

A COMPARATIVE ANALYSIS OF
BELVOIR (KAWKAB AL-HAWA) AND
QAL'AT AL-RABAḌ ('AJLUN CASTLE)*

by
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1. Introduction

This study is a comparative analysis of Belvoir (Kawkab al-Hawa), located near Tiberias in Palestine, and Qal'at al-RabaḌ ('Ajlun Castle) in the northern part of the East Bank of Jordan. Specifically, it purports to analyze, compare, and contrast the two castles. The central hypothesis is that their architecture can be traced back to a specific group of architectural schools. The analysis presented relies mainly on the compilation of raw data — history, characteristics, and floor plans. It is also based on the comparison of similar and dissimilar characteristics between the two castles and between each of them and their historical architectural origins. A number of sources were used to compile the data, including first-hand observation of Qal'at al-RabaḌ (Belvoir is located in Palestine and is currently off limits to unauthorized personnel; hence, we were unable to complete a personal observation of the site).

Previously published research on Qal'at al-RabaḌ is limited (*cf.* especially Johns, 1931; Zayadine, 1987 in addition to some other sporadic references to the castle).¹ One finds a little more information on Belvoir (e.g. Rey, 1871; Lawrence, 1936; Stevenson, 1968; Runciman, 1979) as it was a Crusader castle and is still fairly well preserved. However, Belvoir has received no where near the attention given to other Crusader castles such as Crac de Chevaliers, Chastel Pelerin, and others. Previous studies have analyzed the evolution of military architecture (Runciman, 1979) and Crusader castles (Rey, 1871; Lawrence, 1936; Fedden, 1950). They focus more specifically on the most import-

ant ones of the period and well preserved ones of today, and other important examples of military architecture in other areas of the Middle East (e.g. the citadels in Aleppo and Cairo and the gates of Cairo).

2. Belvoir (Kawkab al-Hawa)

Belvoir was built on a promontory overlooking the Jordan Valley around 1180 by the French Crusader Order of Hospitalers who built in the Byzantine style and leaned more than other Crusaders toward Eastern arts. The Crusaders named it Belvoir, i.e. "beautiful view", probably to reflect the beauty of the surrounding countryside. In Arabic, Kawkab al-Hawa means "the star of the air"; in Hebrew, it is commonly referred to as Kochav Ha-Yardeen, i.e. "star of the Jordan".

Belvoir is located on the western side of the Jordan Valley, opposite 'Ajlun Castle, between Tiberias and Beisan (Johns, 1931:23). It was one of a group of French Crusader castles around Tiberias and as far north as Beaufort (now in southern Lebanon), all known to have been built in the latter half of the twelfth century as links in the growing chain of French Crusader castles in the Eastern Mediterranean area. Belvoir commanded the direct approach from the Ḥauran to the plain of Bani 'Amer (Stevenson, 1968:256). Zayadine (1987) maintains that Belvoir was built after the Crusaders conquered southern Jordan (Shobak, Wadi Mousa, Aqaba, and Kerak) in the first half of the twelfth century. They, however, were unable to dominate northern Jordan because of the power of Muslim princes of Damascus. Lawrence (1936:39) and Fedden (1950)

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1. See for example Department of Antiquities 1973; Stevenson 1968; Yousef Darweesh Gawanmeh 1979.

agree that the French Crusader castles were among those fortresses exhibiting the least modification of the basic Byzantine pattern (rectangular floor plan with square corner towers, shallow salients in the curtain wall, a single square isolated keep, and a rock moat/ditch).

Belvoir was built on a similar plan (Fig. 1). It was constructed of black ashlar stones which were drafted and bossed. Its floor plan is a large rectangular fortification, defended on three sides by the conventional ditch, and on the fourth by abruptly falling terrain. The walls are furnished only with rectangular corner towers, and a single tower of inconsiderable salient in the centre of the curtain walls. The foundations of what was apparently an isolated keep are visible in the centre of the enclosure.² The only features which reveal careful defensive planning are the three posterns and the main entrance. The latter incorporated at least two right-angle turns,³ and the inner gate was reached up a vaulted passage (Fig. 1).

