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CRESWELL, HERZFELD, AND SAMARRA

It has long been recognized that Samarra, the capital of the Abbasid Caliphate between 836 and 892, plays a pivotal role in early Islamic archaeology, architecture, and art history, in respect of both its architecture and the finds recovered from the excavations of the site. Samarra also took a fairly prominent place in Creswell's work, and the discussion of its architecture is to be found in no less than four of the chapters of the second volume of *Early Muslim Architecture*, published in 1940, a volume which regrettably never reached a second edition. The origins of Creswell's work lay in the excavations of the Samarra expedition, led by Sarre and Herzfeld, which took place in 1911–13. As the successes and failures of Creswell's treatment of Samarra are inevitably closely related to the results of that expedition, it seemed worthwhile to make an assessment of the Samarra expedition, and Creswell's work on the site, still the main source in English on its architecture, in the light of more recent work by both the Iraq Department of Antiquities and Heritage and the present author.

Since 1981 the Iraq Department of Antiquities and Heritage has been conducting an extensive project of excavation and restoration at Samarra.¹ Since 1983 the author has led a British team surveying the overall ruin-field, and since 1989, excavating at Qadisiyya, in the south of the ruin-field.²

THE SITE AND HISTORY OF SAMARRA

The ruins of Samarra (fig. 1), the collapsed mounds of pisé and mud-brick walls, and the robbed-out debris from fired-brick construction, cover a length of nearly 50 km. along the Tigris, with a maximum width of 8 km. The built-up area extended to about 57 km.² of ruins, but this was spread over a region of about 150 km.² The mounds stand to a maximum height of about 2 m. in a pattern difficult to comprehend from the ground, but which resolves into a clear structure of streets and buildings in vertical air photography. There are in fact only nine buildings out of a registered total, at the time of writing, of 6,314,³ which have any meaningful vertical dimension to record.⁴

The dominating feature of the landscape in the region of Samarra at the time of the Islamic conquests was the inlets to the great Nahrawan canal, dug by the Sasanian Shah Khusraw Anushirvan in the early sixth century and running down to the east of Baghdad and Ctesiphon. From this canal, most of the left bank of the Tigris was irrigated in early Islamic times.⁵ The great dry trench is still a most impressive piece of civil engineering work (fig. 2).

Samarra was a pleasant site, bare steppe on either side of an incised flood plain, with hunting available on the steppe — there is plenty of small game even today. There was water, to look at in the canals.⁶ However, when the city came to develop, there were difficulties over the water supply. The inhabitants are said to have had to “drink from the river.”⁷ What this meant was that there were inadequate facilities for diverting unpolluted water from the river above the town, and the wells were poor.⁸ There is evidence of underground water channels, using the same technology as the Iranian *qanāt* (Iraq Ar. *kehrīz*), which offtake from the Tigris above al-Daur, but these seem largely to lead to the palace areas (fig. 1).

Tabari reports that Harun al-Rashid visited the nearby location of al-Qatul when he tired of Baghdad.⁹ The Octagon of Husn al-Qadisiyya, an unfinished octagonal city 1500 m. across, with many parallels with Raqqa and the Round City of Baghdad, can now be shown to date to Rashid's reign (before 796) (fig. 3).¹⁰ Matira, south of Samarra, was also known as a resort from Baghdad and Samarra.¹¹

In 836, according to Ya'qubi's version, Mu'tasim left Baghdad, tried to settle first at Shammasiyya on the northern outskirts, then at Baradan, at Bahamsha, at Matira south of Samarra, on the Qatul, and then finally at Samarra. Tabari's and other versions omit some of these stops.¹²

When Mu'tasim settled in Samarra, the name was changed to *Surra man ra'ā*, “he who sees it is delighted.” The main city was laid out from the main palace complex in the north to the area of the modern town, while around it the military cantonments, called *qatī'a*, pl. *qaṭ*

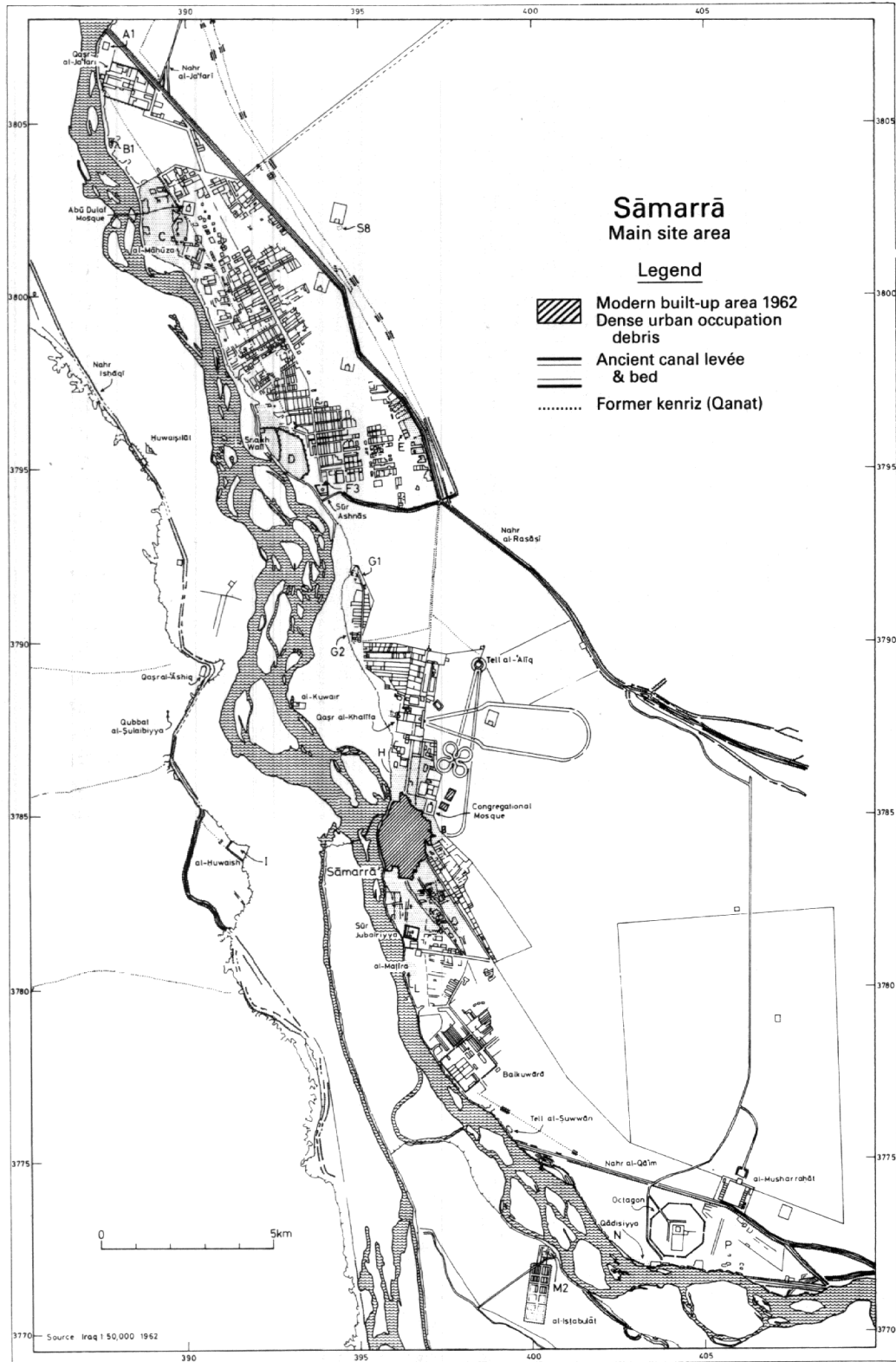


Fig. 1. The main city area of Samarra.

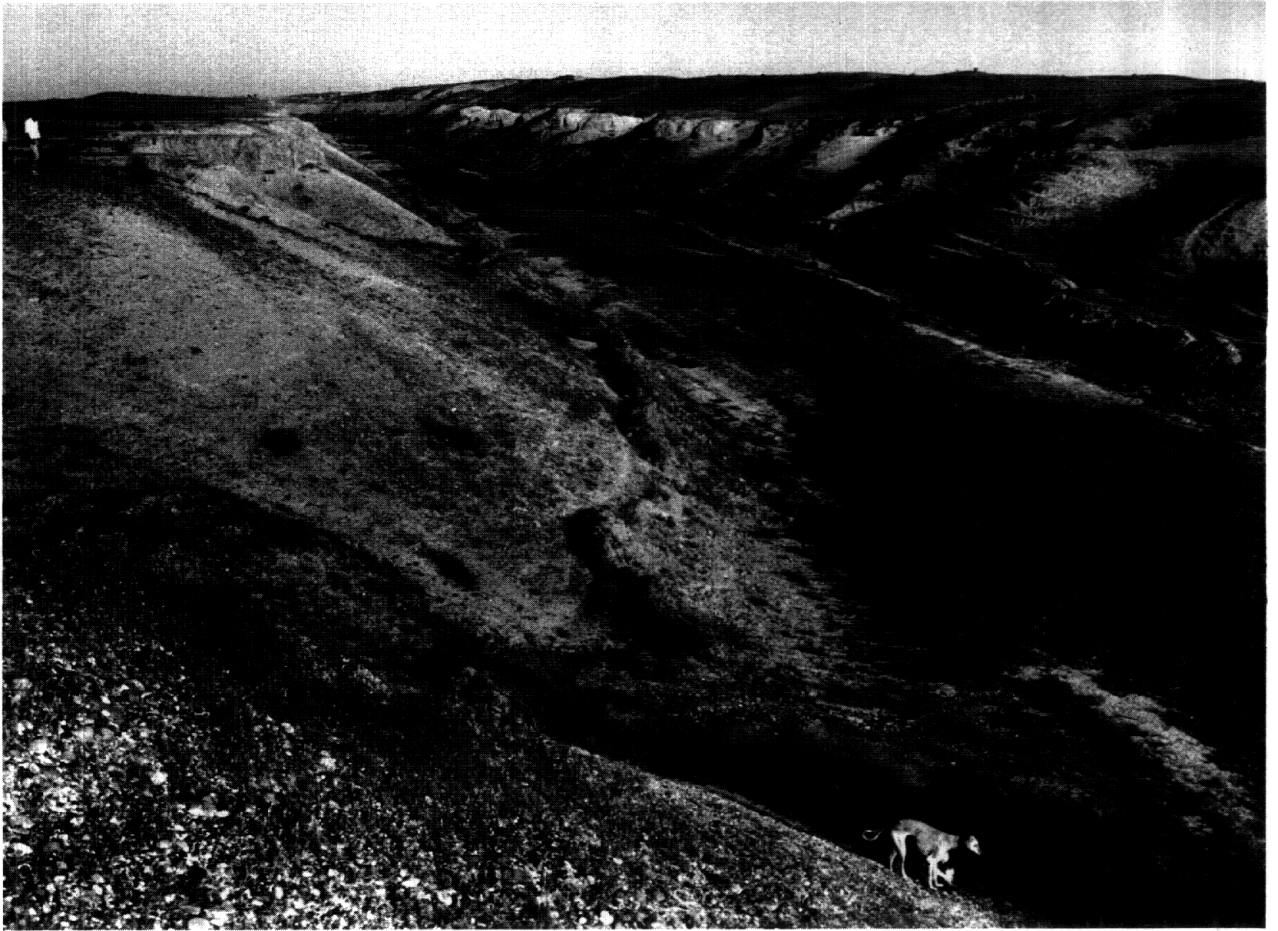


Fig. 2. Bed of the Nahr al-Qa'im, dating to the late Sasanian period and to be identified with al-Qatul al-Yahudi.

