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Arab Southern Red Sea Ports and the Early Chinese Porcelain Trade as reflected principally from Aththar, 217–108, Saudi Arabia

> And Aden is the port of Sana'a and in it are ships from China and al-Mandhab – Ghulafaga and al-Harda and ash-Sharja and it is Sharjat al-Qaris, Athr, Hasaba, Sirrayn, Jedda:
>
> (Ya'qubi d. 287/897; Wiet ed. 1937: 160)

Foreward

This study was originally intended to be incorporated into a memorial volume for Margaret "Marny" Golding. Due to unavoidable conflicts in scheduling, I was unable to include it in that volume. However, I would like to dedicate this to her memory. Marny spent hours at her home in Dhahran, Saudi Arabia instructing and entertaining the many archaeologists who were fortunate to make her acquaintance. I was one of those. Indeed, Marny can be considered one of the "elders" of the field, having opened up new vistas of Gulf archaeology in the late 1960's and early 1970's. As an eager graduate student, I will never forget her kindness, hospitality, and willingness to help in the new field of Saudi Arabian archaeology. Those who have spent the suceeding years filling in the gaps of Arabian archaeology remain in her debt.

For this paper, several clarification points need to be added. First, in terms of historical dates, a double figure will be used where appropriate. The first represents the Islamic A.H. figure and the second the A.D. date, e.g. 200/822. Second, the transcription of Chinese names will follow the newer Pinyin convention not the older Wade-Giles (for the use of both, see Beurdeley & Beurdeley 1978: 313–17).

For the identification of the Chinese ceramics at Aththar, I would

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like to thank Mr. Waikam Ho of the Nelson–Atkins Art Gallery in Kansas City, Missouri. Of course, all erroneous interpretations of this data remain my responsibility. The basic research described here was carried out on behalf of the Saudi Arabian Department of Antiquities. The writer is grateful to Dr. Abdullah H. Masry for this field opportunity. The preliminary results can be found in Zarins and Zahrani 1985. I would also like to thank Donald Whitcomb for providing data on the on-going excavations at Ayla and other relevant sites. Finally, special thanks go to Amy R. Langston who provided background information in preparation for this manuscript. Jonathan R. Sellars drafted several of the maps and figures and Marsha M. Bolstad, as usual, edited the text.

Red Sea Trade in the First Millennium A.D.

According to historical records, organized state trade in the Red Sea certainly had begun by the Egyptian Old Kingdom period with expeditions to Punt (Amin 1970: 25). However, here we would like to summarize briefly the Red Sea trade directly affecting the Arabian and African coasts beginning with the *Periplus* and especially the early Islamic period. The *Periplus* was most likely composed sometime in the early 2nd century A.D. and describes the historical geography of the Red Sea in the context of a larger international trade. In contrast to the later Abbasid period, the African side of the Red Sea seems to have been preferred due to Roman control. Leuce Limen (Qoseir), Myos Hormos, and especially Berenice are mentioned and described (Schoff 1912: 22ff.; Whitcomb and Johnson 1982: 2–3). Further south, Adulis served as the Aksumite port for trade with India and East Africa (Kobishchanov 1979: 174; Kirwan 1972; Munro–Hay 1982). Along the Arabian side, the *Periplus* mentions Leuce Come, now almost certainly identified with a complex of seven sites at Aynunah (Schoff 1912: 29; Ingraham et al. 1981: 76–8; Zayadine 1985: 159). A number of ports unmentioned in the *Periplus*, however, seem to have been active in the Roman Nabatean trade through the Red Sea. Al Sawrah (204–90), north of Muwayla and al Hawrah (204–21), just north of Umm Lujj, both contain evidence of a Nabatean presence, and one of them may be Ibn Hawkal's Taba (Fig. 2). In addition, the port of al Jar, just south of Yenbo, is also well known and contains Roman materials (Whalen et al 1981: 52–3). South of Jedda, we know of Nabatean/Roman and South Arabic material from the Farasan Islands (Zarins et al. 1981: 25–7) as well as the ar–Rayyan complex (217–103) on the mainland which also functioned as a seaport. Even further to the South, the *Periplus* states that at Muza (Mocha).

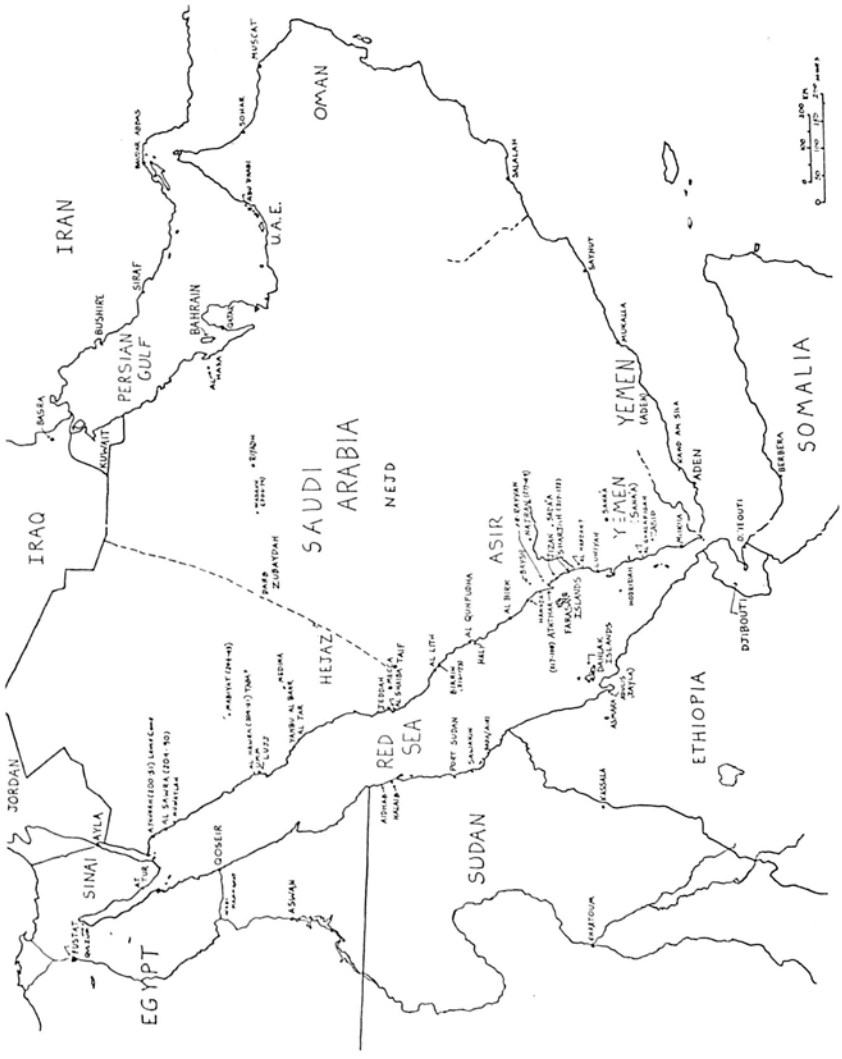

IRAN
IRAQ
JORDAN
SAUDI ARABIA
NEJD
HEJAZ
ASIR
YEMEN
OMAN
U.A.E.
BAHRAIN
KUWAIT
PERSIAN GULF
RED SEA
SUDAN
ETHIOPIA
SOMALIA
EGYPT
SINAI
ADEN
DJIBOUTI
MUSCAT
BUSHIRE
BASRA
SIRAF
HODEIDAH
MOCHA
SAYHUT
MUKALLA
BERBERA
GOOSEIR
ASWAN
PORT SUDAN
FARASAN ISLANDS
ZUBAIR ISLANDS
HANISH ISLANDS

Fig. 1

> the whole place is crowded with Arab shipowners and sea-faring men and is busy with the affairs of commerce; for they carry on a trade with the far-side coast and with Barygaza, sending their own ships there. (Schoff 1912: 30; Beeston 1981: 356).

For the period 350–750 A.D., our evidence for maritime trade in the northern Red Sea is less substantial. This has led to statements on the nature of the overland trade, ship technology, and political control. In the southern Red Sea, the international trade was directed and controlled by the Aksumites from Adulis (Kobischanov 1979: 174; Munro-Hay 1982: 114). During this period, the Aksumites directed the fortunes of the Tihama (Baldry 1978: 89) and this may be reflected in the numerous ruins found on the Farasan Islands (Zarins et al. 1981: 26–7). The site of Aththar may have served as a port in this period as it is mentioned in the early Islamic annals, c. 10/632 A.D. However, the major port in this period was not Aththar but ar Rayyan, 30 km. to the east. Evidence of early contact is also to be found at Tell al Minjara, 20 km. south of Aththar where two Ummayid dirhems have been reported (al Walid, dated 90/712 minted at Rayy and Abd al Malik, 86/708 minted at Wasit) (Zarins et al. 1981: 32). We should also note that Ummayid and Abbasid dinars and dirhems ranging in date from 697 A.D. to 934 A.D. were found at the Ethiopian monastery of Dabra Damo (Kobischanov 1979: 174 with references; Munro-Hay 1982: 121). While Ummayid coins may have remained in circulation for some time, it does establish a connection between the Persian Gulf and Red Sea – a piece of evidence supported by the later Abbasid coinage as well.

Historians have long held that the Red Sea trade surpassed that of the Persian Gulf only with the passing of political power from the Abbasids to the Fatamids ruling at Fustat (Lewis 1949; Hamdani 1967; Hourani 1963: 79; Lowick 1974: 321; Baldry 1982: 10; Yajima 1976: 10, 54–5). Al Maqdisi (c. 375/985) writes that "al Fustat of Misr in the present day is like Baghdad of old" (Al Maqdisi 14, 34, 36; Ranking and Azoo transl. 1897). Labib states:

> In the century [10th century A.D.] the weight of Islamic commerce was gradually displaced from Iraq and the Persian Gulf to Egypt, the Red Sea, and *the harbors of the Arabian peninsula* and the Indian Ocean. Merchants found it to their advantage to migrate to Aden, Oman, or Egypt... Fustat above all benefitted from this development". (Labib 1970:64–5, my emphasis).

The continued Egyptian domination of the international trade led to the development of the Karimi merchant class in the later 11th–12th centuries A.D. and the position of Egypt as middleman in the European–Far Eastern trade (Goitein 1954, 1970, 1980; Labib 1970: 64–7).