Recent excavations at Belvoir exposed all the remains of the castle. Subsequently, an extensive programme of restoration and reconstruction was undertaken. Stones uncovered during the excavations were used in the restoration programme.⁴

Ben-Dov and Minzker (1968) discovered that Belvoir consisted of an external fortification and an internal one. The internal fortification comprised a 21 x 21 m. internal hall with walls as thick as 3 m. The hall was surrounded on all sides by vaulted rooms, 40 m. long and 6.8 m. wide. The walls of the north and south rooms had three arrow slits each; those of the east and west rooms had two arrow slits each. In the ruins of the second floor were found sculptured stones, fragments of marble columns, a table made of basalt, and a cross made of bronze. They are believed to

have belonged to a church which existed on the second floor. Each of the four angles had a 10 x 10 m. square tower with arrow slits on each wall. The walls of the towers were three metres thick.

The external fortification was similar to the internal one but was, in addition, surrounded by a ditch on three sides. It had towers on three angles (south, north, and west) and a central tower.

Belvoir was abandoned by its defenders in 1188 after a one and a half year siege. In 1218, the Ayyubid governor al-Malik al-Mu'azzam ordered the destruction of the castle. During part of the time between these two dates, the area of the castle was occupied by farmers and nomads from the surrounding areas.

During the excavation, pieces of pottery, iron utensils (including ploughshares), and a great quantity of carbonized grains were found (Ben-Dov and Minzker, 1968).

3. Qal'at al-Rabaḍ ('Ajlun Castle)

Qal'at al-Rabaḍ is considered one of the great examples of Islamic military architecture. It was built on an elevated hill (1100 meters above sea level) in 1184-85 by 'Izz al-Din Usamah, one of Ṣalāḥ al-Din's ablest generals (Johns, 1931). The name is derived from the Arabic word *rabaḍ*, which means an elevated hill, difficult to climb. The name '*Ajlun* may have been the name of a monk who lived on the same hill and inhabited a castle or a monastery dating back to the Roman or Byzantine period (Johns, 1931:24). Some scholars (*cf.* for example Zayadine, 1987) maintain, however, that the name is of Canaanite origin and that one of the Moabite kings had this name in the twelfth century B.C. Nevertheless, the existence of a cross on one of the architraves and a Byzantine Greek inscription corroborate the hypoth-

2. However, Lawrence (1936) disagrees with Fedden (1950) and Rey (1871) on their assertion that Belvoir contained a keep (only scanty remains are found). The studies of these scholars need to be complemented with further research. The work by Fedden has the advantage of being the most recent.

3. Fedden (1950:26) credits the Arabs with the reintroduction of the bent entrance, a defensive feature of great antiquity. He also asserts that the bent entrance found its finest expression in the Arabs' great gate at the Citadel of Aleppo.

4. *Cf. National Parks Authority Bulletin*, Israel, for more information.