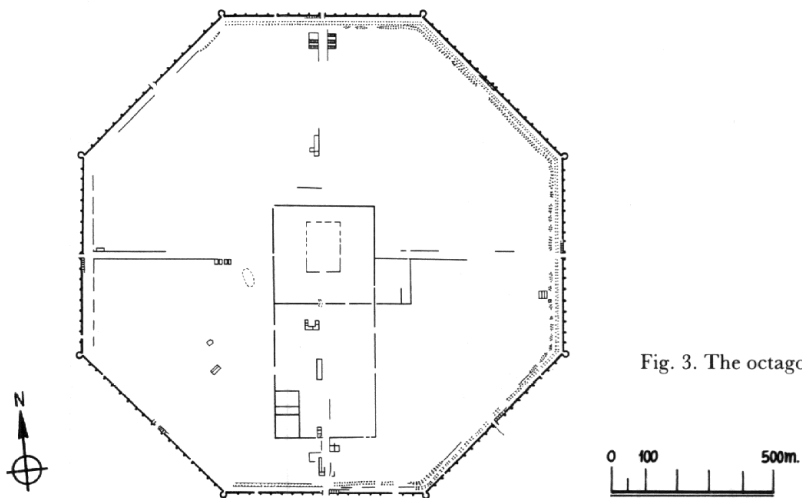


Fig. 3. The octagon of Husn al-Qadisiyya.

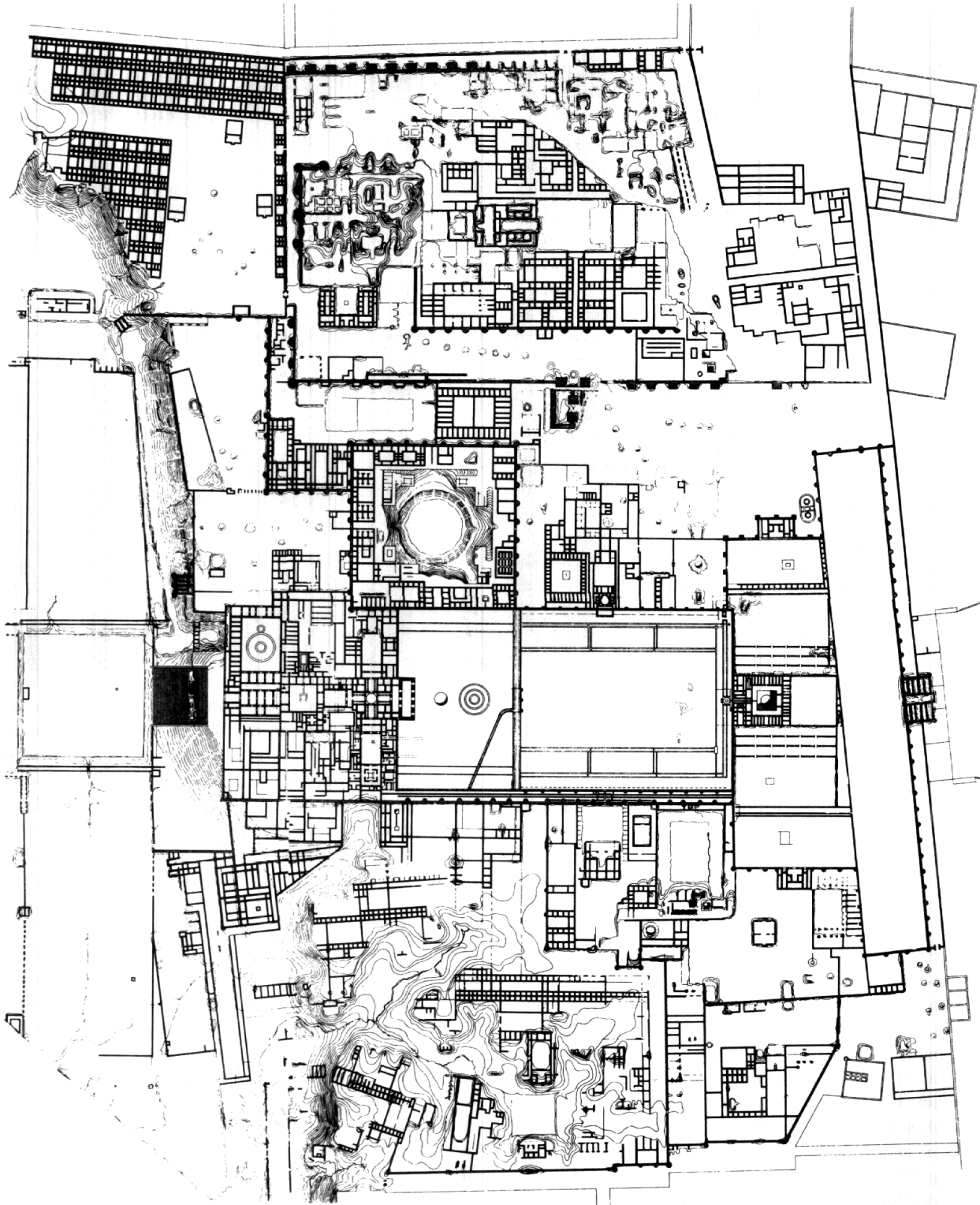


Fig. 4. The Dar al-Khilafa or Jawsaq al-Khanqani. (After Creswell and Herzfeld.)

ā'ī', were built at al-Karkh, al-Matira, and north of the Dar al-Khilafa (Jawsaq al-Khaqani).¹³

The central area, called *ʿAskar al-Muʿtasim*, included the main palace, the subsidiary palaces of the Waziri and the *ʿUmari*, and a number of large houses. What can be seen of the remains today naturally represents the situation on the abandonment of the city, when houses had been built over parts of the major avenues, narrowing the width of access.

In the area of the modern town of Samarra was located the original congregational mosque, later replaced by the mosque of the Malwiya, but its site is no longer visible. And we know from al-Yaʿqubi in this central area were also the markets of the city.

The main palace of al-Muʿtasim was located at the north end of the original city, and this is the complex discussed by Creswell as the Jawsaq al-Khaqani, and covers an area of 175 hectares (fig. 4; on the name of the palace of Muʿtasim, see below).

Two *farsakhs* to the south of Samarra, at al-Matira, were built the cantonments of al-Afshin Khaidar b. Kawus, prince of Ushrusana, who defeated the rebel Babak, and was later himself executed in 841. The site can be identified in the modern area of al-Jubayriyya, and the palace is to be identified with Sur Jubayriyya (fig. 1).

The cantonments of the Turks under Ashnas were built outside the walls of the town of Karkh Fairuz, a town apparently founded in the Sasanian period (the modern site of Sur Shaykh Wali).¹⁴ The walls of the town of al-Karkh are standing, and provide a marker point by which it is possible to identify the avenues in which the Turks were settled.¹⁵ Sur Ashnas, a quadrilateral palace with standing outer walls excavated by the Iraq Department of Antiquities and Heritage in the early 1980's, has the mark of a mosque in the center.¹⁶

On the west bank of the Tigris opposite to Samarra, al-Yaʿqubi tells us that palaces and gardens were built. At present the sites of three palaces can be identified that probably belong to the constructions of al-Muʿtasim, and there are other remains that may also be connected.¹⁷

When Muʿtasim died in 842, he was succeeded by his son Harun al-Wathiq, who first resided in the Jawsaq, and then built a palace called the Haruni, which has been identified with the site of al-Quwayr in the floodplain of the Tigris between the Jawsaq and the Qasr al-ʿAshiq.¹⁸

Al-Wathiq was succeeded by Jaʿfar al-Mutawakkil, another son of Muʿtasim, in 847. Mutawakkil was the

greatest of the builders of Samarra, and it was he who turned Samarra from a moderate-sized city into the enormous size we see today. It was al-Mutawakkil who built the new congregational mosque begun in 848–49 and finished in 852 (fig. 5).¹⁹ He is credited, in Yaqut's *Muʿjam al-Buldān* and other sources, with a list of no less than 19 palaces, with a total pricetag quoted by Yaqut as 294 million dirhams.²⁰ Balkuwara, built by Mutawakkil for his son al-Muʿtazz between 849 and 859, is not merely a palace but a vast cantonment 6 km. south of Samarra, now called al-Manqur (figs 6–7).²¹ The cantonment of Istabulat, a rectangle 2500 m. long and 500 m. wide, lying 10 km. south of Samarra on the right bank of the Tigris, is so far unidentified, but its general similarity of design to Balkuwara suggests that it is one of the 15 of Mutawakkil's 19 palaces still unlocated (fig. 8).²²

After Mutawakkil's visit to Damascus in 858 he began a new city in the north of Samarra, which he called al-Jaʿfariyya or al-Mutawakkiliyya. The main palace, Qasr al-Jaʿfari, 1.7 km. long, was located at the inlet to the Qatul al-Kisrawi.²³ The main congregational mosque was the Abu Dulaf mosque (figs 9–10).²⁴ The city was completed in the two years between 859 and 861. Mutawakkil lived in it for nine months, but it was abandoned again when Mutawakkil was assassinated in 861. It has the form of a grand cantonment extending north from the Turkish cantonment at al-Karkh, with a grand avenue, mosque, and palace.

Other features are more difficult to date to a particular caliph. There were four courses for horseracing,²⁵ two with an out-and-back layout 10.5 km. long each.²⁶ The third has the shape of a cloverleaf and is 5.3 km. long, half the distance of the other two (fig. 11).²⁷ The fourth is a linear course, of which 9.7 km. survives.²⁸ There was a hunting reserve, 9 km. × 6 km., in the south with a hunting palace at al-Musharrahat (fig. 12).²⁹

After Mutawakkil's assassination in 861 there was a decade of trouble, and civil war in 865–66, including the second siege of Baghdad. The only building securely identified as postdating the crisis is the Qasr al-ʿAshiq, known originally as al-Maʿshuq, between 878 and 882, built by al-Muʿtamid (figs. 13–14).³⁰

During the 880's we hear of bedouin and brigands raiding Samarra, and there is no doubt that within a few years after the ʿAshiq was apparently built, the Abbasid city was in full decline.³¹ No caliph settled at Samarra after al-Muʿtamid, and he died in 892. The date, however, for the abandonment of the city has recently be-