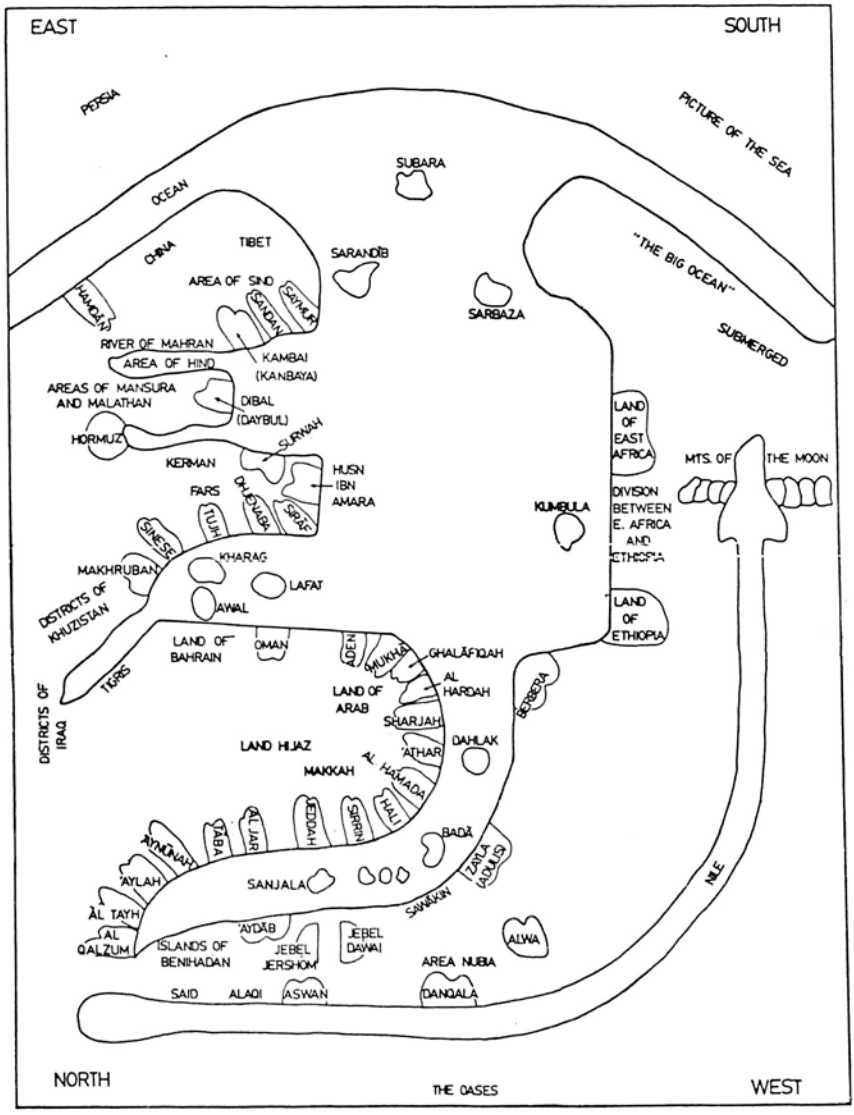

EAST
SOUTH
PERSIA
OCEAN
PICTURE OF THE SEA
SUBARA
CHINA
TIBET
SARANDIB
"THE BIG OCEAN"
SUBMERGED
SARBAZA
AREA OF SIND
RIVER OF MAHRAN
AREA OF HIND
KAMBAI (KANBAYA)
AREAS OF MANSURA AND MALATHAN
DIBAL (DAYBUL)
HORMUZ
KERMAN
FARS
HUSN IBN AMARA
KUMBULA
LAND OF EAST AFRICA
MTS. OF THE MOON
DIVISION BETWEEN E. AFRICA AND ETHIOPIA
LAND OF ETHIOPIA
MAKHRUBAN
KHARAG
LAFAT
AWAL
DISTRICTS OF KHUZISTAN
DISTRICTS OF IRAQ
TIGRIS
LAND OF BAHRAIN
OMAN
ADEN
MUKHA
GHALĀFIQAH
AL HARDAH
LAND OF ARAB
SHARJAH
DAHLAK
BERBERA
LAND HIJAZ
MAKKAH
'ATHAR
AL HAMADA
HALI
SIBRIN
JEDDAH
AL JAR
ABA
AYNUNAH
BADI
'AYLAH
SANJALA
ZAYLA (ADULIS)
SAWAKIN
NILE
AL TAYH
AL QALZUM
'AYDAB
ISLANDS OF BENIHADAN
JEBEL JERSHOM
JEBEL DAWAI
ALWA
AREA NUBIA
SAID
ALAQI
ASWAN
DANQALA
NORTH
THE OASES
WEST

Fig. 2

Of course, Red Sea trade did exist during the period immediately preceding the late 10th century (c. 750–950 A.D.), although overshadowed by that of the Gulf. Whitehouse reports that Abu Zaid (c. 264/877–303/915), a merchant of Siraf, mentions Sirafi merchants who visited Jedda on the Red Sea (1968: 2). Ibn Hordadhbih (c. 205/820–300/911), quoting al Bishari, says that Aththar was a large city and a port for Sadaa and Sana (Porter n.d.). In addition to the discovered Ummayid coinage, an Abbasid mint was present both at Sana and Najran with recorded dinars minted in the 200–300 A.H. range (Nakshabandi 1953: 127). The Abbasid royal mint at Aththar became famous for its coin – the aththariyah. Revenues for the city and the adjacent Tihama were calculated in this currency (Lowick 1974: 321; Goitein 1980: 58,66; Forrer 1942: 48 n. 1; Kay 1982: 7–8). To our knowledge, only two dinar aththariyah are known publicly (others are said to have come from clandestine digging at the site). One is held in Paris and dated to 342/953 and the other is in the British Museum dated to 348/957 (Lavoix 1887: 320, no. 1268). The inscriptions explicitly state that the coins were struck at Aththar by the Abbasid caliph al Mutiyah (334/945–363/973) (Nakshabandi 1953: 166).

It is during the mid–tenth century that we see the rapid rise in Aththar's prominence in the Red Sea trade. This was almost certainly connected with the rising Tulunid/ Fatamid power (although the Ziyadids were reported to have been loyal Abbasid vassals). Hamdani (c. 300/912) states that Aththar was a great merchant area on the sea near Baysh and that it was a market place of great importance (Forrer 1942: 48). Ibn Omarah writes unequivocably that ibn Tarf's income annually amounted to 500,000 Aththeri dinars while his nominal overlord at Zabid received revenues in excess of 1 million Aththeri dinars annually (Kay 1892: 8). The Ziyadid Abu al Djaish is reported to have levied duties on ships from India which carried exotic goods and *china*. The Dahlak Islands provided him with pearls as tribute. Nubian and Abyssinian slaves were also brought from Africa. The kings of Abyssinia sent him presents and made alliances (Kay 1982: 8; Munro–Hay 1982: 120). In fact, his father Ibrahim b. Mohammad (245/859–289/902) is stated to have had ships continuously trading between Arabia and Abyssinia with merchants and goods (Munro–Hay 1982: 120). In addition, Ibn Hawqal states that Zayla (Adulis) was controlled by Christians and traded with Yemen (for the Egyptian port of Aidhab and the trade with Yemen, see below).

Chinese Ceramics and the Dhow Trade

As the result of excavations at Samarra, Siraf, Fustat ad elsewhere, we have seen a growing data base which suggests that beginning c. 850 A.D., a large and profitable trade was undertaken by the Abbassids with China. We will see that the site of Aththar has a sizeable corpus of Chinese stonewares, porcelains and celadons beginning with the Late Tang and Five Dynasties/Liao periods. This trade not only affected large ports such as Aththar and their associated hinterlands, but other minor ports and interior towns in Saudi Arabia which historians and archaeologists have largely ignored or have not yet studied. For example, pre–Ming Chinese ceramics are known from small Red Sea sites such as Sharjah (217–172), large Red Sea ports such as Sirrin (216–173) and Aynunah (200–51), and inland sites such as Najran (217–49) and Ma'abiyat (204–43).

A growing body of literature is also becoming available on the international Arab dhow trade and its close Indian and and Chinese ties (Carswell 1979). For example, the basic Arabic words for ocean–going ships are thought to be Chinese in origin (Yajima 1976: 20–26; Prins 1965–6; for a picture of an Arab dhow of over 230 tons, see Whitehouse 1972: 74–5 & fig. 7; for the modern construction of an 10th century A.D. Arab dhow sailing on the Indian Ocean, see Severin 1985). In conjunction with the rise of the Fatamids, Sirafi merchants established themselves in the Red Sea to continue their international trade (Yajima 1972, 1974, 1976: 54–5). Since, north of Jedda, maritime shipping on a large scale was considered dangerous due to violent winds, dangerous reefs, and rough seas, many have argued that the southern Red Sea dominated maritime trade (Frantz–Murphy 1982: 269–70). The early 15th century navigation charts of Ibn Majid (Tibbetts 1961, 1971) also have been cited to suggest this. However, Ibn Hawqal's map of the 10th century does not confirm this idea. In addition to the Egyptian port of al Qulzum (Clysma), we see the prominent mention of such Arabian Red Sea ports as Ayla, Aynunah, Taba and al Jar. Of these, Ayla, Aynunah and al Jar have been investigated archaeologically and al Sawra may be Taba (see above). The assertion that the tremendous importation of Chinese ceramics into Fustat (Mikami 1981; Gyllensvärd 1973, 1975; Gray 1975, 1984) was due solely to overland trade from Aidhab, is also not convincing (for the corresponding written records concerning this Red Sea trade to Fustat in the 11th and 12th centuries, see Goitein 1954, 1970, 1976, 1980: 55 "sets of Chinese cups"; Stern 1967: 10–14).

Already in the 8th century A.D., Chinese accounts also speak of Arab trading posts in Canton. During the later Tang and Song dynasties,

contacts with the Arabs greatly increased (Baldry 1982: 9–10; Wheatley 1959: 83–5 & fig. 8; 1975: 85–6; Jun-Yan 1980: 92–103) and imports were paid for with textiles, copper money and *porcelain.* (For the status of Chinese money in the Gulf particularly that of the Northern Song, and its long-time circulation, see Pirazzoli-t'Sertsevens 1982: 104; Negre 1982: 87–9). Many authorities suggest that the trade in Chinese ceramics was in the hands of the Arabs because until the 12th century, the Chinese sent few if any trade missions westward to India or Arabia (Baldry 1982: 18; Yajima 1974; Hourani 1963: 75). Labib (1970: 69–70) specifically recounts the story of an Arab merchant who spent 40 years in China in the 12th century and sent to Fustat cargoes which included porcelain. However, Yaqubi who died in 897 A.D. states that "Aden is the port of Sana'a and in it are ships from China..." (Wiet 1937: 160). Jun-yan supports this statement by noting that already during the Northern Song period, Chinese ships were operating in the Red Sea (1980: 98).

Of final interest here is the fate of the early Red Sea Arab ports and Aththar in particular in reference to the international trade. We know historically that Aththar as a city (it was never abandoned as a village) was gone by 453/1061, swept away with a series of other small, contemporary ports, e.g. Hali, Sirrin, Sharjah, Sawra, Dahlak Keblir, Aidhab, and Bada. They were replaced by fewer but larger ports/towns (Hodeidha, Jizan, Jedda, Sawakin). The over-all ecological and historical reasons for the change await future analysis. The reasons may be ecological (water shortage, silting of the bays), technological (ship building tecniques), political (decline of the Fatamids, Chinese intervention directly at Aden to eliminate middlemen, loss of interior Arabian markets due to Abbasid political disintegration) or a combination of factors. Whatever the reasons may be, it is now quite cear that beginning in the 9th century A.D. and perhaps earlier, a large network of Arab ports operated in the Red Sea under a number of political dynasties. This well-organized operation conducted long distance trade with Southeast Asia and China and our Chinese porcelain remains from these sites are a dramatic confirmation of this once vital trade system.

Present Environmental Background

Our emphasis in this study will be on a small portion of the Arabian Red Sea found in the southwestern corner of Saudi Arabia. Within this area a local dynastic lineage with ties to the Ziyadid Yemeni dynasty existed for over one hundred years. This territory incorporated a major seaport as well as several minor coastal centers. In attempting to explain

the dynamics of this small region, we will utilize geographical, archaeological and historical data along both sides of the southern Red Sea.

First, we would like to focus our examination on the southern Tihama coast, an area just 100 km. on either side of Jizan (Zarins et al. 1981: pl. 4) (Fig. 1). In terms of the geography, the Tihama coastal plain is dominated by a complex interfingering of marine and continental aluvium. This plain of variable width, at about three meters above sea level, encounters the high mountain crystalline rocks of the Asir to the east. Major highland wadis cut across the Tihama plain and on occasion they carry runoff and sediment to the Red Sea. In most cases, however, the coastal wadis only carry water from the high Asir about half–way to the Red Sea due to excessive evaporation. For the remainder of the plain, the water is to be found underground. As a result, even coastal villages hand–dig wells less than 2 meters deep and obtain relatively fresh water. Concentrated population, however, can depress the water table and cause severe water shortage within a relatively short period of time. This fragile pattern undoubtedly contributed to the short term history of many of the southern Red Sea coastal ports.

In addition to the alluvial deposits, multiple sand and gravel sheets are to be found on the plain usually associated with the major wadi systems. Within our principal area of concentration at Ras Tarfa, the coast itself in the bay area is dominated by sabkha, mudflats, and mangrove swamps. The outer coastline proper is composed of a white sand dune formation of aeolian origin overlying earlier coral reef limestone.

Historical Documentation

Our focus for this discussion will center on the major port of Aththar (fig. 3) and smaller satellites such as Sirrin and Sharja to the north and south. We are fortunate that in our search for historical documentation we have a number of contemporary and somewhat later Arabic sources who describe these ports and their environs. Turning first to Aththar, the earliest mention of the town and district comes from the year 10/632 when a series of coastal towns including Aththar, Sharjah, al Hardah, al Ghalafigah and even Aden were under the control of a local ruler (Caetani 1907: 672–85). As the town or its equivalent is not mentioned in the *Periplus*, (c. 130 A.D), we assume that Aththar was founded sometime later in the early first millennium A.D. The town's political and social prominence is linked with the Ziyadid dynasty at Zabid in Yemen (Strothmann 1934: 1183–4, 1233). Since this dynasty has ties with the Abbasid Caliphate, a regional chronology can be established (al Hamdani, 280/893–334/945; Ibn Hawqal, c. 367/977; Ibn Omarah 515/

1121–569/1173; Ibn Khaldun 732/1332–808/1406; see the recent historical summaries in Kay 1892: 7–8; Forrer 1942: 48 n. 1; Headley, Mulligan and Rentz 1960: 707–10). Traditional dates for this dynasty extended from 204/819 to 409/1018.

Ziyadid control of the Tihama extended as far north as Sirrin and included Baysh, Hali, Djurab, Jizan, al Hamada, Sharjah, and Luhiyy in addition to Aththar. Semi–independent viceroys of the Saudi Arabian coast apparently were part of a coalition loyal to the Ziyadids. Thus we encounter personalities such as al Harami, the prince of Hali. Of major interest here is a certain Sulayman Ibn Tarf, a contemporary of the Ziyadid Abu al Djaish (291/903–371/981). Establishing control of Aththar, Hali, and Sharjah, we first hear of him c. 350/960. His successors ruled this district until 453/1061. Aththar was a very wealthy port of trade since a royal Abbasid mint was established there and the Aththeri dinar was well known in the Tihama. Ibn Tarf's annual revenues are said to have exceeded 500,000 Aththeri dinars (al Maqdisi c. 375/985; Ibn Omarah in Kay 1892:7).

A number of accounts tell us something of the physical setting of the town. Al Hamdani noted that it was the port for the inland cities of Baysh and Sada'a. Al Maqdisi stated that it was a large town situated on a prominent headland. Ibn Mujjawir praised its fine harbor and Yaqut mentioned that it was surrounded by numerous villages. According again to al Hamdani, the town was very prosperous until 453/1061 when the city was abandoned due to a silting of the harbor and a lack of fresh water (Forrer 1942:48). Al Djanadi, c. 700/1300, states that at his time the city had long been in ruins and the name Aththar was transferred to the Farasan islands. Aththar is not mentioned at all by Idrisi; and al Ahdal (779/1377–848/1444) stated that a small village still existed there but that the town was long in ruins (Forrer 1942: 48 n. 1). In European sources, the name does not appear on the Catalan map of 1375 (Grosjean 1978: 77, pl. 4) or on Diego Riberos' world map of 1529. The well–known Arab mariner Ibn Majid (c. 870/1470), in his Red Sea guide calls the prominent headland at Aththar "Ras al–Mikhlaf" (Tibbetts 1971: 260). In summation, it appears that Aththar has a pre–Islamic background as it is mentioned as a town by the year 10/632. It reached its zenith in the 9th and 10th centuries A.D. conciding with the rise of the Ziyadid dynasty at Zabid. The prosperity of the town and other Red Sea coastal ports during this time coincide with the rise of Egypt as a power first under the Tulunids and later the Fatamids.

In conjunction with the historical description of Aththar, we also have a remarkable document provided for us by Ibn Hawqal. His map of the Red Sea, dated to c. 977 A.D., pinpoints a number of site localities

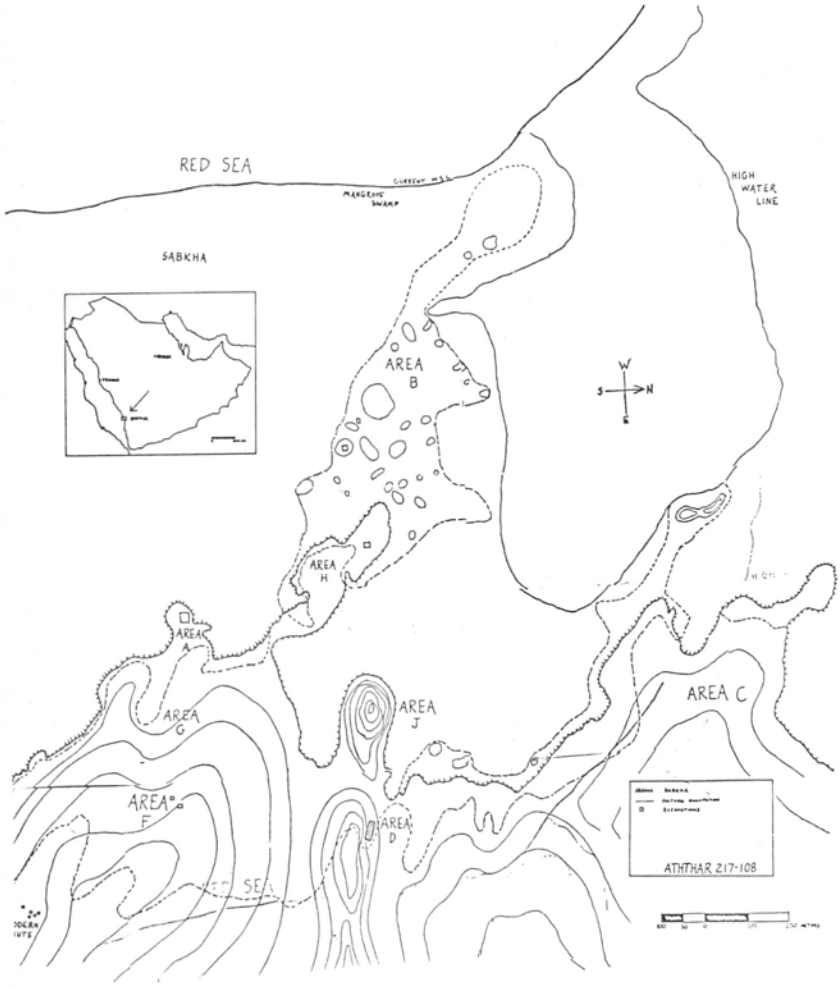

RED SEA
MANGROVE SWAMP
HIGH WATER LINE
SABKHA
AREA B
AREA H
AREA A
AREA G
AREA J
AREA C
AREA F
AREA D
ATHTHAR 217-108

Fig. 3

on both sides of the Red Sea (Fig. 2). We shall briefly mention these in order as listed on the map from north to south in refernce to Aththar. *Al Sharjah (Sharjah al Qaris)* is about 120 km. south of *Aththar*. The port was well known in early Islamic times and was mentioned in conjunction with Aththar in the year 10/632. Occupation reached a peak during the Abbasid/Fatamid periods (al-Yaqubi 250/850; Ibn Hawqal 367/977; al Muqadisi 388/997; Ibn Khordadbeh 205–300/820–911). Al Hamdani (280–334/893–945) stated that Sharjah was the seaport for the Beni Hakam, and later, al Ahdal noted that Sharjah was part of the Harad (Irvine n.d.: 11; Colin 1934: 331). Whereas Aththar was abandoned by 1061 A.D., Sharjah continued to be inhabited. Ibn Battuta landed at Sharjah in the 14th century A.D. (Kay 1892: 11, n. 15). The seaport may have survived until 850/1460 and is mentioned by Ibn Majid in 1489 A.D. (Tibbets 1961: 329). Thus, Sharjah continued to function well into the Mameluke period.

The next four seaports are today in Yemen and the PDRY. *Al-Hardah* is again mentioned in the early annals c. 10/632 and other early Arabic accounts, but little is known of the actual locality. *Ghalafiqah* has often been described as the principal port of Zabid during the Abbasid/Fatamid period (al Muqadisi; Löfgren 1965: 996; Kay 1892: 8), and according to Ibn Mujjawir, Persians who left Siraf restored the town after a period of decay. This port was eventually replaced by more southerly ports of al Ahwab and Mokha (Keall 1983: 55—56). The well-known town of *Mokha* (apparently located some kms. inland, see Beeston 1981: 356) is mentioned in the *Periplus* but like all Yemeni towns is poorly known (for the Abbasid period, see Grohmann 1936: 551; for the later medieval port, Macro 1980). The famous port of *Aden* (Eudaemon Arabia) is also well known from the *Periplus* and was extensively inhabited in the South Arabic period (Doe 1971: 124ff.; Löfgren 1960: 180–2). Mentioned in early Islamic times, it was controlled by the Ziyadids and later the Fatamids (Goitien 1980; Harding 1964; Lane and Serjeant 1948; Whitcomb n.d.). Like all ancient sites which have modern re-building, little is left of the past.

Following Ibn Hawqal's map and turning north of *Aththar*, we shall mention seven sites. *Al Hamada* is otherwise unknown outside of several minor references. *Hali* is a well known port mentioned by medieval Arab geographers and was also composed of an inland town and port (Mersa Hali). Located some 30 miles southeast of Qunfudha, this port was often considered the gateway to Yemen and was the northern port for Ibn Tarf's district centered at Aththar (Mandaville 1971: 104; V. Porter n.d.). It continued to prosper after the Fatamid period as Ibn Battuta visited

the town in 1330 A.D., Abu–l–Fida in 1331 A.D., and Ibn Majid in the mid–15th century A.D.

Sirrin, like Aththar, is an abandoned seaport and the name today is only held by an offshore island. This site is an enclosed embayment (Ras al Hasan) 30 km. south of al Lith. The earliest extant references in Arabic sources occur in the Islamic hadiths of the period 630–650 A.D., although Ibn Mujjawir, writing c. 1120 A.D., states that Persians built as–-Sirrin between 575–632 A.D. connecting Yemen with the Hejaz and Ethiopia. Other classical Arab historians such as al Hamdani, al–Yaqubi, Ibn Hordadhbih, al Istakhri, al–Maqdisi and Ibn Hawqal all mention the importance of Sirrin and several commentators (Al Firuzabadi, al–Idrisi) refer to its fine fortified and impregnable harbor. The importance of the city and harbor from c. 300/950–500/1150 is confirmed by contemporary Kufic tombstones discovered at the site ranging from c. 350 A.H. to 394 A.H. The site declined in importance in the following centuries but is mentioned both by Yaqut (d. 627/1229) and Ibn Khaldun (732/1332–808/1406) who states that it is the furthermost place of the Tihama of the Yemen and was controlled by the Sultan of Mecca in 650/1260. The Catalan map of 1375 still shows Sirrin on the Red Sea (Grosjean 1978: 77 & pl. 4; for a valuable expanded historical summary on Sirrin, see al–Zayla'i 1983: 94–134).

Historically, the city and port of *Jedda* may have already been occupied in the pre–Islamic period according to Al Kalbi, but the major Pre–-Islamic port for Mecca was al–Sha'iba, located some 50 km. south of Jedda. While the general locale of al–Sha'iba is known to local residents, a specific site has not yet been located. However, several contemporary wrecks have been reported in the bay opposite the supposed location. The caliph Uthman in 26/646 is credited with establishing Jedda as a port for the pilgrim traffic and the town increased gradually in importance both in trade and the Hajj (Hartmann 1965: 571–3). As in the case of Aden, virtually nothing is known from the modern town of Jedda which can be attributed to the relevant periods here. *Al Jar* is a well-known port 80 km. south of Yenbo and is the traditional supply port for Medina. The classical Arab historians attribute great importance to the town in the international trade of the first millennium A.D. (Kopf 1965: 454–5) and this is reflected in the archaeological record (see below). The lesser–known site of *Taba*, a large port as described by Ibn Hawqal, should be found in the vicinity of Umm Lujj. Archaeological survey has turned up two candidates, al Hawra, 204–21, and al Sawrah, 204–90 found 25 km. north of Muwaylah (see below). The last Saudi Arabian site mentioned by Ibn Hawqal and of relevance here is *Aynunah*. Survey has revealed the presence of a large and complex port which in Naba-

taean times was most likely Leuce Come. The classical Arabic port in the area is called Khuraybah, 200–51 (Fig. 1).

Sites outside of Saudi Arabia which are mentioned by Ibn Hawqal, by and large, remain unexplored. The site of *Ayla* (Eilat) is best known for its Iron Age culture. However, very recently Whitcomb has begun to explore the site from the Islamic perspective and reports a full range from the Late Byzantine through the Fatamid periods (Whitcomb n.d.a; Glidden 1960: 783–4). *Al Rayh* in the Sinai peninsula remains undiscovered although some confusion exists as to this nam *vis–à–vis* the better known al–Tur (Surandala). *al—Qulzum* (ancient Clysma 11/2 km. north of Port Suez; Zaylai 1983: 136 n. 36) was briefly examined in the early 1950's but today is totally destroyed (Whitcomb, per. com.).

In contrast to the eastern side the Red Sea which we have just described, the western side has fewer major ports (for a general summary, see Couyot 1910). *Aidhab (Sawakin al Qadim)*, 25 km. north of Halaib on the Sudanese coast, is mentioned by Ibn Hawkal. This port served as the major gateway to the Nile Valley and received goods and merchants from Yemen according to Yaqubi (Gibb 1960: 782; Hakem et al. 1980; Elisseeff et al. 1981). A brief examination of the site by Murray revealed the presence of a major central residence area as well as several cemeteries. The town was apparently abandoned in the fifteenth century A.D. (Murray 1926: 239 & map on p. 238). *Bad'a* (Badi) is a major port on the island of Airi/Er–rih along the southern Sudanese coast. In many respects it parallels the history of Aththar. The town rose to prominence only in the early Islamic period, seemingly replacing Ptolemais some 20 miles to the north; the usual Arab historians such as Yaqubi and Hamdani mention its existence. Local cemetery tombstones were dated to 387/997, 405/1015, and 428/1037 (Crowfoot 1911: 545). According to Yaqut, the wealth of the town depended on trade with the interior, exchanging such goods as ivory and ostrich shells for the luxuries of Bad'a. The town was in ruins by 563/1168 (Crowfoot 1911: 542) and was probably abandoned due to lack of fresh water.

Other western Red Sea ports mentioned by Ibn Hawkal are *Sawakin* (Crowfoot 1911: 530; Grohmann 1934: 184–5) and *Zayla* (Zula, ancient Adulis, see Kirwan 1972; Munro–Hay 1982) The *Dahlak Islands* off the coast of Ethiopia were yet another major trading focal point. (For the location of the town on Dahlak Kebir and its cementeries, see Oman 1974: 255). During the years under review here, c. 900–1150 A.D., the Islamic port had a special relationship to the Ziyadid dynasty at Yemen. Yaqubi states that it was the only port on the Ethiopian coast. Al Mas'udi and Ibn Hawkal both document the rich trade between Christian Ethiopia and the Yemen. Apparently, the port enjoyed the monopoly of trade

which existed during these centuries until political events in Ethiopia caused political and economic power to shift from the Dahlak islands to Zayla c. 1250 A.D. (Tamrat 1977: 118–22; Longrigg 1965: 90–1; Wiet 1952). Over two hundred and fifty inscribed tombstones have been studied from the major tumuli fields on Dahlak Kebir and almost fifty percent are dated to the period 1009–1105 A.D. (Oman 1976a: xii–iii). These again confirm that the peak period of prosperity at the site was during the period 950–1150 A.D. (Oman 1976). *Berbera* is the last major port on the African side of the Red Sea documented by Ibn Hawqal (Lewis 1960: 1172–1173).

The predominance of the eastern Red Sea ports on the Arabian peninsula at the expense of the African side may be due to a combination of natural geographic conditions, (e.g. availability of fresh water, natural ports, reefs, prevailing winds), economic priorities and the Hajj, as well as political factors such as Abbasid rule emenating from Mesopotamia. Contrary to many popular statements, it appears that abundant natural harbors are available along the Arabian and African Red Sea coast if dhow traffic and not modern heavy European draft shipping is considered.

The Archaeological Evidence

The historical evidence presented above can be integrated with the survey and excavation work conducted along the southern Red Sea within the last decade. Since the major emphasis has been to examine the port of Aththar, we shall utilize the data generated from this site as a bench mark to judge and gauge other lesser known sites. The site of Aththar, 217–108, near the modern village of Kowz al Ja'afrah was first formally reported during the 1980 Tihama/Asir survey (Zarins et al. 1981: 32), although the general location apparently has been known since at least 1934. The site was said to have South Arabic, Ummayid and Abbasid components (Zarins et al. 1981: 26, 32). In 1984 this site was selected for further examination for the purpose of clarifying a detailed Tihama cultural sequence, producing a map of the ancient site, and placing the city within the larger context of the southern Red Sea cultural history (Fig. 3).

Aththar can basically be divided into three physical sub—divisions. 1) A sizeable area ranging from 2 km. N—S by 800 m. E–W of large dunes fronts the sabkha. Archaeological material tends to drop off drastically in many areas as one moves inland on higher dunes. 2) Prominent dunes are isolated as islands from the main dunefields. On several of

these prominent sand islands we noted dense artifactual materials and the remains of architectural features. 3) The coastal flats (sabkha) have remains which extend from the dune front to the current bay shore. The tide line delineates the northern and southern extent of the coastal flats' occupation and this creates a peninsular projection towards the modern bay (Fig. 3). Since material occurs along this high tide line and, in fact, can be found washing out of the inter–tidal sands at low tide, it would appear that little change in coastline orientation has taken place since the abandonment of the site in the late 11th century. Silting of the bay is one reason given for the abandonment of the site and it would appear that today the bay is indeed quite shallow with the inner part closed by sand banks, small islets, and extensive mudflats (Forrer 1942: 48 n. 1 quoting *The Red Sea and Gulf of Aden Pilot*, 1916 ed., p. 332). Much of the remainder of the bay is less than 2 m. deep which would have prevented large dhows from approaching the port.

The excavations in the dunefield portion of the site [AREA F] confirmed the observations of both al–Udhri and Al–Bakri in the fourth century A.H. at Sirrin that the vast majority of houses (aishas) were of wood and grass (Zaylai 1983: 131). Material remains excavated from the Aththar dunes only occurred to a depth of 35 cm. The profile revealed that a dark stain penetrated the sand to a depth of only 20 cm. Based on these observations we concluded that the bulk of structures on the site were ephemeral circular wood and grass buildings similar in construction to those found in use today. In one of the isolated dunefield islands [AREA A] we located a structure composed of stucco, fired brick, carved stone, plaster, and coral stone. Excavation suggested the presence of a formal building approximately 50 × 30 m. which had undergone at least three rebuildings. The latest version of the structure yielded a C–14 date of 660 ± 220 B.P. (1290 A.D.; GX 10346), a possible date well within the historical context of the town's abandonment. Based on the plan and architectural fragments of the building, it parallels similar buildings at Siraf (Whitehouse 1970a: 3, fig. 1; 1970b: 147, fig. 6). It seems likely that this building was the Friday mosque. Such a building was mentioned by Ibn Omarah c. 550/ 1156 as being very prominent at Aththar.

On another major dunefield island [AREA H] we excavated a large formal building made of mudbrick with corners reinforced by sandstone. This structure with numerous rectangular rooms consisted of 4 levels, the lowest approximately 90 cm. deep resting on sterile sand. All recovered materials had been subjected to a tremendous conflagration and consisted of ceramics, ash and kitchen midden bones, all mixed with roof fall. Again, parallels with Siraf suggest large formal houses (Whitehouse 1979b: 151, fig. 7). Perhaps at Aththar the complex was associated with

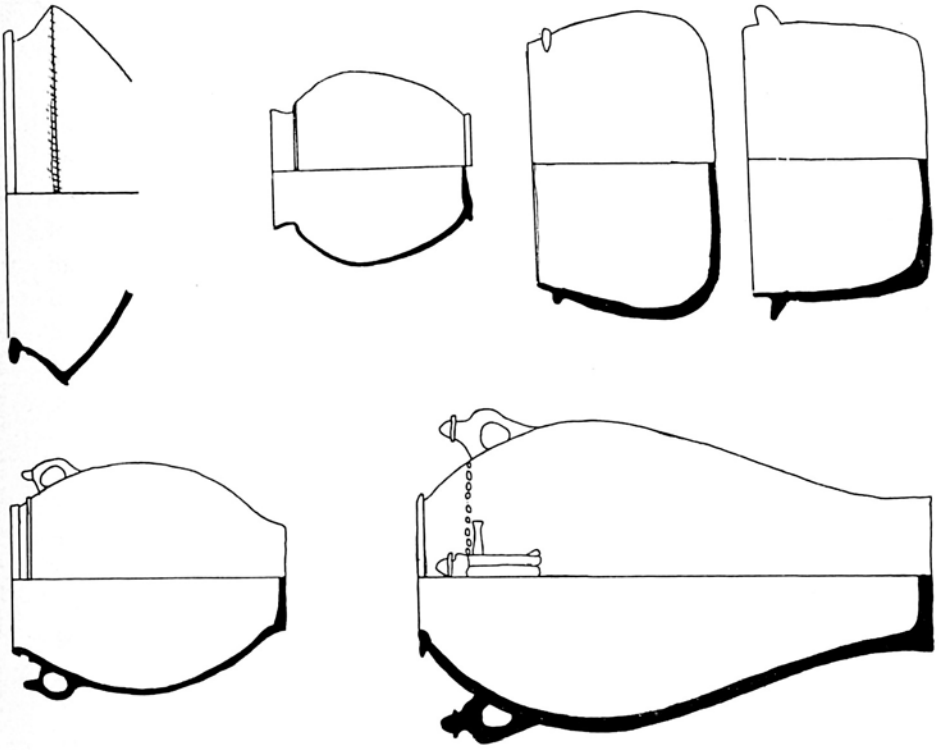


Fig. 5

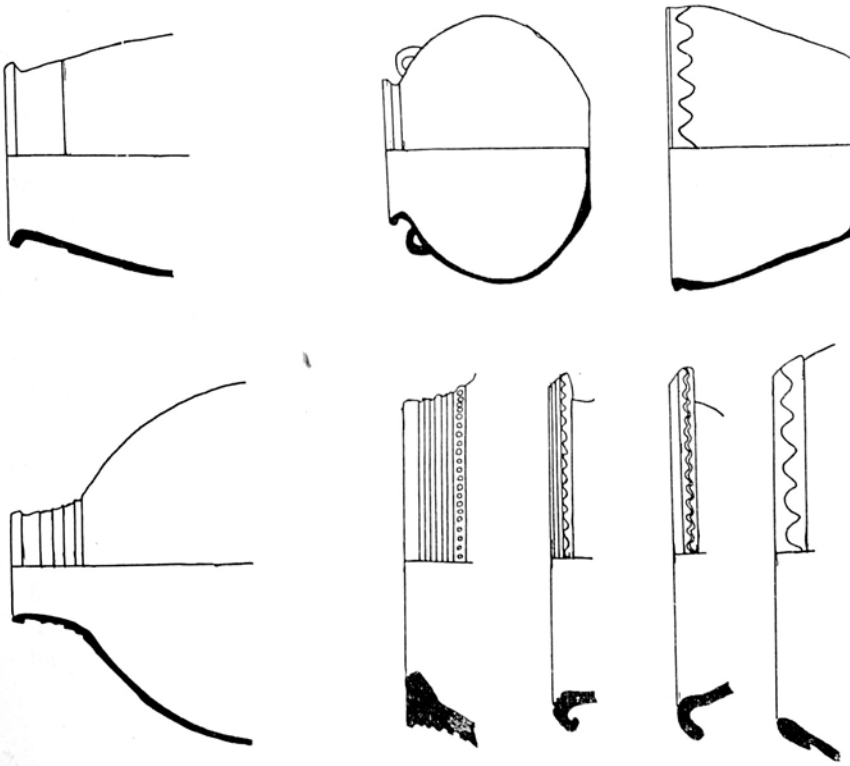


Fig. 4

the local rulers. [The formal cemetery area to the east of this complex [AREAS D & J] yielded one inscribed tombstone in the Kufic style perhaps datable to 275–325 A.H.

