

THE SECOND SEASON OF EXCAVATIONS AT HALLABAT, 1980

I
by
Ghazi Bisheh

The second excavation season at Qasr al-Hallabat began September 20th and ended October 15th, 1980¹. The goals set for that season were as follows:-

1. To continue the clearance of the two rooms in the southeastern corner of the castle (nos. 3 & 4) Fig. 1.
2. To investigate the walled enclosure situated approximately 400m. to the west of the castle in order to discover evidence pertaining to its function and date.
3. To uncover additional Greek inscriptions for the forthcoming publication of a corpus of Latin and Greek inscriptions in Jordan. These inscriptions which formed part of the edict of Anastasius, were engraved on basalt blocks of stone and incorporated as building stone in the Umayyad reconstruction of the castle.²

The Castle

The visitor to whom we owe the great part of available information about the castle is H.C. Butler. He visited the site in 1905 and 1909 and made plans of the castle and the adjacent mosque³. Butler's plan of some 75 years ago is basically correct, but a number of minor modifications were introduced in the new plan (Fig. 1). For ins-

tance there are only two rooms, not three, (17,18) on the east side of the inner courtyard (court 2). Of these two rooms, the smaller one (18) seems to have served as a kind of vestibule leading into the inner structure. Furthermore, rooms 3,6,10,12 and 24 do not seem to have transverse arches as indicated in Butler's plan. One intriguing question presented itself while clearing room 4 concerning the height of the roof and the existence of a second storey. Assuming that the height of the transverse arches will be half the width of the room plus the height of the impost block from which the arches sprang, we arrive at the figure 5.15 m. for the height of the arches, provided that they were semicircular⁴. Unfortunately no roofs or upper floors remain, but the indications are that the roofs were flat and not all at the same level. The implication is that the castle was not two stories high, but rather that the roofs were provided with low parapets and were used as outdoor sleeping spaces during the hot summer nights. This point, however, still needs further investigation. The roof was reached by a flight of stone steps, the remains of which can still be seen in the northeastern corner of the courtyard.

The clearance of the two rooms in the southeastern corner (3 & 4) yielded pottery sherds and carved stucco fragments characteristic of the Umayyad period, similar to those which came out of the excavations

1) I would like to express my sincere thanks and gratitude to architect Suzan M. Balderstone who did all the plans and drawings with a devotion much beyond her duties. I also like to thank Prof. Jean MARCILLET - JAUBERT of Lyon university who has constantly been willing to share his knowledge of the site and the Greek inscriptions. A special debt is owed to Mr. Hussein al-Yamani who took care of all details of organization and of the daily running of our work.

2) G. Bisheh, "Excavations at Qasr al-Hallabat,

1979," *ADAJ*, vol. XXIV (1980) PP. 69 f.

J. Marcillet - Jaubert, "Recherches au Qasr el-Hallabat," *ADAJ*, vol. XXIV (1980) PP. 121-24

3) H.C. Butler, *Ancient Architecture in Syria*, Div. 2, Sect. A (Leyden, 1909) PP. 70.77; Appendix PP. XVII-XIX.

4) Room 4 measures 8.37m. long and 7.12m. wide. The height of the impost block from which the arches sprang is 1.50 m.

carried out in the spring of 1979.⁵ An interesting feature of these two rooms is the survival of original timber, both in the door-sills of the entrances leading to room 3 and to the passageway (2) (pl. XXXV No. 1-2) as well as a beam inserted between the two lintel stones of the doorway which opens into the southeastern tower (1). In addition to these timbers a few delicately carved wooden fragments were recovered⁶ (pl. XXXVI No. 1-3). They are decorated with floral motifs based on the vine scroll and acanthus leaves.

The most surprising discovery was a complete lamp found in room 4 under several meters of fallen stones and debris (Pl. XXXVII No. 1-3). Two molds were used for the lamp: one for the upper half and another for the lower half; the two halves being separated by a ridge. The shape of the lamp is oval, pointed at the nozzle's end. The central filling hole is surrounded by a narrow circular channel which opens into a straight trough extending to the wick hole. The area around the filling hole and the trough is decorated with half volutes each containing a circle. On each side of the upper part is a dove, a fish, and a cross with circles between its four arms. On one side, however, the circles terminate the four arms of the cross, and a tree (palm branches?) is added between the cross and the fish. The rest is decorated with wavy lines and vertical strokes. The handle is tall, cur-

ving, and terminates in a mutilated animal head⁷. Thumb impression is still visible on the upper part of the handle which indicate that it was finished off by pinching. The sides of the lower part are decorated with alternate circles and palm branches. The base is oval pointed and decorated with a chalice within which is a schematically represented sequence of fish carved in low-relief. A similar red pottery lamp was found in the side Stairway of the Fountain Court in Jearsh and was assigned to the Byzantine period.⁸ The decorations on the lamp bear obvious christian connotations, but these are not sufficient justification for a Byzantine date. A similar lamp type was found in abundance at Jerash, two with kufic inscriptions. One lamp, which had a cross on the base, was signed by Theodoros and made in A.H. 125 (A.D. 741-42).⁹ Another lamp signed by Ibn Hassan, also of the year A.H. 125, is typologically similar to our lamp; it has a kufic inscription, together with two or three birds.¹⁰ A third lamp, also excavated at Jerash and decorated with birds and fish, bears two inscriptions: one in Greek and another in kufic written in reverse.¹¹ These few examples show that both in type and in decoration there are stylistic affinities between some of the lamps excavated at Jerash and the one uncovered at Hallabat. The presence of Christian symbols or Greek inscriptions on these lamps merely indicate the tenacity of Byzantine

5) Bisheh. *Op. cit.* PP. 71-72; PLs. XLIX-L.