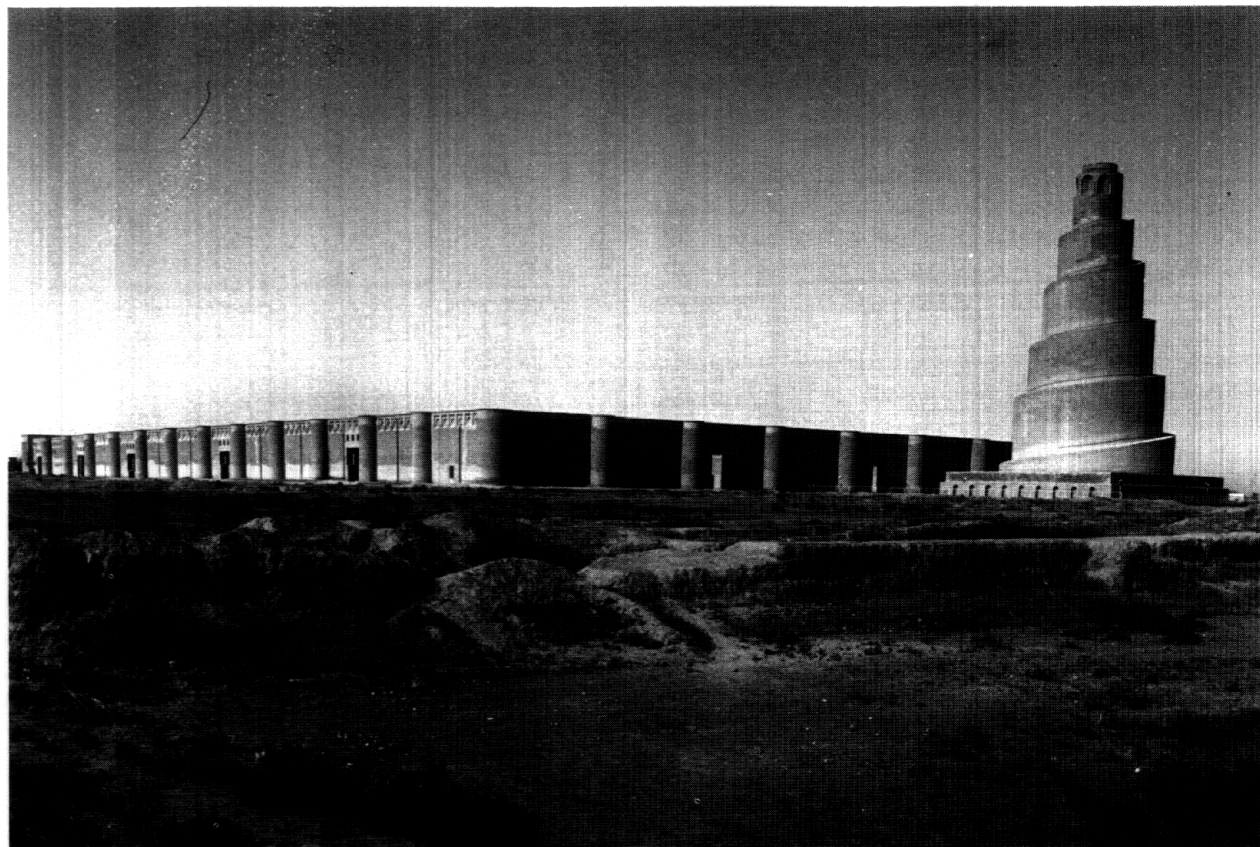


Fig. 5. The spiral minaret and the congregational mosque of al-Mutawakkil.

come the subject of academic debate; archaeologists such as David Whitehouse note the article by Miles to the effect that the Samarra mint continued to mint dirhams until A.H. 341 (953), and suggest that the city may not have been abandoned as early as previously thought.³²

We can now see that later Samarra formed around the shrines of the two imams al-ʿAskari and al-Hadi, and the Ghaibat al-Mahdi. The first shrine was built by Nasir al-Dawla al-Hamdani in the early tenth century, probably in 944, and it was at this time that the first wall was built around Samarra.³³ It was the building of the town wall that marked the definitive end of the Abbasid city, which we thus date before 944. And it was probably much earlier; for the caliph al-Muktafi decided to rebuild the city in 903, visited Samarra and camped — was forced to camp — on the site of the Jawsaq, but he was ultimately dissuaded.³⁴ There was not much left which it was easy to occupy.

We also know from our survey evidence that as the city was gradually abandoned, settlement contracted into the same town areas that had been inhabited before Muʿtasim's arrival.³⁵ But these settlements also died when the Mosul road was transferred to the right bank. The latest evidence belongs to about the thirteenth or fourteenth century.³⁶

THE GERMAN EXPEDITION TO SAMARRA

Samarra had been visited and described by a variety of nineteenth-century travelers. At the beginning of this century the first scholarly work was by the two Frenchmen, de Beylié and Viollet.³⁷ The latter was the more significant; Viollet published two monographs, and excavated a sondage in the Jawsaq al-Khaqani.³⁸

However, much more significant for Samarra was the fieldwork of the German scholars, Friedrich Sarre and Ernst Emil Herzfeld, of whom the latter was to play the

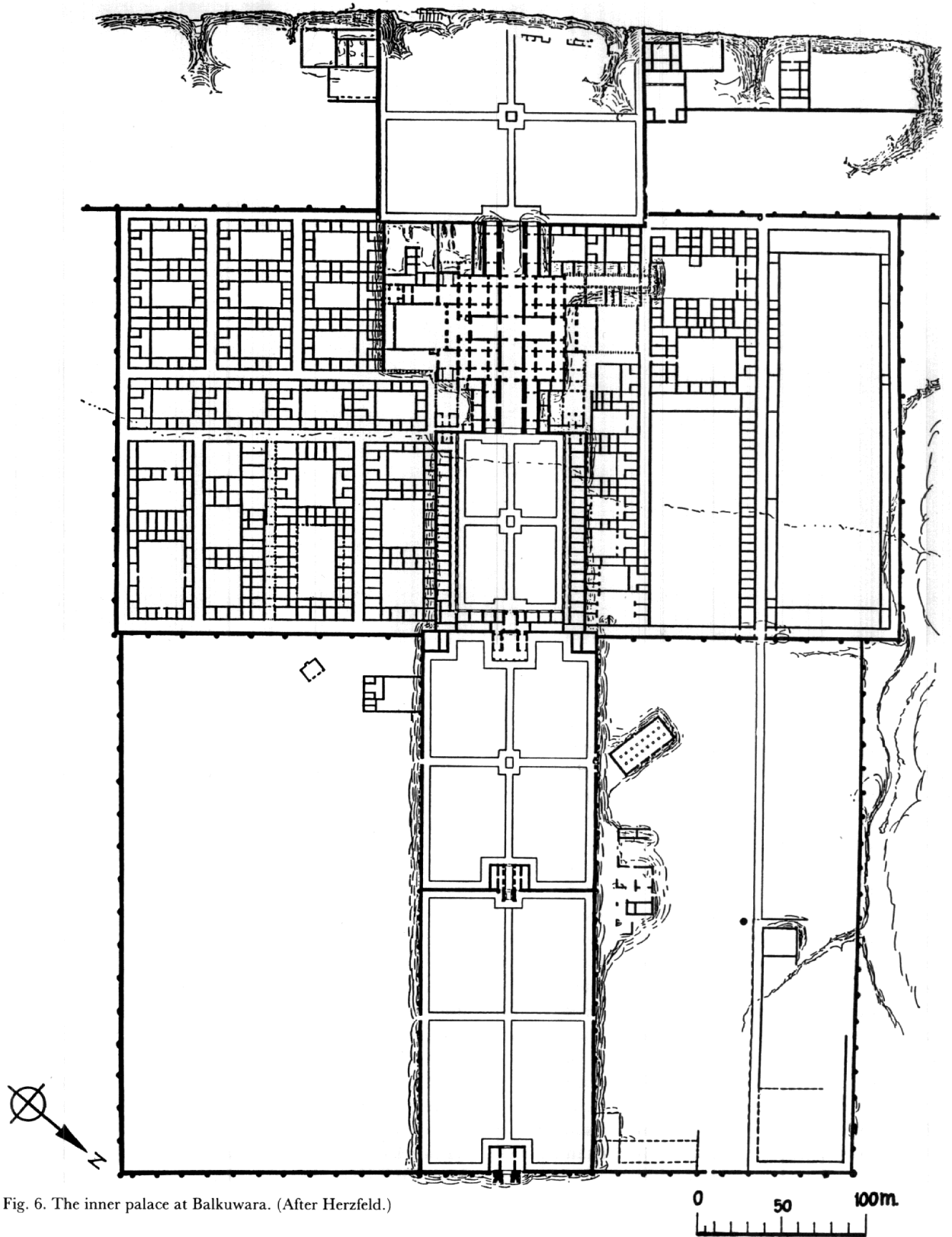


Fig. 6. The inner palace at Balkuwara. (After Herzfeld.)

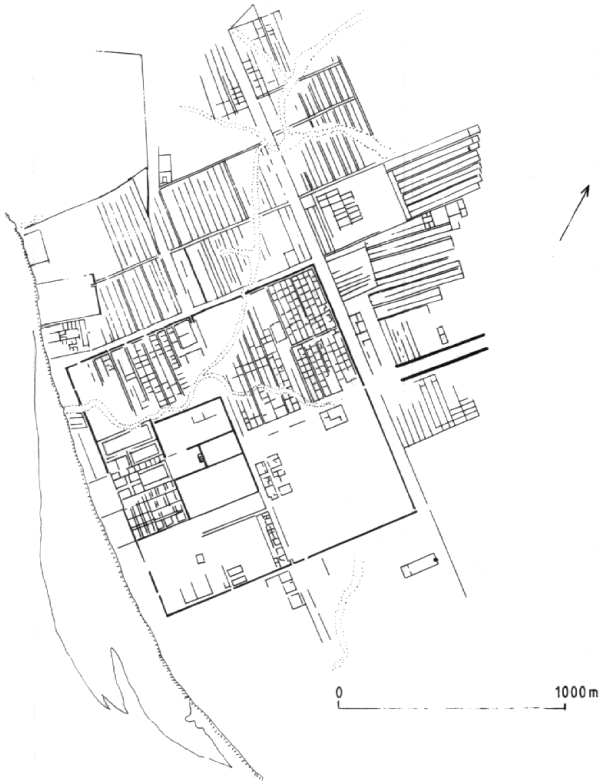


Fig. 7. Sketch plan of the cantonment at Balkuwara.

preponderant role. Herzfeld's first visit to Samarra was in 1903, published in 1907 as *Samarra, Aufnahmen und Untersuchungen zur islamischen Archäologie*. Herzfeld's second visit, in the company of Sarre, was published in the *Archäologische Reise im Euphrat- und Tigris-gebiet* in 1911.

Professor Sarre negotiated the permit for the Samarra expedition, under the auspices of the Kaiser-Wilhelm Gesellschaft für Förderung der Wissenschaften, and Herzfeld was the field director. This expedition worked in the field for two long seasons, the first from early 1911 until the end of that year, and the second from December 1912 until July 1913, a total of about twenty months. Two preliminary reports were published shortly after the fieldwork. The first, a monograph entitled *Erster vorläufiger Bericht über die Ausgrabungen von Samarra*, was published after the first season's work.³⁹ The second, an article in *Der Islam*, covered the work of the second season.⁴⁰

The expedition was doubtless intended to correspond, in the Islamic field, to the distinguished German contribution to ancient Mesopotamian archaeology,

notably the expedition headed by Robert Koldewey to Babylon, which worked for thirteen years, and the expedition to Ashur, under the leadership of Walter Andrae, begun in 1903.

Unfortunately the Samarra expedition cannot truly be described as matching the work of Koldewey and Andrae. Sarre, although in a prominent position in Berlin, was able to raise barely adequate funds, and only that by the intervention of a private donor. A mere 1,000 marks was donated by a German company for the field railway, and this was late in arriving.⁴¹

Nevertheless, in the course of the two seasons the large number of about nineteen different sites were excavated.⁴² The Qubbat al-Sulaibiyya, although it has for long stood as a significant landmark in the development of Islamic mausolea, was only excavated for three days (figs 15–16).⁴³ The single surviving photograph of the excavation under the floor of the dome

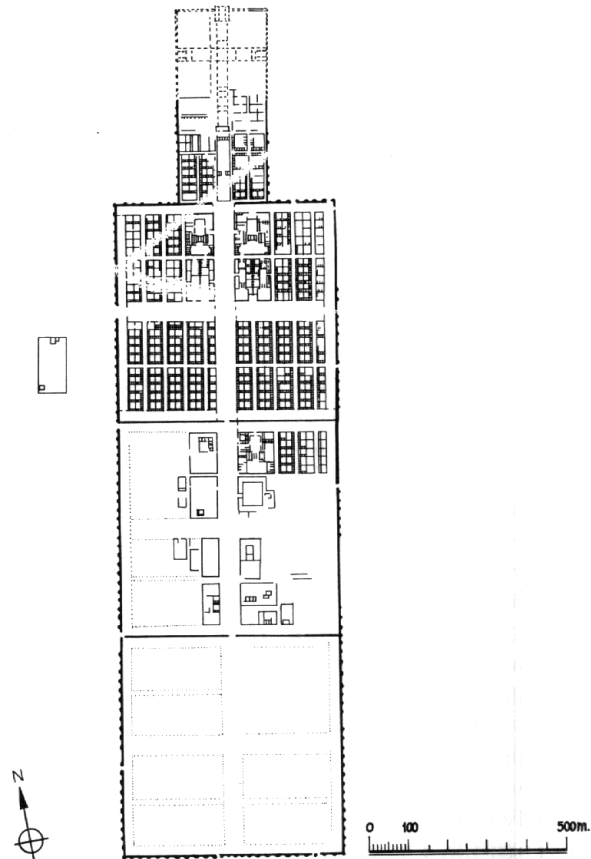


Fig. 8. The palace and cantonment at al-Istabulat.

