Practical case of intervention: architectural remains as landscape. Rehabilitation of ruin in Mount Abantos

ABSTRACT

We present the case of the intervention: Rehabilitation of an existing ruin in public Mount Abantos. We found the ruins of stone walls erected in the time of the dictator Franco. These ruins were located among the pines in a natural place declared Public Mount. The order comes after the fire that suffered this mountain. The intervention seeks citizen awareness towards this natural resource.

Although ruin lacked great heritage value, the years spent at the site managed to be part of it. It had become an evocative element whose value would be desirable to preserve: some granite walls that were never finished. To keep the evocative capacity of ruin it was decided preserve the existing, built with few materials and not build the entire perimeter. The intention was not to lose the image of ruin to become the building that never came to be, but to maintain that image enhancing the granite walls that were still standing.

Article 45 of the Spanish Constitution establishes the right of all to enjoy an environment suitable for the development of the individual, the duty to preserve and the obligation of public authorities of ensuring the rational use of all natural resources in order to protect and improve the quality of life and preserving and restoring the environment, relying on the indispensable collective solidarity.

With this ruin rehabilitation knowledge and respect is promoted towards the Mount Abantos through a building whose function is become interpretive center of this mount. Within the strategy of maximum respect for the ruin is proposed that all new elements do not try to imitate the older, thus honestly shows the past and the present.

Keywords: Rehabilitation, landscape, sustainability

1 INTRODUCTION

On the southern slope of Mount Abantos, near the road between the town of Guadarrama with San Lorenzo del Escorial ruins existed without heritage value. However over time became their incorporation into an area of the mountain frequented by neighbors and thus become part of the landscape. These ruins belonged to a building that was started in 1940, which was never finished and was raised as a small hospital.
After the fire at the Mount Abantos in 1999, which devastated 450 hectares, 170,000 trees were burned and destroyed the habitats of many animals and birds, the Regional Ministry of Environment of the Community of Madrid had to come to the repopulation of the areas affected.

Article 45 of the Spanish Constitution establishes "the rights of all without distinction, to enjoy an adequate environment, the duty to preserve it and the obligation of public authorities of ensuring the rational use of all natural resources in order to protect and improve the quality of life and preserving and restoring the environment, relying on an indispensable collective solidarity."

Considering this article and knowing that the mountains have an important social role, both as a source of natural resources, such as providers of multiple ecosystem services, including soil protection, fixation of atmospheric carbon, deposit diversity biological and as a key element in the landscape, we have to promote conservation, protection, restoration and orderly development.

One of the objectives to be achieved with respect to these areas is to maintain the inherent quality of the traditional landscape, preserving the characteristic elements and tending to maintain and encourage existing architectural typologies.

In addition the case of Mount Abantos is integrally linked to the Monastery of the Escorial as site selection by Felipe II was due in part to the landscape of the area, especially the semi-circle of mountains that surrounded it and the young monarch reminded the Ettal Abbey in Bavaria that he had seen.

In 1984 the Monastery statement as World Heritage included "the natural environment that is inseparable from the monument." Currently has several protection elements (LIC Guadarrama River, BIC of the Great wall and preserved forest) and will join the Guadarrama National Park as a protected landscape.

Within the concern for the preservation of this mountain a few years after the Regional Ministry of Environment decides to use the existing ruins into the forest in performing an interpretive center that serves to make known to the public its heritage value, plus awareness citizens in their responsibility to preserve it.

2 REHABILITATION PROJECT

Although ruin lacked great heritage value, the years spent at the site managed to be part of it. It had become an evocative element whose value would be desirable to preserve: some granite walls with some brick finials that were never finished and with a height of two floors without intermediate floor slabs, showed a strange slenderness.

To approach rehabilitation involves positioning towards the existing regardless of the heritage value that holds. Carlo Scarpa in an interview highlighted this concern when addressing his works: "The problem of historical material, material that can never be ignored, but neither directly mimic, is a question that has always troubled me." (Dominguez 1983)

Between these two areas, respect for what exists and not imitation of it, the project develops. Also there was the peculiarity that it was involved in a building that was never finished. This unfinished construction took more than six decades in ruins.

The intention of the project was not to lose the image of ruin to become the building that never came to be, but to retain that image reinforcing the granite walls that were still standing. To keep the evocative capacity of ruin we chose three main strategies.
The first was not to build the entire volume defining by its perimeter walls. Some of them, the less height, were kept without floor slabs to preserve the image of walls in the countryside with vegetal species either side of them. It was introduced in the program a garden of native species that served to close the visit to the interpretation center. The preserved walls became its fences and through the existing gaps in the wall, windows and also demolished parts of the walls, were put in eye contact the visitor with the surrounding bush.

The second was to reuse the crumbling stone, but with the freedom to place it elsewhere and for other purposes. In this sense, the Dimitris Pikionis´s lesson in the entrances to the Acropolis is used. Pikionis reuses materials from demolition of houses of the nineteenth century made in the years when he began the work. In pavements therefore uses marbles and ceramic fragments as if it were a collage, valuing the material, but using it creatively. (Antonakakis, 1989).

The third was to build with few materials and different than found not to imitate what exists and to not finish the building as it would have done when it was started, because neither its role nor the way of understanding architecture was already the same.