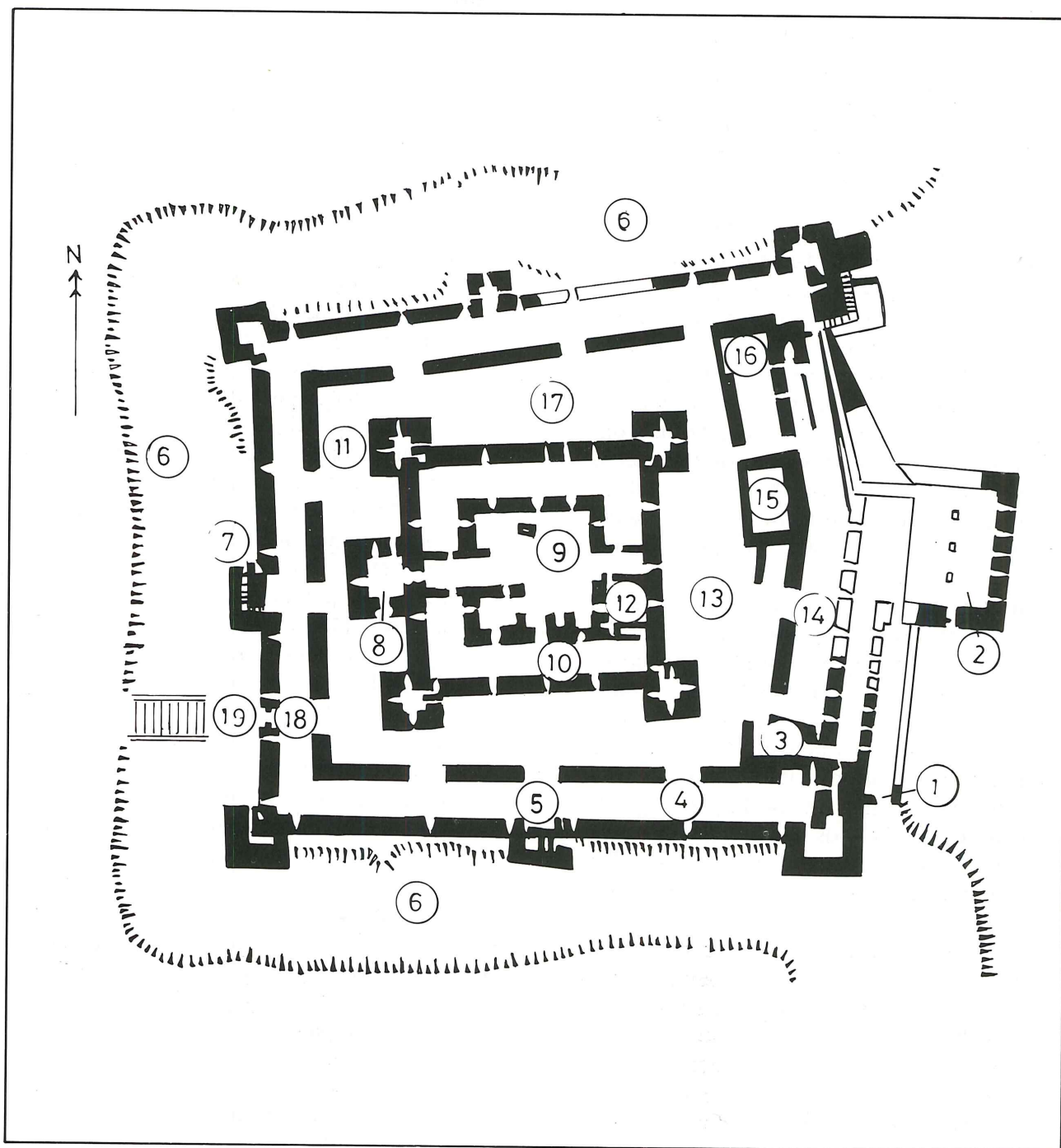


Fig. 1. Plan of Belvoir (Kawkab al-Hawa) (after the *National Parks Authority Bulletin*, Israel, no date).

- | | |
|-------------------------|------------------------|
| 1 outer eastern gate | (refectory) |
| 2 outer eastern tower | 11 inner corner tower |
| 3 eastern inner gate | 12 kitchen |
| 4 southern vault | 13 eastern court |
| (stores and stables) | 14 eastern vault |
| 5 postern gates | (stores and stables) |
| 6 moat | 15 outer water cistern |
| 7 postern gate | 16 bath |
| 8 western inner gate | 17 northern gate |
| 9 central court | 18 outer western gate |
| 10 southern inner vault | 19 bridge |

esis of a monastery at the site.

Situated on a spot overlooking the Jordan Valley 1500 meters below, Qal'at al-Rabaḍ dominates the valley which leads up to the Jordanian plateau. In addition, this castle commands views of Mount Hermon (Jabal al-Sheikh), the Galilee mountains, Lake Tiberias, Mount Tabor, the hills surrounding Jerusalem and Nablus, and, finally, the Saḥ mountains to the south (Johns, 1931:24). It is one of the few Arab castles dating from the Crusader period. "The chief purpose of this fortress was to check the expansion of the Latin Kingdom in eastern Jordan, both from Kerak in the south and from Beisan across the Jordan Valley to the west, and to maintain easy communication with Damascus."⁵ This castle was built specifically as a direct retort to the new French Crusader castle of Belvoir on the opposite side of the valley (Johns, 1931:23). In general, it served the double purpose of deterring the French Crusaders from raiding southern Syria and checking Reginald of Kerak, who was actively harassing the pilgrim caravans on their way to the Muslim Holy Cities in the Hijaz (Fig. 5). Zayadine (1987) adds a different objective for the construction of this castle. He maintains that after the European countries tried to impose an embargo on the exportation of metals to the Arabs, 'Izz al-Din Usamah, who was the governor of Beirut and who supervised the iron mines in Ba'abda, was brought to the iron-rich 'Ajlun mountains to help extract this metal, needed for the manufacture of weapons. Zayadine affirms that excavations at Magharet al-Wardeh near Rajib, 15 kms. south-west of 'Ajlun, confirm this conclusion (Coughenour, 1976).