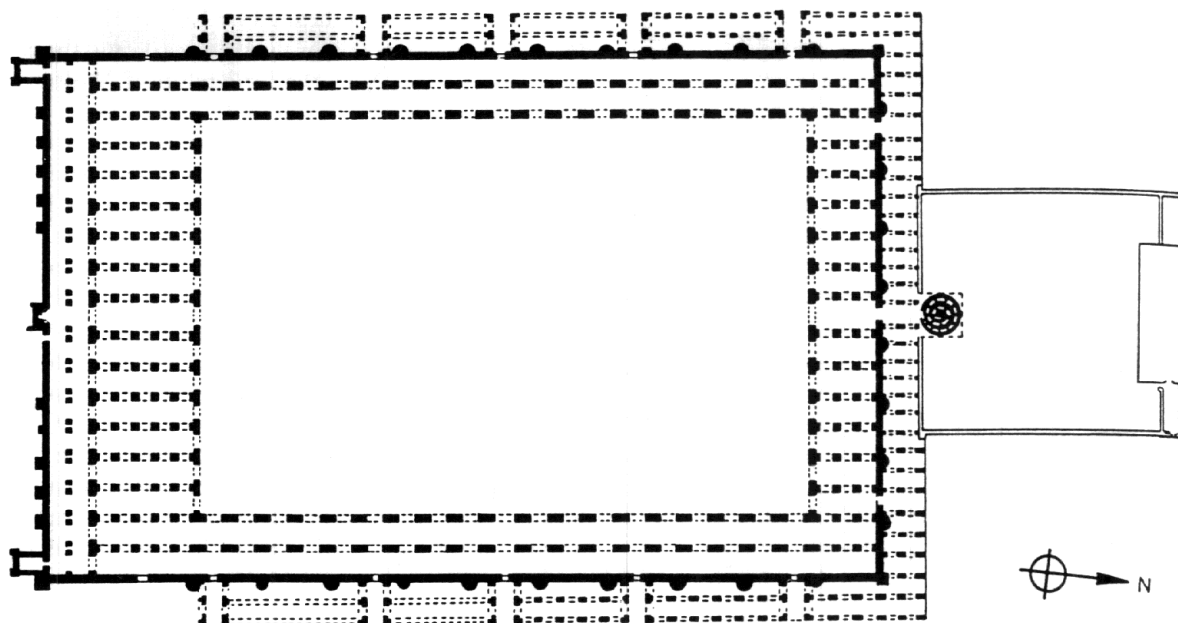


Fig. 9. Plan of the Abu Dulaf Mosque. (After Fransis and 'Ali.)

chamber, which provided the evidence that the qubba was a mausoleum, was taken without a scale, and shows two barely revealed inhumations peeping out of a mound of earth, although the question of how the caliphs were buried should have been an interesting one.⁴⁴ Andrae's notebooks show that the burials at Ashur were carefully cleaned and sketched.⁴⁵

Where Herzfeld did come into the realm of the Mesopotamian archaeologists, at the cemetery of the Samaritan culture, his publication covers the finds, but seems to lack much description of the site from which the material came.⁴⁶ This lack of description suggests that not much recording of the site took place in the field, on which later publication could be based.

Particularly in the second season of excavations, the imminent prospect of war in Europe may have driven Herzfeld to work more widely than he might otherwise have done. And, to be fair to Herzfeld, many of the problems seem to be intrinsic to excavating at Samarra. The multiplicity and size of interesting sites to work on easily outstrip the resources of any expedition, and the site demands discipline in adhering to carefully defined objectives. The problem of size has been encountered again by Iraqi work and the present British expedition. One must either take an overall view on a relatively generalized level, similar to a regional survey, or concentrate on a single site for excavation. Both these ap-

proaches are now being employed.

In the end, the intervention of the First World War did put a stop to the expedition. In April 1917 the British Mesopotamian Expeditionary Force captured Samarra, after a brief battle on the southwestern approaches at al-Istabulat, and proceeded to entrench themselves in the ruins, digging mortar-pits into Herzfeld's excavation dumps and trench lines reminiscent of the Western Front in the surrounding steppe.⁴⁷

After the war, although it later became possible for German archaeologists to take up their work in Iraq, Herzfeld had become interested in other topics. He visited Baghdad and Samarra again in the spring of 1923, on his way to Iran, but the outcome seems to have depressed him. He noted: "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 <silted> and vegetation begins to grow over them."⁴⁸

The finds were brought to Britain, and a selection was distributed to British museums; the author is aware of material in the British Museum and the Victoria and Albert Museum. The remainder were sent to the Islamisches Museum, in East Berlin, which also preserves the photographic archive from the excavations. During the Second World War the objects were split up for safekeeping, and with the postwar division of Berlin some

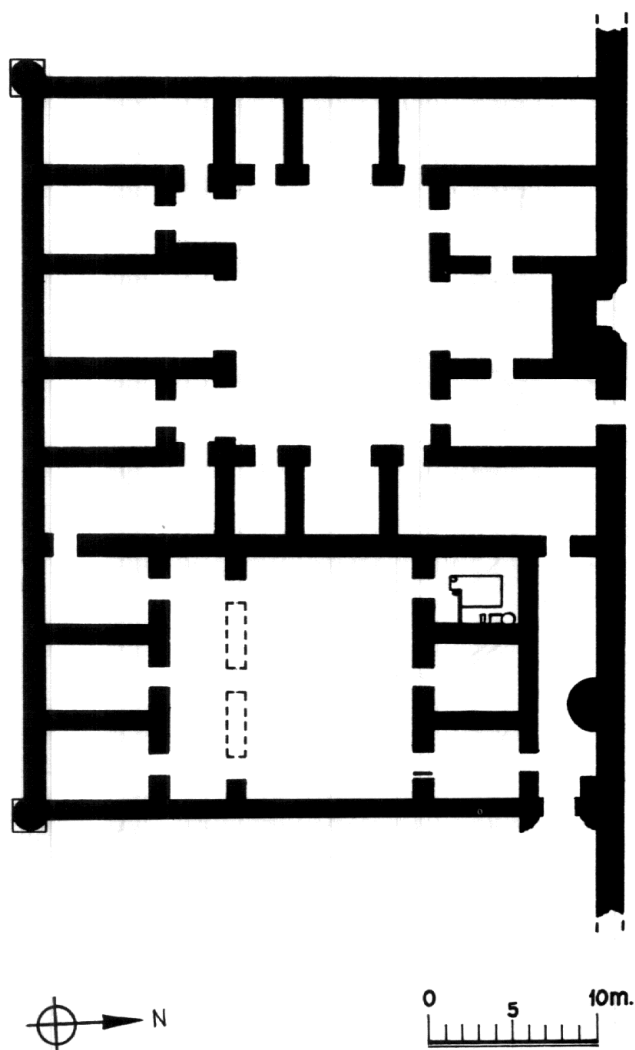


Fig. 10. The resthouse behind the mihrab in the Abu Dulaf Mosque.
(After Fransis and 'Ali.)

of the Samarra finds ended up in the Staatliche Museen in West Berlin. A proportion of the excavated material also went to Istanbul, as part of the division of finds after the excavation.

A further division of the records occurred in 1933, when Herzfeld left Germany and settled in the United States. After his death in January 1948, the material he had taken to America was lodged in the Freer Gallery of Art in Washington, D.C.

A considerable program of publication of the results of the expedition to Samarra was undertaken in a series of *Ausgrabungen von Samarra*, of which six volumes were fi-

nally published. The first, *Der Wandschmuck der Bauten von Samarra und seine Ornamentik*, was written by Herzfeld and published in 1923. This is a typological study of ornamentation recovered, categorized by motif, and not by material. The second volume, *Die Keramik*, published by Sarre in 1925, is also a typological study, with little attempt at a chronological division, although the excavators seem to have been aware that some of the material was substantially later, as late, in fact, as the thirteenth century.⁴⁹ The third volume, *Die Malereien*, was published by Herzfeld in 1927, and dealt with the paintings. The fourth and fifth volumes had originally been planned to deal with architecture, but the eventual fourth volume, on the glass finds and written by C. J. Lamm, was published in 1928. The fifth volume, *Die vorgeschichtliche Töpfereien*, published in 1930, dealt with the finds from the cemetery of the Chalcolithic Samarran culture opposite to the congregational mosque.

The sixth and final volume, after a gap of eighteen years, was the *Geschichte der Stadt Samarra*, whose publication virtually coincided with Herzfeld's death in January 1948. This last is not a considered history of Samarra, but a collection of notes and ideas which are not properly integrated, and some of which — on ancient topography — seem only broadly relevant. Comparison with the posthumous *Persian Empire*, which was put together from Herzfeld's unpublished notes on a wide variety of topics, suggests that the *Geschichte* is of a similar origin.⁵⁰ The reasons for this curious result were doubtless age, declining health, and increasing distance from the fieldwork of more than thirty years before.

The projected volumes on the architecture of Samarra were never completed. It is evident from the Herzfeld archive in the Freer Gallery that a little preparatory work was done, but nothing substantial was written. Two albums in the Freer are preserved with photographs arranged as "Paläste und Moscheen I & II," with the prints possibly arranged in a tentative publication order.⁵¹ The first album covers the Dar al-Khilafa (Jawsaq al-Khaqani), and the second the remaining architectural sites.