The most relevant excavation for our purposes here came from an area of the sabkha settlement [AREA B]. Here we excavated a 10 × 5 m. unit to sandstone bedrock and recognized three phases and 10 levels to a depth of 1.70 m. below datum. Coral block walling was characteristic of the structures and we noted various rebuildings of the structure through two phases and eight levels. The earliest, Phase III (levels 9–10), consisted of archaeological debris found in green clay and sand layers. Combined with our observations on the nature of the site as a whole, we concluded that this area of coastal flats was the area of the suq, merchant quarters, and customs. It was also the area where the vast bulk of Chinese porcelain and celadon was recovered.

Ceramic finds from the site of Aththar promise to clarify the regional Tihama sequence within a fairly well defined time period. Since the settlement's historical links are tied to the rise and development of the Ziyadids at Zabid (204/819–409/1018) and the semi-independent Tarfid governors (350/960–460/1067) until the apparent abandonment of the city in the 11th century, we feel that the ceramic corpus should reflect this historical context and cover, in bulk, a time span of 250 years. Only the excavations in the Area B buildings promise a longer and earlier chronology extending back to the late sixth or early seventh centuries A.D. (see the arguments in Zarins and Zahrani 1985).

From our surface collections and the excavations as well, the non-glazed wares clearly predominate. Their chronological placement however has remained elusive due principally to the overemphasis on glazed wares from Islamic sites. Essentially we were able to define four major types which were made locally, their typology based principally on temper variation (grit, chaff, crushed steatite, and mica/sand (Figs. 4–6). All are wheel-made, red in color with black core. No slip is usually present. Forms include the large bowls with out-turned triangular rims, flat bases, folded-over rims, ribbed jars and holemouths. Decoration consists of incised single or multiple wavy lines around the neck. On occasion the overhanging rims are also incised with single or multiple wavy/straight lines. Another popular motif is combing on the shoulder with wavy or straight lines. On occasion ledge handles are present as well as applique and bitumen coating. [For the 'eggshell' ware, see below].

Minority wares include shallow bowls of gray, grit-tempered ware decorated with concentric circle designs, incised triangles and horizontal lines. A distinctive type is the brown-red ware with deep excised triangles, rectangles, wavy lines, and beveled ledge handles. Finally, a small

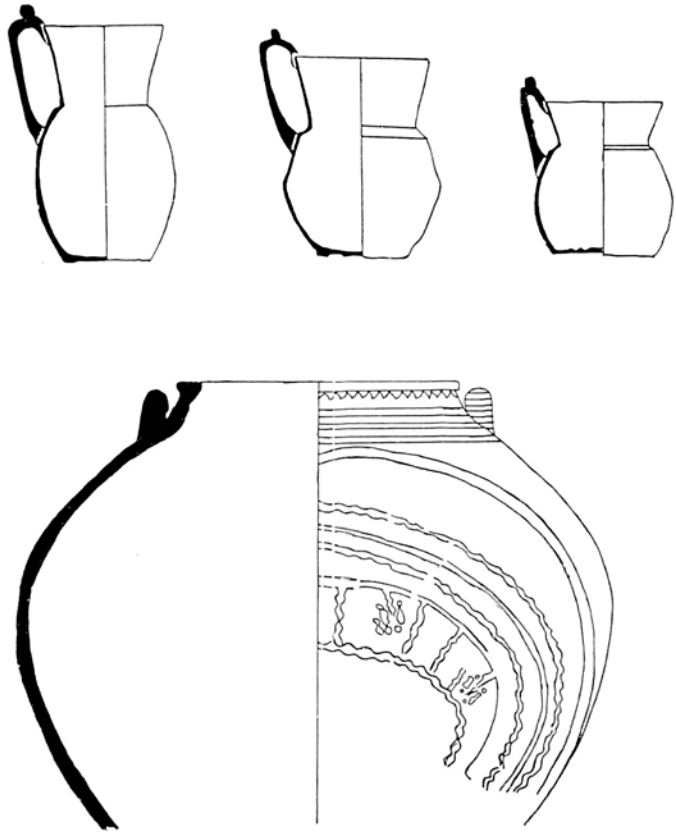


Fig. 6

group of wares is perhaps of African origin. They include "paddle stamped" black, grit–tempered ware, highly burnished black pottery with incised and white–filled geometric designs, as well as several examples of chaff–tempered wares with reverse slip and torpedo base.

Glazed wares at Aththar fall into about five distinct categories. The most widely–recognized type is the alkaline, blue–green barbotine ware, sometimes referred to as "Sassanian–Islamic" (Whitehouse 1979: 881–2). While present at Aththar, the type is not abundant. A large, semi–hole-mouth vessel with combination decoration and loop handles excavated from AREA B (Fig. 6B), is virtually identical to examples from the Persian Gulf coast, Samarra, the Nejd/Asir, Siraf, and elsewhere (Zarins and Zahrani 1985: Table 3). The pottery is usually sandy, buff colored, and the glaze is alkaline blue–green. Decoration techniques include applied, incised, stamped and all combinations. Shapes include large storage ves-

sels with loop handles, holemouths, and large bowls. Many Red Sea ports have also yielded this ware including al Jar, Ayla, Sirrin, and Sharjah. Across the Red Sea, we have seen this ware in the Wadi Hammamat (the caravan route from the coast to the Nile) and Aidhab. (Sites such as Bada and Dahlak Kebir must surely have this ware although reports on them are confusingly vague, e.g. Crowfoot 1911: 543 mentions "glazed earthenware" in respect to Bada). Further afield to the south, this ware is considered a guidemarker in many East African settlements (Manda, Unguja Ukuu, Kilwa), the Comoro Islands, Madagascar (Whitehouse 1968: 14; 1979: 881–2; Wright et al. 1984: in press). To the east, the ware has been reported from the Indian subcontinent, Sri Lanka, and as far east as Malaysia (Whitehouse 1968: 14; 1979: 881; Carswell 1979).

One of our vexing problems involving the blue–green barbotine category (and other glazed Islamic wares) is the absolute date for its introduction and its relative context *vis–à–vis* earlier and later cultures. Due to a recent consensus that the short Samarran chronology is erroneous (Philon 1980: 2–3), confusion exists as to the true range of this ware in time. While several scholars have claimed this blue–green barbotine ware has its antecedents in the Sassanian tradition (Adams 1970; Whitehouse 1968), it appears now that based on chemical analysis (Hedges and Moorey 1975) and range distribution in Arabia, the ware, in fact, has no common bonds with the earlier tradition. Excavations at al Hira and Kufa suggest a date no earlier than c. 800 A.D. for this type (A. Northedge, per. com.). In the Arabian Nejd, a C–14 date from the site of Wadakh, 206–79, also supports this idea (Zarins et al. 1980: 27–8 & pl. 26, 1165 ± 85 B.P.; 785 A.D. GX–7095). At Siraf, Whitehouse assigns the earliest appearance to levels dated 803–825 A.D. (1971: 10). At Fustat, an early 8th century A.D. date for this ware seems dubious (Bianquis et al. 1974: 171, fig. 4). We suspect the major association of this type lies in the bracket 800–950 A.D.

Of all the glazed wares we recovered from Aththar, the greatest number are lustre ware. Shapes are principally confined to fine bowls and small cups with a ring base. Occasionally, plates are also present. The decoration is principally geometric but human and animal forms are also found, as well as Kufic calligraphy (Philon 1980: 73, 293–302). The underglaze, usually lead/tin white, is decorated with an olive–gold lustre paint. Popular motifs include the rosette, palmette, peacock eye and stroked circles (Philon 1980: 138–162). Distribution of this ware follows that already mentioned for the barbotine blue–green. The exclusive use of geometric and animal designs on the lustre ware suggests the type is pre–Fatamid (Schnyder 1963). A minor component is a lustre ware with designs executed in a red glaze, the Red Samarra polychrome. Concerning the

date, we would suggest within the context of the historical data and other glazed wares, a late 9th–late 10th century A.D. range (al Rashid 1980: 256; Kuhnel 1934–35: 149–50; Philon 1980: 64–5). Northedge suggests that the polychrome Samarra ware can be dated to the late 9th century A.D. based on Samarran palatial context (per. com.).

Another popular category recovered from Aththar is the tin–glazed white were. The typical buff body is overlaid by an opaque white glaze. Shapes again consist of ring–based, curvilinear bowls of various size, and plates with everted or flaring rims. Again, the ware is known from a myriad of sites: a number of Red Sea ports, the Darb Zubaydah (al Rashid 1980: 256–7), the Nejd, Hejaz, Eastern Arabia, and the Gulf region (see references in Zarins and Zahrani 1985: Table 3). Whitehouse's stratigraphical analysis of the Great Mosque area in Siraf (based primarily on coinage) suggests that tin–glazes are no older than the 9th century A.D. (1972: 72).

Sgraffiato found at Aththar has a reddish to buff body and is slip–painted. Floral or geometric designs are incised and carved before the exterior mustard or green glaze is applied. Shapes conform to the tin–glazed white types. As with the other glazed wares, sgraffiato has a wide distribution (Philon 1980: 283). While some scholars (Lane 1947; Fehervari 1973; Rosen–Ayalon 1974) tend to ascribe an early date to the ware, c. 750–900 A.D., others suggest a late 10th century A.D. date for its initial usage (Schnyder 1973: 90; Whitehouse 1968: 15 *contra* 1979: 54, 59–60; al Rashid 1980: 258).

Splashed wares were also made principally of a buff clay. The white, lead glazing is overlaid by motted, spotted, splashed, striped, and streaked color glazes. Shapes consist of types already noted for the Sgraffiato and white tin glazed groups. At Aththar, the most popular splashed ware utilizes blue streaks or stripes dripped over the rim into the basin. More complex basic offshoot of the white tin–glazed type are supposed to be imitations of Chinese wares and thus some authorities suggest a date of 850–900 A.D. for their introduction. Others feel that a date of c. 950–1150 A.D. is more accurate for their use (Philon 1980: 33–41, 64; Whitehouse 1979: 52 ff.; Northedge, per. com.).

"Eggshell" ceramics which, while not glazed, constitute a clear and final category of imported ware (Fig. 6A). The pottery is well–levigated, thin, buff colored, and has no slip. The exterior can be plain or incised with straight lines, combed wavy lines, or any combination. The common shapes include cups and takards with flat bases. One handle is usually present, and on occasion two are applied. Projections on top of the handles are also common (for parallels from the Darb Zubaydah, see al Rashid 1980: 262; from Susa, Rosen–Ayalon 1974: 27ff.; Bahrain, Larsen

1983: 281–2 & fig. 65k–1; Siraf, Whitehouse 1968: 16; Mabiyat, Gilmore et al. 1985: in press).

The Ceramic Chronology at Aththar

The majority of ceramic materials coming from Aththar are derived from surface collections or very limited stratigraphical contexts. Thus the collections provide very few clues as to the total occupational history of the site. However, we know that historically the site was occupied some time around the beginning of the 7th century A.D. and ceased to function as a major metropolis around 453/1060, a total of approximately 450 years. Analysis of the surface collections and principal excavations has revealed a large number of early Islamic glazed and painted wares. Based on previous excavations at Siraf, Basra, Susa, Samarra, Fustat, the Amman Citadel, Qasr al Hayr al Sharqi and elsewhere, a number of authorities have concluded that *glazing, characteristic of these wares, did not appear prior to c. 850 A.D.* It has also been shown that these specialized glazed wares were exported from Samarra to even such large centers as Siraf (Michel, Asaro and Frierman 1975) and Fustat (Michel, Frierman and Asaro 1976). Thus, the glazed wares at Aththar were in all probability imports.

Based on these facts, we must question the origins of the glazed wares in the Aththar region and generally along the entire Red Sea littorals. At Fustat, the excavators insist that no glazed wares occur there prior to 700 A.D. (Bianquis et al. 1974: 170–72). The Byzantine/Ummayid corpus from the Palestine and Jordan areas also has no glazing tradition (Sauer 1973: 39–49; 1982: 329–337; McNicoll and Walmsley 1982). Our examination of the South Arabic/Byzantine corpus at Najran has confirmed the lack of glazed wares there as well (Zarins et al. 1983: 31–4). This parallels the findings from Hajar Bin Humeid (Van Beek 1969: 171) and Wadi al–Jubah (Toplyn 1984: 50–6). This viewpoint has also been reinforced by our brief examination of th South Arabic ceramic materials from the Tihama site of ar–Rayyan just 20 km. from Aththar (Zarins et al. 1881: 26). Similary, the Axumite culture in Ethiopia lacks a ceramic glazing tradition.

