

Beaufort Castle, Lebanon; conservation versus restoration project

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ABSTRACT: Beaufort is a medieval castle that witnessed a succession of construction and destruction till today. After the year 2000, local authorities commissioned a team of experts to make an assessment of the current status of the Castle. At the end of this assessment, an exhaustive tender document package became available and ready to be executed by contractors. Local inhabitants expressed the request to “rebuild” the castle the way it was before the recent wars in Lebanon (1975–2000). This approach would jeopardize the authenticity of the monument. The team of experts had therefore to analyze the different structures of the castle in order to define different approaches one should have regarding this matter. This paper presents the methodology adopted in choosing the different approaches needed to establish the tender document for the conservation and restoration of the Beaufort Castle.

1 BACKGROUND

In April 2000, the Israeli army withdrew from South Lebanon. One of the most emblematic and strategic point this army left is Beaufort castle. Its location on the top of a cliff overlooking the Litani River, 4 km far from the Israeli territory limit, transformed the Castle into an important military position in South Lebanon. It was also a very important site from which national resistance against occupation took place. It was easy to understand the need expressed by local inhabitants to restore the Castle after the destruction caused by the war.

This was the general background prevailing at the time the demand expressed by the Ministry of Culture, Directorate General of Antiquities (DGA), to undertake an assessment of the destructions occurred in the place. This assessment was made in two steps:

- a. a preliminary assessment identifying the status after the Israeli army withdraw
- b. a multidisciplinary assessment leading to the preparation of exhaustive tender documents for contractors. See various expertise in Bessac & Yasmine (2001) 241–320; Corvisier (2002) 243–265; Grussenmeyer & Yasmine (2003) 322–327; Grussenmeyer & Yasmine (2004) 809–814.

2 GEOGRAPHIC, TECTONIC AND GEOLOGIC CONTEXT

Beaufort (*Qalaat Shqif Arnoun*) was one of the major military positions of the Kingdom of Jerusalem. It

controlled the passage between the cities of the Lebanese coast and the Muslim hinterland. It stands in the middle of a network of Castles that comprise the Toron (*Tibnin*), the Maron (*Qalaat Maroun*), Shubeibeh (in the Golan), the Châteauneuf (*Hounin*) and Montfort (*Qalaat al-Qarn*) in Galilee. (Fig. 1) Beaufort is located on the top of a cliff (670 m) (Fig. 2) overlooking the Litani River almost 15 km to the north of the place where the river turns towards west and changes its name; from that place it becomes *Nahr el-Qasmieh*. From Beaufort, one can see Shubeibeh, the Maron, and the Toron. The castle does not stand far from the Dead Sea fault system. At the north of the Houle lake, the fault is divided into many small faults that are spread from the west (fault of *Roum*) to the North (fault of *Yammouneh*) then to the East (faults of *Hasbaya* and *Rachaya*). This complexity of the fault system is concentrated in the close vicinity of Beaufort. See the description and the map of the fault system in Dubertret (1952) 33–41; figure 5.

The castle is located directly over two parallel faults. One of the major earthquakes that affected the castle in the year 1837 is probably caused by the proximity of these faults. Note that the 1837 earthquake epicenter was located on the *Roum* fault from *Saida* towards *Marjeyoun*. Elnashai & El Khoury, (2004) 35–37. This fault is therefore very close to Beaufort.

The geological stratigraphy of the area surrounding Beaufort comprises marine sediments (from middle Jurassic to middle Eocene and quaternary era). Some basaltic strata are inserted between Lusitanian, and Cretaceous layers. Dubertret (1952) 17–31.