If one considers this history of publication, it is evident that something went wrong with the series, and at quite an early stage. The archaeologist today must first publish a physical description of the site itself, with a full assessment of the areas excavated.⁵² This demonstrates that the excavator has reached a final set of conclusions on the sequence and development of the site itself, and provides a firm context for the publication of the finds. However uninteresting to read in some ar-

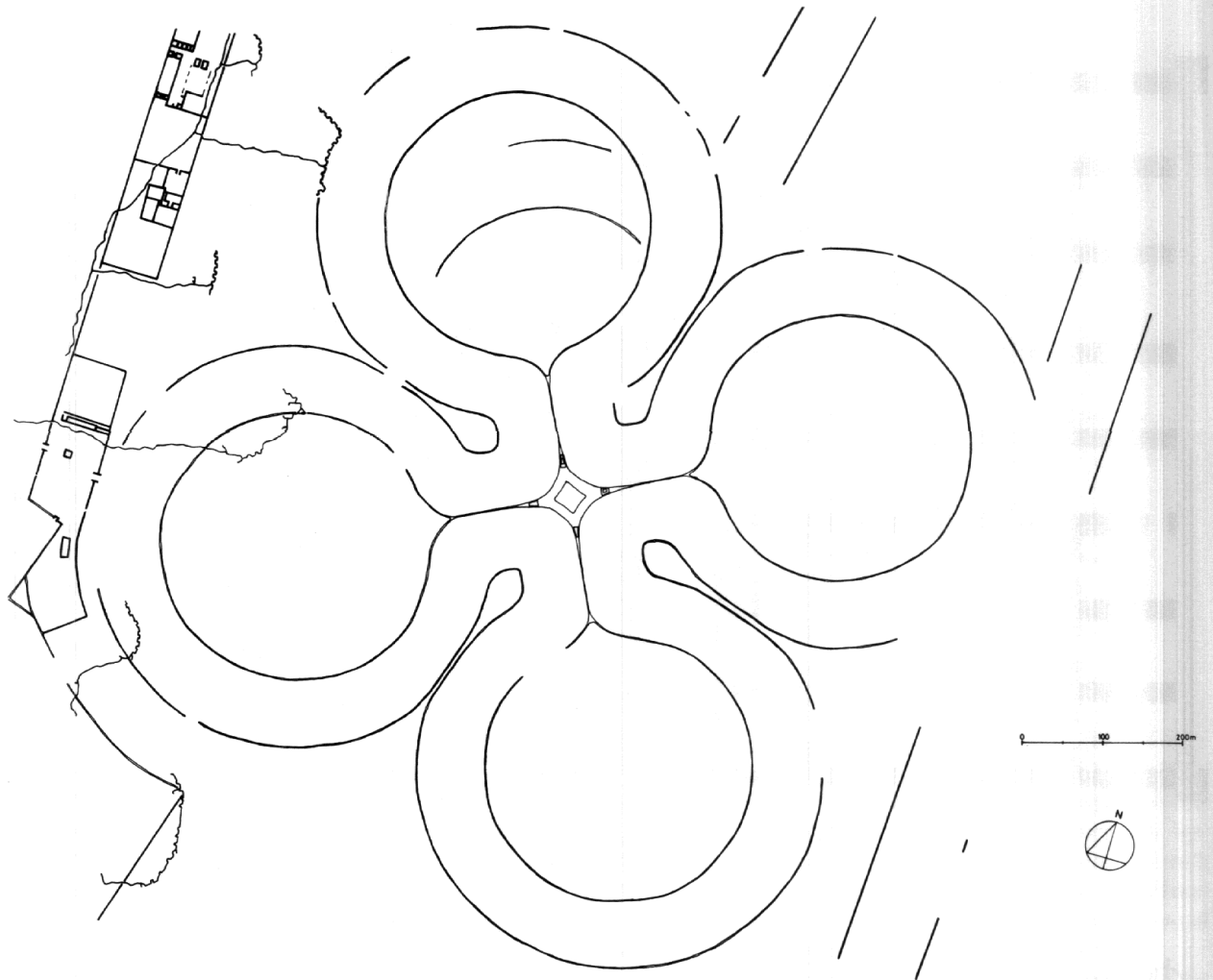


Fig. 11. The cloverleaf racecourse.

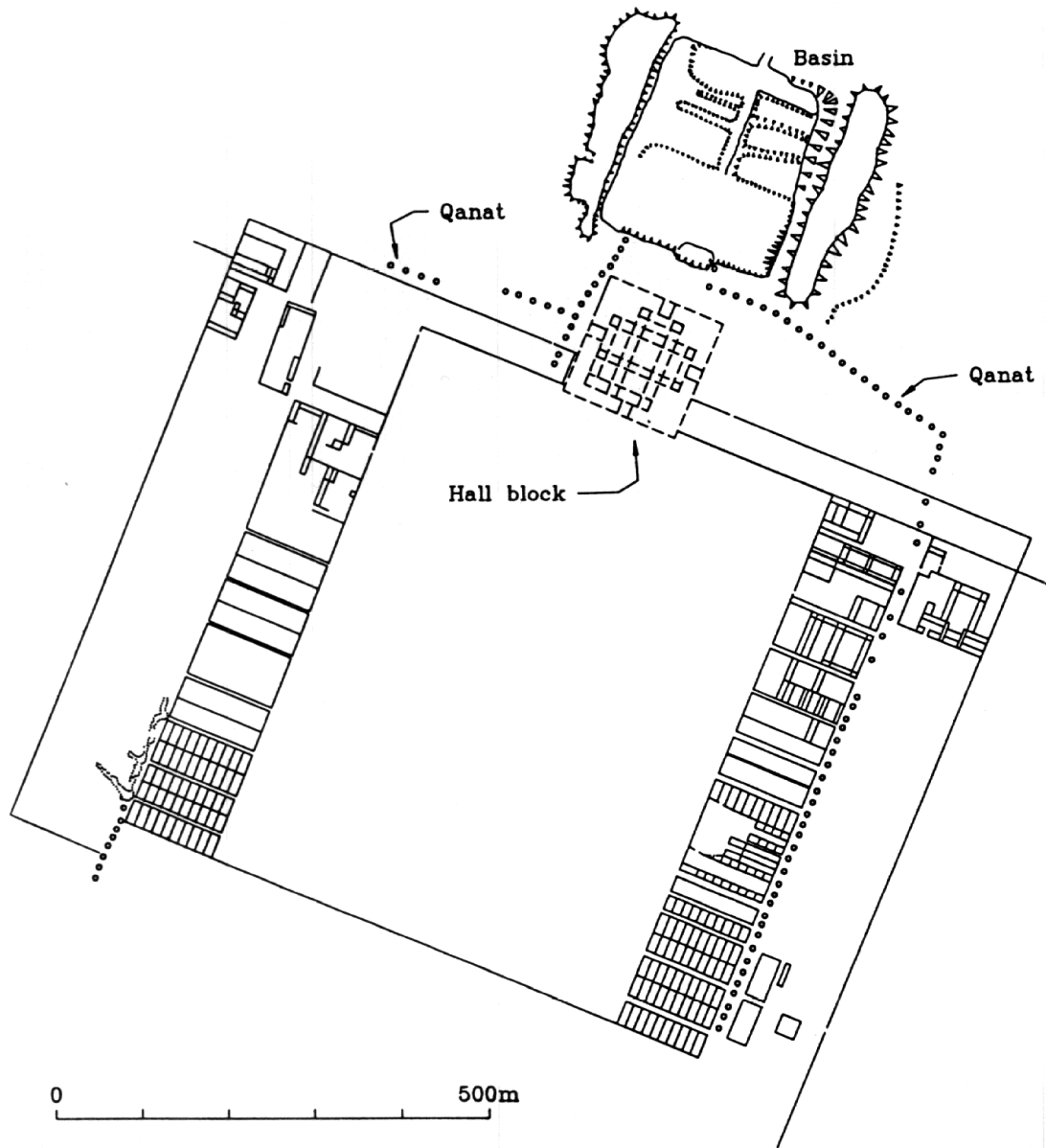


Fig. 12. The hunting palace at al-Musharrahat.

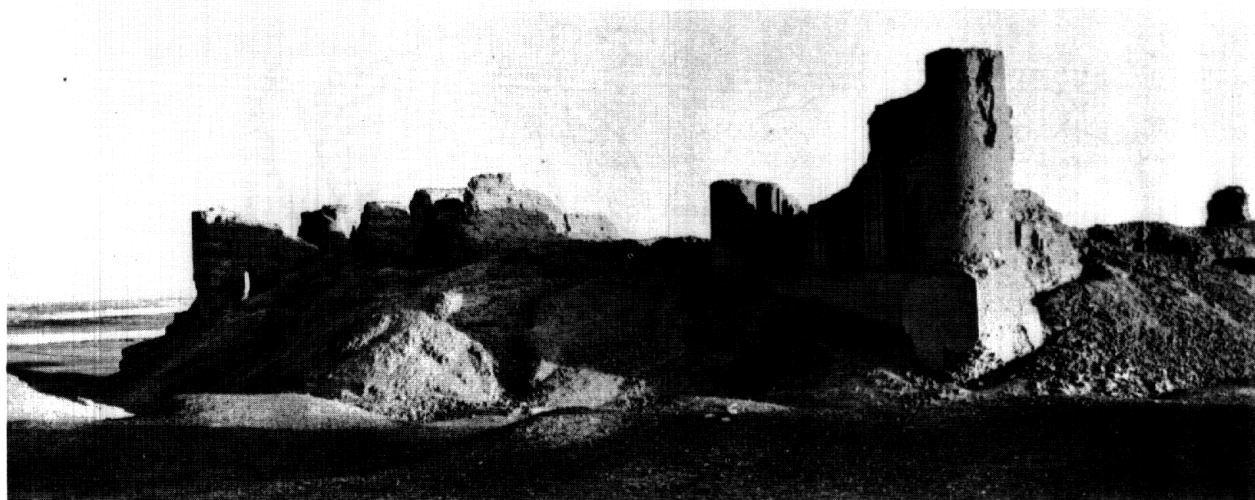


Fig. 13. The Qasr al-Ashiq in its unexcavated state. (Creswell Archive, Ashmolean Museum, Oxford.)



Fig. 14. The Qasr al-Ashiq in 1983.

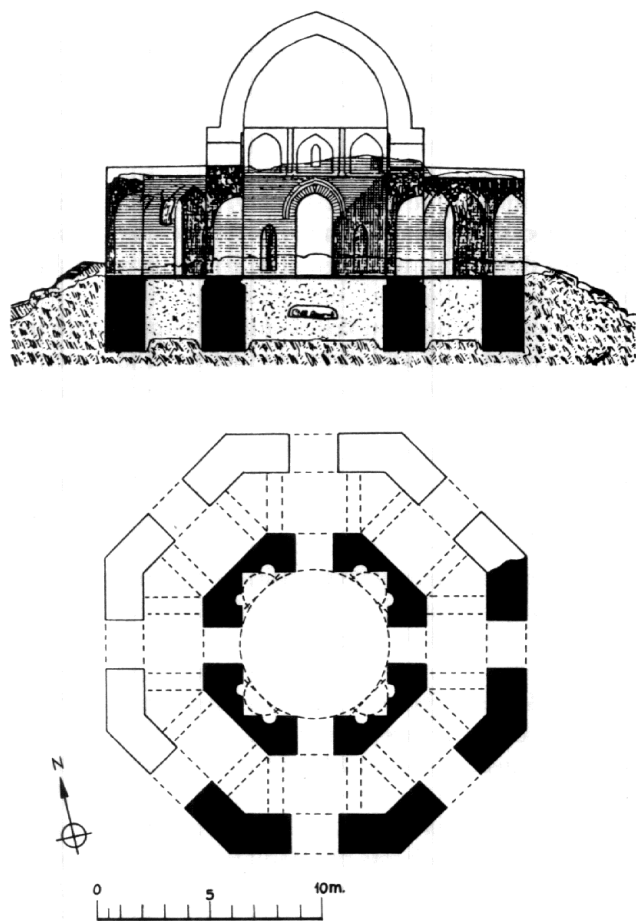


Fig. 15. Plan and section of the Qubbat al-Sulaybiyya. (After Herzfeld.)

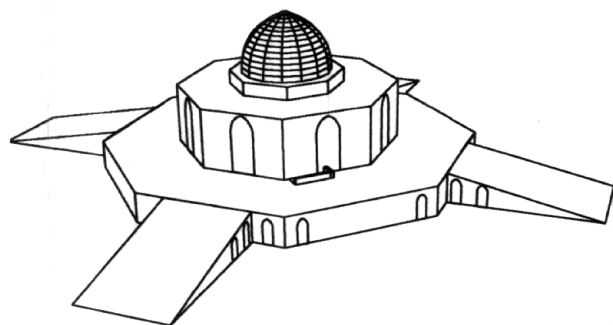


Fig. 16. Sketch illustrating the original form of the platform and ramps at the Qubbat al-Sulaybiyya.

chaeological reports these may be, the comprehensive description and final analysis of site and excavations are fundamental, and must come first. In the case of Samarra, no publication of the excavations was ever made, nor does it seem that a coherent but unpublished description was written. The two preliminary reports published carry the kind of generalized description which it is possible to write at the end of a season's fieldwork, but little evidence on which an assessment of the work done can be based.