6) Those carved wooden fragments and the complete lamp were recovered from Room 4 during the three-week Excavations carried out in the spring of 1980. I am grateful to Prof. Jaubert and Mr. Abd-Allah al-Hmud for allowing me to include them in this report.

7) Dr. James Sauer pointed out to me that the animal's head was not mutilated, rather that all similar lamp types had the same crude finishing off.

8) M. Avi-Yohan, "Oriental elements in the Art of Palestine in the Roman and Byzantine periods," *QDAP* vol. XIII (1948) Pl. XLI, 7 and P. 144. E.R. Goodenough, *Jewish Symbols in the Greco-Roman Period*, Bollingen series XXXVII P. 163.

I am indebted to Prof. J. Marcillet-Jaubert for this reference.

9) G. Clermont-ganneau, "Le Lychnarion arabe de Djerach," *Revue Archeologique*, vol. XXX (1897) PP. 246-50.

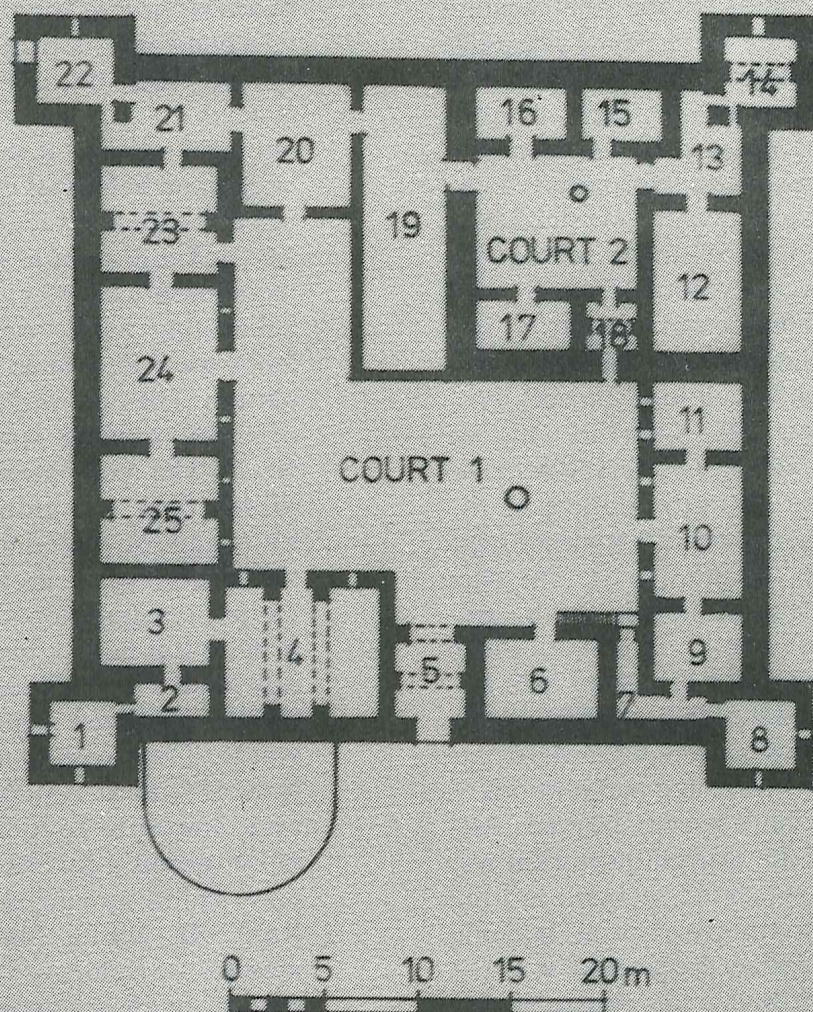
Idem, *Recueil d'Archeologie Orientale*, vol. II (Paris, 1898) PP. 19-21; 47-51; vol. III (Paris, 1900) PP. 283-85, Pl. VII. B-C

The reading of the name "Theodorus," however, is suspect Cf.

P.B. Bagatti, *I Monumenti di Emmaus el-Qubeibeh*, (Jerusalem, 1947) P. 140; Fig 34:1-3. I am grateful to Father Michele Piccirillo for directing my attention to this source.

10) Ronzevalle, "Lampe Chrétienne arabe de Geras," *Mélange de la Faculte Orientale* (Univ. Saint-Joseph, Beirut) vol. VII. PP. 166-69; Pls. XV:3-6; XVI.