It would appear, then, that glazed wares come from the Mesopotamian region. Some authorities have suggested that the early Islamic Abbasids may have imitated an earlier, Sassanian blue–glazed ware. However, Hedges and Moorey (1975) insist that there is no evidence for lead glazing prior to 650 A.D. and thus, the connection seems rather dubious. It appears more likely that the Early Islamic glazing tradition is derived

from Chinese stoneware/porcelain. Since the Red Sea coast and Aththar were under Abbasid domination culturally and politically during the 9th century, the glazed wares at Aththar can be seen as an important import and status symbol from Mesopotamia. Further, since we have ascertained that these glazed wares are no older than c. 850 A.D., we have a fairly certain *terminus ante quem* for our site.

Based on this premise that the glazed weres at Aththar are Mesopotamian imports of the 9th and 10th centuries A.D., we return to the only area of excavations at Aththar which provided deep stratigraphy, AREA B. Here we recognized 10 levels to a depth of 1.70 m. Examining the category in which we lumped all glazed wares, we see that by level, glazed sherds represent 26% of the total sherds recovered. But in terms of stratigraphy, we see that 93% (500/534) of the glazed sherds occur in levels 1–5. Based on this evaluation and combining it with the conclusions reached above concerning the dates of the glazed wares, we suggest that level 5 cannot date much before 850 A.D. and that the bulk of the occupation (levels 1–5 in AREA B) belongs to the period 850–1060 A.D. In fact, level 5 in the sounding marks the beginning level of the most prominent structures exavated in the sabkha suq complex. It follows, then, that the earlier levels, 6–10, belong to a pre–850 A.D. period. Glazed sherds below level 5 constitute a distinct minority. When subjected to a comparative percentage analysis per level by type of standardized counts, we see that classical Abbasid glazed types disappear by level 6.

The question of chronology can also be adressed by looking at the distribution of the non–glazed wares. These types fall into two categories: 1) common types recognized at a number of widely divergent Abbasid period sites contrasted to 2) types of only regional importance. Turning to the first category, the eggshell ware, constituting 18% of the total sherd count in AREA B excavations, has been widely found at a number of Abbasid period sites. Thus, like the glazed wares, it must be an Abbasid import. The distribution at Aththar confirms this. Analysis of the Area B excavated materials shows that no sherds of this type occur below level 7 and the vast bulk is confined to levels 1–5. In terms of distribution, this ware closely follows the pattern for all glazed wares in the AREA B excavations, and thus is closely allied to it. This again confirms that levels 6–10 should date to c. 800 A.D. or earlier. Finally, looking at the two main categories of local unglazed wares from AREA B excavations, we see that the total sherd count for them is 42% of the total. However, in distinct contrast to the glazed and eggshell wares, these types, in terms of both absolute counts (590/2591 = 26%) and relative frequency, not only characterize levels 6—10 but also dominate them. These clearly form a regional tradition, since in both shapes and decoration

they have no parallels to the ceramics from Syria, Egypt, Mesopotamia, or Iran. Rather, these types have their antecedents in the local Tihama South Arabic tradition as expressed by the ar–Rayyan corpus (for parallels, see the Najran materials and sites in the Wadi Dawasir drainage area, Zarins et al. 1979: pl. 22/83–91; Zarins et al. 1983: pls. 25–7). We would conclude then that, as at Fustat, Heshbon, Pella, and Najran, the period 650–850 A.D. (our levels 6–10 in the AREA B Excavations) is characterized primarily by unglazed wares of regional tradition which changed but slowly over a long period of time. This is supported by our analysis of the AREA B ceramics where the two major non–glazed ware types were found throughout all levels as a principal component. In levels 6–10 the presence of the distinctive excised ware with Najran parallels and a limited number of Late Byzantine ribbed sherds also support a 6th–7th century A.D. date for the lowest levels at Aththar.

The Chinese Ceramics

The temporal range in Chinese ceramics at Aththar then must be quite limited since we assume their introduction to have taken place during the late Tang dynasty, c. 900 A.D. and ended by 1190 A.D. or during the Southern Song. One of the problems inherent in a study of Chinese ceramics from this block of time is the distinction between Tang and Song ceramic types (Scanlon 1970: 81). An even more difficult knot to unravel is the definition of the Five Dynasties versus Liao ceramic types. The solution to such problems can only be accomplished in critically examining context both at Red Sea sites and in other more easterly localities.

The vast bulk of collected Chinese ceramics found at Aththar came from AREA B with additional pieces found on the west side of the large administrative building in AREA H (Fig. 3). Intensive surface examination confirmed this pattern, but excavations in soundings 1 and 2 in AREA B failed to turn up any major concentrations of the ceramics in stratified context. In fact, our Chinese ceramics from the excavations in AREA B were exclusively limited to levels 1–3 in the main unit. As suggested above, we would interpret this distribution pattern to reflect a market or warehouse pattern dating perhaps to 10th century A.D.

Tang/Five Dynasties/Liao

In terms of surface collection from AREA B, several ceramic types have been identified as belonging to the Late Tang period. A number of

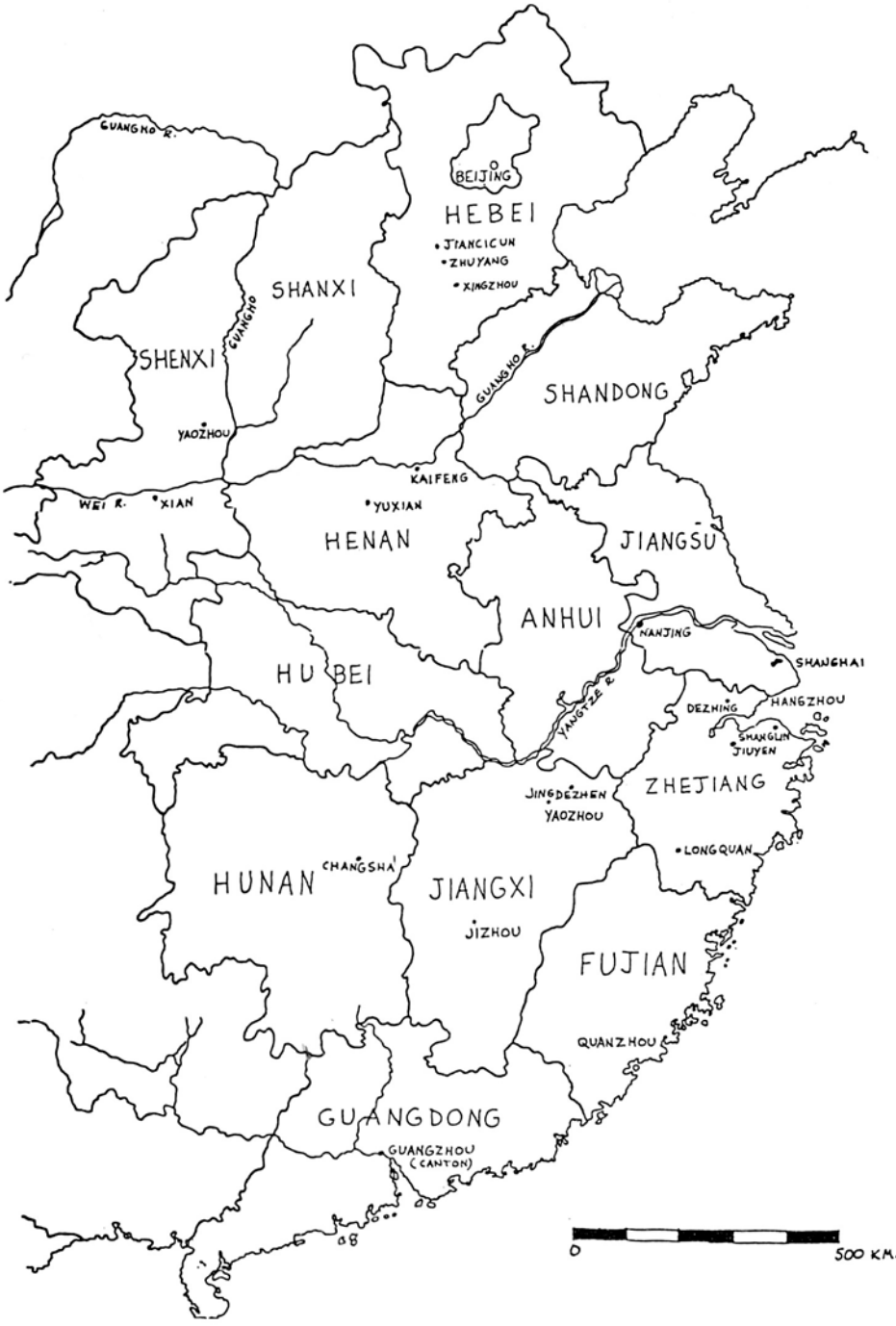

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YAOZHOU
KAIFENG
WEI R.
XIAN
YUXIAN
HENAN
JIANGSU
ANHUI
NANJING
SHANGHAI
HU BEI
YANGTZE R.
DEZHING
HANGZHOU
SHANGLIN
JIUYEN
ZHEJIANG
JINGDEZHEN
YAOZHOU
LONGQUAN
HUNAN
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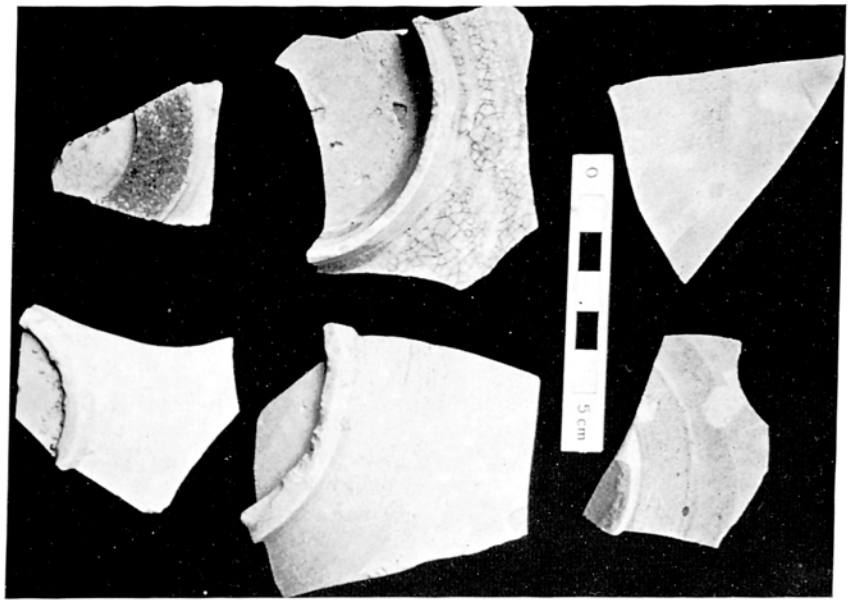
Fig. 7

pieces may specifically belong to XING porcelain. While the term originally may have been applied to both plain white stonewares and porcelains, XING ware seems to reflect a definite ceramic type located near Xingzhou (modern Xingdai) in Hebei province (Fig. 7). The ware is attested historically from Tang period documentation, *The Tea Classic* (Hobson 1915: 37), and seems to have been replaced by the later Song DING porcelain. While earlier writers noted that a kiln site had not been found for this distinctive ware (Beurdeley and Beurdeley 1978: 96), Sullivan suggested that very early Song kilns at Dingzhou (Jiancicun) perhaps may have also produced XING porcelain earlier (1963: 52). Medley posited that the site of Zhuyang north of Xingzhou may have produced the distinctive porcelain as well (1976: 100). More recently in 1981, an actual Tang period kiln site for the XING ware has been reported (Waikam Ho, per. com.).