According to Johns (1931), the position of the castle was well-chosen. However, unlike other mountain castles, 'Ajlun is accessible by an easy slope on all sides. Elsewhere, a rock promontory, protected by cliffs on one or more sides, was almost always chosen. Since no such position was found in 'Ajlun, 'Izz al-Din Usamah chose a high point and then isolated it by surrounding it with a fossé cut in the rock.

The original floor plan of Qal'at al-Rabaḍ (Fig. 2) consisted of a rectangle with four square towers (1-4 in Fig. 2) and an entrance protected by a machicoulation with two corbels on the south side between towers 1 and 4. This entrance is still in use and leads to a rectangular enceinte.

After the battle of Ḥaṭṭin,⁶ the towers 7 and 8, and, probably, the fossé⁷ around the castle, which is 20 meters wide and 10 meters deep, were added. These and a new entrance (14) to the castle were built by Aybak Ibn 'Abdullah, one of the leaders of al-Malik al-'Adil. This entrance is still in use and has carvings of pigeons cut on its arch.⁸ Tower 7 carries the inscription in Arabic: "In the Name of God. This blessed tower was built by Aybak Ibn 'Abdullah, Master of the Greatest House, in the months of the year 611" (1214-15 A.D.).

Tower 12 in the southwest corner was built in 1262-63 during Baybars' reign by Prince 'Izz al-Din Aybak and carries an inscription that refers to him (Fig. 3). The inscription in Arabic reads: "It was made in the days of our Lord, al-Sultan al-Malik al-Zahir, the Pillar of the World and Religion, Baybars al-Ṣāliḥ, may God increase his esteem in the eyes of the poor slave, begging for God's pardon and forgiveness, the King of Princes, 'Izz al-Din Aybak, this twentieth day of Sha'ban in the

5. See Department of Antiquities, 1973:49-50.

6. The battle of Ḥaṭṭin occurred on 4 July 1187 at Ḥaṭṭin near Tiberias. In this battle, Ṣalāḥ al-Din defeated the Crusader Army of Jerusalem decisively and executed the Crusader Reginald of Kerak who in early 1187 had broken a truce with the Arabs by attacking a caravan which was travelling to Damascus from Cairo. The battle opened the way for the Arabs to recapture Jerusalem.

7. See Pl. XLII,2, for a photograph of the fossé.

8. See Pl. XLIII,1 for a photograph of pigeons on the arch of the main gate. This is an example of the type of creative craftsmanship Arab masons were capable of when not engaged in strictly military construction. It may be of interest to know that messages could be transmitted from Baghdad to Cairo in twelve hours by pigeon using Qal'at al-Rabaḍ as a relay point. Messages could also be transmitted by signalling with beacons (see section 4).

