritage.