# AN INTERPRETATION OF THE PALACE OF THE CALIPH AT SAMARRA (DAR AL-KHILAFA OR JAWSAQ AL-KHAQANI) By ALASTAIR NORTHEDGE

The main palace built by al-Mu<sup>c</sup>tasim at Samarra at the time of the foundation of the city in 221/836 is one of the most famous of Islamic palaces, although it is not in fact preserved in very good condition. Nevertheless, it is one of the few examples of a great imperial palace of (at least later) antiquity where the complete plan is also known.

The site is best known from Creswell's Early Muslim Architecture, based on the work of the German Samarra Expedition of 1911–13. Although Herzfeld's plan of the palace (fig. 1) is frequently published, the reader is often left with the impression of an incomprehensible and unanalyzed grand mass of rooms, although sometimes tacit editing of the plan is done, perhaps to make the plan fit the page.<sup>2</sup>

A new overall presentation of the palace is needed, and it is hoped that this will eventually be done within the context of a proposed publication of the excavation sites of the Samarra Expedition. Several constraints limit me to a kind of preliminary report on this objective. In the first place the subject is a large one, requiring the correlation of the small finds, the stucco and other decorations, and the wall paintings. Secondly the field journals have notyet been worked through, nor all the drawings prepared for publication. Nevertheless it was thought worthwhile to publish the progress that has been made, although the ideas presented are not necessarily final.

It should be said at the beginning that the designation of the palace—al-Jawsaq al-Khaqani—used by Herzfeld, subsequently by Creswell, and which has come to be used generally in Western scholarly circles, cannot be correct. The reasons for this will be explained below, but it is evident that the name used in Iraq—Qasr al-Khalifa (Palace of the Caliph)—is in fact quite close to the terminology used in the third/ninth century. Al-Jawsaq al-Khaqani may be an attractive and exotic name—though one which incorrectly suggests that the palace was in some way Turkish<sup>4</sup>—but the palace of al-Jawsaq must have been part of the overall complex, not the entire complex itself. Some name such as Palace of the Caliph or Dar al-

Khilafa is more appropriate for English-language usage.

# Past Work on the Palace

It was not surprising that the site should have attracted the interest of Western visitors in the nineteenth century.<sup>5</sup> In June 1834 the surgeon of the British Residency at Baghdad, John Ross, visited Samarra, and published the following careful description:<sup>6</sup>

The Kasr-el-Khalifah, or Khalif's palace, is a long Tshaped mass of ruins on the edge of a high bank, divided by three cross walls: its extreme length landwards is about 900 paces, the breadth of face towards the river 130 paces, and of the landward face 580; and it consists of ranges of gateways, arched rooms, vaults under ground, &c., with empty areas divided by cross walls. One vault excavated to a great depth, called Jibb, is pointed out as the prison: its entrance is by a narrow shaft, and people must have been lowered into it and hauled up by means of a rope. Another deep square hollow close to it is called Birket-el-Seba', or the Lions'den. A narrow subterranean passage is cut from the Jibb to the Birket, from the door of which, criminals are said to have been thrown to the wild beasts. From the face towards the river, an inclined platform, resting on arches, leads down to the hawi; and outside of the palace, at its N.W. corner, stand fine ruins of a turreted building called Hamam, or the bath.

In April 1846 Lieutenant J. F. Jones of the Indian Navy also visited the site. However, it was only at the beginning of the twentieth century—half a century after the opening of Western archaeological work on the Assyrian royal cities, for example—that Samarra became the object of more serious scholarly attention.

The first efforts were French: General L. de Beylié published in 1907 the results of a visit to Samarra and other sites in Iraq.8 The French architect Henri Viollet prospected and surveyed the site in 1908, and then returned to excavate in the palace in June 1910, digging twenty-four small sondages in six weeks. He published his work promptly, bringing out a short but

excellently illustrated monograph on each of the two campaigns.<sup>9</sup>

The German interest in Samarra began with a visit by Herzfeld in 1903, 10 but came to fruition later in the German Samarra Expedition, which conducted two field campaigns in 1911 and 1913. 11 Herzfeld turned his attention to excavating the palace in the second campaign. Some 11,000 m square (equal to about a quarter) of the square reception-hall blockwere cleared, and about 5,000 m square elsewhere, for a total of 18,000 m square.

In 1923, after the First World War, Herzfeld noted his regret that the excavated remains had been robbed out.<sup>12</sup> This was not unusual; the robbing of fired bricks was common throughout Iraq before the introduction of concrete construction. The city walls built in the 1830s were entirely constructed of Abbasid bricks.

In 1914 a preliminary report on the excavation of the palace was published in Der Islam.<sup>13</sup> In this article the first version of the grand plan of the palace was published. The plan (fig. 1) was, of course, mainly the result of surface reconnaissance, but also incorporates the excavation areas.<sup>14</sup> Herzfeld's reading of the surface remains seems to have been good, and there is much drawn which would be difficult to recover today. The main failure seems to have been in the northeast corner, where he only drew parts of the small palace-type units at H283 and H294 (see fig. 2 for building numbers).15 However, after the graphically primitive version published in the report of 1914, the final version, as published by Creswell, was "corrected," with a number of buildings squared up, where air photographs show the original version to have been more accurate. The polo maydan at the east end is in fact a parallelogram, not a rectangle.

In 1923, in volume 1 of the Ausgrabungen von Samarra, Herzfeld published the wall decorations uncovered by the expedition; in 1927, in volume 3, the wall paintings; and in 1948, in the posthumous volume 6, his analysis of the historical topography. However, as is well known, the volumes planned on the architecture of Samarra were never published: to be more precise, it was the final report on the excavation itself that was not published. Creswell, in his Early Muslim Architecture, straightforwardly quotes Herzfeld, using the preliminary report of 1914. Unpublished drawings and the field journals are in the Herzfeld Archive at the Arthur M. Sackler Gallery in

Washington, D.C., and the negatives of the expedition's photographs, taken by Sarre, are in the Staatliche Museen in Berlin.

Fieldwork on the complex was subsequently taken up again by the Iraqi Directorate of Antiquities, although only after a long delay. 17 The Bab al-Amma was cleared and consolidated, and the rooms on its north side were excavated sometime in the 1960s or 1970s. However, for the most part excavations were conducted elsewhere at Samarra, and it was only with the beginning of the "Project for the Revival of the Two Archaeological Cities of Samarra and Mutawakkiliyya" in 1981 that new work was done on the palace. In 1981 a certain amount of clearance work was done in Herzfeld's excavation area in the reception-hall block, but it was given up as unprofitable. However, the tunnel which runs under the great courtyard—the Great Esplanade, to use Herzfeld's terminology—was excavated, together with six secondary buildings on the north side of the courtyard. 18 In 1983 work turned to clearance and restoration of the Small Serdab (Hawiyat al-Siba<sup>c</sup>). The project was finished in 1986, and published in the same year. 19 Work began in 1986–87 on the excavation of the Large Serdab; by early 1989 the excavation was fairly complete, and the restoration was finished before my visit in early 1990. Unfortunately the publication in the journal Sumer, the manuscript of which has been completed, has been delayed by the effects of the Kuwait war. Work has also recently been done on the range of rooms on the south side of the Bab al-Amma, and on a poorly preserved octagonal fountain or pavilion in the great courtyard.

# Description of the Site

The palace complex is located on the conglomerate of the east bank of the Tigris, which was laid down by earlier river beds in Tertiary times. The relative softness of this material made possible the cutting of underground structures on a large scale. On the west side of the palace, there is a steep descent of about 10 m to the flood plain of the Tigris, and the garden on this side is located in the flood plain. Although the frequent movements of the Tigris bed within the flood plain are not capable of carving away much of the conglomerate, the river has removed the southwest part of the western garden since the third/ninth century. In the middle of the 1950s a barrage was constructed at Samarra to divert flood water from

the Tigris into the Tharthar depression. The lake behind the barrage flooded the low-lying land of the flood plain, including all parts of the complex west of the Bab al-Amma. By the end of the 1980s deposition of silt carried by the Tigris had turned the lake area into a marsh, and the area of the garden has reemerged as wetland. It is uncertain whether it will ever be possible to recover material from this area, where nothing is visible today.

The layout is based on two architectural palace units. The first, on the south side, is composed of a square building of  $180 \times 200 \,\mathrm{m}$  (H343), containing the Bab al-Amma, the throne halls, and the harīm, with a large courtyard on the east side (the Great Esplanade; H302). This layout of square building and courtyard can be paralleled at Balkuwara, 20 and the palace at P16 at Qadisiyya. 21 On the north side a second palace structure, termed by Herzfeld the "treasury" (H293), with a smaller square reception-hall block and residential apartments, is situated within an outer enclosure wall, as one sees at al-Ukhaydir 22 and the Dar al-Imara at Kufa. 23

On the west side of the southern unit is a large formal garden; there is probably another garden of a different type on the south side. Between the two palace units there is a large circular sunken basin, termed by Herzfeld the Large Serdab, and in Iraq the Birka Handasiyya (H301). Further to the east is a complex including what Herzfeld termed the Rotundabau (H353), and, at the east end, a smaller square sunken basin, termed the Small Serdab, and in Iraq Hawiyatal-Sibac (Lions' Den).24 On the north and south sides of the basin are courtyards with two pavilions, and lines of parallel halls, which Herzfeld called the "stables." On the east side there is a maydan with a spectators' lodge, and the start line of racecourse 2, stretching away to the east.25 On the south side of the main courtyard is an iwan pavilion in an enclosure (H313), adjacent to what must have originally been the main entrance of the complex leading to the city, and a further square building, adjacent to the main reception-hall block (H311). The palace may be described as a complex of architectural units.

Construction was evidently begun in 221/836, and the last reference to it as an occupied building dates to 269/884.<sup>26</sup> The known occupation lasted forty-eight years. It is obvious that a considerable process of change must have taken place during this time. The palace is not one which was designed, constructed, and then abandoned in

its original state, although there are many such buildings in early Islam; rather over the years units may have been added, rebuilt, or abandoned.

The first interpreter of the palace, Viollet, starting from the Bab al-Amma, saw the complex as consisting of the square building, the great courtyard, and attached buildings—the two Serdabs, the maydan, and racecourse 2. It was Herzfeld who included the northern palace building in the complex, and called it the treasury. Buildings H326 and H327 in the southeast corner, although included in Herzfeld's plan, probably have no connection with the palace.

The area defined by Herzfeld is 175 ha. The dimensions are 1,346 m east-west from the pavilion on the Tigris to the spectator's lodge overlooking racecourse 2, and 1,160 m north-south from the north palace to the south gate.

The western garden (H339; fig. 3). The western formal garden appears to have led down to the Tigris, whose exact course in the third/ninth century is not known. A flight of monumental steps, 60 m wide, leading down from the Bab al-'Amma cannot be seen today, but can be seen on aerial photographs (fig. 5). On the west of the steps was a square ornamental pool 115 x 130 m.

