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THE INTRODUCTION OF THE MUQARNAS INTO EGYPT

The decorative device known today as muqarnas, or stalactite vaulting, first appears in Egyptian architecture in the cornices on the minaret of Badr al-Jamali's mashhad overlooking Cairo, which is dated by inscription to 478 (1085); in a cornice in Cairo's north wall of approximately the same date; and as a filling for a niche hood and corner chamfer on the façade of the Aqmar mosque dated forty years later (figs. 1-3).¹ In all three cases, the builders were so adept at handling the device that they must already have been familiar with it. Probably contemporary to these three examples are the undated painted-plaster fragments discovered many decades ago in the ruins of the bath of Abu'l-Su'ud in Fustat (fig. 4).² On stylistic grounds they have been dated to the eleventh century, well before the destruction of Fustat in the middle of the twelfth. A series of small domed mausolea in Cairo use elements similar to those found in the bath and group them together to form "stalactite pendentives" (as K. A. C. Creswell called them), to make the transition from square base to dome (fig. 5).³ Most of these structures are undated—as are the Abu'l-Su'ud fragments—but Creswell convincingly assigned them to the first half of the twelfth century.

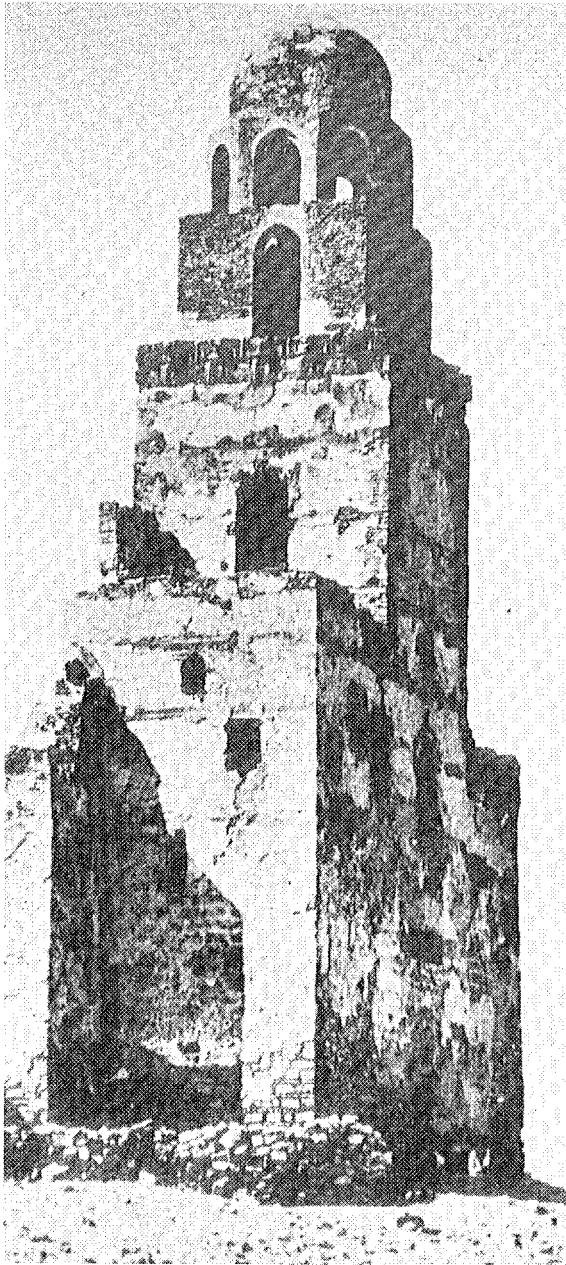
It is clear, then, that muqarnas first appear in Egypt sometime in the eleventh century to perform three functions: (1) to separate the parts of a building, as in the minaret cornice; (2) to fill spaces with a decorative motif, as on the Aqmar niche hood; and (3) to form a transitional element, as on the Abu'l-Su'ud fragments. The variety these examples display does not necessarily mean that the device had already become standard in Egyptian architecture. It would still be many years before it became a ubiquitous feature. The Juyushi minaret, for example, does indeed have two—and possibly three—tiers of stalactites, but no muqarnas are found in the squinches of the adjacent and contemporary dome. Minarets in Upper Egypt otherwise stylistically related to and contemporary with Badr's in Cairo also have none.⁴ Although many of the slightly

later domes in Cairo have stalactites, a significant group, including the one built by the caliph al-Hafiz for the Azhar mosque, do not.⁵