11) F.E. Day, "Early Islamic and Christian lamps," *BERYTUS* vol. VII, fasc 1, P. 78; Pl. XIV:1.



Qasr al Hallabat 80.8

Fig. 1

influence well into the eighth-century.

In addition to the carved wooden fragments, stucco, and painted plaster, three crenellations with undercut sides and an eagle with outspread wings carved in the round on a limestone block were recovered (Pl. XXXVIII No.1).

The Mosaics

The two rooms in the southeastern corner of the castle were paved originally with colored mosaics. Considering the size of the fallen stones and the mass of debris found on the pavements, we are fortunate to have portions of the two mosaic floors preserved. In room 3 only two small portions near the entrances are preserved: one in front of the wooden door sill which leads to the room. This design consists of intersecting diagonal rows of dark brown tesserae forming indented squares, each enclosing a diamond¹² (Pl. XXXV No.1). The second portion, which is preserved near the threshold of the entrance leading to the passageway (2), consists of a rainbow matting pattern (Pl. XXXV No.2). The decorative effect depends largely on the gradation of color tones.¹³ Room 4, which might have served as a reception hall, was decorated more elaborately. Unfortunately only a few sections in the southeastern corner, including the surround and portions of the field proper, have been preserved. Although much of the original pavement was destroyed, the preserved sections and the impressions left on the mortar bedding allow us to reconstruct the general layout of the original floor with a fair degree of accuracy (Pl. XXXVIII No.2). The layout con-

sists of a surround 0.75m. wide (Pls. XXXVIII No.3-XXXIX No.1). It is decorated with geometrical patterns based on the interlacing of diagonal squares, circles, and half circles. Within the circles at the points of contact of the diagonal squares are sprigs placed stem to stem.¹⁴ The circles inscribed within the squares are filled with different fruits which include pomegranates, lemons, and another type of citrus fruit.¹⁵ The surround is bordered on the east and west sides by a band of lotus buds enclosed within two double black lines. The rectangular field (6.65x5.25 m.) was divided into circular and oval compartments in the middle; half circles and half ovals were placed along the borders except at the corners (Pl. XXXVIII No.2). These compartments were linked at their points of contact by loops. The bands delineating these compartments and the loops were decorated by a simple plaited pattern. The field was enclosed by a border of black running spirals. (Pl. XXXVIII No.2). The most interesting feature of the mosaic floor is a group of lively animals, birds, and fish placed in the spaces between the interlacing circles and ovals, and in the various compartments. The preserved animals reveal both a high level of technical skill and a remarkable concern for plasticity, animated expressions, and movement. These qualities identify the mosaic floor of Qasr al-Hallabat as one of the finest examples to be found in Jordan. In one of the panels a gazelle with the head lifted up is shown moving slowly¹⁶ (Pls. XXXIX No.2, XL No.1). The hooves, legs, and muscles are clearly brought out. Other anatomical details are depicted by parallel lines along the belly and by an oval on the

12) Similar pattern appears in one of the small rooms flanking the central alcove of both Qusair Amra and Hammam al-Sarakh. Cf. M. Almagro, et-al, *Qusayr Amra*, (Madrid, 1975) Fig. 9.

13) This decorative pattern formed one of the major decorations in the mosaics at Kh. al-Mafjar. R.W. Hamilton, *khirbat al-Mafjar, An Arabian Mansion in the Jordan Valley*, (Oxford, 1959) PP. 334f. Pls. LXXXIII-LXXXIV; XCVII.C

14) At kh. al-Mafjar the sprigs constitute the principal element of decoration on four panels. cf. R.W. Hamilton, *Ibid* P. 333; Pls. LXXXII; LXXXV.

15) In the mosaic excavated on the Mount of Olives in Jerusalem and dated to the end of the seventh and the beginning of the eighth-century, there are pomegranates and other fruits similar to those at Hallabat. Cf. Bagatti, "Scavo di un Monastero al'dominus Flevit," *Liber Annuus*, vol. VI (1955-56) Figs. 5-7.

16) The animal was initially identified as an oryx; but Ms. Ilse Kohler pointed out to me that the Oryx has different and more straight horns. She is inclined to identify the animal as a Dorcas Gazelle (*Gazella Dorcas*).

thigh.¹⁷ A feeling of spatial depth is attained by punctuating the background with small plants. In the oval compartment above the gazelle scene there are two preserved sections. One represents the hind legs of an animal, perhaps a deer depicted within a square; the other is a fish (Pls. XXXIX No.2, XL No. 1) The fish is represented in a lively manner, but the water in which it swims is not depicted.¹⁸ In the area above, to the right of this compartment is a fierce-looking wolf running at full speed Pl. XL No.2). The sense of vigor is enhanced by the piquant expression of the wolf. Above the ferocious wolf is a hare nibbling grape cluster depicted within a square panel (Pl. XLI No. 1). The hare seems to be concentrating intently on the grapes. Its outlines are rather heavy and the anatomical details are brought out by color shading. The motif of a hare eating grapes is common in both late Antique Art and Byzantine mosaic pavements¹⁹. Another hare partially preserved in a half circular compartment in the northeastern corner, is represented running at full speed with its long ears flapping backward (Pl. XLI No.2). In the southeastern corner of the field are two partially preserved animals (Pls. XXXVIII No.3, XLII No. 1). The one on the left may represent an antelope as suggested by the legs and hooves. The animal appears to be dragging his legs slowly in contrast to the leopard which is depicted in an aggressive attitude. In the semi-circular panel between these two animals is a pair of partridges facing each other (Pl. XLII No.2). Their bodies are rounded and fully fleshed; the wings are clearly outlined by dark lines.

Although the legs indicate movement, the birds appear static. Another similar panel in the southeastern corner of the field contains a pair of pheasants placed in a formalized disposition (Pls. XXXIX-XL). Only one of these birds remains. Other animals can barely be traced on the mortar bedding of the mosaic floor:- a prancing horse with the head turned backward, deer, antelope, and fish. As far as we are able to tell no human figures were included in the mosaic decoration.

It is regrettable that the larger portions of the mosaic pavement have been destroyed. Nevertheless, the remaining sections are sufficient to show that the floor was divided into a series of independent spatial units containing animals, and that each unit was meant to be seen separately. The animals do not interact in any way but rather seem to have been placed freely to provide a colorful carpet filled with various animals. It is true that both tame and wild animals were represented, but this is not a hunting scene or a scene associated with rural life; nor is it a variation of the theme of the animal paradise in the Messianic Age (Isaiah 11:6-7) "the wolf shall dwell with the lamb, and the leopard shall lie down with the kid, and the calf and the lion and the fatling together". In a christian context these animals, which include birds and fish as well as tame and wild animals, might be understood as representing the creatures of the air, sea, and land.²⁰ However, we cannot be sure if such a meaning was intended for the mosaic of Hallabat.

In many of the Byzantine churches of Jordan and Palestine we find symbolic pairs

17) It may be noticed that the legs, hooves, and especially the oval pattern on the thigh of the animal are reminiscent of the gazelles in the famous mosaic panel from Kh. al-Mafjar. Cf. R.W. Hamilton, *Op. cit.*
I am grateful to Suzan Balderstone for this observation.

18) The fish motif has a long history extending from the Hellenistic to the Byzantine and later periods. cf. M.E. Blake, "Roman mosaics of the second century in Italy," *Memoirs of the American Academy in Rome*, vol. XIII (1936) PP. 139-54
D. Levi, *Antioch mosaic pavements*, (Princeton,

1947) PP. 596-603.

19) M. Avi-Yohann, "Mosaic pavements at el-Hammam, Beisan," *QADP*, vol. V (1935) Pl. XIV

M. Barasch, "Animal Imagery in the Hanita Mosaics," *IEJ*, vol. XXIV (1974) PP. 225f.; Fig. 2 and references cited there.

20) Such a meaning is spelled out by the inscription which frame the circular medallion in the nave of the Church of Apostles at Madaba finished in 578-89. Ute Lux, "Die Apostel-kirche in Madaba," *ZDPV*, vol. 84 (1968) PP. 106-29.

of animals facing each other, but those differ from what we have at Qasr al-Hallabat both in their symbolism and artistic style. The pictorial realism of the animals at Hallabat differentiates them from the conventional animals of the Byzantine churches, and brings them closer to the animals used in the decoration of private houses in Syria.²¹ Consideration of the archaeological evidence and of the artistic style of the animals indicate that the mosaic pavement at Hallabat was part of the Umayyad reconstruction of the castle.

The elaborate decorations with stucco, mural paintings, and mosaics at Qasr al-Hallabat illustrate a major change in at least one aspect of the building: it no longer functioned as a military structure. This significant transformation permitted the systematic agricultural exploitation of the area. But before we begin discussing the agricultural aspect of Hallabat few remarks need to be made to enable one to understand and geography of the site and how it relates to the agricultural development in the area. Although the castle itself is situated on an elevated knoll commanding a panoramic view on all sides, the greater part of the surrounding area is a plain. Bounding this plain on the west and southwest are low plateaus interrupted by wadis which are dry for most of the year. The long summer draught makes irrigation necessary for most crops except wheat and barley. In an area characterized by the lack of water sources, and limited and unreliable rainfall,²² such irrigation was not possible without devising a reliable system to maximize conservation of rainfall. These adverse conditions forced the inhabitants of the site to rely heavily on stored water in order to support the settled community and its subsistence agriculture. Thus in addition to the huge water reservoir situated to the southwest of the castle, two cisterns were

dug within the castle and another seven were cut into the northern and western slopes of the hill on which the castle stands (Fig. 2). These cisterns are roughly rectangular in shape. They all had plastered sides and a roof to minimize evaporation. In one cistern the roof is supported by a massive square pier. The cisterns were fed by conduits which captured runoff from the slopes above. These conduits, traces of which can still be seen, were actually no more than ditches cut into the slopes of the hill. From these brief remarks it becomes clear that the arid climate and the topographical characteristics of the area largely determined the system of cultivation at Hallabat.