From the pool a pair of walls 220 m apart defining a longitudinal axis run directly west to the end of the garden as it survives. Perhaps this was a formal avenue for the approach of the caliph to or from a landing stage on the river. Such a procession is mentioned on the occasion of the investiture of the heirs of al-Mutawakkil in 235/849–50.<sup>27</sup>

When al-Mutawakkil appointed his heirs from among his children, he rode at Samarra in a procession, finer than which had never been seen. The heirs rode in front of him, and the Turks in front of them, and their children marching in front of al-Mutawakkil, with belts of gold in their hands . . . then he descended into the water, and sat in it, and the army with him in  $jaw\bar{a}nkhiyy\bar{a}t^{28}$  and the rest of the boats, and he came until he stopped in the  $qa\bar{s}r$  which is called al-Arus, and he gave permission to the people, and they entered into his presence.<sup>29</sup>

At the far western end a square raised terrace 48 x 40 m appears to represent the site of a garden pavilion.

A pair of walls 47 m apart also define a north-south axis on the west side of the pool. It is possible to make out the plan of several small buildings between the walls.

The garden may be the Bustan al-Khaqani mentioned in an event of 254/868, and which apparently lay between the Jawsaq and the Tigris:

Bugha came to the bridge [al-Jisr] in the first third of the night, and when the boat approached the bridge, those entrusted with it sent for those in the boat..., and Bugha disembarked into the Bustan al-Khaqani, and a number of [the guards of the bridge] attached themselves to him... and he rushed to al-Jawsaq. He asked permission of al-Mu<sup>c</sup>tazz [to enter], and al-Mu<sup>c</sup>tazz gave permission to him.<sup>30</sup>

The Bab al-'Amma and the square reception-hall block (H343; figs. 6–7). The main reception-hall block of the southern palace is nearly square in form, measuring 180 x 200 m. The Bab al-'Amma is the only part still standing; elsewhere only fragments of walls remained above floor level, and in places the bricks have been robbed down into the foundations.

In the center of the west side stands the main outside entrance, the famous triple iwan known as the Bab al-'Amma. This consists of a main central tunnel-vaulted iwan, and two shallow side iwans, each of which has a semi-dome carried on squinches, which lead into closed tunnel-vaulted halls behind.

The photographs taken by Viollet and those taken by Sarre for the German Expedition show quite clearly a block of masonry projecting from the top of the building. This suggests that there was a second story. A ramp has also been excavated on the south side of the gate. Presumably there was a majlis (formal reception room) in this second story, with a view over the Tigris and the flood plain (fig. 8), on the pattern of similar rooms described over the gates of the Round City of Baghdad, and the rooms found over the gates of Umayyad desert qusūr. However, there are no indications that the remainder of the square building had two stories.

After the Bab al-Amma, the visitor passed through five rectangular halls placed transversely, to reach, at the center of the building, a courtyard with a basin. The courtyard was excavated by the German expedition, together with a bath on its south side. On the north side of this axis was a courtyard building with a central circular feature 31 m across, almost certainly a basin. There are several underground vaulted rooms in this area. The south side of this western part has not been clarified, although a sequence

of rooms has been excavated in recent years on the south side of the Bab al-cAmma.<sup>33</sup>

At the east end of the central axis was a cruciform plan, more normally found in the center of such a square building. The centerpiece was a dome chamber with four pillared halls. On the east, west, and south sides were courtyards beyond the pillared halls; on the east side a large transverse hall, which led straight out into the great courtyard (Grand Esplanade). It is possible that this last hall is a subsequent addition, as the wall thicknesses do not match those of the remainder of the square building.

The courtyard on the north side of this central dome chamber has not been excavated, but those on the west and south sides were excavated by Herzfeld. That on the south side constituted what Herzfeld called the harem. On the south side of this courtyard there was a square room with four piers, and this contained a circular basin carved from a single piece of Egyptian granite, which was named Kasat Firun (Pharaoh's cup), and is thought to be of ancient Egyptian origin. The remainder of the surround of the courtyard consisted of a warren of small rooms, which Herzfeld says had been repeatedly rebuilt.

The harem was richly decorated, notably with wall paintings published in Herzfeld's Malereien von Samarra. Its identification as a harīm rests principally on the figural character of the paintings, which is comparable with the art of the private palaces of the Umayyad period. Without doubt these paintings should belong to the last period of occupation of the palace: Herzfeld notes the rebuilding, and elsewhere at Samarra up to three layers of wall painting can be seen on fragments. By that time, in the reign of al-Mu<sup>c</sup>tamid, the area of the complex occupied may have been reduced. This part of the palace may only have become a private residence at a late date in its occupation.

The great courtyard (H301). On the east side of the square building the principal feature is the great courtyard, a rectangle measuring 360 x 186 m, and called by Herzfeld the Great Esplanade. The courtyard is surrounded by a wall of mud brick with arched niches and stucco moldings. The wall was topped with stepped merlons. The courtyard was divided in two by a depression, which Herzfeld thought in his preliminary account to be a canal. Excavations in 1982 showed this to be a tunnel leading under the courtyard, the roof of which had fallen in. Sur Clearance of the

north wall at this time also produced evidence of six small secondary courtyard buildings. These were well aligned with the enclosure wall and were evidently constructed before the abandonment of the palace.40 On the west side of the tunnel, Herzfeld's plan indicates two circular features: recent excavation has shown the eastern one to be a poorly preserved octagonal fountain.41 The plan also shows a series of rectilinear lines in the eastern part: photographs confirm the existence of these lines, but it is not known what they represented, and they have now disappeared. Herzfeld thought they were canals, based on his supposition that the transverse depression was a canal. 42 Perhaps they were walls delimiting a reduction in the size of the courtyard to accommodate the secondary buildings mentioned above.

The south side of the complex. The area on the south side of the great courtyard is one of the most difficult to explain. There are a great number of different buildings, and no excavation has taken place in this part, except for a small area excavated by the German expedition on the north side of building H313. The area is demarcated by an exterior enclosure wall running east-west 390 m south of the great courtyard (H363), and divided by a north-south wall running on the west side of building H323 (H364).

A monumental avenue, 65 m wide and narrowed by later overbuilding to a width of about 12 m, approached the point where this north-south wall joined the outer enclosure wall (fig. 9). It is evident that this avenue is not to be identified with the Grand Avenue (Shari' al-A'zam) described by al-Ya<sup>c</sup>qubi, which passed by the palace, but with the Sharic Abi Ahmad, which ended at the Bab al-Bustan (Gate of the Garden) and the quṣūr al-khalīfa (palaces of the caliph).43 As this avenue, the most monumental of Surra Man Ra'a,44 is not highly regarded by al-Ya'qubi, it must belong to the early period at Samarra, the original layout of al-Muctasim. 45 Therefore a main south gate probably stood at this point, with a passage into the great courtyard. On Herzfeld's plan, on the west side of the north-south wall, a passage can be seen turning west around building H313. However, on the aerial photographs the avenue definitely approaches the east side of the wall, through the space occupied by building H323, and to an inner gate by courtyard H314 (H374). If this latter situation were the case, then the entrance may have been moved

later to west of the wall, and building H323 may be a late construction.

At any rate the idea of a double gate is given support by an event in 256/870: al-Muhtadi "left through Bab al-Masaff, until he went out through the gate known by the name of Itakh, then to Suwayqat Masrur, then Darb al-Wathiq, until he came out to the Bab al-Amma." Al-Muhtadi's itinerary is to leave the palace by the south gate, turn west, and then go north to the Bab al-Amma. The house of Itakh was next to the south gate, and evidently the name Bab al-Bustan has here been replaced by the Gate of Itakh.

Building H313 on the west side at the north end of this proposed passageway has a building with a single iwan in a courtyard and small courtyard buildings around the periphery. If Herzfeld's plan is correct,49 then the building corresponds with a pattern quite common in Iraqi Abbasid architecture. At Ukhaydir there is a separate single iwan structure between the inner building and the outer wall.<sup>50</sup> At al-Musharrahat a similar separate building is to be seen in the northeast corner of the enclosure, with a slightly variant plan.<sup>51</sup> There is a further separate building with an iwan and a mosque by the entrance of Sur Isa at Samarra.52 These buildings give the impression of being the majlis of someone responsible for the building itself, or for its security. One is reminded of the situation in the Round City of Baghdad, where the central circular courtyard contained a building for the guard (haras) and a portico for the police (shurta), but it is not possible to be certain.<sup>53</sup> To the east of this north-south alignment, buildings H324, H325, H337, and H357 seem to be store and service buildings.

At the west end of the south side, directly south of the square reception-hall block, a building 70 m square has been built on a slightly different alignment (H311), and this has been linked with the south side of the reception-hall block.

Between this building and the north-south alignment of the entrance from the south gate the terrain is uneven, cut by a wadi with three branches. There are three groups of lines of rooms with courtyards on different alignments—H316, H317, and H358. These buildings are indistinct on the aerial photographs, and were apparently not of solid construction. In fact there are two references in the texts that suggest that the area was once a garden—firstly the name of the gate discussed above as the Bab al-Bustan, and secondly a reference in 248/862 to going from al-fumari "through the gardens." This

interpretation is supported by the plan of al-Jacfari (fig. 18), which also has an empty enclosure on the south side. It would evidently be a garden of a different type from the formal layout on the west side.

The building complexes at H316, H317, and H358 can probably best be explained by noting that the palace was the center of disturbances and military operations during the 860s, notably in 248/862, 55 252/866, and 256/870. 56

On the first day of Rajab, 252 [866], a battle took place between the Maghariba and the Turks.... They overcame the Turks at al-Jawsaq and expelled them, saying, "Every day you kill one caliph, depose another, and kill a vizier." ... When the Maghariba expelled the Turks from al-Jawsaq, and overcame them at the treasury (bayt al-māl), they seized fifty mounts from them.<sup>57</sup>

At times the palace was evidently an armed camp, and temporary pisé barracks would no doubt have been put up in any empty space to accommodate a garrison.

The Large Serdab (H301; fig 10). On the north side of the great courtyard the main feature, lying between the two palace units, is the Large Serdab. It is not a genuine sirdāb—that is, an underground room for use in summer—but rather a sunken basin cut into the conglomerate with surrounding rooms intended for the same purpose of escaping the heat of summer. A number of the surface buildings were excavated by the German expedition. The sunken area was excavated by the Iraq Directorate of Antiquities between 1987 and 1990, and called the Birka Handasiyya (Geometric Basin).