Muqarnas were used on the façade of the Aqmar mosque, but the standard treatment for niche hoods in late Fatimid architecture was a stylized shell motif. The true stalactite hood would remain unknown in Egypt until Baybars introduced it in the mid-thirteenth century, ostensibly from Syria.⁶ Finally, the muqarnas vault used in Sicily and North Africa in the twelfth century seems to have been unknown in Egypt until the middle of the fourteenth, when it appeared, for example, with some special significance, over the entrance vestibule of the mosque-madrassa-mausoleum complex of Sultan Hasan.⁷

Taken together, these observations indicate, first, that in the eleventh and twelfth centuries patrons and builders thought stalactite decoration should be tied strictly to particular architectural forms and situations. For example, it is hard to imagine that its presence on the Aqmar façade represents solely an aesthetic decision when virtually every other feature of the façade has all kinds of iconographic significance.⁸ We must try to imagine how novel this decoration must then have appeared, and forget for the moment how common it was later to become.

Second, the technical mastery with which stalactite vaulting was used from the beginning suggests that the developed technique was imported wholesale from elsewhere. Neither the Juyushi cornice nor the Aqmar façade can represent an artisan's first attempt at making it. The facts surrounding the reintroduction of stone architecture to Egypt and the contemporary historical situation suggest that some outside influence was at work in both these buildings. Syria is the most likely conveyer, but few monuments remain there from this period. The minaret of the Great Mosque of Aleppo is only five years later than Badr al-Jamali's in Cairo, and also has a cornice of stalactites:⁹ perhaps they both stem from a common source. Since the



1. Cairo. Mashhad of Badr al-Jamali. Minaret.

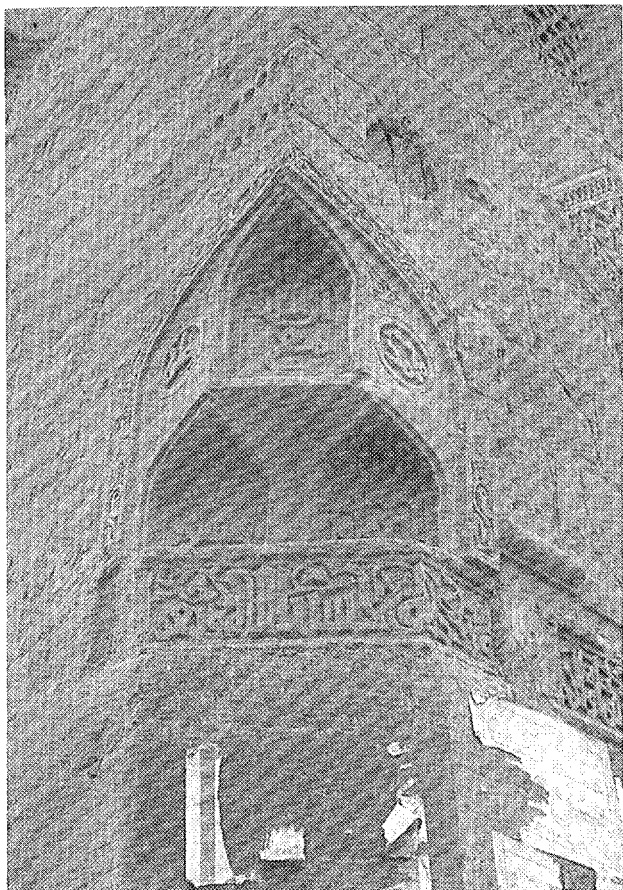
muqarnas on the Aqmar façade do not derive from the Juyushi cornice, we may imagine a similar Syrian source, but lacking other monuments for comparison, the question must remain open. Nevertheless, in its broad outlines the derivation is clear. New forms appear in Fatimid Egyptian architecture toward the

end of the eleventh century. Wherever those forms ultimately originated, they came to Egypt via Syria just at the time when the new vizier Badr al-Jamali, who had been twice governor of Damascus, had embarked on a campaign of major constructions in the capital and had brought builders from Edessa for the purpose.¹⁰