The Walled Enclosure²³

Approximately 400m. to the west of the castle, in a flat area, is a walled enclosure. The total extent of the area is 270m. north to south, by 220 m. along its widest east-west axis. A puzzling aspect of the enclosure is its irregular shape which forms a triangle on the lowest point of the ground elevation at the north side (Fig. 3)

The perimeter wall is poorly built of two rows of rough field stones, the space between the two rows being filled with small stones, earth, and gravel. There is no evidence of a foundation trench, and the wall seems to have been laid directly on the ground surface. The wall is presently one course high, the top of which is 0.30m. above ground level. In some places along the wall line many displaced field stones suggest that at least two additional courses once existed. The existence of a gateway which opens into the enclosure (Cf. below) also argues for the presence of now lost upper courses. The wall line preserves a series of unidentified semi-circular structures of varying sizes which are built on

21) J. Balty *Mosaïques Antiques de Syrie*, (Bruxelles, 1977) PP. 62-66.

22) The mean annual rainfall at Hallabat is less than 100mm. Now and then some rain falls as early as October, but most of it comes in November-April, with the heaviest precipitation occurring

between December and March.

23) The walled enclosure was first noted in June, 1979 during excavations in the castle and the adjacent mosque. It was briefly mentioned in the preliminary report of the first season of excavations. cf. Bisheh, *OP. cit.* P. 70.

