

# Fissures on the landscape. The sandstone quarries, traces of the heritage landscape of Mallorca

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## **Abstract**

*The sandstone quarries are the commonest quarries in Mallorca. However, they have been always unknown landscapes. This paper tries to offer a panoramic view of the sandstone quarries, tracking between different scales. First of all, the understanding of their territorial dimension on the island, proposing a new concept: the Quarries Territory, a landscape that allows the discovery of the quarries, only possible through the path that they offered, the differentiating aspect of each one. Afterwards, the memory and tradition that they have generated relate the elements of heritage which have emerged from them, so they are also part of cultural heritage and landscape of the island. They have become immobile transcribers of the landscape history that have generated, becoming true heritage archives of Mallorca. Finally, thinking in sandstone quarries as cultural landscapes will be obvious when the culture that generated them get back to appreciate the values described here. If this not happens, their future is predestined to disappear.*

Keywords: quarries, landscape, territory, heritage, Mallorca

## **Mallorca and the landscape**

The island of Mallorca because of its strategic location and configuration of its territory, historically, has established a strong relationship with its own landscape. When, the catalan writer and painter, Santiago Rusiñol named it as *the island of calm*, the collective imaginary, has create a particular *idea of the landscape* of the island. This idea was generated and influenced because of the multiple implicit connotations of this definition (Figure 1). This definition has survived until nowadays. It has contributed, also, in the association of paradise and the island, because of the almost perfect combination between a predominantly rural, bucolic and balanced landscape and the population. This landscape born because of the material and physic delimitation of the island, which has caused this material and color balanced territory, without external distortions that would cause sudden changes in this landscape.



Figure 1. The idea of landscape in the collective imaginary: Valldemossa / Photo courtesy: Toni Server Manresa. 2009

For most of its history, the island of Mallorca has worked its territory to produce the necessary resources for its survival. The command and control of this territory is what has caused what we now recognize as the landscape of the island, a combination of natural and man-made elements. Agriculture has been very important shaping this territory. It determines the boundaries of all towns and cities of Mallorca, doing as a backdrop of them. Present in this landscape, we find the commonest construction

material in the history of the island: the *marès* (a particular sandstone of Mallorca and Menorca). Forming the walls, that protect the roads and paths, or the emblematic and common buildings, the sandstone is always present in this landscape. Exploring the relationship between the landscape and Mallorca leads us, therefore, to a new element of landscape: the sandstone, as an inert material that unit the natural elements managed by man. Indeed, it relates to the discovery of totally unknown landscapes of Mallorca: the sandstone quarries (Figure 2).

### **The sandstone quarries are landscape**

The claim that the sandstone quarries are landscape depends of a unusually larger-scale vision. In this insular context, where the *landscape feeling* is a constant in the collective memory, this claim doesn't fit properly with the "quarries" concept. But otherwise, it's worth making a generic reading of this concept to see that, in fact, it's possible to find the positive value of the point of this paper.



Figure 2. First sandstone quarries at the coast of Mallorca, in the foreground / Photo courtesy: Toni Server Manresa. 2009

According to Javier Maderuelo (Maderuelo, 2005) "Landscape is a subjective science between man and the environment, a relationship through the eyes", so, the change of the observer will be the key in the reformulation of this concept. In his review of the definition of "landscape", he defines it as "the landscape is not something, it is not a large object or a set of objects shaped by nature or transformed by human action. [...] Landscape is a mental elaboration made by men through the phenomena of culture". Augustine Berque (Berque, 1994) contributes in introducing the society that is related to the landscape. He defined the existence of a *civilisation paysagère* when "there are words that mention the landscape, there are images that represent it and there are practices that reflect the esteem to the landscape". John Brinckerhoff Jackson (Brinckerhoff Jackson, 1984) formulated "the landscape is a man-made system of superimposed areas on the land that serves a community" a definition that also mix the man and the nature, and may derive in the cultural landscape defined by Sauer (Sauer, 1925), defined as the harmony between human and natural influences on the territory. So, if we talk about landscape, we have to associate it to the culture of the society that has formed it. The fact that characterize a particular landscape and its associated values will be the involvement of culture on the environment where it is inserted.