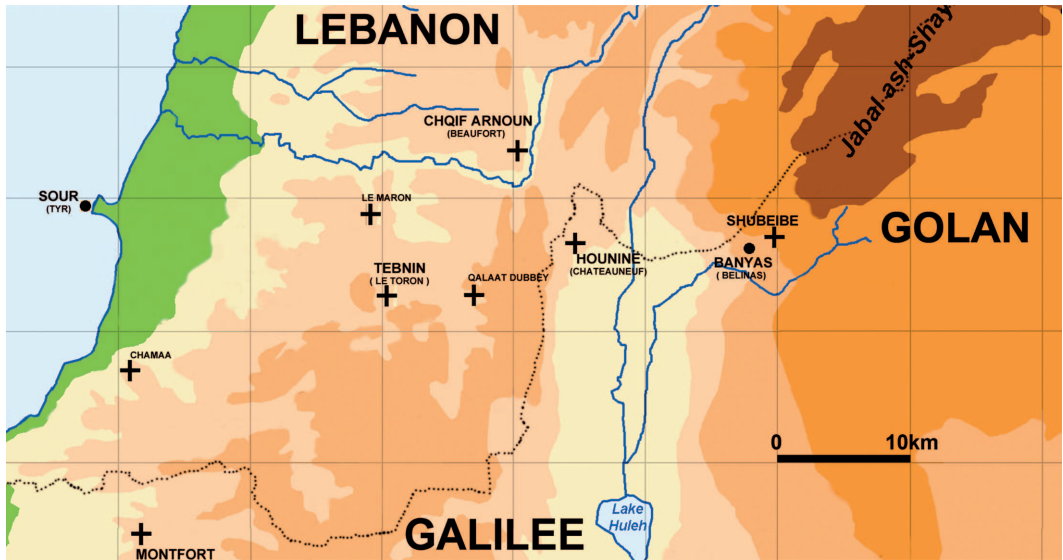


Figure 1. Crusaders castle network in South Lebanon. Base map after *Orient-Archäologie* 9, G. Lehmann. (Bibliographie des archäologischen Fundstellen und Surveys in Syrien und Libanon)



Figure 2. Cliff on which Beaufort is located. 2002 © J. Yasmine.

The petrography study of stones utilized by the castle builders enabled us to identify the quarries from where the stones were extracted. Three types of stones were used in the masonry works.

- The marble calcareous limestone (layer c2b of the upper Lutetian) brought from the east and South side of the slope leading to Beaufort.
- The lithographic limestone (layer c5 of the Turonean) brought from the north side of the slope leading to Beaufort.
- The chalky limestone (layer c4-c5-c6 of the Cenomanian / Turonean) brought from the north side of the slope leading to Beaufort.

Note that the major type of stone used is the first one. It is probable that the top of the hill facing the castle on its southern edge has been completely flattened for the extraction of the stones. A study has been undertaken in 2001 for the identification of the construction techniques. For more information concerning the stone

characteristics, see Bessac & Yasmine (2001). pp. 249–253.

3 HISTORIC CONTEXT

There is no text related to the castle before the arrival of the crusaders. This rock crest overlooks the passage towards the Syrian hinterland. It is difficult to imagine that there was not a fortified point controlling this passage before the arrival of the Crusaders. The texts say that Beaufort was deserted and taken by the Crusaders in 1139. A few years later, Beaufort was ruled by the Lord of Saïda (Sagette). In the year 1179, a battle between Baudoin IV and Saladin took place in order to control the place. Saladin took Beaufort in 1190, after a one year siege. A few years later, before the arrival of the Mamluks, *Al Salih Ismail* made a deal with the crusaders and gave them the castle back in 1240. In 1260, Julien de Sagette sold the castle of

