Contemporary earth houses and evolution models in the Mgoun Valley, Morocco

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ABSTRACT: The Mgoun Valley displays today a complex built landscape that includes a number of vernacular building types as well as contemporary buildings. Vernacular building typologies that fulfilled the representation and fortification needs of a past society has evolved into a contemporary model, in a remarkable process of abstraction that has done away with most monumental referents. This process has produced both material and functional mutations and changes in meaning, as a result of the accommodation to new housing needs and standards. The present paper is a part of the scientific research project: Paisaje y Patrimonio en el Sur de Marruecos: Propuesta para el desarrollo de modelos de turismo responsable (AP/050921/11), granted by the Spanish Agency for International Cooperation and Development. The text tries to describe, from an approach that focuses on the study of specific building types, the formal changes brought by the evolving process that the architecture of this Pre-saharan valley has gone through in the recent past.

1 INTRODUCTION

The Mgoun Valley, located on the Southern slope of the Moroccan High Atlas, displays an important heritage of earth architecture that has managed to adapt to the environment and establish a material link to it. It seems a remarkable example of the human activity coping with environmental challenges and succeeding at developing an evolving local building culture that satisfies contemporary housing needs.

Today’s built landscape of the Mgoun Valley contains a complex architecture where evolving vernacular earth buildings co-exist with new reinforced concrete buildings. In this context a particular building type exists that reflects an evolving process from the traditional fortified farm: many formal references have been discarded and retaken over time in a singular abstraction process. The end result is an architecture that has managed to keep its original symbolical meaning while accommodating to new uses and cultural standards.

When we look at the landscape of the valley today we do not see a place anchored in the past. Rather, the built landscape shows a variety of building types past and present, evolved over time, that share the same “genetic code.” The first thing that strikes the eye is the presence of the tighremt (plur. tighrematin), the traditional fortified farm, built in rammed earth, provided with four lean corner towers, expressing its defensive nature and its social and political significance (Montagne 1930, Laoust 1934, Terrasse 1938, Jacques–Meunié 1962).

This original type evolved first by diminishing the height of the towers and enlarging its size, and then by eliminating them altogether, creating two parallel bays that would eventually become three; primary volumes were thus created. A preliminary hypothesis of the process described is shown in Figure 2.

Figure 1. Panoramic view of Aït Tourniet.
were selected (see Fig. 3 for their location) that represented local types belonging to different stages in a line of formal evolution. Pictures and measurements of each building were taken on site in order to compare data as objectively as possible. Since the vernacular construction technique is rammed-earth, dimensions were recorded using constructive parameters: the number of wall sections was used as measurement unit (section meaning that portion of a rammed-earth wall formed in any one completely filled form which has been rammed to capacity, and the form removed).

3 TYPOLOGY

3.1 Type I
Type I is the traditional fortified farm characteristic of the XVIII and XIX Centuries. The building documented was a tighremt located in the valley near Bou Taghrar (Fig. 4), close to the encounter of the Imeskar and Mgoun rivers. A similar building is shown in Figure 5.

3.1.1 Formal analysis
The type is characterized by:
- The presence of towers with a talus (high T/t relationship).
- Towers are tall and lean (high T/t relationship).
- Towers protrude over the walls.
- The top of the walls and towers is built in adobe (between 1/3 and 1/4 of the total height).
- Towers are narrow compared to the walls.
3.1.2 Functional analysis
Vertical communication is done at a side of one of the towers. The building is three storeys high plus a transitable flat-roof. Nowadays all floors are used for storage. Originally the ground floor was used as stable, upper floors were used for lodging. Paradoxically, towers had no remarkable domestic function but storing grain, in spite of their imposing outer look. The narrowness of the space does not seem to allow other uses.

3.2 Type II
Type II is a first stage in the evolution of the traditional model that may be dated in the first half of the XX Century, roughly the years of the French Protectorate (1912–1956). Formal and functional changes evolved from Type I can be seen. The building documented is located in Aït Khalifah (Fig. 8), a village located on the banks of the river Aït Toummert. Figure 11 shows a building of similar characteristics.