The case of the sandstone quarries proves these definitions. The sandstone quarries of Mallorca have been a human transformation of this territory, initially arising from the need to produce a building material within the limits of the island. The exclusivity of the sandstone as a building material, manufactured on the island (until the massive arrival of concrete in the years 1950-1960) has generated its own tradition which characterizes all operations that can link, from the extraction of the material until the historical construction techniques. This combination contributes a uniform result, a distinctive image of the island.

The sandstone quarries, therefore, are directly related to the culture of Mallorca, for their direct involvement in the generation of traditions, occupations, toponymy... and for their indirect contribution to the built image of the island, the most of the monuments of their cities with one, nowadays, are considered as protected assets.

### *Latent landscape vs. Relic landscape*

What we associate as the *sandstone quarries landscape* reintroduce this larger scale, mentioned before. When the landscape is not a specific area that we understand with a rapid look, but it is understood as a new concept, we can say that the sandstone quarries landscape is not determined by the quarries as themselves, but throughout the region that forms it. Their irradiation in the landscape of the island is fully extended for much of its territory directly and indirectly, but often hidden.

The morphology of those quarries is the main reason for what they have passed unnoticed by most people. On the one hand, their existence, since the Roman times (Sánchez-Cuenca, 2010), has become part of the territory achieving a natural appearance, often indistinguishable. On the other hand, their controlled size, always under the view of the surrounding area, has hidden them until today.

It must be said that one of the values of this landscape is that today there are still active quarries in Mallorca (Figure 3). The view toward this latent landscape provides a very different perception that if we were facing to a relic landscape, which we only could establish historical links, probably missing. Considering the sandstone quarries as a latent landscape affirm that the culture that they have generated is constantly evolving with them, keeping them alive.

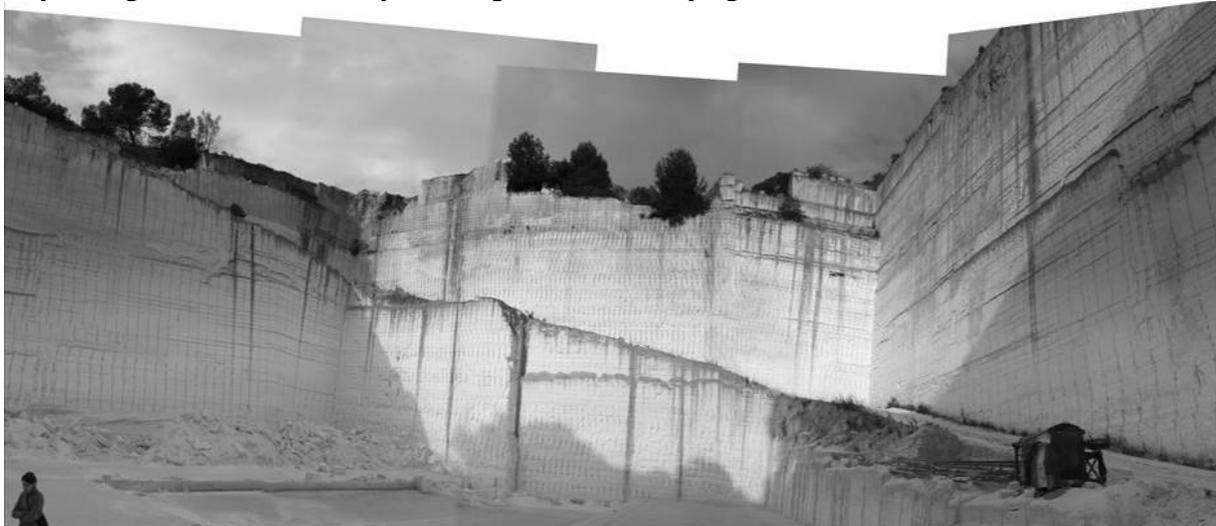


Figure 3. Ses Pedreres Noves Quarry. Currently active. Lluçmajor / Photo: Catalina Salvà Matas, 2007