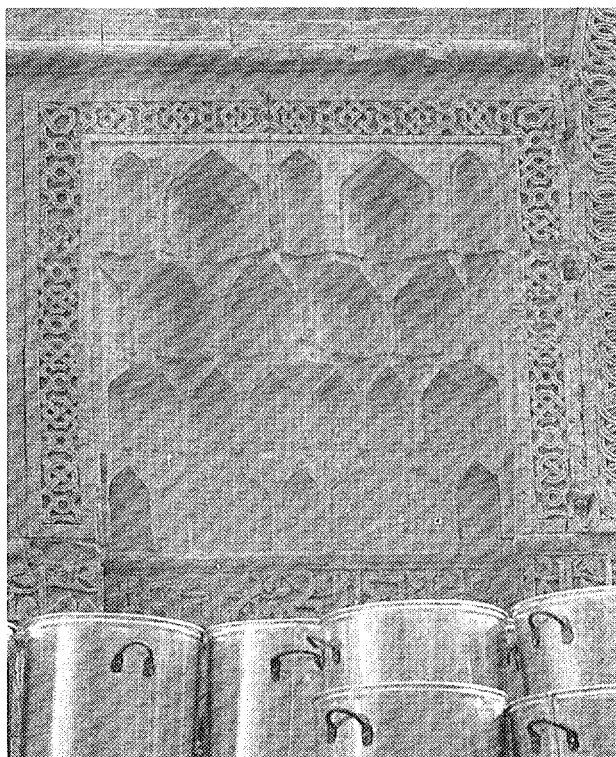
In only one case did the muqarnas originate in Fatimid Egypt. Creswell traced the development of the “stalactite pendentive” in Egypt and concluded that it was entirely a local creation, quite distinct from the stalactite squinch as it developed in Iran (e.g., the north dome of the Masjid-i Juma in Isfahan).¹¹ His dogmatic assertion is best understood as a refutation of then-current theories about Persian influence on Fatimid architecture, argued on the grounds that both regions were Shi‘ite. Today, the whole problem is often smugly dismissed, for no direct evidence can be found to link Iranian and Egyptian vaulting techniques, but a certain gross visual similarity between the two can hardly be denied, and it is incredible that they appeared entirely independently. How then are they related?

If Egypt is the gift of the Nile, Islamic Egypt is the gift of Cairo. The administrative, commercial, and cultural capital of the country for over a millennium, Cairo’s preeminence and enormous monumental heritage totally eclipse the provincial centers in the Delta and Upper Egypt. Nevertheless, one cannot ignore the provincial monuments altogether, even if they are less spectacular than those of the capital.

A case in point is Aswan, located just below what was the Nile’s first cataract and is now the High Dam. There the ruins of an impressive medieval cemetery remain despite what has been termed an archaeological disaster. In December 1887, a rare tropical downpour nearly destroyed the mudbrick tombs and mausolea of the cemetery, but well-meaning local notables removed for preservation the funerary stelae embedded in their walls. Unfortunately, they kept no records of where the stelae were found, so dating what remains of the buildings depends solely on style.¹² Years later, when Ugo Monneret de Villard attempted to salvage what was left,¹³ he noted two types of funerary structures: tombs—generally simple rectangular enclosures—and mausolea—more elaborate structures of mudbrick consisting of a domed square unit with or without a mihrab and/or lateral vaulted annexes. He theorized an evolution of types (which Creswell somewhat modified) and compared the monumental evidence with the dated,



2. Cairo. Aqmar mosque. Niche hood.



3. Cairo. Aqmar mosque. Corner chamfer.

but detached stelae salvaged from the cemetery. Although the majority of the tombstones dated from the ninth century, Monneret concluded that the mausolea were actually later than the stelae, and dated from the eleventh to the thirteenth.