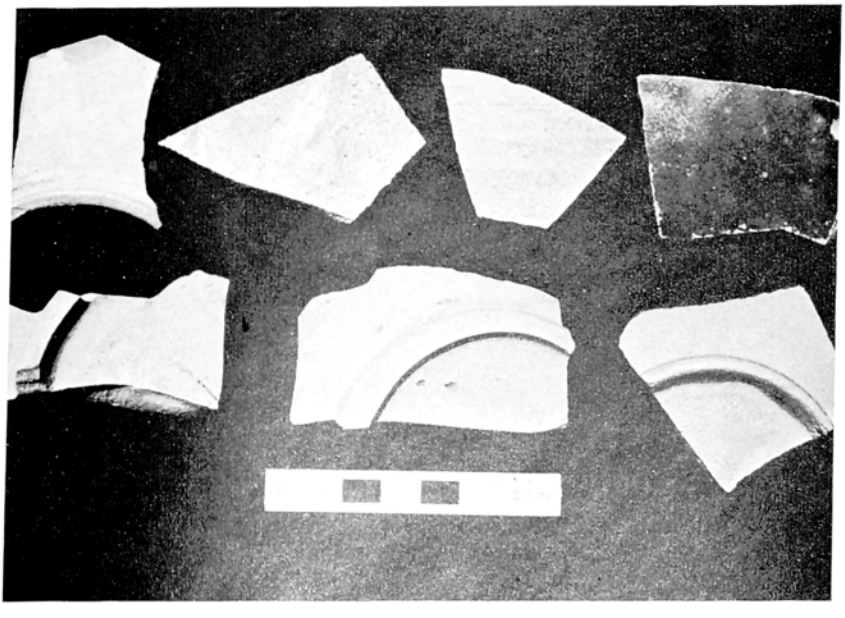
Based on descriptive analysis, the XING ware has a number of distinctive characteristics. The body has a white kaolinic base and the distinctive, fired, white color has hints of a bluish tint that many observers have noted. The vessel is covered by a white glaze which fits well and rarely crazes. The base of the vessel is usually flat or has a short, wide foot and is never glazed. As a rule the type is undecorated. In contrast to the later Song vessels, the rim is also fired and glazed. In terms of shape, the rim is quite wide or thickened. (Beurdeley & Beurdeley 1978: 97; Medley 1976: 100; Sullivan 1963: 29–30).

The small percentage of XING ware from Aththar includes pieces of the unglazed, short, wide foot ring, bluish–white bowls, and the thickened rim (Pls. I*a*, II*a*). From Chinese context, it appears that production began in the 9th century A.D., and may have extended directly into the early Song period giving rise to at least two distinctive Song wares types: DING and GINGBAI.

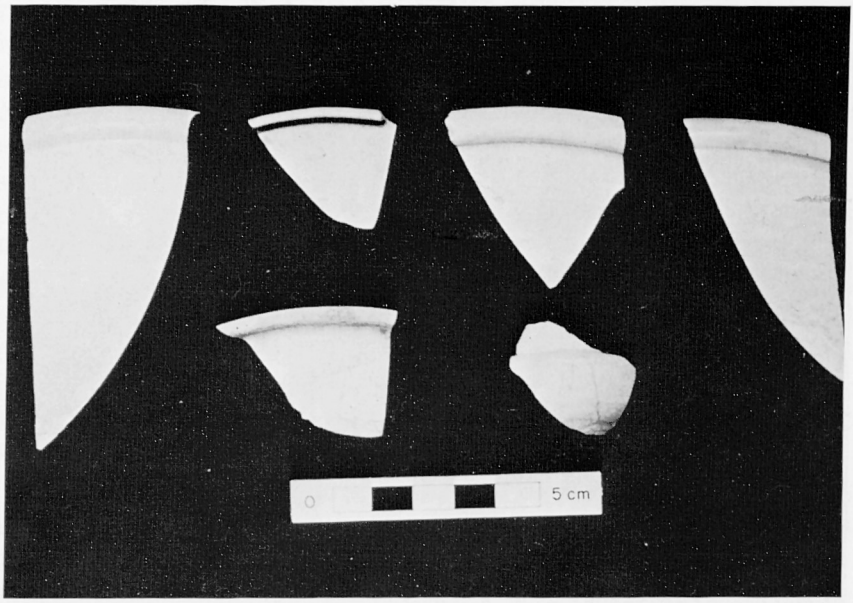
Parallel material may come from Mantai in northern Sri Lanka which Carswell dates to the mid–9th century A.D. Here he notes the presence of "white wares" (Carswell 1983: in press). From Siraf, white porcelain is found in the 10th century A.D. levels but is attributed to the Liao period (Gray 1976: 233; 1984: 191). On the Aden littoral, the earliest Chinese material post–dates the 9th and 10th centuries A.D. (Lane and Serjeant 1948: 124ff.; Whitcomb n.d.: 7,9). The site with the greatest comparable Chinese corpus which has been reported is Fustat. While the majority of the material belongs to later dynasties, a number of pieces have been attributed to Tang white procelain. These have been described as having a rolled or foliate lip, unglazed foot rim, and a sugary, white appearance with a slight bluish cast (Gyllensvärd 1973: 91, 104, 106). However, the presence of carved lotus petals under the paste suggests



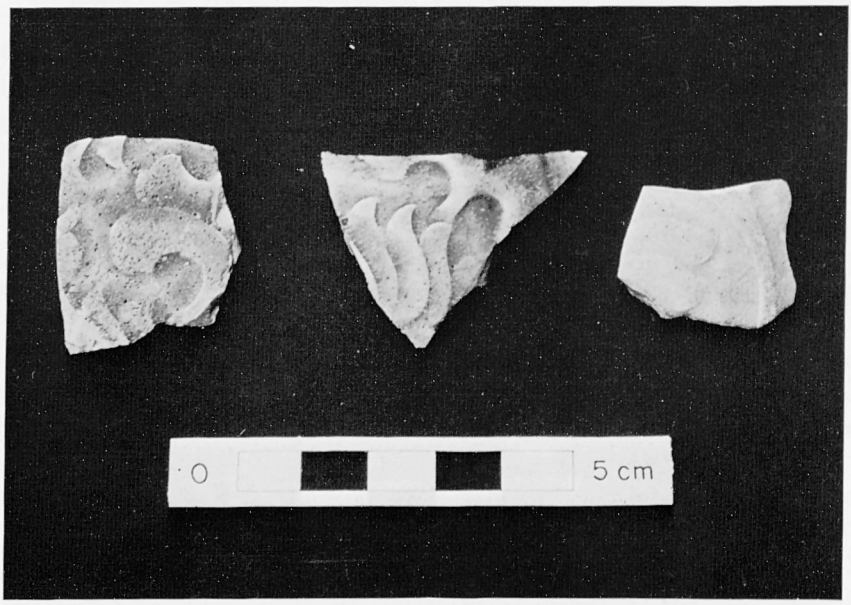
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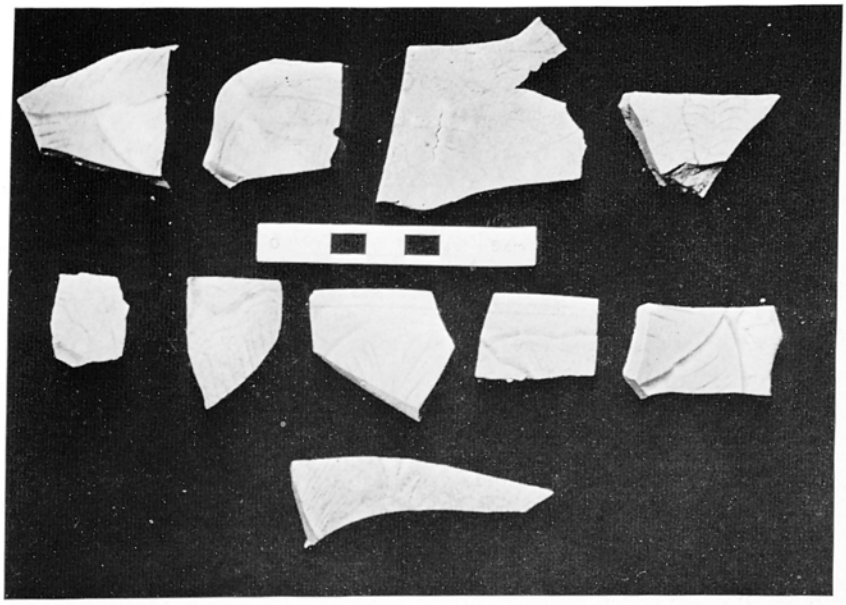
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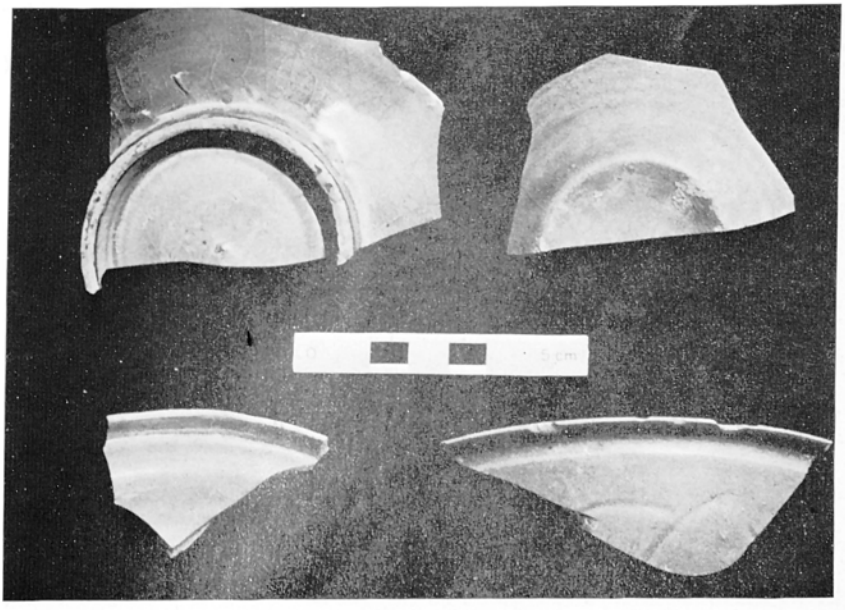
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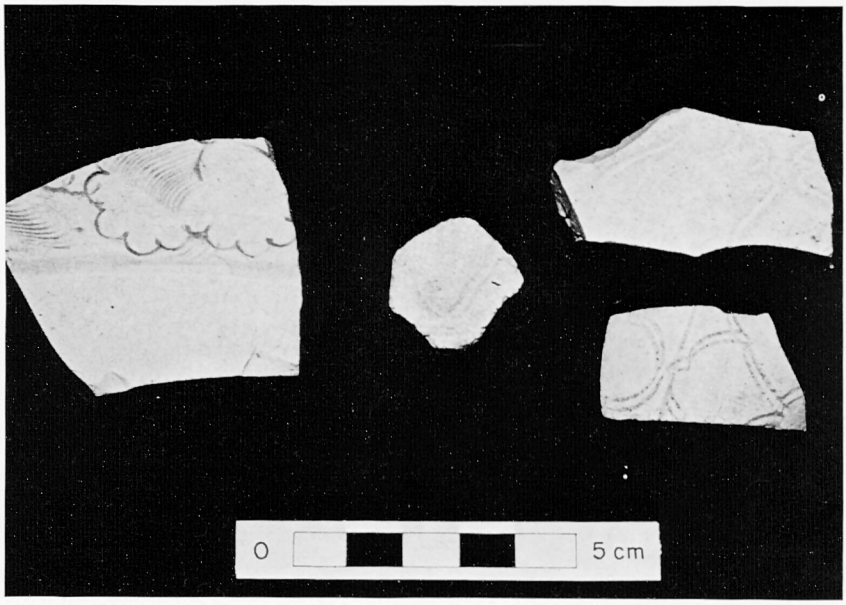
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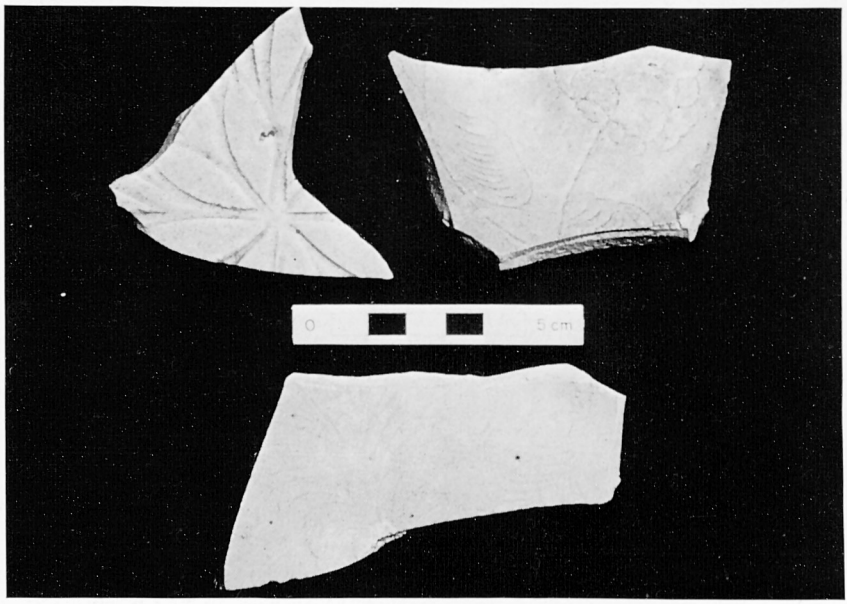
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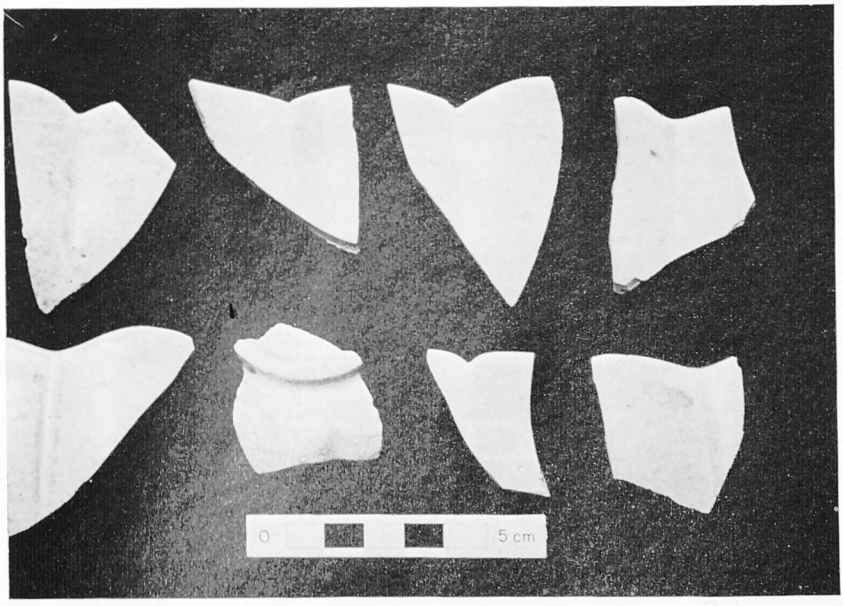
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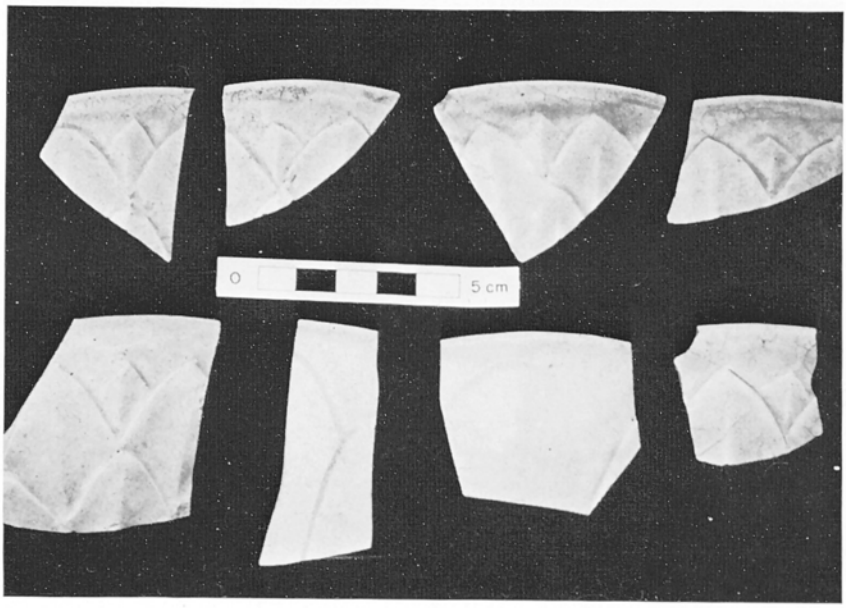
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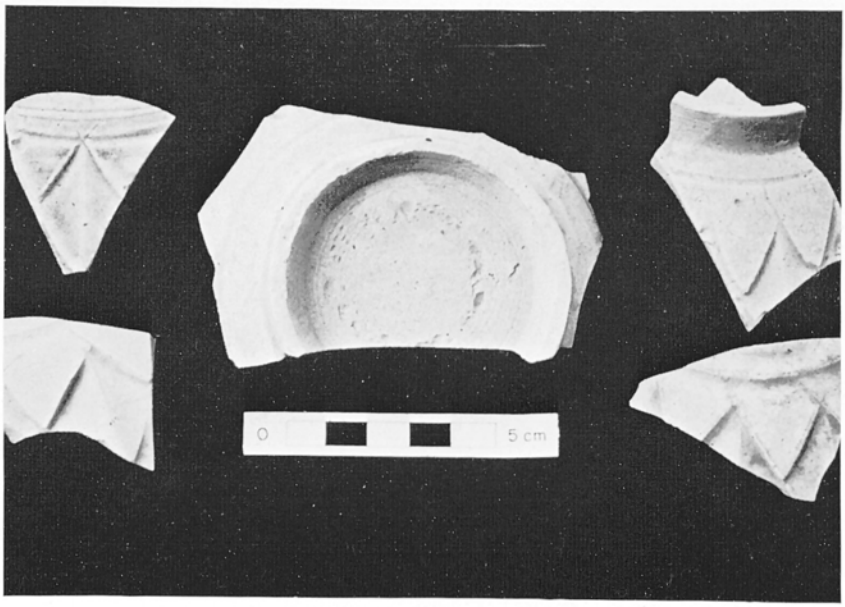
a