Reinforced concrete was used to finish off the stone walls, in some cases with reinforced bands and others restoring part thereof. Thus avoided the eaves and tile finials that have crowned the unfinished building and a greater degree of abstraction was incorporated into the work. So a new material was introduced by its utility, but also provided a new understanding of what previous, that called upon otherwise. Concrete treated with sandblasting in order to lichens to colonize over time as they have done with granite stone.

The carpenters were performed with hidden metal sections inside the jambs and uncut glasses to avoid distorting the image of the existing gaps. In this way the gaps are perceived clean from the outside, with the same transparency showing ruined.

Figure 1.- Northern elevation photography
The flat roof is designed as another fragment of land, mount’s earth fill and planted with seeds of local species. In the flat roof is just incorporated an inclined plane made of zinc and reduced dimensions to introduce northern light into a double-height exhibition space and to expel the hot air in summer allowing the natural ventilation of the building. This allows what during the climb to mount the flat roof merges with the landscape and the building volume lost importance in relation to natural environment in which it is nestled.

Inside it incorporated a double-height space to the other rooms overturn and allows an overall understanding of the building and the possibility to keep the image of slender walls ruin owned.
3 SUSTAINABLE CRITERIA

The project has been made with respect to its surroundings and to the environment criteria, incorporating the sustainable following aspects:

The main strategy in terms of material recycling consists of reusing them. When a material is recycled actually "downcycled" because it loses some of its technical characteristics or consume energy in processing. In this case we choose to extend the lifespan using it for what it was designed (envelopes stone walls and interiors walls with stone and brick). The granite’s existing remains are also reused on the site after the collapse of part of a wall for the pavement of gardening and as benches. In this way no energy is consumed in recycling or transport to the processing plant.

The flat roof of the building is executed as a green roof which technology makes possible the growth of vegetation without water supply, due to the micro accumulation of rainwater into the insulation that is designed by way of retainer panel.

The new elements required for building are design with natural and renewable materials: granite on pavement and wood on walls and sliding doors. The continuity of materials is kept in this way while a distinction between new and existing by differentiation of materials on walls and finished.

Existing thick walls are taked advantage of them and its thermal inertia significantly reducing thermal loads and making unnecessary to incorporate thermal insulation.

The green roof with thermal wrought offer a high heat resistance and natural shading that reduces cooling loads by sunlight.
The south facing’s glazing have sunscreen that prevents the increase in cooling loads by sunlight.

It has been designed a system of cross ventilation both north / south facades and in different height leading to the entry of fresh air in the double-height space on ground floor and first floor and the hot air through the top hole in the skylight. It has been used to provide motorized grilles at the bottom of the holes that reach the floor of the south facade on the ground floor and first floor wing. The grids and dampers are integrated into wooden drawers serving as interior benches and allow air inlet through slats in their vertical sides. At the top of the double-height space has been placed a linear band of motorized grilles above concrete edge band painted white and under the glass. This building’s respiratory system is operated from the control room favoring free cooling of the building at night in summer times by opening upper and lower grilles. During winter time the upper grilles are closed to prevent the expulsion of hot air keeping open the lower south facing grilles that allow the air inlet a higher temperature than the indoor air due to the favorable effect of sunlight.

It has raised a rational water management understood this good as part of the natural heritage of the area. Rainwater collects in the retaining panels to water green roof’s plants without need for water supply.

There is differentiation of two sewerage systems: rainwater and sewage. Rainwater collected on the roof and head through a drawer galvanized steel fastened to the exterior wall to fill the fire tank standing between a pre-existing walls, reducing water consumption of the building by not having to provide water for fire protection system. Also is completed with a set of ornamental fountain, so is incorporated water moving from rain as a part of the garden.

Excess supply of rainwater that can not be reused is poured to the ground through a drainage ditch which manages to keep the own’s area natural ground moisture avoiding drying processes. It also prevents overloading the work of treatment plants that would have meant the pouring rain water to the municipal sewage system.

Gardening, both roof and outdoor garden, is done with native plants of Mount Abantos, so avoided having a delivery system for irrigation water to them as they are adapted to the climatic conditions.

Figure 5.- Overhead photography
4 CONCLUSIONS

In many cases the heritage value goes beyond the historical or artistic value of a work of architecture. In this case the ruin contained mainly landscape and identity for its inhabitants value. Its greatest value is providing by its stony granite construction and the place where it was located. In response to the memory of what was found and believing that the new building had to belong to his time, work has been done with the freedom to propose a new way to inhabit, but has tried to maximize the most of its features. It is understood that time is going pro of architecture. It is not intended to imitate the ancient. It is intended that the time will incorporate the new to the old. Zinc’s cover is not aged and it is expected that concrete will be filled with lichen as in the granite.

The project has been made with sustainable and friendly criteria with the surrounding and the environment because it is understood that surrounding of Mount Abantos is the heritage value with which it is working:

- Ruin’s image that remains in the retina of the site is kept and the impact on the landscape is minimized by not increasing the height of the building.
- The vegetation of the green roof makes the building rests with the surrounding.
- Gardening is done with native plants of Mount Abantos, nullifying the water supply.
- Rainwater is used for tank fire and an ornamental fountain.
- The thermal inertia of the existing thick walls is used by decreasing the thermal loads.
- Cross ventilation system is designed, favoring the building’s free cooling at night in summer times.

5 BIBLIOGRAPHY

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