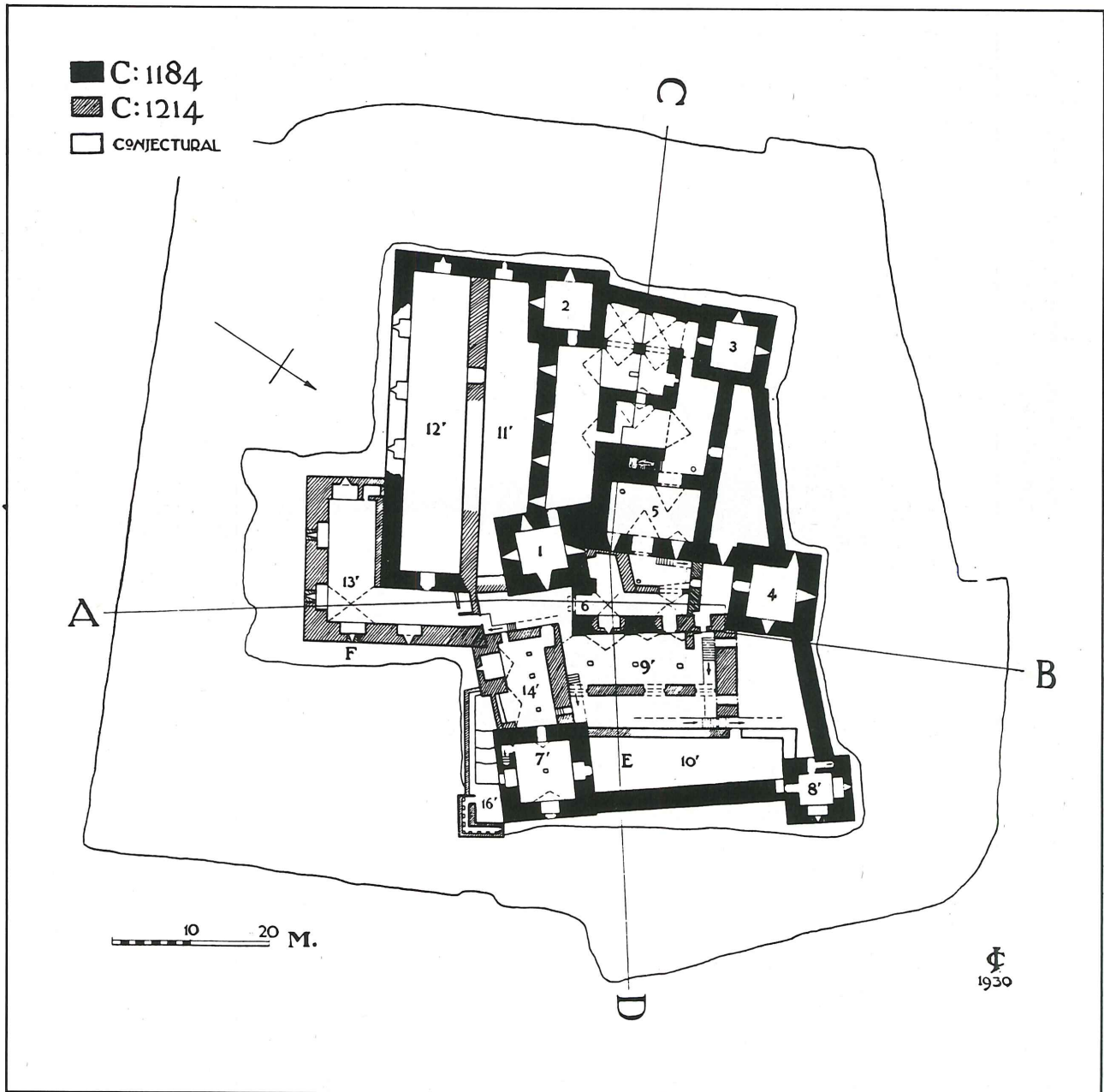


Fig. 2. Main floor plan of Qal'at al-Rabaḍ (after Johns, 1931).

year 659.” The northern tower was restored by Sultan al-Nasser Ṣalāḥ al-Din, probably between 1250 and 1260 as an inscription without date on this tower indicates (Pl. XLIII,2).

The main entrance that is now in use is on the southeastern side; it was built by Aybak Ibn ‘Abdullah. It had a movable bridge,⁹ probably also built by Aybak Ibn ‘Abdullah as a result of the digging of the

fossé referred to above. The bridge was restored by the Department of Antiquities of Jordan in 1980. The castle itself, which had been struck by two strong earthquakes in 1837 and 1927, was restored in the 1960s also by the Department of Antiquities.

4. Development of the Military Architecture in Both Castles

Aspects of military architecture in this

9. See Pl. XLIV,1 for photograph of movable bridge after the 1980 restoration. This bridge was built over moat-fossé piers. This type is

considered militarily superior to the drawbridge (which Belvoir had).