Creswell followed Monneret in all essentials, but he noted two peculiar architectural features found in the fifty-five or so domed mausolea: first, an unusually wide variation in the zones of transition, ranging from a simple stone lintel across each corner to what he termed a "bizarre ... needless and useless elaboration" of an ordinary squinch; second, a drum always inserted between the zone of transition and the dome. Occasionally flat-sided octagonal prisms, the drums often have concave sides which take an extreme form of horn-like projection (figs. 6-7). This type of drum is a peculiarity of Upper Egypt, and it is also found on top of the minarets at Shellal and Isna and on a Fatimid

mausoleum at Qus. Creswell noted that concave-sided drums are also peculiar to Aghlabid architecture in Tunisia and even suggested that the Aswan drum type might be a development of the Tunisian type, although he did not specify how this influence was conveyed. Presumably he was thinking of the caravan routes linking North Africa with Aswan, not via Lower Egypt, but via the oases of the Western Desert. Such a source would confirm Creswell's theory that North African—rather than Persian—forms influenced Fatimid architecture.¹⁴

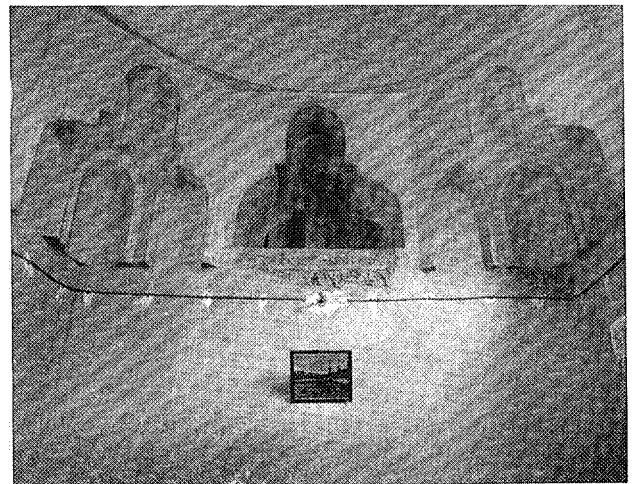
In Creswell's final analysis, however, the Aswan mausolea were irrelevant for the development of the stalactite pendentive in Egypt: they were provincial monuments which did not share in the developments of the metropolis. Finding two early and inept examples of stalactite pendentives in the church of Abu'l-Sayfayn in Old Cairo, Creswell theorized that Copts were ultimately responsible for the first steps in the evolution of the squinch into the stalactite pendentive that would become such a characteristic feature of Egyptian-Islamic architecture.¹⁵ He neglected to indicate from where the Copts got the idea.



