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Technological and architectural uses Gypsum (plaster) on Piedmont, Italy

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This thesis summary focuses on the analysis of the principal technological and architectural uses for one of the most ancient materials of construction found in the history of humanity: Gypsum (plaster).

Since it is virtually impossible to briefly describe all of the systems of workmanship and multiple uses, both in historical sequence and geographical senses, this has been limited to illustrate the active productive legacies found in a vast area of South Central Piedmont, known for its presence of limestone deposits.

The first section is focused on gypsum as a modern material. To fully understand the most valuable properties and industrial uses of limestone, it was necessary to make a general introduction describing the physio-chemical characteristics of the material.

Therefore, I have analysed descriptive techniques of actual manufacturing, which through technological evolution did not focus on the product as a primary material, but its process of transformation. Modern technology has remarkably increased the prevalence of this material, introducing it as a base element in the construction of homes.

I ended then, with the principal functional characteristics found in gypsum for specific applications, closing with its optimal utilization and its remarkable potential.

The fourth chapter takes a panoramic view of the most important calcium-sulphate, based products which today, are distributed on the Italian market for use in construction.

Following into geological in parentheses, which describes modern mining techniques and the relative problems of recovery among inactive quarries (mines): an interesting example and to the avant-garde respect of Italian reality, represented some recultivation techniques and the restoring of landscapes of mineral deposits exhausted in Germany.

The conclusion of the first part has presented a theme of the gypsum industry in Italy, focusing particularly on the deposits in the Asti region which were of remarkable relevance to its industrial goals. The presence of such chalk-like formations has given way to the cultivation of numerous quarries (mines) in recent centuries, the most important of which is still fully active today.



Gypsum mine in the Asti region

The second part is dedicated to the historical uses of gypsum examined in the Piemontese area.

The seventh chapter describes the historical uses of gypsum that are noted in three different zones in Italy, rich in chalk-like layers, where this material was largely- used in the past for construction, taken from Piedmont, Emilia Romagna, and Sicily. Geographically distant in area and traditions, but alike in the diffuse use of gypsum in traditional construction, which much influenced the economy, culture, and regional art in these areas for entire centuries.

I have ended then, with some examples of the multiple applications of gypsum, in a limited sense, to the most significant uses by the Piedmont's and the Sicily's inhabitants.

This leads to the most interesting part of my studies; that being the original research of a singular type of workmanship typical of Monferrato and Langhe: decorative ceilings made of gypsum.

Traced from an artistic tradition that has been known over a largely extended period, from the second half of the sixth century, (also with more ancient roots), up until the end of the last century, a tradition whose diffusion developed rapidly in the territories of Asti and Albese.



A typical gypsum ceiling (Asti)

The phenomenon appears doubly interesting: on an artistic level for its expressive possibilities and thus for the suggestive decorative effects obtained with a "poor" material, and on a technical-structural level, giving a sturdy functional curve from a material deemed fragile.

After a description of the principal technological, static, and artistic characteristics of the ceilings, the study comes to life with a catalogue of about twenty ceilings, those common and belonging to the provinces of Asti and Alessandria, and integrates the examination undertaken in past years by a research group.

In the eleventh and final chapter, it continues to re-examine the various stages of this inquiry begun 25 years ago, and in spite of any interruptions, continues today, always with the intent of safeguarding and making known to all, a cultural phenomenon of exceptional value.

The objective, therefore, is to halt the destruction of these precious testimonials of popular art that are progressively disappearing because of the indifference of the single owner towards this form of art, as well as knowing little of restoration techniques.



Bedroom with gypsum ceiling. (Alessandria)

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