There is an outer buttressed wall 180 m on a side, with courtyard buildings on the inside at the surface level. Herzfeld noted that some of these rooms contained stores: Chinese pottery, materials for pavements, and luster tiles.58 In the southeast corner Herzfeld excavated half of a rectangular building composed of five thick parallel walls. Obviously these were supports for a thick-walled elevated building. Al-Jacfari has a similar building type: a central building supported on heavy walls, surrounded by courtyard buildings (building A12; fig. 11). It is apparently a traditional Mesopotamian building type, for a similar structure exists in the northeast corner of the South Palace at Babylon, constructed by Nebuchadnezzar at the beginning of the sixth century B.C., called by Koldewey the "vaulted building."59 The building type is presumably a storehouse for valuable objects which needed to be raised above ground level for security.

The sunken center of the structure is cruciform in shape and 115 m across. At the center there is a circular basin 65 m in diameter, with amphorae set into the brick walls, in which fish bones were found. Straight monumental staircases lead down to the interior from north and south. The basin is fed by a qanāt coming from the east, which is not visible on the surface; and a further drain qanāt exits to the west. At all four points of the cross there are service ramps at right angles to the monumental staircases, although not all were in use: on the west side one was used for a rubbish dump and found full of ash, pottery, and glass. The rooms around the basin were arranged radially, although based on a four-iwan plan. In the southeast corner there is a large bath, with furnace and hypocaust.

The rooms surrounding the basin are extensively decorated with stucco dadoes, which are all of the vine-leaf ornament, style A. While the sequence of Samarran stuccoes needs new work, it is certain that this style was already in existence before the foundation of Samarra in 221/836, but also continues later than Samarra.60 The buildings at Samarra, which are extensively decorated with the vine-leaf ornament, that is, the Bab al-Amma with its mixed style A and style B ornament,61 and the upper and lower palaces at al-Huwaysilat, one of which is to be identified with the Qasr al-Juss of al-Muctasim,62 are normally attributed to the beginning of the Samarra period. The dating evidence of the stuccoes, though weak, suggests that the Large Serdab is an early building, part of the original plan of the palace.

The Rotundabau (H353; fig. 12). To the east of the Large Serdab, there is a further complex of courtyard buildings (H333, H353). The reception room was excavated by Herzfeld and called by him the Rotundabau or Rundsaal. The plan was never published.<sup>63</sup> It consists of a typical Samarran grand house—a reception block followed by a courtyard and a further iwan. There is a further building with rooms around a courtyard on the west side (H333), and four more indistinct enclosures on the east and north sides.

The reception block itself consists of a transverse hall measuring  $18 \times 7$  m projecting into the great courtyard, which seems to be an addition to the original structure. Then there is a further transverse hall  $13.8 \times 4$  m, similar to the portico of a T-shaped iwan, and this is flanked by two rooms

with niches. The niches were subsequently covered up by beveled-style, style C, stucco dadoes. The principal hall is circular, 9.4 m in diameter, with four curious small hexagonal rooms with low vaults on the east and west sides. The plan indicates that the circular form is secondary and that the hall had originally been square, with doorways into side rooms decorated with engaged piers.

The building and its associated dependencies give the impression of being the majlis of an official closely associated with the functioning of the palace, one who had need of work space and service buildings.<sup>64</sup>

The east end and the Small Serdab (fig. 13). The east end of the great courtyard is marked by a group of structures: a smaller, square sunken basin (the Small Serdab, or Hawiyat al-Siba's: H29), six long galleries, two pavilions, a polo maydan, spectators' lodge, and racecourse.

The Small Serdab (H29; fig. 14) was first investigated by Viollet<sup>65</sup> and then by Herzfeld, who cleared the surface entrance and one staircase and prepared a plan. The Iraq Directorate-General of Antiquities and Heritage began work on the site in 1983 and cleared and reconstructed the site, finishing it in 1986.<sup>66</sup>

The entrance was situated in the center of the east wall of the great courtyard. Herzfeld describes this entrance as a square room in which was found a frieze of painted stucco representing two-humped camels.<sup>67</sup> It has been reconstructed as a domed chamber with niches, much as a typical entrance to one of the grand houses at Samarra. On the surface level the structure measures 60 x 54 m, and is represented by Herzfeld as a series of rooms around the basin. It has been reconstructed as an arcade, with the arches perpendicular to the sides of the basin.

The basin itself is functionally the same as the Large Serdab, but smaller and square (21 m a side), and sunk about 8 m into the conglomerate. There is a triple iwan on each side of the basin, and all are decorated with stuccoes of the beveled style, style C. A qanāt enters by the north central iwan, and the water drained by a further qanāt towards the south. One staircase descended from the south side of the main entrance, and a second descended to the northeast corner of the basin.

The stables and pavilions. On each side of the Small Serdab there are three long galleries (H330, H320); four of the six measure 106 x 11 m, and

the remaining two 96 x 11 m. There are five entrances into the adjacent courtyards. Herzfeld identified these galleries as the stables for the polo maydan.68 Although it may seem surprising that the stables should have been built adjacent to a pleasant spot intended for the caliph's repose, with the obvious inconveniences of smell, he may have been right. The form of the galleries resembles a building plan which exists also in a group of buildings at al-Jacfari (A208–16; fig. 15). At al-Jafari the galleries surround a central courtyard, and the group of buildings is placed at a distance from the inhabited parts of the palaceal-Jacfari being later, this placement was possibly the result of an unpleasant experience with the complex under discussion here.69 This arrangement of galleries around a central courtyard is in fact the same as the usual arrangement of the stable galleries in Iranian caravansarays, also found in Iraq.

Al-Ya<sup>c</sup>qubi, however, describes the caliph's public and private stables as being located in the center of the city on the Shari<sup>c</sup> al-Sarija (= Shari<sup>c</sup> al-A<sup>c</sup>zam). The site can be identified approximately, and there is no sign of this type of building (fig. 9). Nevertheless it is evident that stables located in the center of the city, five kilometers from the palace, were concerned with the long-term questions of raising and provisioning mounts for the palace and the army, rather than the day-to-day stabling of animals available to the palace, and particularly the polo ponies and race-horses.

North and south of these courtyards with stables, there are two courtyards (H321 and H331) with pavilions (H322 and H332). The north pavilion is constructed of mud brick and is still partly standing to the transition of the dome of the side iwan. The building was excavated by Herzfeld (H332; fig. 16), but never published.<sup>71</sup>

The building consists of a central T-iwan, of which the front portico measures  $16 \times 5$  m, and the iwan itself  $5.5 \times 8.5$  m. In addition there are two shallow side iwans, measuring  $4.2 \times 3.2$  m, which were covered by semi-domes mounted on squinches. These side iwans obviously resembled those of the Bab al-Amma, but had no door through into the hall behind. The exterior is rectangular, measuring  $38.5 \times 22.5$  m, and has round buttresses. The southern pavilion (H322) seems to be similar. The two pavilions would appear to be intended for inspections of the caliph's polo ponies and racehorses.

The polo maydan (H328) and the spectators' lodge (H329). From the Small Serdab a passageway led through into a square courtyard and then to a long rectangular maydan. The gateway into the maydan was excavated by Herzfeld.<sup>72</sup> The long rectangular maydan with half-round buttresses measures 525 x 66 m. According to the evidence of robbing, the walls were of fired brick.

On the far side of the maydan there is a spectators' lodge (H329), which looks out both onto the maydan and the start of racecourse 2. This building measures  $28 \times 45$  m and is constructed of fired brick, with two buttresses on the eastern corners. The plan is one of a chamber running through east-west, which represents the passageway of a gate. On each side there are five chambers arranged north-south. This is obviously the substructure of an upper story, where the viewing platform would have been.

The maydan is identified by Herzfeld as intended for polo. This judgment is obviously correct, for the arrangement of a long rectangular maydan and pavilion with a viewing platform on the upper story has a close parallel in the Safavid Maydan-i Shah in Isfahan (524 x 159 m), built in 1590–1604, with its pavilion, the Ali Qapu. Ibn Qutayba confirms that polo grounds in the Abbasid period were much like the maydans of Samarra by remarking that "the width of the maydan is made 60 cubits [31 m] so that [the spectators] who are sitting on its wall will not be interfered with or assaulted. There are twelve examples of similar maydans at Samarra, all smaller than H328 and all located in or adjacent to palaces.

Racecourse 2. Racecourse 2 is an out-and-back racecourse, which stretches east in a bottle shape from the spectators' lodge. The sides of the course diverge from the pavilion, and then on the south side there is an S-bend after 1,510 m. After the bend, the sides are more nearly parallel with one another, and there is a straight of 2,200 m before the curve. The track is 80 m wide; the length seems to have been 10,420 m.<sup>77</sup>

These units discussed at the east end seem to represent a single coherent entity. The Small Serdab, stable galleries, and two pavilions are approximately symmetrical. There is a change of alignment at the polo maydan, but the north and south walls of the maydan retain the original alignment, creating a parallelogram, and the stables and pavilions take account of

the existence of the maydan. So the maydan is contemporary with this first group, in spite of the change of alignment. The maydan is aligned with the racecourse; the only reason it has been possible to detect why the racecourse should have a different alignment from the axis of the palace in the flat terrain is that, had it followed that original axis, it would have cut a muşallā (Y6) in the steppe, used for the festival prayers of Id al-Fitr and Id al-Adha (fig. 9). Yo is the musalla closest to the palace, and was perhaps sufficiently popular to force a change of alignment in the racecourse.78 It is not certain that racecourse 2 is part of the same constructional program as the maydan, but it seems probable. There is some relative dating on racecourse 2: it is later than racecourse 1, which it cuts.79

The implication would be that this east end group is a secondary addition to the palace. There are some minor points which tend to support this idea: the east end group is not perfectly aligned with the great courtyard. The Small Serdab is decorated with beveled-style style C stuccoes. Evidently the group is a sports and leisure complex, for racing, polo, and passing the summer days comfortably.

The barracks. In the northwest corner of the palace complex, Herzfeld included a group of three blocks of courtyard buildings (H286, H288, H291), enclosed within a compound. H286 consists of 62 units round three sides of a courtyard, and H288 consists of 34 such units. H291 has 8 units with rooms on opposing sides of the courtyard, making a total of 104 units. In addition there are three small mosques (H287, H290, H292).

Herzfeld identified this area as the barracks of the palace guard. This seems possible; there are many different patterns to military accommodation at Samarra, the only unifying factor being that accommodation is always in the form of courtyard houses, rather than barracks of single rooms. Some confirmation is to be seen in the striking fact that there are three mosques, implying three separate groups. Presumably these were ethnic groups, who had to be kept apart, such as the Turks, the Faraghina, and the Maghariba. The pointed provision of mosques seems to be part of an ostentatious display of Islam for the lightly Islamized steppe Turks, and is noticeable again at Sur Ashnas (see below).