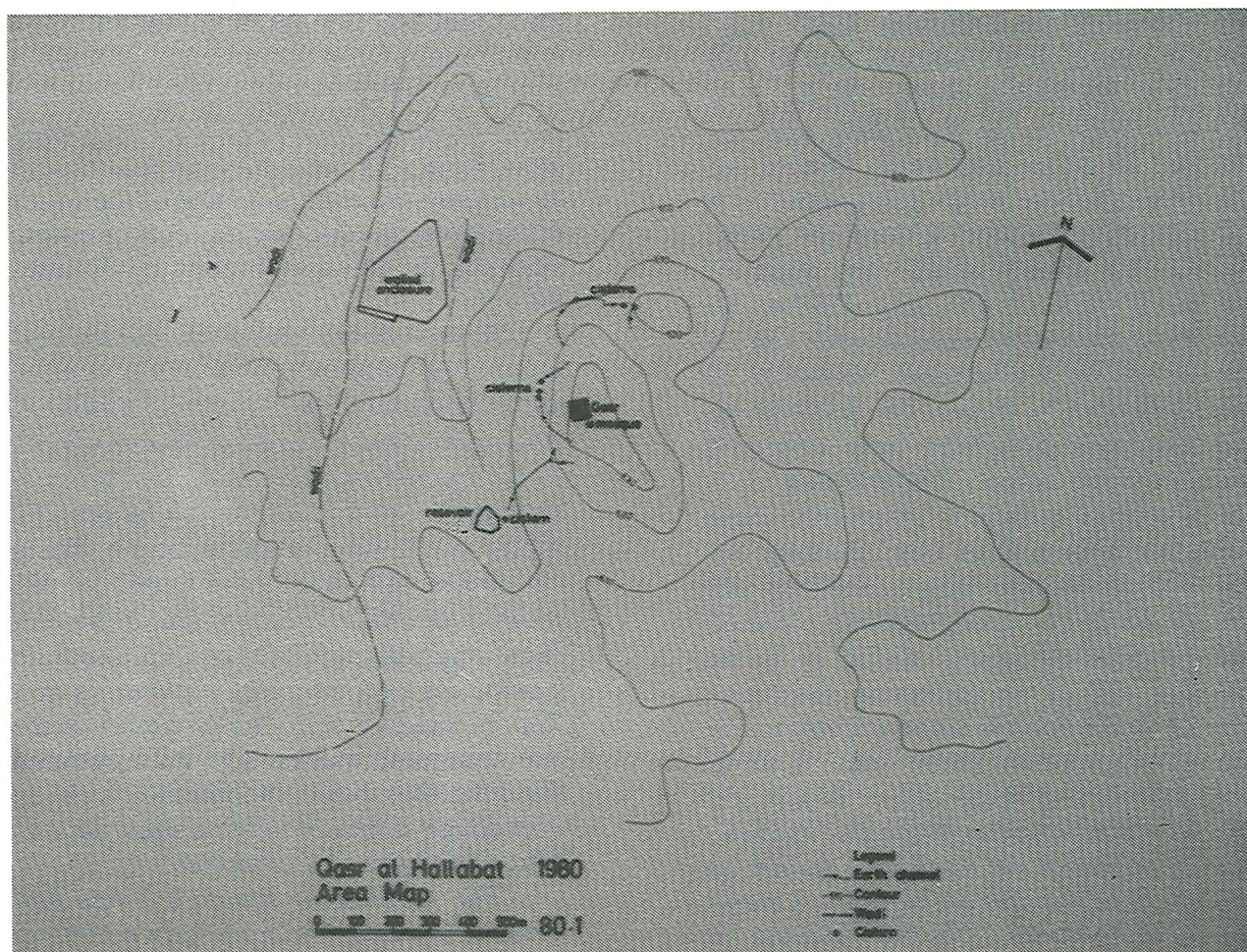


Fig. 2

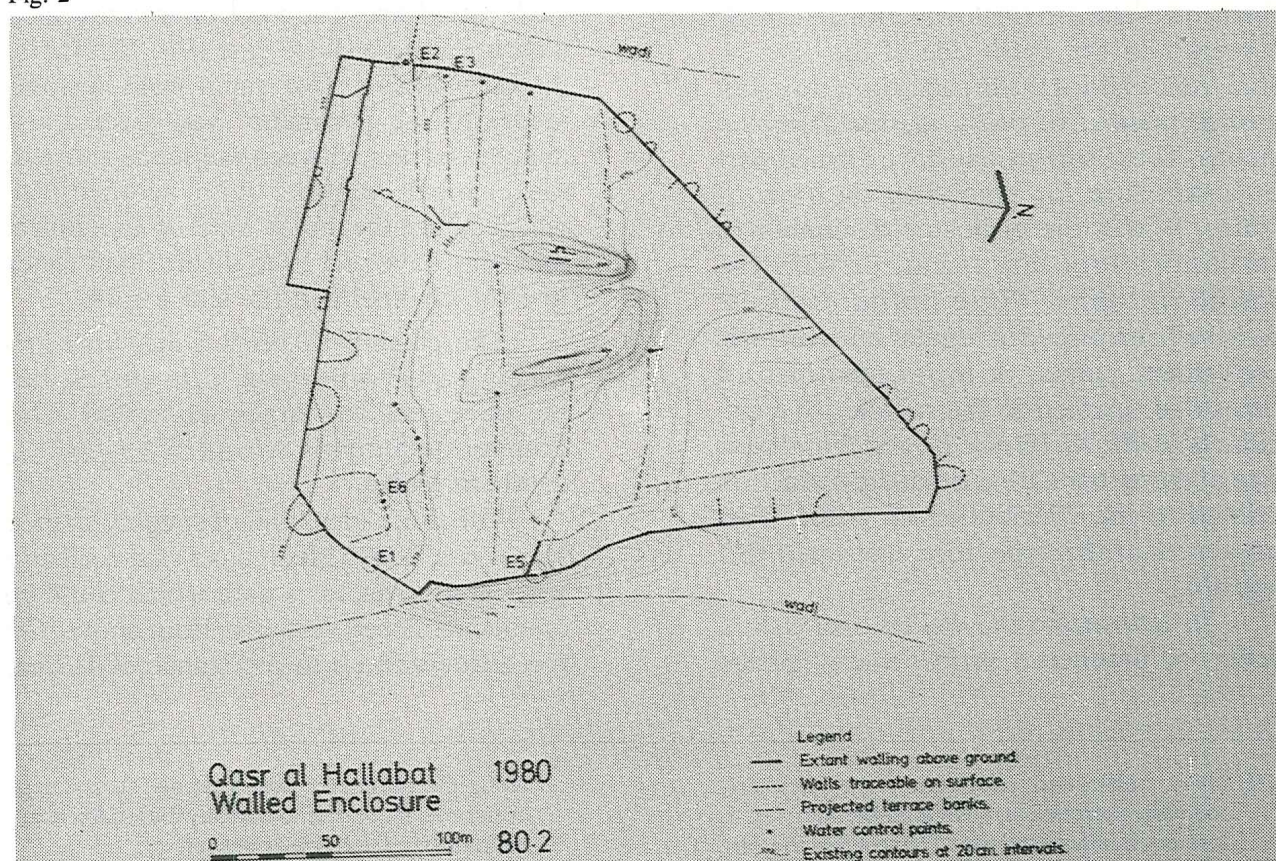


Fig. 3

both faces of the enclosure wall.²⁴ Surrounding the walled enclosure on the east and west are shallow wadis. On the west and southwest are gently rolling hills interrupted by ridges and wadis. During the rainy season these wadis carry water in a northeasterly direction toward the plain. Appreciable runoff would thus augment the scanty rains of the area. Within the enclosure sections of several walls can be seen at the level of topsoil. Remnants of these walls can be traced, but depredation and extensive ploughing have obscured their original extent. Nevertheless sufficient lengths remain to show that these walls ran from east to west, dividing the walled enclosure into a series of rectangular plots. Each plot is progressively elevated above the one adjacent to it (Fig. 3). In the southern half of the enclosure, short sections of double lines of stone are preserved. Excavation between these lines of stone have failed to provide any evidence that they ever functioned as irrigation channels. In the middle of the enclosure stands an earthen dam constructed of two low mounds of compact silt. This dam created an area for the collection of runoff, which was then channelled to the lower plots, through a breach on the north side of the dam. A trial trench laid at the breach point revealed a large number of finely dressed, tumbled stones. These stones may have formed part of a structure for regulating the flow of water. Within the enclosure a number of small stone structures remain partially visible above topsoil. These structures appear to have been placed at regular intervals and convenient points. A rectangular slab of limestone, pierced in the middle by a circular hole (Pl. XLIII No. 1), and found near one of these structures, indicated a function related to the distribution of water. Two structures of this type were excavated (E3 and E6).