Fig. 3. Inscription of Sultan Baybars dated 1262/1263.

period and place (the Crusader Kingdoms/Holy Land) remain highly controversial as to the architectural origin and heritages of both the Crusader castles and the Arab fortresses. One notices a proliferation of these fortifications linked in a chain beginning at the northernmost link of Saone (in northern Syria) and continuing southward until Ile de Graye in the Gulf of Aqaba. Considering the vast number of castles, one begins to wonder why any one would build fortifications on such a large scale.

The First Crusade, whose primary goal was to secure the Holy Land, entered Greater Syria in 1097 in order to establish a Latin Kingdom in "the territory, comprising from south to north the Kingdom of Jerusalem, the County of Tripoli, the

Principality of Antioch, and (for a bare fifty years) the County of Edessa, which was from four hundred to five hundred miles long, but, except in the extreme north, it was dangerously narrow, being rarely more than fifty to seventy miles across." (Setton, 1969:15, Vol. 1). In addition, this coastal Kingdom was flanked on its desert sides by the powerful Muslim cities of Aleppo and Damascus.¹⁰

In addition to an open flank, lack of manpower and the inability to maintain large garrisons further prompted the Crusaders to build castles (Runciman, 1979:370). Reasons for the manpower shortage included the long travel distance from Europe to the Middle East, climatic considerations (many soldiers died from

10. See Fig. 5. Notice also that Fedden (1950:11-12) maintains that had the Crusaders turned east and captured Aleppo and Damascus, for which a possibility existed in 1097 due to division in the enemy camp and a relatively large force at their disposal, before pushing down the coast to Jerusalem, they might have been able to keep the Holy Land. With these two key Syrian towns

in their control, the Muslim World would have been cut in two, i.e. Baghdad and Cairo would have been no longer in effective communication. In addition, the Crusaders would have controlled an eastern frontier of up to three hundred miles of waterless desert where no hostile army could operate.

the heat), and commanders taking men away from the main contingent and setting up their own feudal domains in the new areas. Because the Crusaders lacked reinforcements from Europe, their only other viable alternative was to fortify themselves in easily defensible castles. Although formidable enough as isolated units, these fortresses acquired additional strength by being linked in an elaborate system of communication, both by carrier pigeons and signalling.¹¹ It is probable that the Crusaders were influenced by Eastern practice: the Arabs were expert in the use of the first; the Byzantines had made much use of the second. Again due to shortage of manpower, the Crusaders could not spare scouts to carry messages (Runciman, 1979:370). All of the castles (Arab and Crusader) were situated so that intercommunication was possible over an extraordinarily wide area between the different networks. Finally, they were distributed geographically (i.e. some areas needed more castles than others due to visibility or strategic factors). Some geographical characteristics, e.g. mountain top positions and easily defensible areas, were chosen for obvious reasons.

All these conditions, especially the condition of numerical inferiority, dictated the need to build defensive structures. With this defensive logic in mind, the Crusader fortifications were constructed to: 1) fortify the pilgrim route to Jerusalem and ensure the safety of the pilgrim traffic from the coast; 2) fortify the coastal towns, which were their link with the West; 3) build strategic inland castles to guard the

open flank controlling vital passes and fords.

Reciprocally, the Arabs responded by taking offensive measures against the Crusaders when they began harassing the Muslim pilgrims (i.e. the Battle of Ḥaṭṭin) both by building castles of their own in retort to the Crusaders' fortresses, and by capturing and using Crusader castles (often making additions). Belvoir was captured by Ṣalāḥ al-Din on 5 January 1189, and two towers were added under Baybars' rule.¹²

Both castles (Belvoir and Qal'at al-Rabaḍ) have rectangular floor plans and are surrounded by rock moat/ditches (Belvoir on three sides only, the fourth side being an escarpment). Both these characteristics are of Byzantine origin. However, whereas Belvoir's rectangular towers deviated from the Byzantine model, al-Rabaḍ's followed it. In terms of the comparative lines of fire, it should be noted that the greatest effectiveness is attained by firing arrows through arrow slits of round towers, with square and rectangular towers increasingly less effective (see Fig. 4 for illustration).¹³ Furthermore, Belvoir is constructed of bossed stones which are less defensible than flat cut stones (as at al-Rabaḍ) because bossing creates notches for an enemy to climb and use ladders to scale the walls. In addition, Belvoir had a drawbridge while al-Rabaḍ had a movable bridge on its moat pier (usually considered an improvement over the drawbridge). Both contain some vaulted ceilings although Belvoir was limited in the number of tower storeys; it could build to only two.