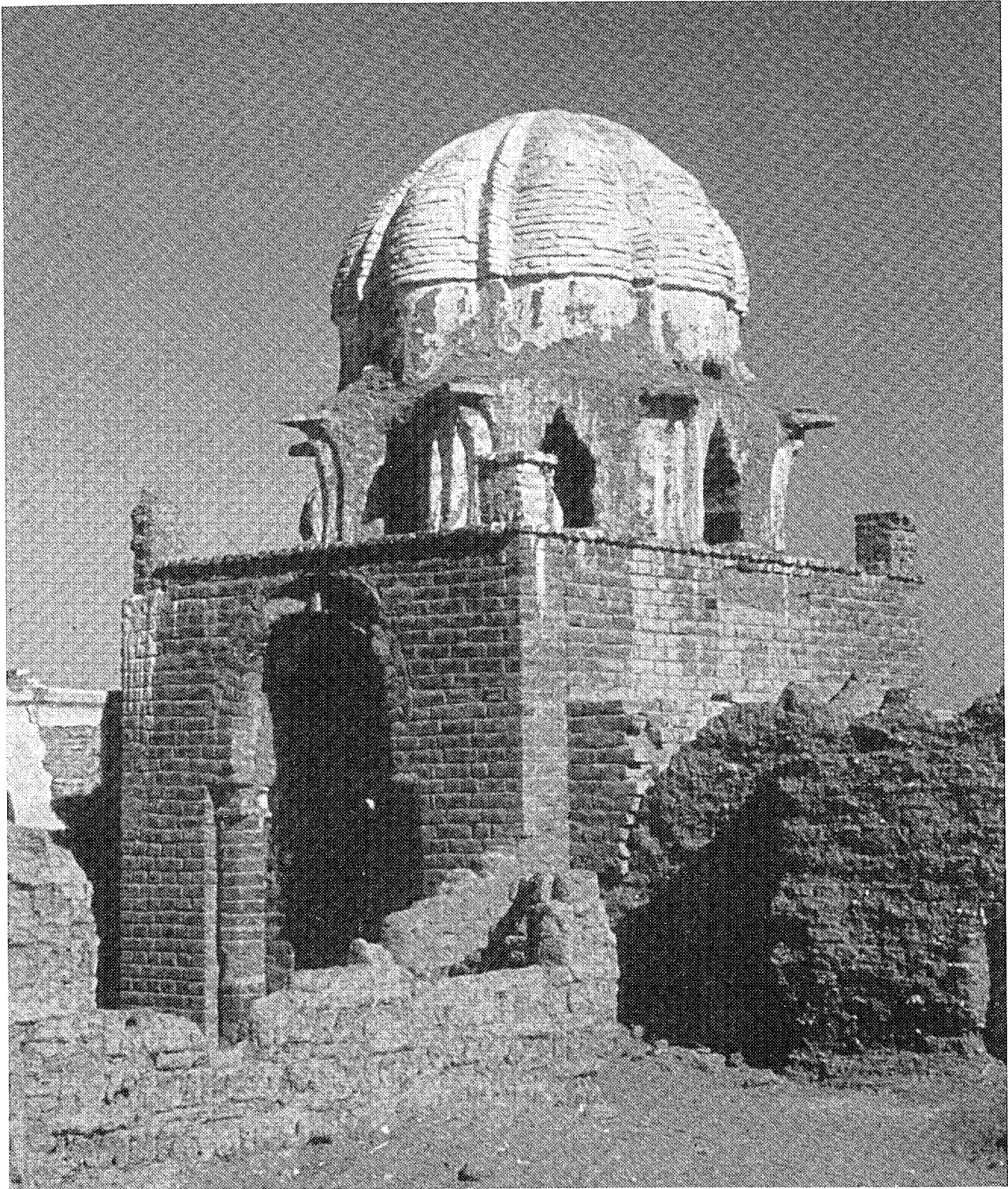
4. Cairo. Painted plaster fragment from the bath of Abu'l-Su'ud. Museum of Islamic Art.

The traditional explanations for the introduction of the stalactite pendentive are based on outdated historical assumptions—that all Shi'ites are related, that Cairo was always preeminent, that Fatimid art is North African (and thus a unique case of *Rom über Orient*), and that the sources of Egyptian Islamic art are Coptic. None of these explanations seriously considers the historical and geographic setting of the monuments. Why in the eleventh century do these domes appear in Aswan of all places?