In this situation it was possible for many aspects of Samarra to remain unresolved and in the shadows. No plans or descriptions of the excavated houses of Samarra were ever published, to which the volumes of the *Ausgrabungen* devoted to decoration, pottery, and wall paintings refer. Even in the *Geschichte*, it was possible for Herzfeld to dismiss al-Musharrahat, one of the greatest palace complexes of Samarra, in two sentences, as "ein Jagdschloss."⁵³

In short, one can say about Herzfeld's work that it was a monumental and undeniably fundamental basis for our understanding of Samarra, but that it suffered from what are now known to be familiar faults of archaeological fieldwork: the objectives were set too wide for the resources available, and an incorrect strategy for the *Ausgrabungen* allowed the disruptions of the Nazi years and Herzfeld's other interests to distort the publication of the excavations in a very significant way.

CRESWELL AND SAMARRA

When Creswell came to discuss Samarra in the second volume of *Early Muslim Architecture*, his treatment was divided into four chapters to accord with the strict chronological approach of the work, each chapter separated from the next by one or more chapters on other topics. The first chapter on Samarra, chapter IX, deals with the historical material on the foundation of the new capital and the architecture of the Jawsaq al-Khaqani.⁵⁴ The second, chapter XI, deals with the earlier construction of Mutawakkil's reign — the great congregational mosque and the malwiya, and the palace of Balkuwara.⁵⁵ The third, chapter XIII, treats Mutawakkil's new city, the Ja^ʿfariyya or Mutawakkiliyya, including the mosque of Abu Dulaf, and in addition describes the Qubbat al-Sulaybiyya, the private houses in general terms, and Samarran stucco ornament.⁵⁶ The fourth, chapter XVIII, includes the Qasr al-^ʿAshiq, together with a selection of buildings from other places.⁵⁷

Creswell's sources of architectural information were

in effect twofold: first, the results of the German expeditions, and second, his own reconnaissance of standing buildings. Professor Hillenbrand remarks elsewhere in this volume upon the direct debt that Creswell owed to Herzfeld's work, and how little Creswell himself added. This, while true, is not surprising.

The customary rights over material from excavations, until publication is completed, restricted Creswell. Creswell was obliged to use Herzfeld's preliminary reports. One cannot form an objective judgment from reports where no evidence for conclusions was presented. So he quoted these verbatim, checking the translation back with Herzfeld. Although Herzfeld seems to have been cooperative, he was still working on the material, and Creswell does not seem to have had access to Herzfeld's unpublished material now available to scholars in the Freer Gallery.

Beyond the excavation results, there are only a few standing remains at Samarra that would have attracted Creswell's attention. The overwhelming mass of remains would also have been discouraging, an apparently undifferentiated area of mounds that required quite intense work to sort out, beyond Creswell's needs. And this was particularly true before the availability of vertical air photography.⁵⁸ It was Herzfeld's responsibility to sort out the primary data, and he had not done it; Creswell's reaction was to limit himself to what had been clarified by the excavations, and what he himself could understand. This was a typical interaction between a field archaeologist — though Herzfeld was also much more — and a secondary user of the material.

Creswell's own fieldwork results mainly from a visit in 1936, and the published drawings are dated 1937 and 1939. Of the six buildings published in *Early Muslim Architecture*, Creswell's own drawings provide the plans for the Bab al-^ḥAmma, the congregational mosque, and the mosque of Abu Dulaf. Herzfeld's plans are printed for the overall plan of the Jawsaq, Balkuwara, Qubbat al-Sulaybiyya, and the Qasr al-^ḥAshiq.

It seems worthwhile to offer a brief review of how Creswell's treatment of the six buildings he discusses from Samarra compares with modern-day knowledge. Space does not permit a full discussion, the issues involved being quite complex.

Jawsaq al-Khaqani or Dar al-Khilafa (fig. 4). The site of Mu^ḥtasim's principal palace was identified at an early stage, and was known in Samarra as Bayt al-Khalifa or Qasr al-Khalifa. Before Herzfeld, it attracted the interest of Viollet. The German expedition excavated an

extensive area of the throne-hall complex, a total of about 11,000 m², including a side area, which Herzfeld called the *ḥarīm*, while a further 3,000 m² of other areas were also excavated. In addition a plan was made at 1:2000 of the whole complex. The plan was of course largely derived from surface traces, not excavation, and probably impossible to repeat today. After the termination of excavations in 1913, much of the brickwork from the area of the throne halls and *ḥarīm* has been robbed out.⁵⁹

A description was published in the second preliminary report in 1914, and the decorations and wall paintings were published in the first and third volumes respectively of the *Ausgrabungen*.

Creswell himself replanned the Bab al-^ḥAmma, but otherwise utilized Herzfeld's preliminary description and plan of the complete complex.

Since 1936 there has been continuing excavation by the Iraq Department of Antiquities and Heritage in the area of what Creswell terms "the Grand Esplanade," and some of the throne-hall area has been reexcavated.⁶⁰ In 1983–86 the Little Serdab was excavated and restored.⁶¹ In 1988–89 a start was made on the Great Serdab, and this has been revealed as grander than Herzfeld's supposition, with a circular birka 65 m. across and a four-iwan plan of reception halls facing onto it.

It is striking that Herzfeld seems to have made no further progress than in his preliminary report, with analyzing the plan, or considering the way that the palace might have developed over the fifty-six years of its occupation, although it was known that later caliphs, particularly Mutawakkil, made significant additions. It is clear from the plan that the palace is not a unitary entity, but a complex of palaces, pavilions, and other structures, some of which can be shown to be early, and some late.⁶² But it is particularly clear that there are two main units; the first is the main core of the throne halls and "Grand Esplanade," and the second is a further palace on the north side, called by Herzfeld "the Treasury."⁶³

There is a further question about the complex which has been raised recently. Herzfeld identified the site of the main palace as the Jawsaq al-Khaqani, although he recognized that the local name for the site was Bayt al-Khalifa, today transmuted into Qasr al-Khalifa.⁶⁴ A recent article argues from textual sources that the Dar al-^ḥAmma, which included the Bab al-^ḥAmma, and was the official palace where the caliph sat in audience, was a different building from the Jawsaq al-Khaqani.⁶⁵ The crucial text is from Ya^ḥqubi's *Tārīkh*.⁶⁶

Then he [Mu'tasim] moved from al-Qatul to Surra Man Ra'a, and he stopped at the site on which is the Dar al-ʿAmma, 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.

One may further comment that the appellation for the Jawsaq as "al-Khaqani" stems from Ya'qubi's *Buldān*, and Mu'tasim's main palace is more commonly referred to simply as al-Jawsaq.⁶⁷

Whether or not one accepts the correctness of the text from Ya'qubi's *Tārīkh*, there is no doubt that the sources do refer to both the Dar al-ʿAmma and the Jawsaq. Which of them is this site, indubitably the main palace complex of Samarra from the archaeological evidence? Although the question cannot at the moment be answered, it is possible that the two names referred to different parts of the complex that can now be seen.

The congregational mosque of Mutawakkil (fig. 5). The mosque was partly excavated by Herzfeld, notably the area round the mihrab, and part of the east side. Creswell made a new plan, and the results presented in *Early Muslim Architecture* seem to be generally correct. Since the Second World War, the Iraq Department of Antiquities and Heritage has completed the excavation of the interior, and restored the walls and the spiral minaret.⁶⁸ Extensive areas of arcaded *ziyadas* have been revealed on the east side, but the probably matching *ziyadas* on the west side have not been excavated.

Balkuwara (figs 6-7). Balkuwara was excavated by Herzfeld in 1911, with excavations around the main hall complex, the mosque, and the east gate. A plan was made of the entire inner palace, and it is evident that much of the plan was from surface survey (fig. 6).

Creswell's account is derived from Herzfeld's preliminary report. Substantial additional unpublished drawings and other material on Balkuwara survive in the Herzfeld archive in the Freer Gallery.⁶⁹ No work has been done on Balkuwara since then, and most of the excavated brickwork has been robbed out.

Creswell's account of Balkuwara is limited to the inner palace. The inner palace is set within a square outer enclosure of 1,171 m. a side (not 1,250 m. as Creswell gives), a fundamental part of the design (fig. 7). An overall plan was made by Herzfeld, but this was only published as a comparative plan on a small scale in his *Mshatta, Hira und Badiya* in 1921.⁷⁰ Even so the plan was

defective, for the buildings can be seen to have been not so regular as presented. The outer enclosure was filled with rows of houses in the northwest half, though little was built in the northeast half. In addition the houses of the northwest half spread into a grid of streets outside the enclosure, and it seems that the entourage of al-Mu'tazz, for whom Balkuwara was built, was large.

The Mosque of Abu Dulaf (figs 9-10). Brief excavations were conducted by the German expedition in their second season in 1912-13.⁷¹ Creswell made a new plan, but the mosque has since been extensively excavated and restored. In 1944 a building was excavated behind the mihrab, measuring 42.7 × 34.7 m., with two courtyards (fig. 10). In the main courtyard, sited directly behind the mihrab, is a four-iwan plan constructed in fired brick. Evidently this building was a resthouse for the caliph or imam of the mosque. Several of the doors of the mosque have been cleared; double arcades, attached to the outer wall of the mosque, and a double mihrab were also discovered.⁷² There is also an outer enclosure, on which no work has been done.

Qubbat al-Sulaybiyya (figs 15-16). The Qubbat al-Sulaybiyya was completely restored in the 1970's, along the lines of Herzfeld's reconstruction (fig. 15).⁷³ Subsequent to the restoration, excavations were conducted around the outside of the building. This work revealed a further octagonal section carried on low vaults and four ramps leading up to the interior, not allowed for in the restoration. It seems probable that the second octagonal section was an open platform (fig. 16).

The outstanding issue today is whether the qubba was in fact the mausoleum of al-Muntasir, built in 862-63, as proposed by Herzfeld and followed by Creswell. This idea was first questioned by Grabar, on the grounds that the texts of Tabari used by Herzfeld do not refer to the construction of a mausoleum.⁷⁴ Blair subsequently suggested that the Qubbat al-Sulaybiyya may have been a mausoleum of the imams al-ʿAskari and al-Hadi.⁷⁵ This latter suggestion seems unlikely, as the tombs of the imams seem always to have been identified with the site of their house in central Samarra.⁷⁶ At present the question of the building's function remains open.

Qasr al-ʿAshiq (figs 13-14). Not very much was known about the Qasr al-ʿAshiq at the time of Creswell's work. The German expedition had made some sondages in the interior, which succeeded in identifying the main re-

ception hall, but the plan remained unclear.

The interior was excavated in 1965 and subsequently.⁷⁷ Some restoration on the building was done in the 1970's, and since 1982–83 it has been worked on continuously. It is the building which now gives the most vivid idea to the layman of what the palaces of Samarra were like. At present the exterior walls are being restored.

The excavations have not been published and can only be briefly referred to.⁷⁸ The palace was built on a vaulted platform to level the hilltop site. The interior has a standard Samarran palace plan in miniature, including a courtyard with an iwan, which was known from the excavations of 1912–13, and cruciform halls behind it. There are two tunnels under the public rooms and a spiral ramp entrance.