11. Al-Rabaḍ, in true Arab tradition, relied mainly on carrier pigeons to transmit messages. Pigeons could operate under almost any conditions, whereas signalling by beacon (employed by Belvoir) depended upon clear weather conditions.

12. These two towers no longer exist today. Fur-

thermore, we could find no source which mentioned the two towers' exact, or even approximate, location.

13. Fig. 4 is our interpretation of Fedden's (1950) term, 'comparative lines of fire' (he limited the application of his term only to round and rectangular towers).

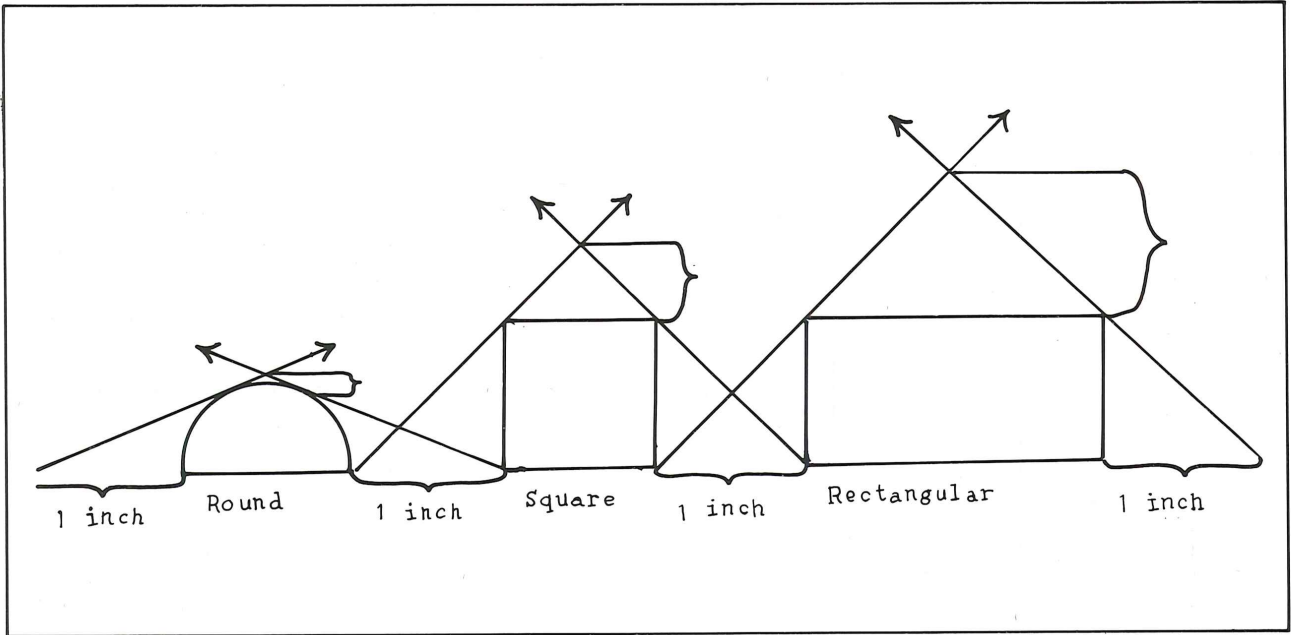


Fig. 4. Comparative lines of fire from round, square, and rectangular towers (in descending rates of effectiveness, from left to right).

