

The metamorphosis of the landscape: the dynamic reuse of marble waste

Summary

The Estremoz Anticline, in Portugal, is one of world's main sites of marble extraction. Annually, millions-of-tons of marble are extracted from the multiple quarries present in the area but only about 9% of picked material is marketed because only this percentage is considered of "quality". Due to economic and geological reasons, today, only a small number of quarries remains active, and this situation has contributed to the degradation of the area.

The remaining 91% of the unused material is shelved in stone accumulations, designated by "escombreiras", creating a strong impact in the landscape, since they cannot be disposed elsewhere due to associated costs.

The developed research is based on the concept of giving a new meaning to what is ordinary, working with the waste rather than exclude it, a priori, to preserve the historical and industrial memory of the place, not removing marble wastes from the context where they belong. The present study deals with the paradigm of going beyond the appearance, considering the mounds of wastes not as imperfections but beautiful elements having a great eco-friendly potential for the requalification of the area.

From the discussion of the theory of landscape, quarry and waste reuse, and circular economy, the research provides a critical survey about some practical examples of reuse, applied to quarries and the dumped material in the landscape and architectural fields.

This combination contributes to the creation of a new application methodology that identifies and organizes the main examples of quarries and waste heaps reuse to elaborate an original formula for their reconversion, filling an existing gap in both architectural and theoretical domains. The reached outcomes are demonstrative of the possibility of working with the waste heaps in landscape and architecture, transforming the Estremoz Anticline into a livable and sustainable place, and creating a solid basis for further investigations not documented yet.

Keywords

Quarries, waste heaps, waste reuse, architecture, landscape.



Abandoned quarry and escombreira in Vila Viçosa, Anticline de Estremoz. Portugal.



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