### **A productive landscape shaper of new territories**

Sandstone quarries are one of the most unknown productive landscapes of our island. Although its concentration on the surface of the island is not a large area, and there is a return to the natural landscape once the activity ends, the visibility of the production of sandstone is evident in much of Mallorca, or at least in areas where there are quarries. Since the beginning of its existence the production of sandstone has been used to build many of the buildings that nowadays are considered historic in Mallorca. For example, the fifty-two municipalities that are Majorca, thirty have their main churches built with sandstone (Figure 4).

When what we now call "construction industry" had more to do with the craft, the sandstone was the dominant building material in the island. When started the first building boom in Mallorca in the fifties (because of the beginning of tourism) it coincided with the arrival of concrete as a universal building material. At that time still lived with these two building materials, but rather the sandstone remained displaced and became a secondary material. Its mechanized but handcrafted extraction and the office of the local stonemason, against the globalization and rapid construction with new materials located the sandstone into a background.

This leads us to believe that what we consider as a landscape of sandstone quarries not only will correspond to the quarries as themselves, but all the elements that are derived and have formed the culture and tradition associated with them, extending throughout a certain territory. The value of all the buildings that are now considered as heritage (mostly built with sandstone) can be extrapolated to the same source material: the sandstone quarries.



\* (només façana de marès)

Figure 4. Main churches of towns and cities in Mallorca, all of them constructed of sandstone / *Catalina Salvà Matas, 2011*

Part of the concept of the sandstone quarries landscape is in the material associated with them, complementing the contribution of the intangible memory, the tradition or the wisdom that they have generated. Although it may seem strange, all the whole set of sandstone quarries is not identified as a landscape by the people. Most of them do not know of its existence, which means that the landscape does not exist in the collective imaginary.

*A new concept: the Land of Quarries??*

The definition of the materiality of the sandstone quarries landscape begins with its identification with a name. It is translated to a new concept: "Land of Quarries" (Figure 5). I have chosen the "land" expression in accordance to the physical sense implicit in the word, emphasizing the idea of establishing the materiality of the quarries. The ability to associate a place and a location, as well as a physical demarcation of the "site generated by the quarries" allow measure them in a territorial scale, nonexistent today.