Al-Hammam (H345). To the south of the barracks area and northwest of the square reception-

hall block, at the edge of the slope down to the flood plain, there is a small square building with heavy walling and three round buttresses. The building was identified by Viollet with that described as al-Hammam by John Ross. Two sondages were dug in the area by Viollet, and extensive stucco decorations were recovered, of styles A and B, similar to those of the Bab al-5Amma. The building appears to be an elevated belvedere. Similar structures are known on the east and west sides of the Qasr al-5Ashiq.

The north palace (H293; fig. 17). The major structure on the north side of the complex is a palace building within a buttressed outer enclosure. The remains have never been excavated, and were not included in the complex by Viollet. Herzfeld included it, because he correctly thought that there was no logical northern limit to the palace complex without it. Regrettably many crucial details are obscured by the front-line trenches dug by the British Mesopotamian Expeditionary Force in 1917.

The rectangular outer enclosure, oriented eastwest, is 330 m wide and can be traced for a distance of 462 m eastwards. The wall is equipped with massive half-round buttresses about 11 m in diameter. The remains give the impression that the east wall was later demolished, and replaced with a new wall which is aligned with the maydan (H328).

At the west end there is a square reception-hall block (H352), measuring approximately 120 x 130 m, with a buttressed exterior. It is raised on a terrace, and seems to have been of the type of plan with a domed chamber at the center. However, a correct plan is unlikely to be recovered without excavation.

On the east of the reception-hall block, the main body of the building (H297) is 220 m wide, and can be traced for a distance of 285 m to the east. The eastend is not clear. If the building were symmetrical, it would have been about 340 m long. If it had originally been of this length, it would have corresponded to a rectangle with the proportions 2:3, as found in the Samarran mosques, but would have been cut by building H294. Like the outer enclosure wall, it appears to have been truncated by demolition at the east end, to make way for new construction. 82

Apparently at the original center, there was a courtyard measuring 80 x 55 m, approached by two streets on the north and south sides. On the

east side there appears to be a further courtyard of similar dimensions, separated by a wall. On the west of the central courtyard, there is a long hall about 25 m long and 12 m wide, followed by a transverse hall.<sup>83</sup> Then there is a square courtyard and the approach to the raised terrace. On the north and south sides of the central courtyard, there are courtyard buildings which appear to be residential apartments. All the construction of major reception rooms was in fired brick, and has been robbed out; the residential apartments appear to have been constructed in mud brick or pisé.

In the area where the enclosure was extended, to the southeast of the main building, Herzfeld's plan marks two further building complexes (H295 and H296); their plan was not elaborated by him, nor are their remains very clear on the aerial photographs. However, in the northeast corner of the compound, there is a very clear plan of a residential building, apparently a small palace (H294), not on Herzfeld's plan. It has the form of a parallelogram, measuring 169 x 90 m. There is a square reception block in fired brick—which has been robbed out—adjacent to the north wall, and a further reception room on the south side of a central courtyard.

Outside the enclosure of the complex at the northeast corner, there is a further small palace (H283), measuring 106 x 170 m. This has a central square reception block in fired brick, with courtyards on the north and south sides.

Discussion of the archaeological evidence. In its latest form, then, the palace consisted of two major palace structures, each of which is larger than other Samarran palaces, with the exception of al-Jacfari. The south palace had a square reception-hall block with a large courtyard, but very little residential accommodation in the form of courtyard houses, normally an important feature in early Islamic palaces. The north palace, on the other hand, consists almost entirely of residential accommodations.

Although it is not possible at the moment to date all the structures described here, it seems that the original elements of the palace included the square reception-hall block and great court-yard—and possibly the western garden. Attached to this, the Large Serdab (H301) and al-Hammam (H345) seem to be original on the basis of their decorations. The north palace must also be original, partly because of its plan which recalls that of earlier palaces, but also because the Large Serdab, itself apparently early, has monumental

stairways leading to both the north and south palaces.

The major later additions seem to be, firstly, the east end of the south palace, including the Small Serdab, the north and south pavilions, the maydan, and probably racecourse 2. Secondly, there is the east extension of the north palace. The one identifiable building in this extension is a palace (H294), which perpetuates the residential character of the compound. It is strange that part of the original palace would appear to have been demolished, but the evidence is not clear enough to be certain what happened. There are also many other structures whose relative dating within the complex is uncertain.

# The Topography of the Palace in the Texts

The most recent traditional name for the palace has been Qasr or Bayt al-Khalifa, <sup>84</sup> which is still used today in Iraq. <sup>85</sup> However, by the time of his preliminary report of 1914, Herzfeld was calling the site al-Jawsaq al-Khaqani, possibly relying on the work of Schwarz. <sup>86</sup> In 1983 al-Ani pointed out that there are two different palaces mentioned in the texts, al-Jawsaq and the Dar al-Amma, and that Herzfeld could not be right in applying the name of al-Jawsaq to the palace complex. <sup>87</sup> The crucial text is from the  $T\bar{a}r\bar{i}kh$  of al-Yacqubi: <sup>88</sup>

He [Mu<sup>c</sup>tasim] stopped at the site on which is the Dar al-<sup>c</sup>Amma, and there was there a monastery of the Christians, and he bought the land from the people of the monastery, and he laid out [buildings] on the site, and he went to the site of the palace known as the Jawsaq on the Tigris, and built there a number of palaces.

All the texts confirm that two buildings are in question, but other texts mention events at both together, as though there was no great distance between them.<sup>89</sup>

The Dar al-'Amma. At the top of the range of terminology are expressions which call the palace the House of the Caliph or House of the Caliphate. Al-Ya'qubi uses Dar al-Khalifa, <sup>90</sup> Tabari uses Dar al-Khilafa, <sup>91</sup> Dar al-Sultan, <sup>92</sup> and Dar Amir al-Mu'minin. <sup>93</sup> Dar al-Khilafa could also have the abstract meaning of the caliph's household. <sup>94</sup> In 256/870 the complex is simply called al-Dar. <sup>95</sup> This type of terminology predated the use of Dar al-Khilafa for the caliphal

palace complex in Baghdad from the reign of al-Mu<sup>c</sup>tadid (892–908) onwards. <sup>96</sup> It is clear that the modern traditional name of Qasr al-Khalifa is a descendant of this term.

This group of names may have represented an overall designation of a complex which had a number of palaces within it, as was the case for the Dar al-Khilafa in Baghdad; but it is perhaps more likely that they were simple synonyms of Dar al-Amma; al-Yacqubi in fact explains Dar al-Khalifa in this latter way.<sup>97</sup>

The Dar al-famma was the public palace in which the caliph sat in audience on Mondays and Thursdays. The caliphs also seem to have conducted a large part of their business there. Only the caliph had the right to make appointments there, the oath of allegiance was taken to al-Musta'in there in 248/862, and al-Muhtadi sat in the court of justice (maṣālim) there.

It is specifically stated that the Dar al-Amma was built on the site of the monastery which had previously been there, and the monastery building became the treasury (bayt al-māl). 101 All texts link the bayt al-māl with the Dar al-Amma, notably an occasion in 231/845–46 when "thieves made a hole into the bayt al-māl which is in the Dar al-Amma in the heart of the palace, and took 42,000 dirhams." 102 One may suppose that as a result of this event the monastery was replaced with a more secure building, for there is no sign of a monastery building on the ground.

Also closely associated with the Dar al-'Amma is the Bab al-'Amma. In the texts, the Bab al-'Amma is the site for formal arrivals at the palace. <sup>103</sup> For example, when the rebel Babak was brought to Samarra in 223/838, "the people came to look at him from al-Matira to Bab al-'Amma, and he was brought into the Dar al-'Amma to the Prince of Believers. <sup>\*\*104</sup> In 241/855–56 al-Qummi "stood at the Bab al-'Amma with some of the Bujja, 70 ghulāms on riding camels. <sup>\*\*105</sup> These events were triumphal processions, reminiscent of Roman triumphs.

However, the Bab al-Amma is also identified with public punishments. In 226/841, they "crucified [al-Afshin] on the Bab al-Amma so that the people should see him.... The body was burnt, and the ashes taken and thrown in the Tigris." In 256/870 the head of Salih b. Wasif "was hung up at the Bab al-Amma for an hour." In 259/872-73 "they beat [a Christian secretary of Kanjur]... 1000 lashes at Bab al-Amma, and he died." It seems that the sinister reputation of the palace in the modern tradition (in the description

of John Ross above) derives from these events, although it has spread from the Bab al-Amma to other parts of the palace.<sup>109</sup>

In the texts the Bab al-'Amma is localized in the west of the palace—one could go out from the Bab al-'Amma towards al-Haruni, which lay in the flood plain of the Tigris<sup>110</sup>—and in relation to the "avenue," that is the Shari' al-A'zam or Shari' al-Sarija.<sup>111</sup> One could see the Bab al-'Amma and the Dar al-'Amma from the avenue.<sup>112</sup> So the traditional identification of the Bab al-'Amma with the triple iwan on the west façade of the palace must be correct, and the square reception-hall block of the south palace must be the Dar al-'Amma.

It seems strange that the main avenue should be said to have passed through the formal, presumably private, garden of the caliph, and the identification of the Bab al-Amma has been doubted for this reason. 113 The solution appears to lie in a chronological sequence. The archaeological evidence of the western garden is compatible with, although it does not prove, the hypothesis that it is early in date and belongs to the original period of construction at the palace.<sup>114</sup> The first mention of the Bab al-Amma as a place open to the public dates to 223/838, and the description of the Shari' al-A'zam by al-Ya'qubi dates to after the death of al-Mutawakkil in 247/861.115 It may not have been possible to keep private what was planned by the architects as a private garden, when the palace itself was dedicated as a public building. At any rate the most logical place for the avenue to have crossed the garden is between the north-south walls (figs. 3 and 9).

The bayt al-māl is associated with the Bab al-Amma and the avenue in an event of 248/862, and thus may be building H311 on the south side of the square reception-hall block. If this were not so, one would have preferred to identify the bayt al-māl with the vaulted building (H338) in the enclosure of the Large Serdab, which seems more secure, and could be described as a Mesopotamian version of the raised bayt al-māl in the Umayyad mosque of Damascus.