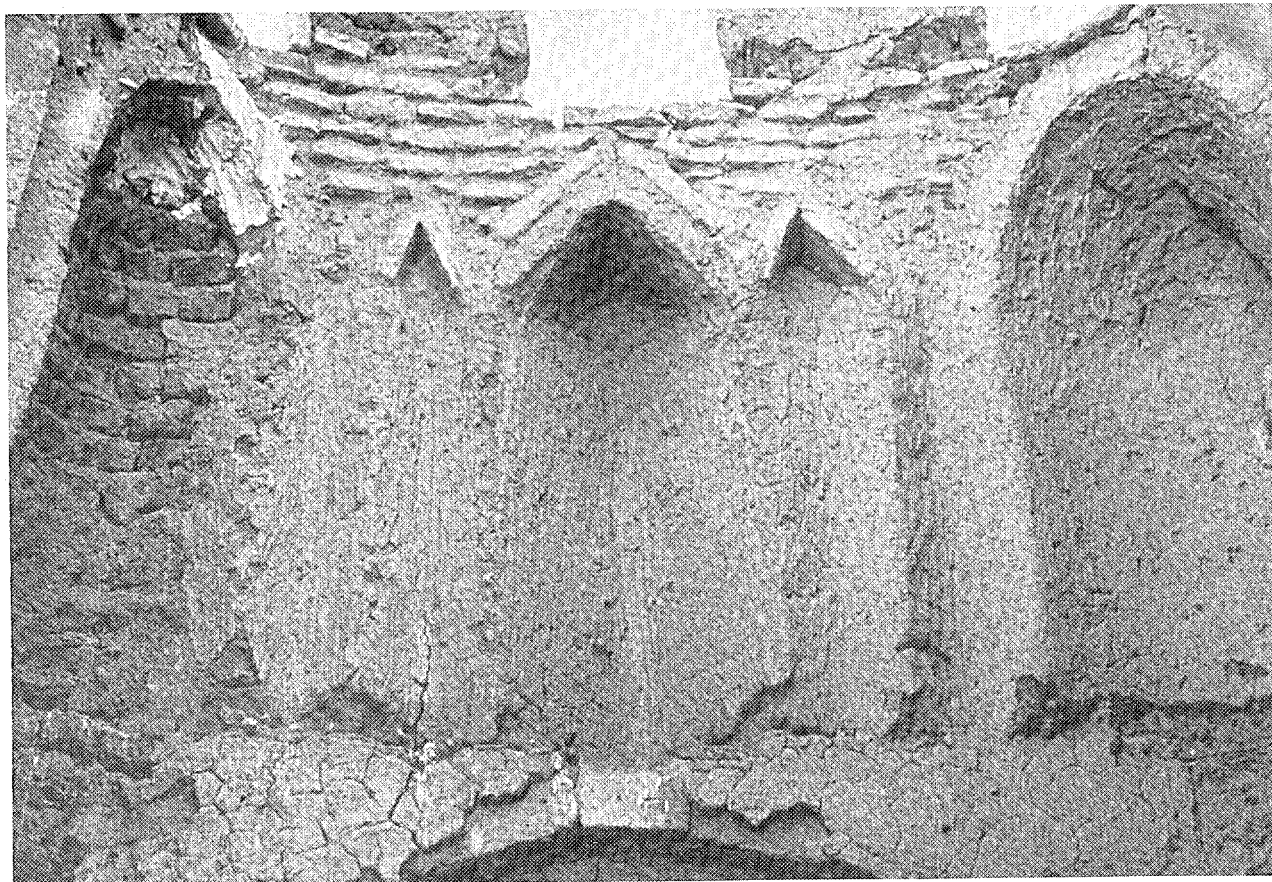
The number of tombstones salvaged from Aswan's cemetery indicates that a Muslim community flourished there in the middle of the ninth century, but Aswan's real prosperity came in the eleventh century when the Fatimids were unable to control the commercial and pilgrimage routes along the Red Sea.¹⁶ At first,



