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Sant'Agostino alla Zecca church in Naples:

weathering analysis of building materials for its restoration project

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The complex of church Sant'Agostino Maggiore, dating around the middle of XIII century, rises in "Forcella", one of the quarter of the Ancient Centre of Naples.

The church construction was began in Gothic period and completed, in its structural elements, during the first part of XIV century.

In consequence of the secular transformations, nowadays, the Gothic style is hardly legible. Between the XVII and the XVIII century in fact, the basilica, for the Augustinian will, was rebuilt following the Baroque canons. The architect charged was Bartolomeo Picchiatti, and the project, that preserved the ancient basilica plan, was finished with some modifications by his son Francesco Antonio.

Consolidation and enlargement interventions followed in different periods the construction of the building. In particular in the second part of XVIII century, the architect Giuseppe Astarita, was asked by the Augustinian to finish the church reconstruction.

The church rests on a natural layer of yellow Neapolitan tuff, covered by uncemented soils, elevated 5-6 m over the XIX century axis of the main street Umberto I .

The basilica has a Latin cross plan, with three aisles flanked by chapels and a transept with an apse. The central aisle is wider than the lateral ones and it is marked by large pillars to which columns surmounted by Corinthian capitals were leaned. The building structure is realized by tuff elevation walls and vault coverings.

At present the façade has a visible rotation, due to the 1980 earthquake effects. In consequence to this event, the basilica was closed, becoming in the following years a site for thieves and drug addicts.

The data coming from the complex events, the geometrical and technological survey of the building, both lead to the definition of material weathering and of causes that produced these damages.

In fact the absence of a maintenance plan, the presence of infesting weeds and the vandal events, brought to: lack of plasters, chromatic alteration of covering materials, lack of part in elevation structures.

Other weathering effects are connected with the water swashing, due to the lack of a proper system of rain drainage and to the dampness presence in some part of the complex.

This research is part of a wider study on the re-functionalization of churches no more in use in the Ancient Centre of Naples, which goal is to define a correct and complete mapping of degradation phenomena in order to indicate efficacious interventions for their restoration projects.