Al-Jawsaq. According to al-Yacqubi al-Jawsaq belonged to the original construction of Samarra, and was called al-Jawsaq al-Khaqani, after Khaqan cUrtuj Abu al-Fath b. Khaqan, who was responsible for its construction and who was assigned a qatica adjacent to it.<sup>117</sup> An iwan is mentioned in it.<sup>118</sup> There was also a tower called al-Lu'lu'a (the Pearl), which was built as a prison for al-Afshin;

it was possible for a guard to walk around underneath it.<sup>119</sup>

Al-Jawsaq is clearly signaled in the texts as the private residence where the caliphs lived. Al-Mu<sup>c</sup>tasim was buried there in 227/842.<sup>120</sup> Al-Wathiq (227/842-232/847) built and moved to al-Haruni, where al-Mutawakkil also lived for most of his reign (232/847-247/861). But al-Mutawakkil settled his son al-Muntasir at al-Jawsaq, 121 and according to Ibn Actham al-Kufi (d. 314/926) al-Muntasir was buried there in 248/862.122 Al-Mustacin, al-Muctazz and al-Muhtadi all lived in al-Jawsaq,123 and the latter two were buried there, together with al-Muntasir. 124 Al-Muctamid lived in al-Jawsaq, until a move to al-Macshuq, and returned there for a last time in 269/884. 125 In 290/ 903 al-Muktafi decided to reestablish the capital at Samarra, but seems to have found al-Jawsaq a ruin, for he was forced to camp there.126

The limited evidence for women in the palace is related to al-Jawsaq: in 255/869 Qabiha, the mother of al-Mu<sup>c</sup>tazz, "brought out the money, jewels, and valuable possessions in the stores within al-Jawsaq" to pay the Turks. <sup>127</sup> In 256/870 a letter was published, which a woman had brought "from the area adjacent to the Qasr al-Ahmar (normally associated with al-Jawsaq). "128

Al-Jawsaq was used to jail distinguished prisoners. The first in 225/839–40 was al-Afshin Khaydar b. Kawus al-Ushrusani, for whom a special prison was built. <sup>129</sup> In 248/862 al-Musta<sup>c</sup>in imprisoned the two sons of al-Mutawakkil, al-Mu<sup>c</sup>tazz and al-Mu<sup>2</sup>ayyad in a room in al-Jawsaq. <sup>130</sup> Released in 251/865, al-Mu<sup>c</sup>tazz was made caliph, and reimprisoned the unfortunate al-Mu<sup>2</sup>ayyad, who ultimately died in prison. <sup>131</sup> In 256/870 al-Mu<sup>c</sup>tamid was brought out of prison in al-Jawsaq to be made caliph. <sup>132</sup>

When one approached the palace by the Shari<sup>c</sup> Abi Ahmad, according to al-Yacqubi, one approached the Bab al-Bustan and the qusur alkhalifa (palaces of the caliph, a phrase which appears to mean the private residences of the caliph). Al-Yacqubi does not mention al-Jawsaq or al-Jawsaq al-Khaqani in his description of the avenues of Samarra, and one must presume that it is here subsumed among the residences of the caliph. 133 In some way the residences of the caliph lay at the east end of the palace. In 256/870, also, Musa b. Bugha "took to al-Hayr<sup>134</sup>... until he came to the gate of al-Hayr which is adjacent to al-Jawsaq and al-Qasr al-Ahmar."135 Al-Jawsaq is described as looking out over al-Hayr—to the east, though also mentioned as "al-Jawsaq on the Tigris." 136

The obvious candidate for the identification of al-Jawsaq is the north palace in the complex (H293). It is the only building of the appropriate scale to serve as the residence of the caliphs—it has residential apartments, which the square building does not. The cantonment to the north (site X) is a good candidate for the qatical of Khaqan Urtuj, which is mentioned as having been adjacent to al-Jawsaq. 187

The palace at H294, in the added eastern extension of the compound, could be identified with the palace of al-Kamil, built for al-Mu<sup>c</sup>tazz by al-Mutawakkil within al-Jawsaq, and perhaps added to in his own reign by a building designed by his mother. <sup>138</sup> Al-Qasr al-Ahmar, closely associated with, but separate from, al-Jawsaq, and located near an east gate into the complex, could be identified with H283. <sup>139</sup>

# Discussion

The dual nature of the palace, in both the textual sources and the archaeological evidence, is quite striking. On the one hand, there is a square palace with no residential accommodation, facing onto the Shari<sup>c</sup> al-A<sup>c</sup>zam and the garden on the west and onto a grand courtyard to the east. On the other hand, there is a palace with residential accommodation, enclosed within a massive buttressed wall. In the textual evidence there is the Dar al-cAmma, a public palace where caliphs are made and unmade<sup>140</sup> and sit in audience and judgment. On the other hand, there is a private residence, al-Jawsaq, where caliphs live, die, and are buried, and which seems to be the domain of the women.

These features are confirmed by the similarities and differences in the plan of al-Jacfari (fig. 18). Without doubt the caliphal palace of al-Mutawakkiliyya, built in 245/859-247/861, was intended to match, and was to a certain extent a copy of, the caliphal palace of Surra Man Ra'a. The area of the main palace, 176 ha., is almost identical to that of the Dar al-Khilafa, but the building is separated from the city by a space of between 1,100 m and 2,300 m, which can only have been intended for the caliph's peace and security. The reception-hall block on the Tigris is smaller (125 x 125 m), and the body of the palace is dominated by blocks of courtyard houses, obviously used as residential apartments. To the north and east, the large area and organization of storehouses and workshops is impressive, by comparison with the apparently piecemeal arrangements of the Dar al-Khilafa. According to Tabari, there was a Bab al-Amma at al-Ja<sup>c</sup>fari, which is not yet precisely identified, <sup>141</sup> but it is obvious that the role of public palace was, firstly, integrated into an overall design, and, secondly, far less important than at the Dar al-Khilafa. Al-Mutawakkil had been caliph for twelve years when he began al-Mutawakkiliyya in 245/859, and had no doubt grown tired of the hurly-burly of politics. <sup>142</sup>

This failure on the part of al-Mutawakkil emphasizes al-Mutasim's political vision in constructing a prominent public palace. Al-Mutasim had his relationship with his people foremost in his mind when he laid out the Dar al-Amma. There are only two other extant early Islamic palaces where orientation towards the public is regarded as important; one is the four-iwan reception hall at the entrance of the Umayyad palace in Amman, and the other is the palace of Ashnas at al-Karkh, Sur Ashnas, where the main entrance leads into a courtyard with a mosque in its center. 143

It is striking that it is the public palace which received the attention in terms of additions, improvements, and quality of construction, although the two structures are of similar dimensions. The square palace is entirely constructed of fired brick; the north palace is partly constructed of mud brick and pisé. Several complexes were either built originally or subsequently added to the great courtyard of the south palace, including the sports and leisure complex at the east end. The only addition made to the north palace was the small palace H294, whereas part of the original structure appears to have been demolished.

This disparity could be explained if one considers the public palace as the domain of the men and the private palace as the domain of the women. No doubt the caliphs spent their days in the Dar al-Amma, not merely the two days of public audience. 144 The sporting facilities are attached to the public, not the private, palace. It is common for more to be spent on the facilities for those who control the finances.

Lastly there is no doubt that some of the more peculiar features can be attributed to the complex history of the palace. In particular, towards the end, under al-Mu<sup>e</sup>tamid (256/870–279/892), who had little power or influence, occupation may have been reduced, and the square building may have been the last to be occupied, which may explain the private nature of the wall paintings in the so-called harīm.

### Notes

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- K. A. C. Creswell, Early Muslim Architecture, 1st ed., 2 vols. (hereafter EMA) (Oxford, 1940), 2:232-45; Ernst Herzfeld, "Mitteilung über die Arbeiten der zweiten Kampagne von Samarra," Der Islam 5 (1914): 196-204.
- This has happened in James Allan's new edition of Creswell's Short Account of Early Muslim Architecture (Aldershot, 1989), fig. 210. In Creswell's original edition of the Short Account, the plan of the palace was not included at all, no doubt for reasons of space.
- 3. Herzfeld, "Mitteilung über die Arbeiten," 196; Herzfeld, Ausgrabungen von Samarra, vol. 6, Geschichte der Stadt Samarra (Hamburg, 1948), passim.
- 4. E.g., E. Esin, "The Turk al-Ağam of Samarra and the Paintings Attributable to Them in the Ğawsaq al-Ḥaqani," Kunst des Orients 9 (1973-74): 47-88.
- 5. There was, of course, no question of rediscovery of the site, whose location had always been known.
- 6. John Ross, "A Journey from Baghdad to the Ruins of Opis and the Median Wall in 1834," Journal of the Royal Geographic Society 11 (1841): 121-36.
- 7. J.F. Jones, "Journal of a Steam Voyage to the North of Baghdad in April 1846," Journal of the Royal Geographical Society 18 (1848): 1-19.
- General L. de Beylié, Prôme et Samarra: Voyage archéologique en Birmanie et en Mésopotamie (Paris, 1907); de Beylié, "L'architecture des Abbassides au IX<sup>e</sup> siècle. Voyage archéologique à Samara,

- dans le bassin du Tigre," Revue archéologique, 4th ser., 10 (1907): 1-18.
- 9. Henri Viollet, "Description du palais de al-Moutasim fils d'Haroun-al-Raschid à Samara et quelques monuments arabes peu connus de la Mésopotamie," Mémoires presentés à l'Académie des Inscriptions et des Belles-Lettres 12 (1909): 567-94; H. Viollet, "Le palais de al-Moutasim fils d'Haroun-al-Raschid à Samara et quelques monuments arabes peu connus de la Mésopotamie," Comptes Rendus de l'Académie des Inscriptions et des Belles-Lettres (1909): 370-75; H. Viollet, "Fouilles à Samara en Mésopotamie: Un palais musulman du IXe siècle," Mémoires presentés à l'Académie des Inscriptions et des Belles-Lettres 12 (1911): 685-717; H. Viollet, "Fouilles à Samara: Ruines du palais d'Al Moutasim," Comptes Rendus de l'Académie des Inscriptions et des Belles-Lettres (1911): 275-86.
- Ernst Herzfeld, Samarra: Aufnahmen und Untersuchungen zur islamischen Archäologie (Berlin, 1907).
- The origins and events of the German Samarra Expedition are briefly recounted in Alastair Northedge, "Creswell, Herzfeld and Samarra," Muqarnas 8 (1991): 74-93.
- 12. "The excavations in the palaces have been completely robbed of bricks; one sees only the trenches, instead of walls. No pavements. The other excavations are blown away [i.e., silted] and vegetation begins to grow over them" (Journal N-83, p. 16, in the Herzfeld Archive, Arthur M. Sackler Gallery, Washington, D.C.).
- 13. Herzfeld, "Mitteilung über die Arbeiten."
- 14. The original field notes still exist in the Herzfeld Archive.
- 15. For the purposes of my survey and catalogue of sites at Samarra, the various site areas have been allotted letter designations from A to Z to identify them. For individual buildings and archaeological sites, numbers are added to the letters in the series. For example, P7 is a group of three brick kilns in site P.
- 17. Khālid Khalīl Ḥammūdī, "Qaşr al-khalīfa al-Mu<sup>c</sup>taṣim fī Sāmarrā," Sumer 38 (1982): 168-205; on 168, he remarks that work on the palace was