5. Cairo. Mausoleum of Muhammad al-Ja'fari. Zone of transition.



6. Aswan. Mausoleum 24. Exterior.

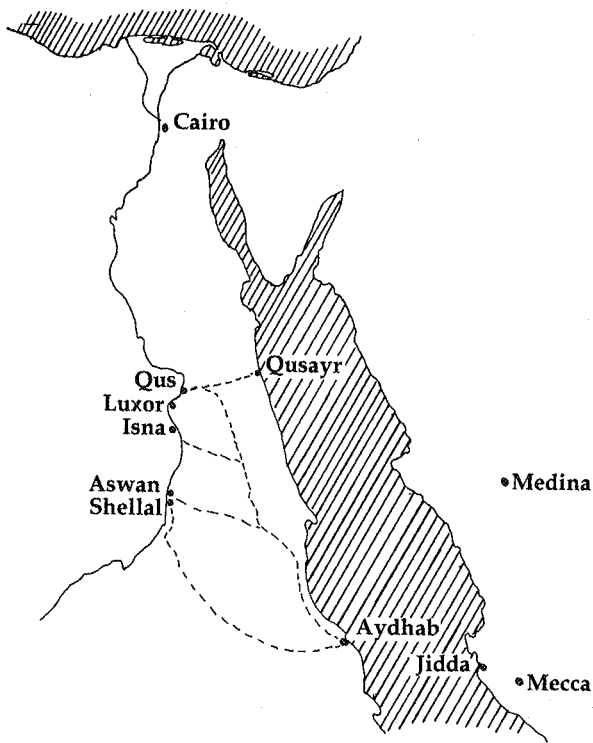


7. Aswan. Mausoleum 32. Zone of transition.

caravans left from Cairo for the Red Sea from where they could either continue by land along the traditional coastal route or by boat directly from Qulzum (later Suez) to Jidda. The failure of the Fatimids to control the land route— or the sea lanes for that matter— created a vacuum in which bandits freely attacked the caravans, and many failed to reach Mecca. Consequently, pilgrims and merchants sought a more secure route to the Hijaz, one within the lands controlled by Cairo. From the middle of the eleventh century to the middle of the thirteenth, the main trade and pilgrim traffic went up the Nile from Cairo to Qus. From there one had various choices: one could go directly across the desert from Qus to the Red Sea at Qusayr; or one could go southeast across the desert to Aydhab, directly opposite Jidda; or one could continue south along the Nile to Aswan and across the desert, meeting the Qus-Aydhab route halfway (fig. 8). The choice of route

depended on the current state of Fatimid diplomacy in the region, menaced not only by the Nubian Christians but also by the Beja nomads of the Eastern Desert between the Nile and the Red Sea.

Nasir-i Khusraw, the Persian traveler and Fatimid spy, took the route via Aswan and Aydhab in 1059. He waited three weeks in Aswan for the pilgrims to return from the hajj so that he could rent their camels for the two-week desert crossing. In Aydhab, he had to wait for favorable winds to carry him east to Jidda.¹⁷ In 1183, the Andalusian traveler Ibn Jubayr went up the Nile only as far as Qus where he took to the desert, arriving in Aydhab three weeks later.¹⁸ Judging from the reports of both Nasir-i Khusraw and Ibn Jubayr, Aswan, Aydhab, and Qus were all substantial towns, with economies founded on the tourist trade. It could hardly have disturbed the innkeepers that the Persian traveler had to spend so much time cooling his heels



8. Egypt and the Red Sea trade routes.

waiting for camels and better weather. Hardly the sleepy backwaters which later geopolitics has made them, these cities were important entrepôts through which virtually all Egyptian and Maghribi pilgrims and merchants would pass and return.¹⁹

Ibn Jubayr's account of his travels is also valuable because of the detail in which he describes what he saw. Particularly interesting is his description of the Masjid al-Haram in Mecca, which provides essential information about its medieval state. Especially important is his description of the Bab Ibrahim annex to the Haram which was built by Muhammad ibn Musa, al-Muqtadir's governor in Mecca, during the early part of the tenth century.²⁰ "Over the portal is a large dome (*qubba*), remarkable because it is almost as high as the adjacent minaret (*sawma'a*). Its interior is covered with marvelous plaster work and *qarnasi* carvings which defy description. The exterior is also made of carved plaster, resembling interlaced column drums."²¹

Perhaps Ibn Jubayr used the word *qarnasi* here to mean "intricate work," for he uses the same word to describe the carvings on the minbar of Nur al-Din, then in Aleppo.²² But it is tempting to imagine that he was

trying to describe a muqarnas dome such as remains over the tombs of Imam Dur and Hasan al-Basri in Iraq.²³ No Hijazi examples are extant, but one can easily imagine that the type might have been used in buildings other than the Bab Ibrahim dome, such as the numerous tombs and shrines which both Nasir-i Khusraw and Ibn Jubayr described around Mecca and Medina.

The existence of these hypothetical domes would link the development of muqarnas vaulting in the eastern Islamic lands with its sudden appearance in eleventh-century Egypt. Contrary to Creswell's opinion, the Aswan and Qus mausolea are intimately related to the development of the stalactite pendentive in Lower Egypt. Upper Egypt, so closely related to the Hijaz by commerce and pilgrimage, would be the first place in Egypt to receive these new architectural ideas. The moderate level of patronage, however, precluded importing artisans trained in their techniques. Local workers had to do the best they could with what they had, thereby explaining both the crudeness and the fantastic elaboration of the domes. These odd domes are, then, Upper Egyptian vernacular interpretations of the muqarnas domes and squinches that pilgrims had seen in the Hijaz. Aswan would have been an intermediary for the transmission of this architectural element and not merely a provincial recipient.