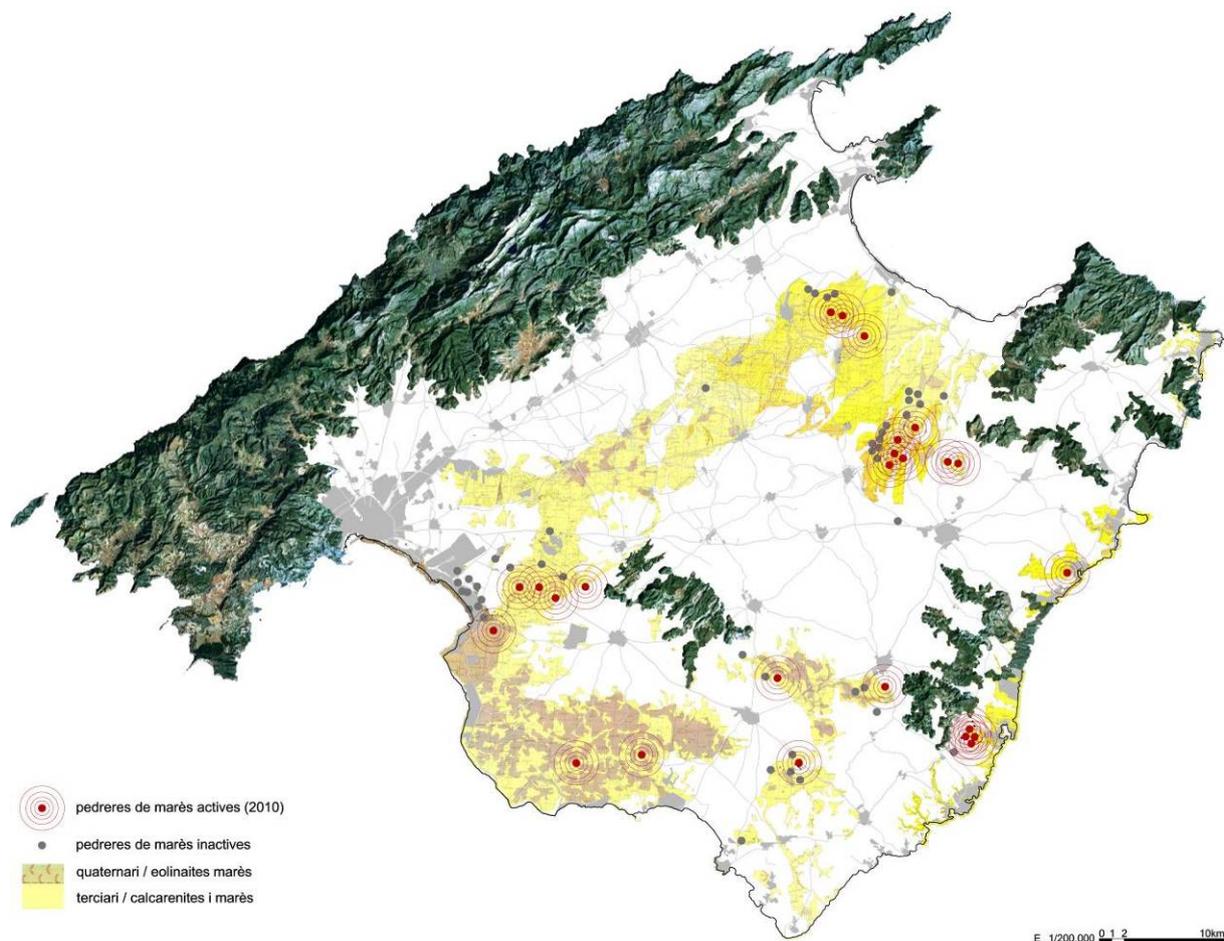


Figure 5: the geography of the *Land of Quarries* / Catalina Salvà Matas, 2011

The *Land of Quarries*, by its own morphology, can not recognize with a simple overview of the landscape, it does not respond to any apparent logic of colonization, neither can't we identify any specific items or visual reference points. Basically, the *Land of Quarries* could (and can) be any territory because what defines it isn't the most superficial face (on the other hand, this face is used to define the landscape units: mountains and beaches, orchards, "call vermell"... units where in everyone there may be quarries), but its base, and more specifically the material of the base. The geological map will give the first boundary of the *Land of Quarries*, formed by areas where the fossil sands are located (Calcarenite) and where the accumulation of dunes along the marine regressions (Eolianite) formed since the Tertiary to the Quaternary periods (Inyesta Garcia, Oliver Sunyer, 1997).

The logic of this territory is not obvious at first glance, as it depends on the ground under us. Depending on the quality of the ground, the ancient groundbreaking decided to open a quarry and began to dig. This purely geological location of the quarries has a map, sometimes, where the quarries are really sparse, and sometimes, there is such a concentration of quarries that the separation between them is a simple stone wall. The logic of the heterogeneous density of quarries can be attributed to the goodness of the ground. Clearly, if there is a large vein, it will be operated the most, emerging different companies that will do it. Superimposing the *Land of Quarries* above the geological map of the sandstone formation period we can obtain the extension patch of the area, and also the concentration of quarries areas.

Therefore, the nature of the territory is what necessarily determines the possibilities of initial situation of the quarries. But apart from this essential condition, the location of the quarries has been forming its own territory, setting several locations throughout its history, determined primarily by the availability of sandstone according to the geology of the island, concentrating throughout its history in the diagonal stripe parallel to the Tramuntana mountains, linking the Bay of Palma Bay with the Bay of Alcudia, and in the south-west and south coast of Majorca occupying almost 20% of the surface the island. This will determine the geographical area of the *Land of Quarries*.