- carried out from 1936 onwards, although it is not evident what this work was.
- 18. Ḥammūdī, "Qaṣr al-khalīfa al-Muctaṣim."
- 19. The publication is Ḥāfiz Ḥusayn Ḥayānī, "al-Ḥīr," Sumer 44 (1985–86): 139–57 (Ar. sect.). The structure is identified in this article and on the information signs at the site as "the palace of al-Ḥayr," a building whose location is not given in the texts which refer to it (Walīd b. ʿUbayd al-Buḥturī, Dīwān al-Buḥturī, ed. Hasan Kamil al-Sayrafi [Cairo, 1963–64], 1.44; Yāqūt b. ʿAbdallah al-Ḥamawī al-Rūmī al-Baghdādī, Kitāb Mư jam al-Buldān, 6 vols., ed. Wüstenfeld [Leipzig, 1866–73], s.v. al-Ḥayr). Hayani does not explain the identification or tell us who first proposed it.
- Creswell, EMA, 2:265-70; Creswell-Allan, Short Account, 365-67.
- 21. Alastair Northedge and R. Falkner, "The 1986 Survey Season at Samarra," Iraq 49 (1987):143-73.
- Creswell, EMA, 2:50-98; Creswell-Allan, Short Account, 248-63.
- 23. Creswell-Allan, Short Account, 10-15.
- 24. Ḥayānī, "al-Ḥir."
- 25. Alastair Northedge, "The Racecourses at Samarra," Bulletin of the School of Oriental and African Studies 53 (1990): 31-56.
- Muḥammad b. Jarīr al-Tabarī, Tārīkh al-Rusulwa'l-Mulūk, ed. de Goeje et al. (Leiden, 1879–1901), 3:2040.
- 27. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1394-1403.
- 28. A type of boat.
- 29. Abū al-Faraj 'Alī b. Ḥusayn al-Işfahānī, Kitāb al-Aghānī, 21 vols. (Bulaq, 1867), 9:32.
- 30. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1696.
- 31. J. Lassner, The Topography of Baghdad in the Early Middle Ages (Detroit, 1970), 54.
- 32. E.g., Qasr Kharana (Creswell-Allan, Short Account, 96-105); or Jabal Sais (pp. 118-22).
- 33. Not so far published.
- 34. In 1977 this basin was in the courtyard of the Abbasid Palace in Baghdad. Previously it had been in the Khan Mirjan (F. Basmachi, *Treasures of the*

- Iraq Museum [Baghdad, 1976]).
- 35. Herzfeld, Die Ausgrabungen, vol. 3.
- 36. Surface fragments found at al-Haruni in 1989.
- 37. Creswell, EMA, 243, fig. 193.
- 38. Herzfeld, "Mitteilung über die Arbeiten."
- 39. Ḥammūdī, "Qaṣr al-khalīfa al-Muctaṣim," 187.
- 40. Ḥammūdī, "Qaṣr al-khalī fa al-Muctaṣim," 201, 204.
- 41. Information from Sd. Hafiz Hayani.
- 42. Herzfeld, "Mitteilung über die Arbeiten."
- Aḥmad b. Ābī Yaʿqūb b. Wāḍiḥ al-Yaʿqūbī, Kitāb al-Buldān, ed. M. J. de Goeje, Bibliotheca Geographorum Arabicorum 7 (Leiden, 1892), 261; Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1807.
- 44. The name Surra Man Ra<sup>2</sup>a, which appears to have been the formal name of the city of al-Mu<sup>c</sup>tasim, is used here to refer to the central city, in contrast to the outlying cantonments of al-Matira and al-Karkh, and the city of al-Mutawakkiliyya.
- 45. The full argumentation of the subject of this avenue and its relationship to the layout of the original Surra Man Ra<sup>2</sup>a must be reserved for another publication.
- 46. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1820-22.
- 47. Al-Ya'qūbī, Buldān, 262. At this point there is a grand palace on the east side of the avenue, and another on the west. One should be identified with the house of Itakh, and the other probably with al-'Umari (al-Ya'qūbī, Buldān, 258; Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1300-1, 1503, 1504; Abū al-Ḥasan'Alī b. al-Ḥusayn al-Mas'ūdī, Murūj al-Dhahab wa Ma'ādin al-Jawāhīr, ed. and trans. C. Barbier de Reinard and P. de Courteille, 9 vols. [Paris, 1861-77], 7:122).
- 48. It should be remembered that the written sources are of varied origins. Consistency in naming structures cannot be expected.
- 49. Herzfeld excavated the entrance to this building from the great courtyard. However, his reading of the plan differs somewhat from the impression given by the aerial photographs.
- 50. Creswell, EMA, fig. 64.
- 51. The plan of the palace at al-Musharrahat can be

- consulted in Northedge, "Creswell, Herzfeld and Samarra," fig. 12, and Northedge, "The Palace of al-Istabulat at Samarra," *Archéologie islamique* 3 (1993), fig. 8; a publication is being prepared by Petersen and Northedge.
- 52. The plan of Sur Isa regrettably remains unpublished. See drawing D-1084 in the Herzfeld Archive, Arthur M. Sackler Gallery, Washington, D.C.
- 53. Al-Ya'qūbī, Buldān, 240.
- 54. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1503, 1504.
- 55. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1504.
- 56. Țabarī, Tārīkh al-Rusulwa'l-Mulūk, 3:1815, 1823-24.
- Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1680. Translation of G. Saliba.
- 58. Herzfeld, "Mitteilung über die Arbeiten," 201.
- 59. J. Oates, Babylon (London, 1979), 151, ill. 101; R. Koldewey, Das Wiedererstehende Babylon (Leipzig, 1925). Koldewey in fact proposed that the vaulted building was the site of the Hanging Gardens of Babylon, although he recognized that the hypothesis "bristled with difficulties." The building contained an archive of tablets detailing lists of rations for foreign exiles in the city and an unusual type of triple well. A series of wells is also to be found in the similar building A12 at al-Jafari.
- 60. By contrast no examples of the cross-hatch style, style B, or the beveled style, style C, are yet known dating from before the foundation of Samarra.
- 61. It is of course possible that the decoration of the Bab al-Amma is later than the building itself. In fact, one would expect the building to have been redecorated during its occupation.
- 62. Directorate General of Antiquities, *Hafriyyāt Sāmarrā*, 1936–39, 2 vols. (Baghdad, 1940).
- 63. Herzfeld Archive, drawings D-1049 and D-1125.
- 64. It is assumed that a service department of the palace would require a majlis for the chief which would be impressive in proportion to the individual's importance, and that the work areas would lie behind and perhaps out of sight. An alternative explanation might be that this complex is the residence of someone close to the caliph, although this building does not have any apartments for the accommodation of dependents.
- 65. Viollet, Fouilles à Samara, pl. III.

- 66. Ḥayānī, "al-Ḥīr," 139-57.
- 67. Herzfeld, "Mitteilung über die Arbeiten."
- 68. Herzfeld, "Mitteilung über die Arbeiten."
- 69. Modification of building plans to correct problems evident in earlier versions is known elsewhere at Samarra: one can argue that the plan of the cloverleaf racecourse was dictated by the obvious difficulty of the traditional out-and-back plan (racecourses l and 2), that the caliph could not see the whole race (Northedge, "Racecourses at Samarra"). The cloverleaf racecourse also appears to date to the reign of al-Mutwakkil. One suspects that these modifications were the result of the personal intervention of al-Mutawakkil, who was a great lover of architecture, and personally supervised the construction of al-Mutawakkiliyya from the palaces of al-Muhammadiyya on the raised canal levée of the Qatul al-Kisrawi to the east of the site of the Abu Dulaf mosque (Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1438).
- 70. Al-Ya'qūbī, Buldān, 260.
- 71. Viollet, Fouilles à Samarra, pl. III; Herzfeld Archive, drawings D-1031 and D-1124.
- 72. Herzfeld Archive, drawing D-1044.
- 73. Herzfeld, "Mitteilung über die Arbeiten."
- 74. Arthur Upham Pope and Phyllis Ackerman, eds., A Survey of Persian Art from Prehistoric Times to the Present, 4 vols. (Oxford, 1938–39), 1407, fig. 512. R. D. McChesney, "Four Sources on the Building of Isfahan," Muqarnas 5 (1988): 103–35, quotes the Nuqawāt al-Athār of Maḥmūd b. Hidāyat Allah Natanzī on the purpose of the Maydan-i Shah: "For polo (chūgān-bāzī) and horse racing (asb-tāzī) the maidan was leveled." In a second phase, however, the purpose of the maydan was changed.
- 75. Ibn Qutayba, 'Uyūn al-Akhbār, 2 vols., ed. Brockelmann (Berlin, 1900), l:166; A. Mez, Die Renaissance des Islams (Heidelberg, 1922), 385. Mez incorrectly noted the width as 60 meters. The caliph's maydan was no doubt larger than those of ordinary notables.
- 76. For a detailed discussion of the sport of horse racing, see Northedge, "Racecourses at Samarra."
- 77. In Northedge, "Racecourses at Samarra," the figure of 10,500 m was quoted as the length of racecourse 3. The new figure of 10,420 m is based upon electronic measurement of the same map source dated 1917, cf. Northedge, "Racecourses at

- Samarra," n. 87. Nevertheless the new figure seems to be more correct, for it matches a corrected measurement for racecourse l of 10,417 m. If these distances represented 20,000 cubits, then the cubit was 0.52 m.
- 78. Yô is one of a group of five identical structures in the steppe which are oriented to the qibla and would appear to be muşallās.
- 79. Northedge, "Racecourses at Samarra."
- 80. Viollet, Fouilles à Samara, 25, pls. XIV, XXI.
- 81. The buttresses were presumably 20 cubits in diameter (20 x.52 m = 10.4 m).
- 82. Demolition seems to be the most logical explanation for the disappearance of the east end which appears on Herzfeld's plan and seems to be confirmed by examination of the aerial photographs. Regrettably I did not address this question during a visit to this site in 1989.
- 83. This plan is paralleled in a building in al-Jaffari (A188), but not in any of the excavated buildings.
- 84. Cf. above, description by Ross, "Journey from Baghdad."
- 85. E.g., Ḥammūdī, "Qaṣr al-khalīfa al-Muctaṣim"; Ḥayānī, "al-Ḥīr."
- 86. P. Schwartz, Die Abbasiden-Residenz Samarra. Neue historisch-geographische Untersuchungen (Leipzig, 1909).
- 87. A. A. N. al-Ani, "Istadrikāt tārīkhiyya li-mawāqisathariyya III," Sumer 39 (1983): 261–66 (Ar. sect.).
- 88. Al-Ya'qūbī, Tārīkh, 2:473.
- 89. Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1787-88, 1823-24.
- 90. Al-Ya'qūbī, Buldān, 261.
- 91. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1350, 1788.
- 92. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1706.
- 93. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1804, 1807.
- 94. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1383.
- Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1787-88, 1820-22, 1823-24.
- 96. Lassner, Topography of Baghdad, 85-91. The