To investigate the walled enclosure a series of numbered probes were opened

and collectively designated Area E. The trial trenches were laid along the perimeter wall and inside the enclosure at points where finely cut stones indicated significant architecture. The objectives of area E were to increase the understanding of the water distribution system, and to recover dating evidence for the construction of the enclosure.

E1 was opened along the eastern perimeter wall, approximately 45.00 m. from the southeastern corner of the enclosure. The excavation revealed a doorway 1.62 m. wide, framed on the inside by two rectangular (1.40 x 1.20 m.) buttresses (Pl. XLIII No.2). The buttresses, built of finely cut stones, still stand to a height of two courses (0.60m.) The door sill of the entrance originally consisted of three separate blocks, the northernmost of which is now lost. A socket is still visible in each of the two remaining blocks. The floor between the buttresses inside the entrance is paved with rough stones of varying sizes, most of which are worn and crumbled.

The location of square E2 was determined by a gap on the western perimeter wall, near the southwestern corner of the enclosure. Excavation in this area revealed a channel and a sluice gate (Pls. XLIII No. 3, XLIV No.1). Two small walls set obliquely to the perimeter wall form a triangular section between the sluice gate and the channel; together with another wall which abuts the north side of the sluice, they may have served to divert flood water into the channel and the sluice gate.

The channel (0.65m. wide) was originally paved with rough field stones, but the pavement has largely crumbled. This channel apparently served to irrigate the southern plots.

The sluice gate built of roughly shaped stones is 1.72m. wide; it has a raised sill and vertical grooves for a gate which could be opened or closed vertically from above. On the inside and up to a distance of 1.50m.

24) These half-round structures have been erroneously described in the first preliminary report as semi-circular buttresses. The fact that they are of varying sizes and they are not regularly placed

along the perimeter wall, rule out such a description. I am unable to find any reasonable explanation for these structures. cf. Bisheh, *Ibid.*

from the sill, the floor was paved with smooth slabs. Two rectangular stones standing in the middle, on the top of each other may have been intended to support a roof. Along the north side of the sluice gate, a solid wall of an inner and outer facing of quadrated limestone and basalt blocks, extends in an easterly direction to a distance of 8.90m. At a distance between 6.10-7.00m. the wall is interrupted by a sluice in the shape of an encased box (Pls. XLIV No.2-XLV No.1). It has a bevelled and slanting top to receive some kind of a cover. This sluice (0.90m. wide) has a channel (0.30m. wide) cut through its raised sill (pl. XLV No.1), and could have been closed with a stone plug. The floor inside this sluice is paved with smooth stone slabs. A key discovery near this sluice was a basalt block of stone engraved with Greek inscriptions (pls. XLV No. 1-2). The inscribed block was incorporated in the wall and was placed upsidedown. Furthermore, the inscribed block was originally concealed under a coat of plaster, traces of which can still be seen on the wall surface. The inscription as analyzed by prof. J. Marcillet-Jaubert of Lyon University is part of the edict of Anastasius (A.D. 491-518) and therefore must have been taken from the castle.²⁵ The inscribed block certainly suggests a secondary placement which allows us to assume that the walled enclosure was planned and built when the castle was reconstructed in the Umayyad period. This Umayyad attribution is further supported by the discovery of fragments of ribbed cooking-pots and three large fragments of a jar of well-levigated creamy ware similar to wares found at Umm Qais in northern Jordan²⁶. These pottery fragments were found in the trial trench (E4) opened to investigate the double-line of stones which suggested a channel. Unfortunately, all of the other trenches put down within the enclosure were sterile and did not yield any remains of ceramics.

An intriguing question has been raised

as a result of the discovery of the sluice gate and the channel: where did the water come from and how was it brought to the sluice gate? There are no surface clues to the presence of channels; in an area that had been extensively ploughed for decades, all such clues have entirely disappeared. Consequently we cannot say that we understand the water adduction system in all its details. However, it is reasonable to assume that the winter runoff for irrigation came from the wadi to the west. At a distance of some 20m. to the west of the sluice gate is the remains of what appears to be a wall built across the gully. This wall might have served as a kind of barrage for impounding flood water and deflecting it towards the sluice gate. Another wadi has its starting point high on the adjacent hills to the west, and moves to a northeasterly direction across the gently sloping ground. In this wadi, there are two sturdy walls built along the northern embankment of the water course. One is some 800m. to the west and the other a short distance from it. It is likely that water was brought from this wadi to the sluice gate by means of a ditch. Actually one of the older workmen who lives in the area said he still remembers the existence of such a ditch, and tried to trace its course on the ploughed surface.

The placement of areas E3 and E6 was governed by important surface features; examination of these features gave some basis for suspecting a water-control structure. Chief evidence for such a function was a partially submerged rectangular limestone slab with a hole in its middle. Two such structures (E3, E6) were excavated where they appeared to be best preserved. These robust structures (pl. XLVI No. 1-2, XLVII No. 1-2), are composed of two walls of finely dressed stones, the space between the rows being filled with earth and medium size rough stones. The outer or southern walls are set at oblique angles forming a V-shapes section; these walls obviously served as water deflectors to dir-

25) So far about 124 inscriptions have been recovered from the castle. The vast majority of these inscriptions form part of the edict of Anastasius. cf.