### *When the territory becomes industry*

When the extraction of sandstone develops from producing its own supply to producing a several stock of material, starts what we consider as a industry. From this industry born a lot of exploitations organized in different parts of sandstone extraction, because of the optimization of resources and optimal use of available material. It is the time of birth of the first sandstone quarry. It will be a time that can't be exactly dated, but it is known the existence of many of the quarries that were allowed, for example, to construct the Palma Cathedral in the thirteenth century.

What can now be considered as industry is very different from that involved the extraction of the sandstone. To start, everything that the industry needed (tools, machines, materials ...) had the condition to be ephemeral, as was changing in parallel to the quarry. Moreover, the sandstone does not require auxiliary buildings for the handling of the extracted material and the use of the rock tends to be total. From this combination, once the activity stops, there are only the quarries and the extracted material become parts of buildings. Therefore the resultant spaces are the negative that the extracted sandstone, being able to read all the traces lying on the quarries' walls.

We could say that the sandstone quarries formed the first industrialization of Mallorca. The legacy of these new places, linked to the history, allows their discovery from the invisible net that has been generated by the sum of all the years until today.

### *A new landscape of memory: the inheritance of a transformed territory*

The marks founded on the territory as a result of mining activities result in the sandstone quarries. Through them, we can perform a reading of the implicit memory in them through their traces. This trace begins from the *Land of Quarries*, including all the sandstone quarries. The reality is that through these traces, the current image of the island can be perfectly understood. This image is which that is considered as its landscape, forming the skeleton of the landscape of Mallorca.

But this fact does not prevent the controversial view of the "quarry" concept, today. Nowadays, this concept is always associated with the destruction of the territory. As found in this concept are all types of existing quarries. But if we go into a sandstone quarry, everyone agrees that this feeling changes dramatically, becoming beautiful spaces where light enters and bounces on the walls, white and full of small cuts that form its famous texture. Which is, therefore, the difference?

The relationships we establish with nature shape our perception of it. If we compare the small size of the sandstone quarries opposite the gravel quarries, we can obtain a complete view of its landscape, dominated by ourselves, observers, and can also be associated in our imagination all of the geometric shapes, in the sandstone quarries (figure 6). Therefore, the proportion of the sandstone quarries, with a scale like normal constructed spaces, will be seen as a place and a landscape and not as a fracture of the territory. Moreover, we can consider it as built places, although anyone has built them.



Figure 6: simile between a gravel quarry and a sandstone quarry / *Catalina Salvà Matas, 2011*

The discovery of the quarries as spaces of a balanced scale, allows making a new concept of them. The exclusivity of the material making up their faces, gives them the character of the area. The memory of the tradition that they have generated, linked to the technique and craft that has formed them, would provide a immaterial inheritance to visitors, who can not appreciate it in a tangible way. The intangible heritage in the history of different generations involved in the stone, from its extraction to its placement, is what has helped shaping the landscape of Mallorca. Quarries would cease to be (by definition) sites of destruction to become the starting point for the reconstruction of a forgotten heritage.

## Landscape as a source of tourism

Mallorca is an island that has always lived from its territory. By definition, it has lived for its subsistence and, since last hundred years, its territory is the leisure source for tourism. In the last ten years, the economy of the Balearic Islands is governed by the service sector, which generates 80% of PIB<sup>1</sup>, the construction sector is approximately 10% and industry around 5%. Tourism, meanwhile, admitted about 50% of PIB, according to reports from Impactur.

This provides the following reflection: landscape is one of the main sources of tourism. Mallorca's landscape provides a visual balance and sensitive to their visitors, becoming part of the leisure facilities that have proliferated in different parts of the island. However, if the surroundings of the tourist landscape suffered a degradation process, degradation also will occur in the same area. Thus, landscape affects tourism in a directly way, probably exponentially.