- possibility that the usage of Dar al-Khilafa at Samarra is a back projection from later times seems to be excluded by its use by a contemporary author such as al-Ya<sup>c</sup>qūbī.
- 97. Al-Ya'qūbī, Buldān, 261.
- 98. Al-Ya'qūbī, Buldān, 261.
- 99. Cf. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1350, for an exception.
- 100. Ţabarī, Tārīkh al-Rusul wa 'l-Mulūk, 3:1503, 1788. The mazālim was the law court presided over by the caliph.
- 101. Al-Ya'qūbī, Buldān, 255.
- 102. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1350-51, 1503.
- 103. Dominique Sourdel ("Questions de cérémonial abbaside," Revue des études islamiques 38 [1960]: 121-48) must be right in saying that the Bab al-'Amma was not itself a reception room.
- 104. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1230.
- 105. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1433. The Bujja were from Nubia. Cf. also Ahmad b. Abī Yaʿqūb b. Wāḍiḥ al-Yaʿqūbī, Tārīkh, ed. M. Houtsma, 2 vols. (Leiden, 1883), 2:480, for the arrival of the rebel Abu Harb al-Mubarqaʿ from Palestine.
- 106. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1318. The bodies are said to have been crucified after execution.
- 107. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1811.
- 108. Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1874. Cf. also Ṭabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1419, 1434, 1522, 1722-23, 1859.
- 109. The sinister reputation of the Bab al-Amma may also explain why it is that the fired bricks of the triple iwan have not been robbed out along with the rest of the palace.
- 110. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1504.
- 111. Tabarī, *Tārīkh al-Rusul wa 'l-Mulūk*, 3:1503, 1505, 1722-23, 1821, 1823-24.
- 112. Al-Yaʻqūbī, Buldān, 261.
- 113. Sourdel, "Questions de cérémonial," 126–27. There is no sign of a monumental avenue on the

- east side of the palace, a possibility suggested by Sourdel.
- 114. The principal arguments for proposing that the garden is original are (1) what did the Bab al'Amma look out onto if the garden was not there?
  (2) There is no evidence that it replaced other construction, and it is well adapted to the architecture of the palace. (3) The palace of Balkuwara, which is a single-phase building, was constructed with a garden facing onto the Tigris (Creswell, EMA, fig. 214).
- 115. Al-Yacqūbī, Buldān, 260.
- 116. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1503.
- 117. Al-Ya'qūbī, Buldān, 258. There is also a mention of "al-Jawsaq al-Ibrahimi," which cost 2 million dirhams (Abū al-Faraj 'Ali b. Ḥusayn al-Iṣfahānī, Kitāb adab al-ghurabā', ed. S. Munajjid [Beirut, 1972], 47-50), and "al-Jawsaq fi Maydan al-Sahn" or "al-Sakhr," which cost 500,000 dirhams (Al-Iṣfahānī, Kitāb adab al-ghurabā'; Yāqūt, Mu'jam al-Buldān, s.v. Sāmarrā). Both constructions are attributed to al-Mutawakkil.
- 118. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1881.
- 119. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1307.
- 120. Al-Ya'qūbī, *Tārīkh*, 2:478.
- 121. Al-Ya'qūbī, Buldān, 265; Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1446.
- 122. Abū Muḥammad Aḥmad ibn A'tham al-Kūfī, Kitāb al-Futūḥ, 8 vols. (Haydarabad, 1975), 8:354; al-Khaū b al-Baghdādī, Tārīkh Baghdād, Cairo, ed. 2:121. Already doubted by Oleg Grabar ("The Earliest Islamic Commemorative Structures: Notes and Documents," Ars Orientalis 6 [1966]: 7-46) and Sheila Blair ("The Octagonal Pavilion at Natanz," Muqarnas 1 [1983]: 69-94), Herzfeld's view that the Qubbat al-Sulaybiyya was the mausoleum of al-Muntasir now seems definitely incorrect (Friedrich Sarre and Ernst Herzfeld, Archāologische Reise im Euphrat- und Tigris-gebiet, 4 vols. [Berlin: D. Reimer, 1911-20], 2:86; Creswell, EMA, 285).
- 123. Al-Ya'qūbī, Buldān, 267.
- 124. Țabarī, Tārī kh al-Rusul wa'l-Mulūk, 3:1711, 1823.
- 125. Al-Ya'qūbī, Buldān, 267; Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:2040.
- 126. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:2223-24;

- 'Izz al-Dīn ibn al-Athīr, al-Kāmilfi al-Tārīkh, ed. C. J. Tornberg, 14 vols. (Leiden, 1866–71), 6:108.
- 127. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1716.
- 128. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1791.
- 129. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1307.
- 130. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1507, 1545.
- 131. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1545, 1668.
- 132. Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1831.
- 133. Cf. also "al-Jawsaq and other maqāṣīr" (Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1820); "al-Jawsaq and the palaces of the Caliphate" (al-Ya'qūbī, Buldān, 267).
- 134. The hunting reserve east of the city. The area seems later to have lost its specific function, but the name remained in use.
- 135. Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1787-88.
- 136. Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:2040; al-Ya<sup>c</sup>qūbī, Tārīkh, 2:473.
- 137. The evidence of relationship with racecourse l and Tell al-'Alij shows that site X must be early in date (Northedge, "Racecourses at Samarra").
- 138. Al-Isfahānī, Adab, 47-50; Abū al-Ḥasan ʿAlī b. Muḥammad al-Shābushtī, Kitāb al-Diyārāt, ed. Gurgis Awwad, 2nd ed. (Baghdad, 1966), 170.
- 139. Țabarī, *Tārīkh al-Rusul wa'l-Mulūk*, 3:1788, 1791, 1823-24.
- 140. Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1787–88, 1820–24.
- 141. Țabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1479.
- 142. Al-Mutawakkil was said to have neglected his public duties in the weeks before his murder (Ţabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1453-54).
- 143. Regrettably Sur Ashnas is not published. For the Turkish cantonments of al-Karkh, see A. Northedge, "Archaeology and New Urban Settlement in Early Islamic Syria and Iraq," in Studies in Late Antiquity and Early Islam, ed. G. R. D. King and A. Cameron, vol. 2, Settlement Patterns in the Byzantine and Early Islamic Near East (forthcoming).
- 144. Sourdel, "Questions de cérémonial," 126; Tabarī, Tārīkh al-Rusul wa'l-Mulūk, 3:1496.

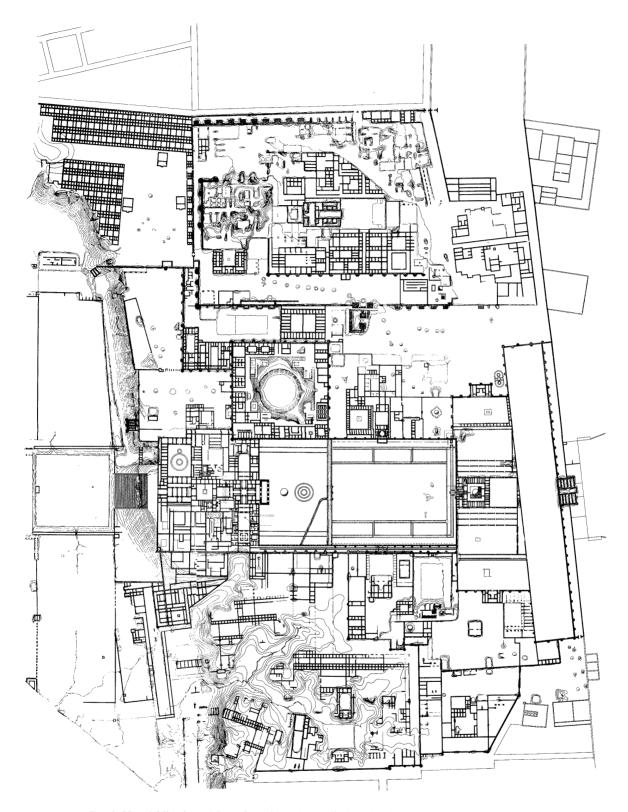
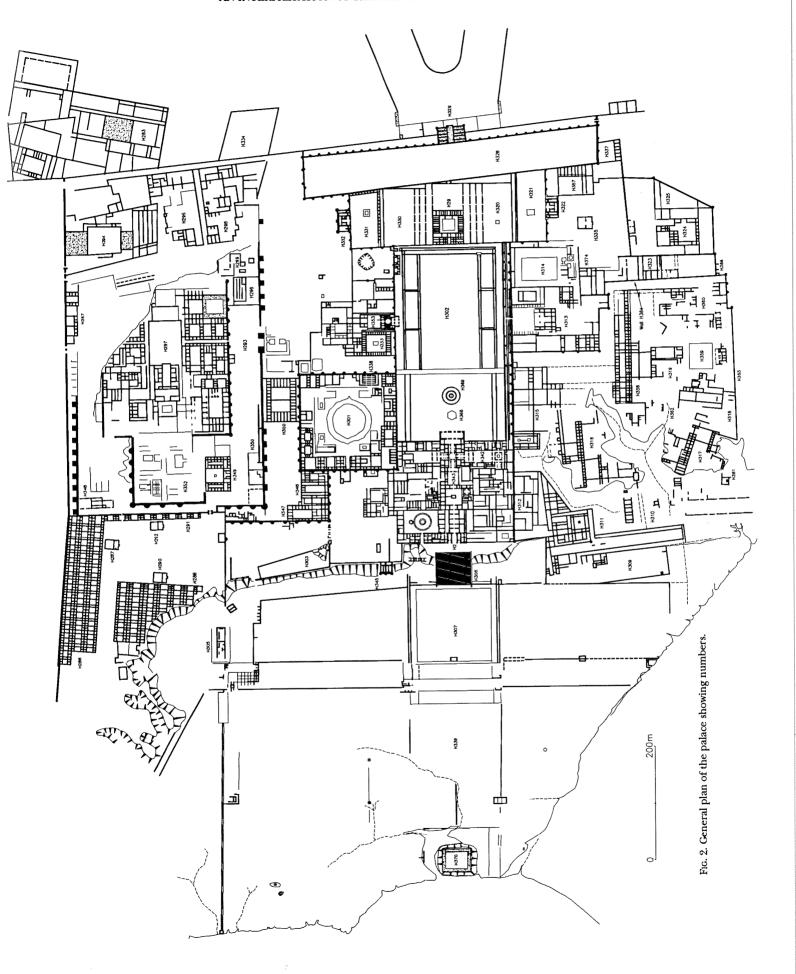


Fig. 1. Herzfeld's plan of the palace. After Creswell, Early Muslim Architecture, vol. 2. fig. 194.