If Creswell's dating to the period 878–82, near to the abandonment of Samarra, is correct, as seems to be the case,⁷⁹ one might have expected the building to exhibit few signs of occupation. The reverse is true; there is much evidence of rebuilding, including buttresses to stabilize the building on its hilltop site and interior modifications. The finds have also been extensive, and illustrate occupation up to the Ottoman period; a coin hoard dates from the late Abbasid period. This information accords with the statement of Yaqut that al-Ma'shuq was occupied to his day by *fallāḥīn*.⁸⁰

Disentangling the sequence of construction and reoccupation is quite complicated. Nevertheless the use of the fully developed four-center pointed arch, of which the Qasr al-ʿAshiq is the earliest example known to the author, belongs to the earliest phase of the building, for it is found in the door arches of the vaulted platform on which the palace is built.⁸¹

CRESWELL, HERZFELD, AND OTHER APPROACHES

The approaches of Herzfeld and Creswell to Samarra could not have been more different. Herzfeld, brimming over with ideas about the archaeology of the Near East, of which Samarra was only one aspect, scarcely found time to evaluate fully the results of the Samarra expedition, conscientious though he was about his publications. Creswell, with a dour systematic approach, did evaluate the architecture to provide the classic publication. Both men served Samarra well, but the second volume of *Early Muslim Architecture* was published fifty years ago, and Herzfeld died forty-two years ago. There has been something of a hiatus in Samarra studies since then, at least in Western languages. This is not true of

Arabic-language works, where there are a number of more recent accounts.⁸²

Creswell's work was limited to those aspects which were relevant purely to the art of architecture, and he was only interested in what looked to his eye like a ruined building or in completed excavations. Much of the evidence from Samarra is different — unexcavated mounds which can be planned into buildings, well-preserved canal remains, and settlement sites.

As long ago as 1948 the wrath of Ahmad Sousa was roused by what he saw as the limited architectural attitude of the Iraq Directorate-General of Antiquities.⁸³ Sousa was an irrigation engineer, but was also widely read in the historical and literary sources. His achievement was to draw attention to the hydrology of Samarra and the Nahrawan system, first described by James Felix Jones in 1857,⁸⁴ but particularly to relate it to the historical sources.⁸⁵ Sousa extended his work to the historical topography of Samarra, but his interesting remarks are often unfortunately vitiated by a primitive appreciation of the archaeological evidence.

The second form of evidence is surface pottery used to identify settlement patterns within the ruin-field. This technique, carried out by the British team in 1983 and 1986, permitted the identification of four town sites of long-period occupation within the ruin-field. The historical identification of these sites as al-Mahuza, Karkh Fairuz, al-Matira, and al-Qadisiyya made possible the identification of their associated cantonments, for example the cantonments of the Turks at al-Karkh, thus to link back to the architectural.

These two areas of development simply illustrate the necessity for access to all varieties of material evidence, not limited to the architectural and the artistic, about the past.

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NOTES

1. T. A. al-Jannābī, "al-tanqīb wa'l-ṣiyāna fī Sāmarrā", 1978–81," *Sumer* 37 (1981): 188–211 (Ar. sect.); Khālid Khalīl Ḥammūdi, "Qaṣr al-khalīfa al-Mu'taṣim fī Sāmarrā," *Sumer* 38 (1982): 168–205 (Ar. sect.); Zainab Ṣādiq 'Alī al-Samkarī, "Bibliogrāfiyā 'an Sāmarrā," *Sumer* 39 (1983): 322–30 (Ar. sect.); Nahda 'Abd al-Fattāḥ, "Mashrū' Iḥya' madīnatay Sāmarrā' wal-Mutawakkiliyya al-athariyyatayn: Dār raqm (1) wal-shāri' al-a'zam fī Sāmarrā," *Sumer* 43 (1984): 30–49 (Ar. sect.); Ḥāfiẓ Ḥusayn al-Ḥayānī, "al-Ḥir," *Sumer* 44 (1985–86): 139–57 (Ar. sect.); Qāsim Rādhi Ḥanīn, "al-tanqīb wa'l-ṣiyāna al-athariyya fī dār

- raqm 4 fi Madaqq al-Ṭabl," *Sumer* 44 (1985–86): 158–81 (Ar. sect.). Muḥammad Nadir (Abd al-Wahhāb and Amal (Abd al-Razzāq Qadūrī, "al-tanqīb wa'l-ṣiyāna al-athariyya fi dār raqm 5 Madaqq al-Ṭabl," *Sumer* 44 (1985–86): 182–98 (Ar. sect.).
2. The work has been supported by the British School of Archaeology in Iraq and funded to date by the school, the British Academy, the Wainwright Fund, and the Society of Antiquaries. This study has been written during the tenure of a research fellowship of the Alexander von Humboldt Stiftung at the University of Tübingen. Publications: A. Northedge, "Planning Samarra: A Report for 1983–84," *Iraq* 47 (1985): 109–28; idem and R. Falkner, "The 1986 Survey Season at Samarra," *Iraq* 49 (1987): 143–73; A. Northedge, "Samarra," *Archiv für Orientalforschung* 34 (1987): 115–24; R. Falkner, "Report and Typology of the Surface Pottery from the 1986 Survey Season at Samarra," unpublished paper, 1988; A. Northedge, "Karkh Fairuz at Samarra," *Mesopotamia* 22 (1987): 251–64; idem, "The Racecourses at Samarra," *Bulletin of the School of Oriental and African Studies* 53 (1990): 31–56.
 3. The author is cataloguing the buildings and archaeological features of Samarra for the publication, and the catalogue numbers are noted here, for reference when it appears. The site was divided into 26 lettered areas, and the sites and buildings numbered within the areas. For example the spiral minaret of the congregational mosque is numbered H4. The total of 6,314 is not final. The term "building" is defined as a contiguous set of walls, as it is not logically possible to be certain of the number of separate residences in multi-occupation blocks. These blocks of houses, of which 2,252 have been identified, seem to have contained between five and twenty separate residences.
 4. Creswell discusses six of them (see below). The remaining three are: Sur Ashnas (excavated by the Iraq Department of Antiquities and Heritage, but to date unpublished), the Octagon of Husn al-Qadisiyya (see below), and the tower of al-Qa'im (unpublished, but can now be dated to the late Sasanian period, on the basis of sherds scattered around the tower).
 5. For the layout of the Nahrawan canal, see R. M. Adams, *Land Behind Baghdad* (Chicago, 1965), Figs 5–10. In the area of Samarra the upper inlet was called al-Qātūl al-a'lā al-Kisrawī, and the three lower inlets, "the three Qatuls," al-Yahūdī, al-Ma'mūnī, and the Abū al-Jund (Ibn Serapion, "Description of Mesopotamia and Baghdad, written about A.D. 900 by Ibn Serapion," ed. G. Le Strange, *Journal of the Royal Asiatic Society* 1895, sects. VIII–IX).
 6. The water in the inlets to the Nahrawan canal was at too low a level to be used for the city without lifting apparatus.
 7. Aḥmad b. Abī Ya'qūb b. Wāḍiḥ al-Ya'qūbī, *Kitāb al-Buldān*, ed. de Goeje, *Bibliotheca Geographorum Arabicorum* 7 (Leiden, 1892), p. 264.
 8. While the watertable is now lower than it used to be, because of heavy modern water consumption, a 20 m. well now in the steppe east of the Tigris, equivalent to the city area, often only produces 2–3 barrels of water a day.
 9. Muḥammad b. Jarīr al-Ṭabarī, *Tārīkh al-Rusul wal-Mulūk*, ed. de Goeje et al. (Leiden 1879–1901), ser. 3, p. 1180.
 10. Site no. 08. Nāji al-Asīl, "Madinat al-Mu'tasim 'alā al-Qātūl," *Sumer* 3 (1947): 160–71 (Ar. sect.); idem, "La Ciudad de al-Mu'tasim en al-Qatul," *al-Andalus* 1947, pp. 349–57. For a new discussion of the Octagon, with the redating to the reign of Rashid, see A. Northedge and R. Falkner, "The 1986 Survey Season at Samarra," *Iraq* 49 (1987): 143–73.
 11. Yāqūt b. 'Abdallāh al-Ḥamawī al-Rūmī al-Baghdādī, *Kitāb Mu'jam al-Buldān*, 6 vols., ed. Wüstenfeld (Leipzig, 1866–73), s.v. al-Maṭira.
 12. Ya'qūbī, pp. 256–57; Ṭabarī (see above, n. 9); Aḥmad b. Yaḥyā al-Balādhurī, *Kitāb Futūḥ al-Buldān*, ed. de Goeje (Leiden, 1866), p. 297; Abū al-Ḥasan 'Alī b. al-Ḥusayn al-Mas'ūdī, *Murūj al-Dhahab wa-Ma'ādīn al-Jawāhūr*, ed. and tr. C. Barbier de Meynard and P. de Courteille, 9 vols. (Paris 1861–77), 7: 119–20.
 13. The pattern of the description is structured by Ya'qūbī's description of Samarra, pp. 257–68 of the *Kitāb al-Buldān*.
 14. The enclosure of Sur Shaikh Wali was known to Herzfeld as al-Zanqur. However today this toponym applies to the area to the north of Sur Shaikh Wali and south of Abu Dulaf.
 15. A. Northedge, "Karkh Fairuz at Samarra," *Mesopotamia* 22 (1987): 251–64.
 16. Site F1. The excavations are unpublished.
 17. Two palaces were excavated at Huwaisilat by the Iraq Directorate-General of Antiquities (as it then was) between 1936 and 1939 (see Directorate General of Antiquities, *Hafriyyāt Sāmarrā' 1936–1939*, 2 vols. [Baghdad 1940]). The first, identified in the publication with Mu'tasim's Qasr al-Juss (Site V1), is the better known, but there was also a second, named the Upper Palace in the publication (Site V2), which was not so well preserved, and the excavations were not completed. Excavations were also begun at Tell Umm al-Sakhr (Site V9), which lies between al-Huwaisilat and the Qasr al-'Ashiq, in the 1930's, but they were abandoned.
 18. Site H30.
 19. Site H3.
 20. Yaqut, *Mu'jam al-Buldān*, s.v. Sāmarrā'; Abū al-Faraj 'Alī b. Ḥusayn al-Iṣfahānī, *Kitāb adab al-ghurabā'*, ed. S. Munajjid (Beirut, 1972), sect. 28. A further version of a list, without costs, is in al-Ya'qūbī, *Tārīkh*, ed. Dar Bairut, 2: 491.
 21. Site R3.
 22. Site M1. The only published reference is in K. A. C. Creswell, *A Short Account of Early Muslim Architecture*, ed. J. W. Allan (Aldershot, 1989) pp. 342–43, fig. 221. Since that publication, it has become more likely that it was a building of Mutawakkil's, for the reasons given in the text, but Herzfeld's specific identification with Qasr al-'Arus was dismissed by Ahmad Sousa as a misreading of the texts (Ahmad Sousa, *Ra'y Sāmarrā' fi 'Ahd al-Khilāfa al-'Abbāsiyya*, 2 vols. [Baghdad, 1948–49]).
 23. Site A2. No plan of the Qasr al-Ja'fari has ever been published. A publication will be forthcoming from the British survey project.
 24. Site T1.
 25. A. Northedge, "The Racecourses at Samarra," (cited above, n. 2).
 26. Sites Y4 and Y5.
 27. Site Y1.
 28. Site T749.
 29. Sites Q1 and Q7.
 30. Site V7. Al-Mu'tamid is also known to have built another palace called al-Ahmadi (Yāqūt, *Mu'jam al-Buldān*, 5: 156), but this has not been identified. The Qubbat al-Sulaibiyya is not securely dated.
 31. Ṭabarī, ser. III, pp. 2112, 2114.
 32. D. Whitehouse, "Islamic Pottery in Iraq and the Persian Gulf: The Ninth and Tenth Centuries," *Annali dell' Instituto Orientale di Napoli* 39 (1979): 45–61; G. C. Miles, "The Samarra Mint," *Ars Orientalis* 1 (1954): 187–91. I have to thank Stephen Album for the information that it is not at present possible to reconfirm