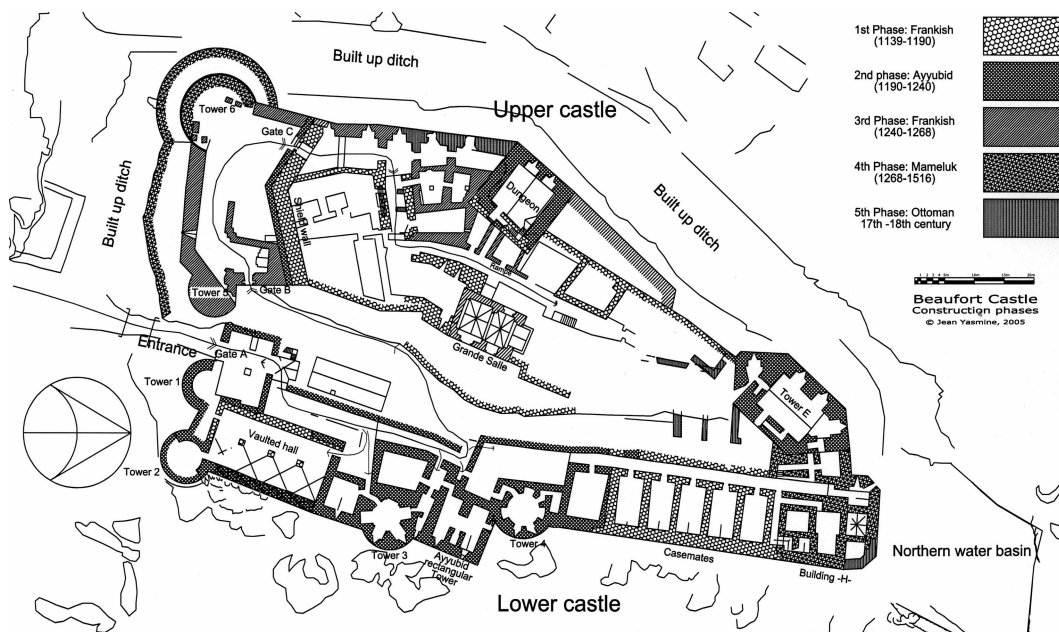


Figure 3. Upper and lower castle. Mapping of the construction phases. 2003 © J. Yasmine.

Beaufort to the Order of the Temple. This order kept the castle until 1268. On that date, the Mamluk Sultan *Baibars* besieged Beaufort and took it. Restoration works and new constructions are attested in Arab texts. Deschamps (1939) 178–197.

The 14th, 15th and 16th centuries were calm. In the 17th century, during the reign of *Fakhreddine*, a prince of Lebanon, the castle became part of his fortified net. After the defeat of *Fakhreddine*, the ottomans destroyed the upper structures of the castle. Between 1616 and 1769, the area was ruled by feudal families. In 1782 *Al jazzar* governor of *Akka* (St Jean d'Acre) besieged the castle, took it and destroyed its fortifications. In 1837, an important earthquake destroyed many parts of the castle. After this last date, it became a quarry for the neighborhood and a sheep-fold. During the same period, in the late 19th century, many Orientalists came and described the castle (successively Rey, Guérin, Conder & Kitchener). The castle was quiet during that period. After 1920, the French Mandate authorities emphasized on the Crusader period sites conservation. A first survey and documentation of the site was done in 1936 by the architect Pierre Coupel. After the independence of Lebanon in 1943, extensive conservation works took place.

Lately, the castle became again a strategic stake in the war of Lebanon. Between 1976 and 1982, it was occupied by the Palestinians who attacked from this fortified point the North of Israel. Between 1976 and 1980, dozens of raids were made on the castle. On

June 6th, 1982, it was heavily shelled before it fell in the hands of Israelis on June 8 of that year. The destructions we see nowadays date from that period. The Israeli army stayed there and fortified the surroundings with bunkers and reinforced concrete blocks. Finally, in the year 2000, the Israeli army withdrew from the castle after the attacks of the Lebanese resistance.

4 CASTLE DESCRIPTION

The castle with its ditches is included in a triangular area (base of 90 m length oriented east-west; height of 170 m oriented north-south) (Fig. 3). The castle entrance is from the South. At that point, a gate -A-, today completely destroyed, was surrounded by two circular towers.

The whole castle develops its constructions on two levels: the lower castle on the east over the cliff, and the upper castle on the west that controls the lower one, the South and the West ditches. At the northern edge of the castle, remains of a water basin are still visible.

4.1 The lower castle (Fig. 4)

It has four levels and includes many defensive constructions (circular and rectangular towers) located on the southern and eastern fronts. Close to the gate -A-, a great vaulted hall and many rooms are developed



Figure 4. Airplane view of the lower castle. 2003 © J. Yasmine.

on two levels and lead further to the eastern fortifications. These last constructions comprise two circular towers and a rectangular one, all built up in the Ayyubid era. The rectangular tower is composed of three rooms covered with crossing vaults on two levels; this construction suffered of direct bombing and is subject to a detailed structural study. Further to the north, a gallery leads to a succession of rooms and then to a four storey building (building -H-) that suffers also of big structural problems. In the southern part of the lower castle, an open air path controlled by the upper castle leads to its entrance.