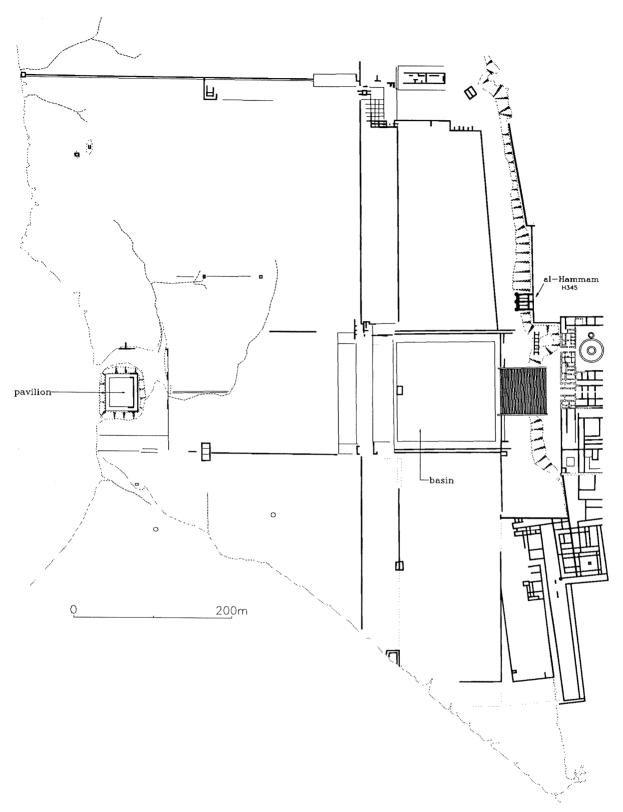


Fig. 3. The western garden (H339).



Fig. 4. Vertical aerial view of the palace.



Fig. 5. Oblique aerial view of the Bab al-'Amma and the square building, taken in 1936. Courtesy the Library of the Institute of Archaeology, University College, London.

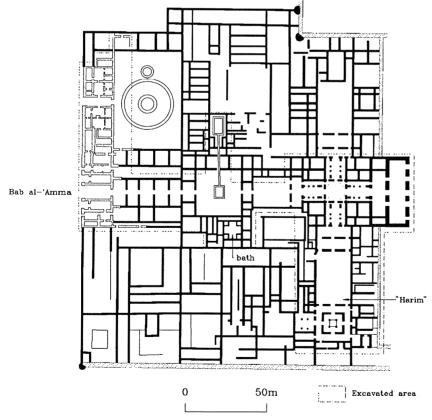


Fig. 6. The square reception-hall block (H343).

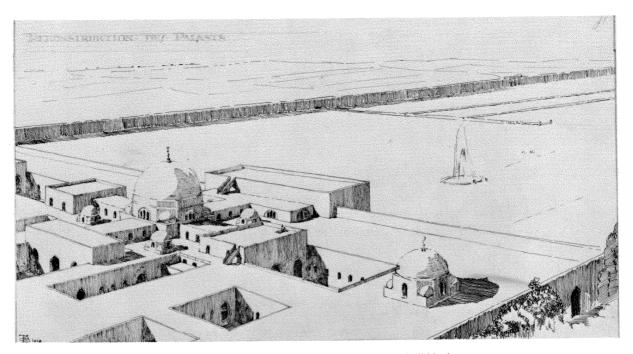


Fig. 7. Reconstruction of the square reception-hall block.

Drawing D-1104a in the Ernst Herzfeld Papers.

Courtesy Freer Gallery of Art/Arthur M. Sackler Gallery Archives, Washington, D.C.

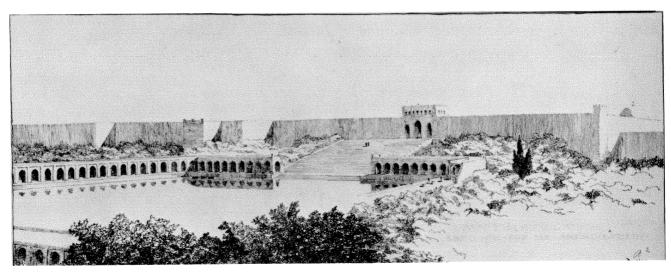


Fig. 8. Reconstruction of the approach to the Bab al-Amma.

Drawing D-1101 in the Ernst Herzfeld Papers.

Courtesy Freer Gallery of Art/Arthur M. Sackler Gallery Archives, Washington, D.C.

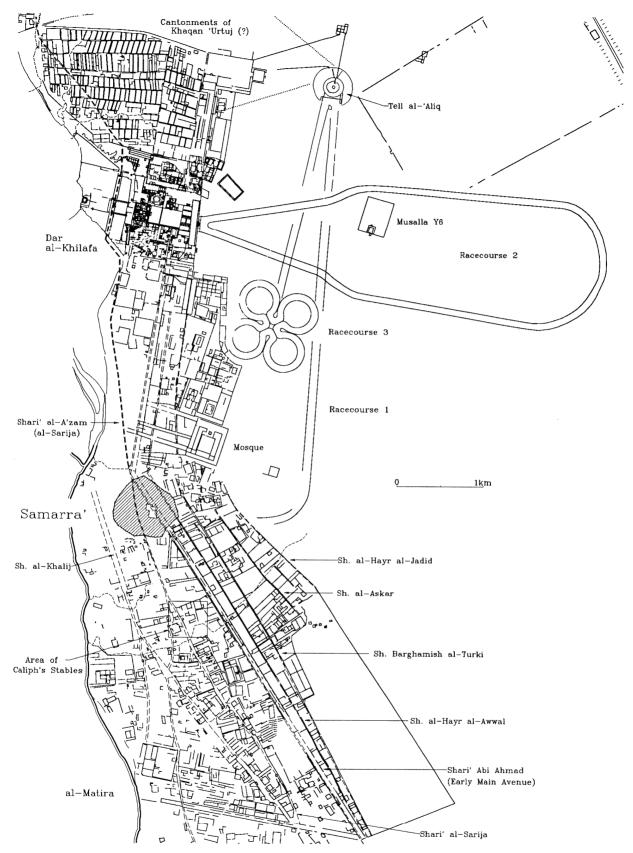


Fig. 9. The central area of Samarra, showing the location of the palace and other sites mentioned in the text.



Fig. 10. The Large Serdab, in the course of excavation and restoration by the Iraq Directorate-General of Antiquities in 1989.

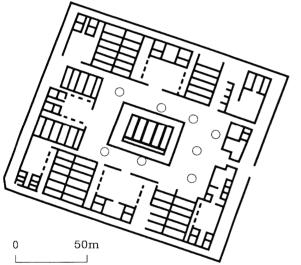
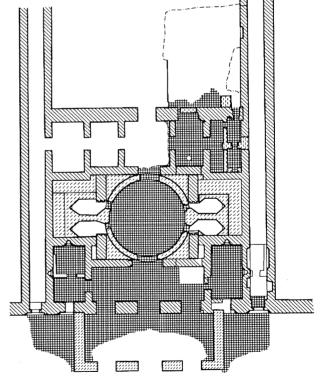


Fig. 11. Building A12 in al-Jacfari, showing the central "vaulted building" surrounded by courtyards, perhaps representing workshops and offices.



0 10m

Fig. 12. The Rotundabau (H353). Redrawn after drawing D-1049 in the Herzfeld Archive, Arthur M. Sackler Gallery, Washington, D.C.

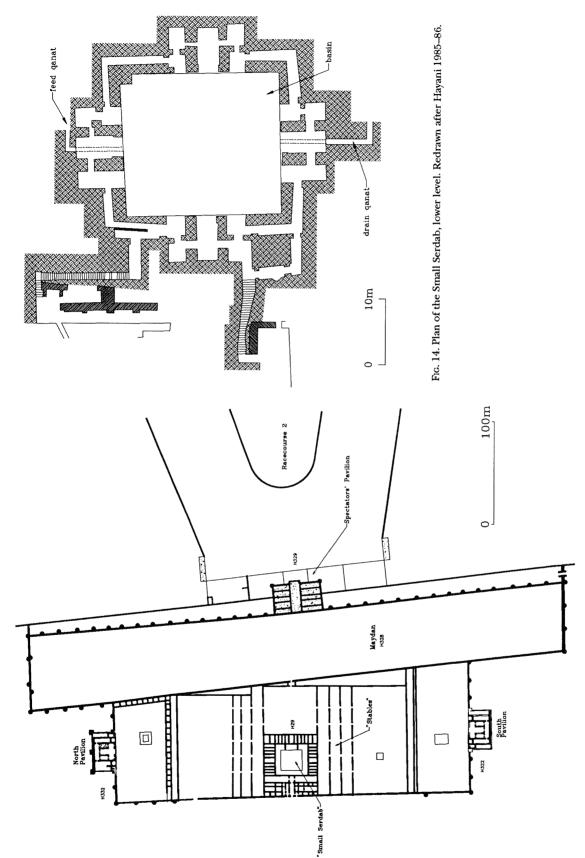


Fig. 13. The east end complex, including the Small Serdab, the stables, the north and south pavilions, the maydan, the spectators' lodge, and the start of racecourse 2.

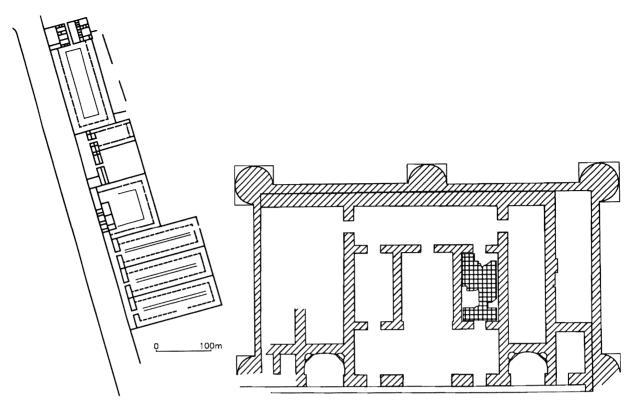


Fig. 15. The stable block at al-Jacfari (A208-16).

Fig. 16. The north pavilion (H332). Redrawn after drawing D-1031 in the Herzfeld Archive, Arthur M. Sackler Gallery, Washington, D.C.

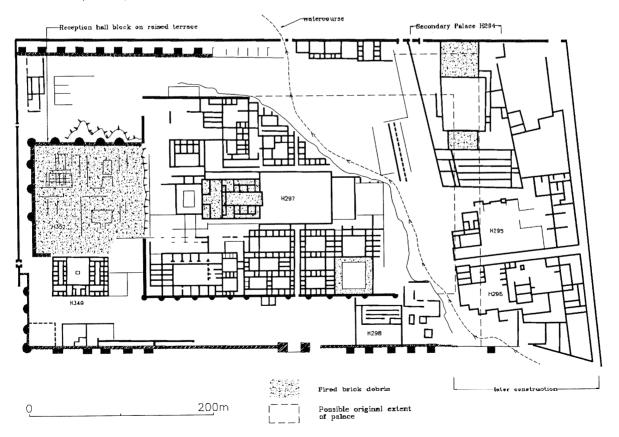


Fig. 17. Plan of the north palace (H293).