The role of Aswan also suggests the means by which the stalactite squinch entered the Egyptian architectural mainstream. Both Badr al-Jamali's mashhad and al-Hafiz's dome for al-Azhar use the plain squinch, although the muqarnas was already known earlier in the cemeteries of Aswan and Cairo. It could be argued that this type of dome and squinch had acquired a strictly funerary association and was therefore inappropriate for other kinds of buildings, were it not that the purpose of Badr's mashhad remains enigmatic and the domes in the Coptic church are hardly funerary. The hypothesis is therefore unlikely.

A socioeconomic interpretation is far more plausible. I suggest that muqarnas squinches belonged to vernacular architecture in the Fatimid period, and would have been inappropriate for buildings commissioned by the court. The architects of Badr and al-Hafiz would thus have been thought gauche to include them in their buildings. It was, however, perfectly proper for a cornice or a niche head to include stalactite decoration, because in that case it bore other associations. The appearance of the trial muqarnas in the Coptic church would support this early popular association. In the

twelfth century, the Fatimid dynasty transformed the popular veneration of saints buried in the cemeteries outside of Cairo into a cult organized and orchestrated by the highest echelons of the state in an effort to bolster its crumbling regime. Just as popular forms of piety were usurped by the ruling elites, so the stalactite squinch moved from its early exclusively popular and vernacular associations to become an essential term in the high architectural vocabulary of Islamic Egypt.

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NOTES

1. For these three buildings, and many of the others mentioned in the text, see K. A. C. Creswell, *The Muslim Architecture of Egypt* [hereafter *MAE*] (Oxford, 1952-59) Vol. 1, pp. 159-60, 189, and 241-45.
2. Janine Sourdel-Thomine and Bertold Spuler, *Die Kunst des Islam* (Berlin, 1973), p. 262 and pl. 34.
3. Creswell, *MAE* 1:227-38.
4. *Ibid.*, 146-55.
5. *Ibid.*, 255-57.
6. *Ibid.*, 2:146-48.
7. [J.] Michael Rogers, *The Spread of Islam* (London, 1976), p. 104.
8. Caroline Williams, "The Cult of 'Alid Saints in the Fatimid Monuments of Cairo: pt. I: The Mosque of al-Aqmar," *Muqarnas* 1 (1983): 37-52, esp. 43 ff.; pt. II, "The Mausolea," *ibid.*, 3 (1985): 39-60.
9. Ernst Herzfeld, *Matériaux pour un Corpus Inscriptionum Arabicarum*, pt. 2, *Syrie du Nord*, vol. 1, *Inscriptions et monuments d'Alep* (Cairo, 1955), pp. 150-64, and Terry Allen, *A Classical Revival in Islamic Architecture* (Wiesbaden, 1986), *passim*.
10. Creswell, *MAE*, 1:161-63.
11. *Ibid.*, pp. 231-32; 251-53.
12. *Ibid.*, pp. 130-33.
13. Ugo Monneret de Villard, *La Necropoli musulmana di Aswan* (Cairo, 1930).
14. Creswell, *MAE* 1:136-37; 290.
15. *Ibid.*, p. 232.
16. A most useful survey of Upper Egypt in this period is Jean-Claude Garçin, *Un centre musulman de la Haute-Egypte médiévale: Qus* (Cairo, 1976), chap. 3.
17. Nasir-i Khusraw, *Sefer Nameh*, ed. and trans. Charles Schefer (Paris, 1881), pp. 172-81.
18. Ibn Jubayr, *Rihla* (*Voyages*), trans. Maurice Gaudetroy-Demombynes (Paris, 1949-65), 62-78.
19. Garçin, *Qus*, chap. 3.
20. Accessible introductions to the building, enlargement, and chronology of the Meccan sanctuary are: R. A. Jairazbhoy, "The History of the Shrines at Mecca and Medina," *Islamic Review*, Jan.-Feb. 1962, pp. 19-34, and Maurice Gaudetroy-Demombynes. *Le Pèlerinage à la Mekke* (Paris, 1923), pp. 113-54.
21. Ibn Jubayr, *Rihla*, p. 125.
22. *Ibid.*, p. 291.
23. Ernst Herzfeld, "Damascus: Studies in Architecture," I, *Ars Islamica* 9 (1942): 1-53, figs 57 and 58.