4.2 *The upper castle (Fig. 5)*

Its entrance is from the southern side. An uncovered path follows the gate -B- and leads to the main gate -C-. This path is controlled by a shield wall that constitutes the southern edge of the upper castle. The gate -C- is constructed within this shield wall. It is today partially destroyed. After this last gate, the ruin of the castle covers the ramp that reaches the top of upper castle. In this last part, we can find the main constructions of the castle, its dungeon, its “grand-salle” and its residential tower (the tower -E). The defenses of the castle at the South and West side are constituted mainly by towers, walls and glacis; to the east, remains of the base layers

of the glacis emphasize the natural steepness. The built up ditch surrounding the castle on its West and South side is embanked today and doesn't permit to see the basis of the glacis. The general surveys done in the scope of the assignment permitted to propose relative and absolute dating of the different parts of the castle (Fig. 3).

A more detailed description of the castle is available in Deschamps (1939) 197–208, in Bessac & Yasmine (2001) 241–246 and in Corvisier (2002) 246–264.

5 THE PROPOSED PROJECT

After the year 2000, local authorities (Directorate General of Antiquities, DGA) commissioned a team of experts to make an assessment of the current status of the Castle, and to recommend what should be undertaken to perform the consolidation tasks, to restore some destroyed parts, and to present the castle to visitors. At the end of this assessment, an exhaustive tender document package became available and ready to be executed by contractors. For the purpose of the present paper, the issues that are addressed are the structural problems in correlation with doctrines and conservation philosophy. In this regard, the solutions were



Figure 5. Airplane view of the upper castle. 2003 © J. Yasmine.

always adopted after debate between experts from the multidisciplinary team and the DGA staff.

5.1 *Different approaches*

One of the major problems that faced the team of experts was the request expressed by local inhabitants of the surroundings villages (and basically 'Arnun) to "rebuild" the castle the way it was before the recent wars in Lebanon (1975–2000).

If one can say that the destruction due to the last war is tremendous, one could also understand that a complete reconstruction of the destroyed parts would jeopardize the authenticity of the monument. The team had therefore to analyze each part of the castle in order to define different approaches one should have regarding this matter.

Three cases are presented in this paper. They illustrate the different approaches one could follow.

- The ayyubid rectangular tower in the lower castle. Here, a complete conservative approach is adopted. It is limited to the cleaning of the dismantled parts in addition to consolidation of very small parts.
- The building -H- at the northern edge of the lower castle. Here, a conservative / consolidative approach with dismantling and rebuilding of unstable parts is adopted. Strengthening of other parts using modern

techniques has also been adopted when no other alternatives were possible.

- The dungeon in the upper castle. Here, a conservative/restorative approach is adopted. The reconstruction of completely destroyed parts of the dungeon is foreseen.

The structural assessment methodology is based on a two steps procedure:

- a. The preliminary assessment which is based on visual analysis and evaluation of risks and obvious diagnostic of problems
- b. The detailed assessment made on structural behavior, monitoring, and graphical analysis of forces; see in Fleiden (2003) 30–35, 40–42, in Brenda (1993) 44–48.

Note that no finite elements analysis was performed on the castle because of the great difficulties encountered in the modelling and the schematisation of the building. Croci (1998) 199–245.

5.2 *The ayyubid rectangular tower (Fig. 6)*

This ayyubid rectangular tower was partially destroyed in the year 1982 after an airplane bombardment. The result of the shelling was the complete destruction of one vault of the upper and the lower floor, and



Figure 6. The ayyubid rectangular tower in 1947 after DGA documentation fig. 121a; and in 2003 © J. Yasmine.

partial destruction of other surroundings walls and vaults.