3.2.1 Formal analysis
The type is characterized by:
- A notable reduction in the talus of the towers (relationship $T/t = 1$).
- The flattening of towers (lower $T/h$ relationship).
- Towers barely protrude over the wall.
- Minimal presence of adobe at the top of walls and towers (about 1/15 to 1/20 of the total height.)
- Towers and walls are the same width ($T = P$).

3.2.2 Functional analysis
The building is three storeys high plus a transitable flat-roof. Nowadays all floors are used as storage. Originally the ground floor was used as stable, upper floors were used for lodging. No doubt the most remarkable feature of the type is an enlarging of the towers that allows, when compared to Type I, the use as lodging of the space previously used as storage.

3.3 Type III
Type three is the second stage in type evolution. An additional formal simplification has taken place as shown by the disappearance of the
towers, substituted by parallel bays, although their symbolism remains in the design of the main façade. The building documented is located in Hdida (see Fig. 12) and was built in the 1960s. Figure 11 shows a building of similar characteristics located in Aït Youb.

3.3.1 Formal analysis
The type is characterized by:
– The disappearance of the talus of the towers (relationship $T/t = 1$).
– Towers do not protrude over walls.
Towers and walls are of equal height and the outer structure of the staircase becomes apparent.

No use is made of adobe in towers or walls.

Towers and walls are the same width (T ≈ P).

3.3.2 Functional analysis

The building is three storeys high plus a transitable flat-roof. The type is the final step in constructive simplification: towers are eliminated as such and grouped forming three bays clearly marked, the central one serving as communication axis, both horizontally and vertically, the side ones serving for a variety of purposes (storage, lodging, reception).

4 DISCUSSION

Formal and functional comparison of a number of selected buildings in the Mgoun Valley has allowed the identification of three building types evolved from a traditional model, identified as type I. Type II and III buildings share, so to speak, the same genetic code as Type I but would belong to different moments in an evolutionary sequence. The following changes have taken place over time:

– The talus of towers, present in Type I, is gradually lost. Type III does not exhibit it anymore.

– Towers, originally lean, become larger as a result of changes in its function (being used for lodging instead of for stables.)

– Type I towers, taller than the walls and protruding over the façade, have a symbolic defensive character. Towers are gradually lost in the process of simplification.

– On the constructive side an evolution takes place as well. Type I exhibits adobe on the top third of the towers and walls, forming ornaments and
The most important evolution is a change in plan that involves a change in the relative size of walls and towers. The lean towers of Type I evolve into the larger Type II towers to finally become, by pairs, two lateral bays protruding over the main façade as a reminder of the original towers. These formal mutations come hand by hand with chan-ges in the use of space. Type I towers, important for their symbolic value, were too narrow for any use but storage. Their widening and their eventual simplification as bays allow new uses of the space.

Data show then that there seems to exist a continuous evolutionary process in the typology of earth architecture that has managed to preserve part of the formal and constructive heritage of the traditional rigiftrem (López 2004, p. 38.). But an additional element should be added to the equation. Reinforced concrete building became popular in the last quarter of the XX Century and is now part of the evolutionary chain. The introduction of this technology has broken the long existing link between constructive process and earth construction traditions of the area. It has produced also an illusory return to the formal origins by emulating elements of historic symbolism.

5 CONCLUSIONS

The new reinforced concrete houses, built in most cases with the money earned by owners working six months of the year in other parts of the country, display its corner towers, now barely a reminder of the old, imposing ones. Why do reinforced concrete buildings in the Mgoun Valley area display corner towers? There is no war anymore, and the modular system used in rammed-earth construction might be changed, if desired. Something other than technology seems to be at play. If looked as the last product of an evolutionary process, reinforced concrete houses remind us that “nothing, of any matter, comes out of nothing” (Quatremère de Quince, 1792). This Darwinian look shows us the decoration and formal reminiscences of new buildings as a complex process of hyper-real nature that transcends the simple decorative effect. A symbolic procedure that makes resource to an array of imaginary of traditional signs rooted in the collective memory to mimic its significant, leading to the confusion between the represented and its representation. The result is an architectural landscape simulated and authentic at a time, copied, remembered.

REFERENCES