One would immediately think of trying to turn the sandstone quarries (active or inactive) as a tourist place to visit (Figure 7). As far as the marble quarries of Carrara. Visitors could travel across the existing network of quarries and it could be linked to heritage buildings built with sandstone. It would generate some new routes and quarries routes and they are always be present

<sup>1</sup> PIB is equivalent to Gross domestic product (GDP) in Spain

in the indicators and signs of places nearby, as well as posters of important roads. As it's happening with caves, beaches or great monuments of the island.

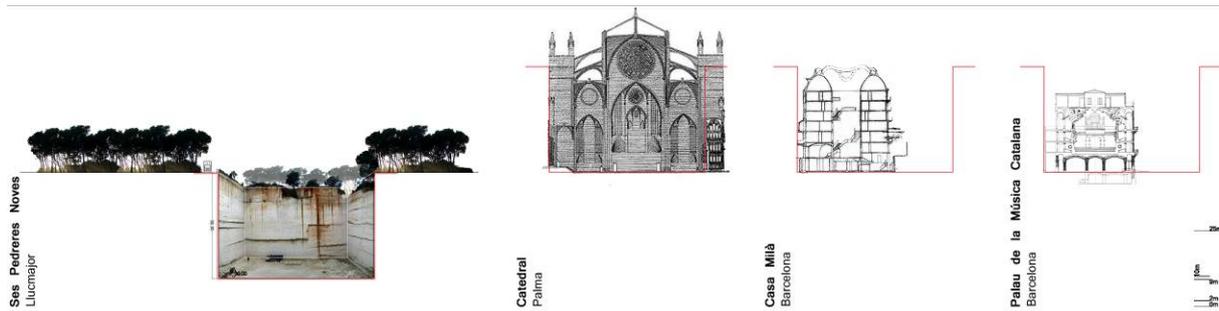


Figure 7: simile between a sandstone quarry and some of the most visited monuments in Spain / *Catalina Salvà Matas, 2011*

### *The line that borders the funfair park*

Saying that quarries are part of the landscape of the island, does not mean they become an immediate tourist spot. We have a more serious problem: the lack of a sense of value to the quarries, neither from government nor from the people.

If there is not a local sense of value to the quarries, destine it to tourist consumption would be a mistake. The first step should always be this. The estimate to this heritage should be born of the people that created it, as would be the only way to preserve its integrity.

Therefore, the rediscovery of the sandstone quarries as a new landscape that completes the identity of Mallorca has to be the first to happen (Figure 8). The rediscovery of the generated spaces, its products and its tradition will be the base to see the stone-quarry in another way. The change in perspective, from productive and degraded landscapes to landscapes of heritage value, from the very people who created them that will be decisive to give back the value they had before, when the sandstone was part of life and culture of Mallorca.



Figure 8: Ses Comunes quarry, Petra / *Hector Ortín Isern i Catalina Salvà Matas, 2011*

The line that borders the funfair park is very subtle and easily crossed. The power of sandstone quarries is such that if they were discovered with any local base could become a real monster. However, there are several mechanisms whereby this happens because we are in the privileged position of being able to anticipate and manage these events.

First of all, the quarries have not become a *relic landscapes*. If the extraction activity continues (not in a symbolic way, but real!) quarries will remain alive landscapes that contribute to the rest of

PIB produced by the Balearic Islands, apart from tourism. The combined value of the sandstone quarries as productive and value places, will keep them in *latent landscapes*. The appreciation of them as useful sites will give meaning to existence, however, they would be conserved only by a romantic feeling, while they still be functional, which is the reason of their birth.

Moreover, the memory of culture that have generated: related trades, buildings and transformed territory becomes them as *new landscapes of memory*. Since them it is possible to rebuild parts of the memory of Mallorca and its people and build unknown or forgotten parts now. The possibility of different interpretations, will allow making a new cartography of Mallorca since *Land of Quarries*.

Finally, the aesthetic capacity of the quarries, as sites themselves, reaffirms its delicate and well thought conservation, not to mention the two assumptions above. Combination of these, marks the boundary with its transformation into a banal funfair park. But to exist a sense of value, it can not be separated from the community that have created this feeling. This will be the differential fact in the quarries: the perfect combination of memory and relevance that they have, what will be the reason to be saved.

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