It was obvious that this destruction allowed the clear understanding of the construction technique, the integration of the tower in the natural slope of the cliff and the strategic importance of the castle set up in its environment. From many points of view, the conservation of the current destruction was appropriate in opposition to the restoration of the previous original status. Our major concern was the current structural behaviour of the tower. A structural assessment was therefore undertaken.

- *Preliminary structural assessment*; it shows that some voids resulting of the shelling should be filled with masonry coherent with the historical construction techniques. The eastern elevation has unstable parts of walls resulting of the shelling. The foreseen actions consist of stabilizing the walls and other structures of this tower.
- *Detailed structural assessment*; a conservation of the current status of this tower is not possible if the analysis of its structure, as it is today, does not show that it is 100% stable.

The graphical analysis of forces in the building shows that the tower is stable if the partially destroyed



Figure 7. Building H in 1935 © IFPO doc. no. 20384; and in 2003 © J. Yasmine.

vaults are consolidated in their current status. The foreseen intervention is therefore finalized as follow: consolidation of the dismantled and the weak parts of the walls and vaults; restoration of the small gaps and voids in walls and vaults; implementation of discreet handrails to secure tourists visits.

5.3 The building -H- (Fig. 7-8)

The building -H- is a complicated building with many historical strata overlapping. It seems that some layers are of the Ayyubid / Crusaders period while the main building is Mamluk.

This building was not hit by direct shelling during the last war. Nevertheless, it suffers of major structural problems. The preliminary structural observation shows out of plumb on the two elevations facing the valley (the North and the East elevations). It is therefore essential to undertake an accurate assessment of the cracks and other structural problems one can

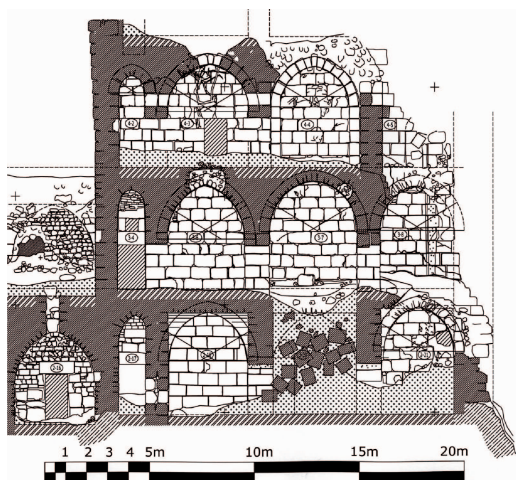


Figure 8. Building H. Current status section (N-S).

identify on this building. The results of the graphical analysis of forces show that the stability of the upper floors is weak. Some vaults are partially damaged and their integrity should be restored. The main problem is the foundation on the rock of the building; the wall thickness has been partially destroyed and the edge of the building over the valley is weakening little by little. This is the main cause of the instability of the whole building. The consolidation and reconstruction of the wall bases is recommended.

On the other hand, the graphical analysis of forces shows that some parts of the upper floors are still unstable and cannot be consolidated in a traditional manner (they would need the addition of big walls and buttresses of which we have no documentation). These problems are solved by proposing wall micro piling and inserting resin fibre/stainless wires with calcic lime mortar injection. The introduction of modern techniques and materials in the conservation works has been limited to cases similar to this upper part of building -H-. It was very important from a philosophical point of view to solve the structural problems by using traditional techniques and material. It is easier for DGA to find contractors dealing with local techniques and materials. This is foreseen in the major interventions on the castle.

5.4 The Dungeon (Fig. 9–10)

The two first cases do not respond to the requests of local inhabitants. No major reconstructions are foreseen. The authenticity of the historical construction is preserved.

In this third case, it is not possible to avoid the restoration task. The dungeon of the castle is important



Figure 9. The skyline of the castle from West and the foreseen restitution of the dungeon. 2000 © J. Yasmine.

from many points of view. In the visual memory of the place, the dungeon was the main tower of the castle. People coming from *Arnun* towards Beaufort identify the castle according to the skyline of its upper part (and mainly thanks to the presence of the dungeon) (Fig. 9). This is the main reason for which the restoration of the dungeon is considered. On the other hand, the available historic documentation, and the presence on site of many dismantled blocks that are still in good condition make this restoration possible. The aim is not to reconstruct the whole dungeon; what is foreseen is just the restoration of the status of the year 1975 before the bombardment. The old photos showing the elevations of the dungeon before its destruction are ortho-rectified. The restoration project is designed in accordance with this documentation. Some very limited additions on this status, for consolidation purposes, are tolerated.