- Miles's find or reading.
33. Muṣṭafā Jawād Ja'far al-Khalīlī, *Mawṣū'at al-ʿAtabāt al-Muqaddasa*, pt. 1 of Samarra', Baghdad.
 34. Ṭabari, ser. 3, pp. 2223–24.
 35. Northedge, "Planning Samarra'," cited above, n. 2.
 36. Northedge, "Samarra"; Northedge and Falkner, "The 1986 Survey," both cited in n. 2.
 37. General L. de Beylié, "L'architecture des Abbassides au IX^e siècle. Voyage archéologique à Samarra, dans le bassin du Tigre," *Revue Archéologique*, 4th Ser. 10 (1907): 1–18; idem, *Prôme et Samarra. Voyage archéologique en Birmanie et en Mesopotamie* (Paris, 1907).
 38. M. H. Viollet, *Description du palais de al-Moutasim fils d'Haroun-al-Raschid à Samara et quelques monuments arabes peu connus de la Mesopotamie, Mémoires présentés à l'Académie des Inscriptions et des Belles-Lettres*, 12 (1909): 567–94; idem, "Le palais de al-Moutasim fils d'Haroun-al-Raschid à Samara et quelques monuments arabes peu connus de la Mesopotamie," *Comptes Rendus de l'Académie des Inscriptions et des Belles-Lettres*, 1909, pp. 370–75; idem, *Fouilles à Samara en Mesopotamie: un palais musulman du IX^e siècle*, Mémoires présentés à l'Académie des Inscriptions et Belles-Lettres, 12 (1911): 685–717; idem, "Fouilles à Samara. Ruines du palais d'al-Moutasim," *Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres* 12 (1911): 275–86.
 39. E. Herzfeld, *Erster vorläufiger Bericht über die Ausgrabungen von Samarra* (Berlin, 1912). See also idem, "Bericht über die Ausgrabungen in Samarra," *Archäologische Gesellschaft zu Berlin, Aprilsitzung* (1912); E. Herzfeld, "Die deutschen Ausgrabungen in Samarra," *Illustrierte Zeitung* no. 3608 (1912): 335–91; idem, "Expedition Samarra," *Der Islam* 3 (1912): 314–16.
 40. E. Herzfeld, "Mitteilung über die Arbeiten der zweiten Kampagne von Samarra," *Der Islam* 5 (1914): 196–204.
 41. I have to thank Jens Kröger for information about the funding difficulties of the Samarra expedition.
 42. The exact number is not certain, as it has not yet been possible to complete the analysis of the excavations of the houses. Seventeen houses were given numbers by the expedition, but multiple house numbers were allotted on more than one excavation site.
 43. 3–5 December 1911.
 44. Samarra Archive no. 370, Islamisches Museum, East Berlin.
 45. It is quite likely that, in the course of the excavations at the Qubbāt al-Sulaibiyya, when the workmen realized that these were Islamic burials, they refused to continue excavating. Unfortunately the state of the evidence leaves open the question of whether the burials were secondary, and not original to the construction of the building.
 46. E. Herzfeld, *Die Ausgrabungen von Samarra V, Die vorgeschichtliche Töpfereien* (Berlin, 1930).
 47. The trench systems survive in extremely well-preserved condition. It is possible that Samarra is the best surviving First World War trench system in the world, as it was never fought over.
 48. Journal N-83, p. 16, in the Herzfeld Archive, Freer Gallery of Art. Contrary to the suggestion of J. M. Upton, *Catalogue of the Herzfeld Archive*, 4 vols. (n.d.), that military activity in the First World War was responsible for the brick-robbing in the excavations, I can find little evidence that the British were responsible. Most of the encampments were tented. The Samarra's were notorious brick-robbers; the walls of Samarra erected in 1834 were built of Abbasid bricks, and the Qasr al-Haruni was thought to provide the best quality (information courtesy of Fadhil Hamid, Antiquities Inspector in Samarra).
 49. *Die Keramik von Samarra* has in recent years been criticized, notably by Whitehouse (1979) for its failure properly to date the pottery from the excavations. Actually the general accuracy of the typology has been confirmed in recent years, by subsequent Iraqi work, and the British survey work. The inclusion of material later than the ninth century occurred mainly because of the proximity of some of the excavations to the later, medieval and modern, city, where occupation seems to have survived longer than elsewhere.
 50. E. Herzfeld, *The Persian Empire*, ed. G. Walsler (Wiesbaden, 1968).
 51. Photographic albums 22 and 23.
 52. See, e.g. L. Grinsell, P. Rahtz, and D. Price-Williams, *The Preparation of Archaeological Reports*, rev. ed. (London 1974); P. Barker, *Techniques of Archaeological Excavation* (London, 1982).
 53. Herzfeld, *Geschichte*, pp. 74, 131. Herzfeld's description, as far as it goes, is consistent with current thought.
 54. K. A. C. Creswell, *Early Muslim Architecture* (Oxford, 1969), 2: 226–45. The name "Jawsaq al-Khaqani" is used here, because Creswell used it, but as we shall see, there is some question about it.
 55. *Ibid.*, pp. 254–70.
 56. *Ibid.*, pp. 277–88.
 57. *Ibid.*, pp. 361–64.
 58. Air photography of Samarra was in fact available before the publication of the second volume of *EMA*. Royal Air Force oblique air photographs were used by Creswell for general illustrative purposes on plates 63a-b, and plate 70a. However, oblique photographs are less useful than vertical ones at Samarra, as in the oblique ones the imagery of plan begins to disappear.
 59. The only buildings at Samarra where any baked brickwork has survived are in fact the six buildings treated by Creswell.
 60. Khālid Khalīl Ḥammūdī, "Qasr al-khalifa al-Mu'tasim fi Samarra'," *Sumer* 38 (1982): 168–205 (Ar. sect.).
 61. Ḥāfiẓ Ḥusayn al-Ḥayānī, "al-Hīr," *Sumer* 44 (1985–86): 139–57 (Ar. sect.).
 62. This statement represents the author's views, but he wishes to acknowledge that both the present work of the Iraq Department of Antiquities and Heritage and their conclusions are partly the source. A detailed discussion of the sequence of development needs to be reserved to future publication.
 63. No excavations were made on the site of the treasury, and the appellation must have been speculative.
 64. Herzfeld, "Mitteilung über die Arbeiten der zweiten Kampagne," p. 196.
 65. A. A. N. al-ʿĀnī, "Istadrīkāt tārikhiyya li-mawāqī' athariyya III," *Sumer* 39 (1983): 261–66 (Ar. sect.).
 66. Ya'qūbī, *Tārikh*, 2: 473.
 67. Al-Jawsaq al-Khāqānī: Ya'qūbī, *Buldān*, p. 258. We also know of more than one Jawsaq: al-Jawsaq al-Ibrahīmī, Iṣfahānī: *Adab*, pp. 47–50; al-Jawsaq fi Maydān al-Sahn: Iṣfahānī, *Adab*, 47–50, with a variant in Yāqūt, *Buldān*, 3: 175: al-Jawsaq fi Maydān al-Sakhr. It is also possible that these references simply refer to further phases of work on the one building. Particularly "al-Jawsaq fi Maydān al-Sahn (or Sakhr)" might refer either to work on the Grand Esplanade, or to the polo maydan at the east end, which was certainly an addition.
 68. Rabi' al-Qaysi, "Jāmi' al-Malwiya fi Sāmarrā'—takhtīṭ wa-ṣiyāna," *Sumer* 25 (1969): 143–62 (Ar. sect.): idem, "al-Malwiya manārat al-masjid al-jāmi' fi Sāmarrā'," *Sumer* 26 (1970): 277–84.
 69. See J. M. Upton, *Catalogue of the Herzfeld Archive*, 4 vols. (Wash-

- ington, D.C., n.d.), for a list of unpublished drawings from Bal-kuwara.
70. E. Herzfeld, *Mshatta, Hira und Badiya* (Berlin, 1921), Abb. 2.
 71. Idem, "Mitteilung über die Arbeiten der zweiten Kampagne," p. 204.
 72. Bashir Fransis and Maḥmūd 'Alī, "Jāmi' Abī Dulaf," *Sumer* 3 (1947): 60–70 (Ar. sect.); K. al-Jannābī, *Masjid Abī Dulaf* (Baghdad, 1947).
 73. A. N. 'Abdū, "Qubbat al-Sulaybiyya," *Sumer* 29 (1973): 111–18 (Ar. sect.); 'Abdū's study predates excavation and restoration.
 74. Oleg Grabar, "The Earliest Islamic Commemorative Structures," *Ars Orientalis* 6 (1966): 7–46.
 75. Sheila Blair, "The Octagonal Pavilion at Natanz: A Re-examination of Early Islamic Architecture in Iran," *Muqarnas* 1 (1983): 69–94.
 76. Abū al-Qāsim Ja'far b. Muḥammad ibn Qulūya, *Kāmil al-Ziyārat*, ed. 'Abd al-Ḥusayn al-Amīnī al-Tabrīzī (Najaf, A. H. 1356), bāb 103.
 77. 'Abd al-'Aziz Hamid, "New Lights on the 'Ashiq Palace of Samarra," *Sumer* 30 (1974): 183–94.
 78. "Excavations in Iraq 1985–86," *Iraq* 49 (1987): 245.
 79. The identification and dating of the building as Mu'tamid's Qasr al-Ma'shuq are of course based on the local traditional name of the site as al-'Ashiq. On the whole the local traditions of topography in Samarra tend to be correct, and should not be ignored, although naturally distortions do occur; cf. the name of Tell al-'Alīj or 'Alīq in Northedge, "The Racecourses at Samarra."
 80. Yāqūt, *Mu'jam*, s.v. al-Ma'shūq.
 81. Since the Baghdad Gate of Raqqa has been redated from the eighth to the twelfth century, the architecture of Samarra in the ninth century appears to illustrate the introduction of the four-center pointed arch. The Bab al-'Ammā, and the mosque of Abu Dulaf, have a distinct "kink" at the springing of their arches, but this is not a curve. These examples are perhaps early forms, from which the second curve at the springing of the arch found in the 'Ashiq developed. In both the Bab al-'Ammā and the Qasr al-'Ashiq, the tunnel vaults have the two-center pointed form, a substantial clue which supports the idea that the four-center pointed arch was still in the course of formulation.
 82. Ṭāhir Muẓaffar al-'Amīd, *al-'Imāra al-'abbāsiyya fī Sāmarrā' fī 'ahday al-Mu'tasim wal-Mutawakkil* (Baghdad, 1976); idem, "Imārat Sāmarrā' fī 'ahd al-Mutawakkil," *Sumer* 32 (1976): 191–235 (Ar. sect.); Yūnis Aḥmad al-Sāmarrā'ī, *Sāmarrā' fī adab al-qarn al-thālith al-hijrī* (Baghdad, 1968); Yūnis Ibrahīm al-Sāmarrā'ī, *Tārīkh Madīnat Sāmarrā'*, 3 vols. (Baghdad, 1968).
 83. Aḥmad Sousa, *Rayy Sāmarrā' fī 'ahd al-khilāfa al-'Abbāsiyya*, 2 vols. (Baghdad, 1948–49).
 84. J. F. Jones, "Narrative of a Journey Undertaken in April 1848 by Commander James Felix Jones, I.N., for the Purpose of Determining the Tract of the Ancient Nahrawan Canal," *Selections from the Records of the Bombay Government* 43 (1857): 33–134.
 85. This was partly followed up by Adams in *Land Behind Baghdad*, though Adams does not seem to have used Sousa.