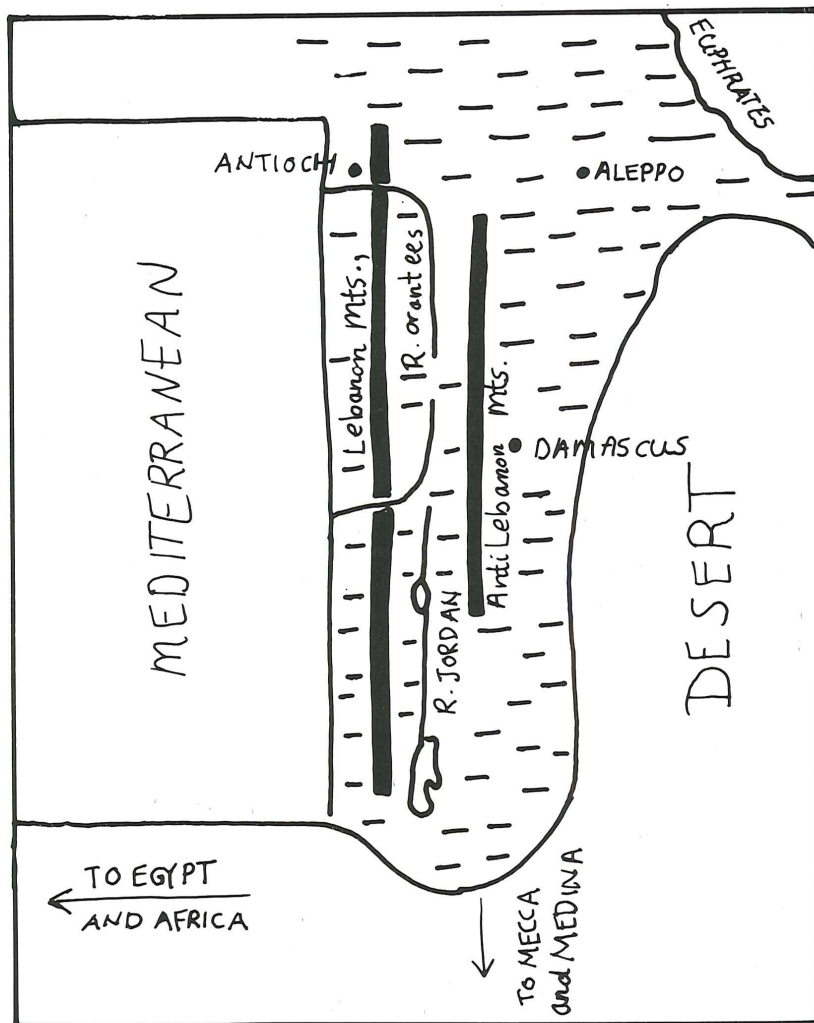


Fig. 5. Fertile and semifertile land (after Fedden, 1950:12).

The Arabs, through the use of corbelling,¹⁴ could erect three-storeyed towers. Finally, we see that al-Rabaḍ had more effective arrow slits¹⁵ (and towers from which to fire) because they extended all the way to the floor and because of the presence of a machicoulation (which Belvoir lacked), a defensive architectural feature devised to prevent the enemy from storming the main gateways and entrances.

Conclusion

We may conclude that the architectural origins of Qal'at al-Rabaḍ were Byzantine and Arab (Runciman, 1979). Belvoir borrowed from Byzantine and Arab sources as well (including the choice of geographical area and the ideas of Arab

craftsmen). However, Arab ingenuity employed its choice and application of architectural techniques in a more skillful and effectual manner than the French Crusaders, who were limited by their European experiences and the defensive posture that their circumstances in the East Mediterranean area dictated. Defensive strategy may win battles, but it is offensive strategy which wins wars. It was their offensive strategy coupled with their superior architecture and manpower that enabled the Arabs to emerge victorious.

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14. Corbelling is the use of cantilevered ceiling and roof supports designed to carry stone or wooden beams. However, unlike the simple vaulted ceiling of Belvoir, al-Rabaḍ employed corbelled ceiling supports. These supports eliminated the need to erect elaborate scaffolding and to cut finely dressed and precisely curved blocks. Corbels could hold a considerable load without cracking and were held in place by the weight of the walls of the floors above. The length of the stone ceiling beams placed on the corbels was limited to about three meters. The result was a rather narrow room of indefinite length. Thus,

we can visualize how al-Rabaḍ was able to contain three-storeyed towers with all of their inherent advantages over the mere two-storeyed towers of Belvoir. Furthermore, to create larger halls, well-constructed arches five to ten meters in width were used. Finally, a row of these transverse partitions could be used to create a hall-sized space.

15. See Pl. XLIV,2 for a photograph of an example of al-Rabaḍ's arrow slits. The greater firing mobility which their extension all the way to the floor permits is an obvious improvement over Belvoir's shorter slits.

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