Another important reason for which the restoration project is recommended is the very bad structural behavior of the dungeon current status. The remains are unstable and the free standing walls are today about to collapse (Fig. 10).

Restoration works in Beaufort castle project are foreseen in very limited areas. The reason is the preservation of the maximum authentic component of the castle. The restored elements are: the dungeon, the main gate (gate C), of the upper castle and the vaulted hall in the lower castle. These three features are key elements of the castle. They are very well documented. These elements shall constitute very important components of the tourist's path. They are restored to be used for presentation purposes. In addition to these important reasons, the current structural status of these elements is comparable to the dungeon. It is therefore very important to restore these structures as they were before their destruction. A limited conservation intervention would not be sufficient to ensure a sustainable maintenance of these historic components.

Other restoration works are very limited elsewhere in the castle. Only voids and gaps in vaults and walls are restored in order to consolidate their current structural status.

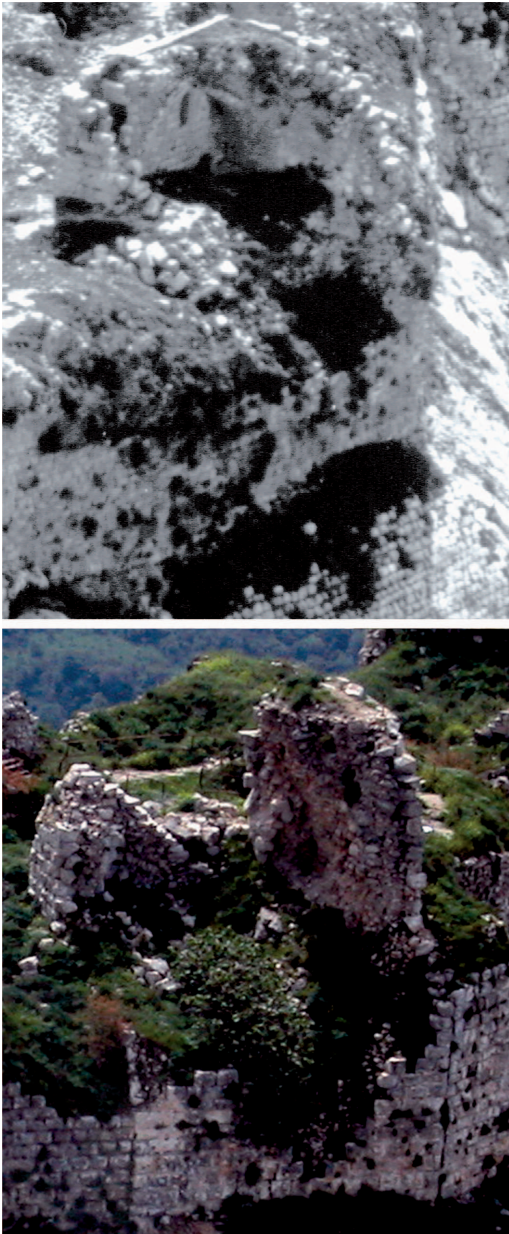


Figure 10. Dungeon in 1936 © IFPO doc. no. 20411; and in 2003 © J. Yasmine.

6 CONCLUSION

The Beaufort Castle project is one of the major cultural project in South Lebanon. It is important for

Lebanese authorities to ensure the preservation of the castle authenticity. This is also the reason for which a conservative approach is preferred to a restorative one. Conservation works are spread in all castle levels while restoration/reconstruction works are confined in small parts. The parameters that help us to define the limits of the different approaches are:

- the structural behaviour of the partially destroyed elements of the castle,
- the presence or absence of a documentation dated prior to the destruction,
- the significance of the destroyed parts / conserved parts and their value with respect to the monument,
- the presentation aspects of the castle and the consistency in undertaking the selected actions.

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