J. Marcillet-Jaubert, *OP. cit.*

26) The pottery from Umm Qais, which was found in an Umayyad context, still awaits publication.

ect water into the channel cut in the middle. At the mouth of the channel was a rectangular slab bevelled at the top and pierced in the middle by a hole (pl. XLVII No. 2). The hole could have been blocked by a round stone when it was deemed necessary to stop the flow of water into the adjacent plots. Thus these structures provided a system of sluices for regulating the volume of incoming water. By placing them at suitable intervals (Fig. 3). The farmers controlled efficiently the distribution of water to the various plots.

A final trial trench was put down in the sunken ground defined from the east by the perimeter wall, and from the north by a solid wall 0.85m. thick. It consists of an inner and outer facing of finely dressed limestone blocks with a core of lumps of stone, rubble, and ashy mortar. The masonry recalls that of the little mosque built some 15m. to the southwest of the castle. As the excavation proceeded it became apparent that the sunken ground was a water basin. The water entered this basin by a channel cut into the perimeter wall (pl. XLVIII No. 1), and by a drain cut through the solid wall (pl. XLVIII No. 2). The drain was fed by the surplus water irrigating the upper plots through a hole set vertically above the drain (pl. XLIX). The channel, whose bed was paved with rough slabs of stone, obviously collected water from the wadi which runs along it, and drained it into the basin. There is presently no evidence of a barrage across the wadi which would have been necessary to raise the level of water which flowed through the channel into the basin.

The supply of water must have been irregular, so that it was necessary to build an earthen dam and a sunken basin within the enclosure in order to store water for distribution in the erratic rainy months.

This may also explain the relatively small size of the enclosure.

It is obvious from the preceding that the water distribution system within the enclosure was carefully planned. After the runoff water from the neighbouring hills was delivered to the enclosure, it was distributed to the various plots through a carefully planned system of sluices. The slight gradient of the field was sufficient to insure the gravity flow of water from the upper plots in the south to the lower ones in the north.

It is clear that this enclosure with obvious concern for the adduction, storage, and distribution of water was an agricultural enclosure²⁷. It is described by the present inhabitants of Hallabat as *Huw-aytah* (diminutive of *Ha'it*). The word means both a wall and the area enclosed by a wall. It occurs frequently in Medieval Arabic texts especially in the topographical descriptions of Mecca and Medina, where the word refers to cultivated areas or gardens around the towns²⁸. One such occurrence of the word refers to the caliph Hisham b. 'Abd al-Malik (A.H. 105-25/A.D. 724-43) as stopping near a *Ha'it* which belonged to him and which was covered with olive trees²⁹. No cultivated plant was found in the agricultural enclosure. However, the existence of two stone vats in one of the ruined buildings to the west of the water reservoir might suggest that the enclosure was devoted to the cultivation of orchards, mainly olives and vines; other fruits such as those represented on the mosaic floor of Room 4 might have also been grown. That the soil was potentially productive is indicated by the numerous farms which sprang up in the area. Thanks to private investment, the farmed area has been extended considerably with the help of irr-

27) A close parallel to this agricultural enclosure is the garden of Qasr al-Hir west in Syria which is provided with a system of water distribution to the various plots. The garden of Qasr al-Hir, however, is of a larger size measuring 1050 m. x 442 m. cf.

D. Schlumberger, "Les Fouilles de Qasr el-Heir el-Gharbi (1936-38). "SYRIA, vol. XX (1939) PP. 205 ff.

28) For a discussion of the significance of the word *Ha'it* cf.

O. Grabar, et-al, *City in the desert, Qasr Al-Hayr East*, (Cambridge, Mass. 1978) P. 104 where the relevant sources are given.

29) al-Tabari, *Annales*, (Leiden, 1879-1980) vol. II, P. 1737. Quoted from Grabar, *Ibid*.

igation projects. These projects have created in the past decade a major agricultural zone in Jordan.

It may be concluded that in the Umayyad period the castle and the whole area of Hallabat underwent a major transformation and was significant for more than just military reasons. Indications of this transformation and its extent are the elaborate decorations of the castle with fancy carved stucco, mural paintings, and mosaics, and the introduction of new buildings such as the Mosque³⁰, the bath³¹, the agricultural enclosure, and perhaps even the huge water reservoir³².

The reason for this transformation and the development of the sources of revenue may have been the need to maintain close communication with the tribes settled in the region, who were vehement supporters of the Umayyad dynasty. These Umayyad creations, however, were not economically a meaningful enterprise. Their maintenance required a constant flow of funds, and once the funds ceased to flow, they were abandoned shortly after the fall of the Umayyad dynasty around the middle of the eighth-century.

Ghazi Bisheh

30) *Bisheh, OP Cit.* PP. 73 ff.

31) *Bisheh, Ibid.* P. 76, note 13

33) *Ibid.* P. 70.