b



a



b

that the material is not XING (*Ibid.*: pl. 13/1, 14/4,6,7,9,10). Mikami, in his review of the corpus, refers to a Middle to Late Tang period white porcelain without naming it (1981: 68–9). Gray (1977: 233) and Scanlon (1970: 81–4) attribute the Fustat white to the Liao period. To the south of the Red Sea, a white porcelain ware found at Manda on the East African littoral with YUE celadon has been attributed to the 10th century A.D. (Chittick 1974: 46 & pl. Xa; Whitehouse 1970: 146). Detailed comparisons with other littoral sites along the Red Sea are lacking at this time although such sites as Aidhab, Bad'a, Dahlak Kebir, al Jar, and others would also yield similar material upon closer examination. Most recently, the work at medieval Ayla promises to produce a sequence of Chinese porcelain (Whitcomb, n.d.a.).

Another Tang category of material from Aththar is the stoneware. Several pieces have been identified as CHANGSHA (Pl. I*b*). This material comes from Changsha in Hunan province and is part of a very long monochrome stoneware tradition from the period of the Warring States to the Song. This stoneware is somewhat similar to the YUE ware of the Tang period. The CHANGSHA is a gray or dark brown bodied ware with an olive-green crazed slip. The glaze is neutral transparent and decoration is usually confined to a few simple elements. The ewer is the most common shape (Beurdeley and Beurdeley (1978: 97; Medley 1976: 97). Parallels for our CHANGSHA ware are fairly widespread. In the Near East, the type has been described from Siraf (Medley 1976: 97; Gray 1984: 191). Whitehouse, more specifically, refers to an olive-drab glazed type found at Siraf as "Dusun Jars" (1968: 18). From Fustat, CHANGSHA wares are mentioned by Medley (1976: 97) and illustrated by Mikami (1981: 68, 74 & pl. 15), although Gyllensvärd fails to mention them and may have them grouped in a different category (Gyllensvärd 1973: 92ff.).

The YUE celadon (green) ware forms one of the most significant groupings in our corpus. While mentioned in the Tang literary account, *The Tea Classic*, the first actual kiln localities of the period ware not found until the 1930's (Gompertz 1958: 50ff.). Today, it is estimated that almost 70% of the Tang kilns in China produced and specialized in the manufacture of YUE celadon (Beurdeley and Beurdeley 1978: 94). The best known locaties are in Zhejiang Province and especially in the Shanglin lake localities (see maps in Medley 1976: 93; Sullivan 1963: 76; Gompertz 1958: 34). The origins of the YUE celadon remain unclear and the transition from stoneware to porcelain also remain intriguing. It seems relatively certain, however, that by the late Tang period manufacture was expanding and the produxtion of YUE celadons continued through the succeeding period into the early Song (Gompertz 1958: 35,59; Sullivan

1963: 75; Medley 1976: 96). YUE ware, as defined by a number of authorities, is characterized by a light gray or brown very hard and compact body. The glaze has been described as grayish green or olive–green and, because of the thickness, prone to cracking. The vast majority of the material is undecorated. The high foot rim is characteristic and the entire vessel is always glazed. Spur marks on the base underside are present and in vessels with convex bases, the brown sand ring is often visible. In several of our pieces, where the thicker glaze in present, a bold floral motif has been undercarved.

YUE ware is very widespread and represented a common late Tang export (on the role of Mantai in Sri Lanka, see Carswell 1963). At Siraf, YUE material is dated to post 850 A.D. (Gray 1984: 191). From Abyan in the Hadramaut, YUE celadon is described as having the characteristic brown sand ring (Lane and Serjeant 1948: 125). From Fustat, a large number of pieces are attributed to YUE ware as well (Gray 1975–7: 233; 1984: 193). Gyllensvärd defines four categories based on plain celadon and different decorative tecniques. He also notes the wide use of floral designs and attributes the rather large size for many of the bowls to a Near Eastern preference pattern. The date of the material extends from late Tang through the Five Dynasties to early Song (Gyllensvärd 1973: 92–104). In fact, he attributes 75% of the total studied to the southern celadon of Zhejiang from the 10th century through the Northern Song period and later (Gyllensvärd 1975: 93–94; cf. also Mikami 1981: 68, 74 & pl. 16). Other Red Sea port sites which need to be studied in detail have also yielded celadons which may belong to YUE ware. These include Sirrin, 30 km. south of al Lith, (Zarins and Zahrani 1985), Hawra, 204–21 (Taba?) 9 km. north of Umm Lujj (Ingraham et al. 1981: 78–9), Aynunah (Leuce Come) (*ibid*), Ayla (Whitcomb, n.d.a.) and Aidhab (Mikami 1981: 70). Also of interest is the East African site of Manda where YUE celadon has been identified (Chittick 1984: 46). As we already noted above, detailed studies at other contemporary Red Sea ports such as Dahlak Kebir, Badi, and al Jar will undoubtedly reveal a much more extensive trade in 9th and 10th century Chinese ceramics.

The Northern Song

Our identification of the Aththar celadons as belonging to the Tang period YUE wares can be modified to include the succeeding period in China, the Northern Song (960–1127 A.D.). It is clear that YUE celadons continued to be manufactured well into Northern Song period (Beurdeley and Beurdeley 1978: 109, 112, 136; Medley 1976: 146ff.), but kiln production declined in the 11th century and production was concen-

trated at Longquan in southern Zhejiang (Gompertz 1958: 62; Gyllensvärd 1975: 94) (Pl. III*b*). The subsequent rise of Longquan celadons during the Southern Song and Yuan periods need not concern us here directly since Aththar was abandoned c. 453/1061. However, Longquan celadons are known from other Red Sea ports which continued in operation during the 11th–13th centuries A.D. (Scanlon 1970: 88ff.).

The principal identification traits include the typical olive green glaze which did not cover the base of the gray–white body, and the technique of leaving unglazed elements on the vessel which would turn red in firing. The exposed foot often has a reddish cast and the unglazed interior design is usually a central fish or peony (Medley 1976: 150; Beurdeley and Beurdeley 1978: 136–7). A striking example of Yuan porcelain is a fragment illustrated from Aidhab. This piece is fluted on the exterior and has the central fish motif in relief. Another Yuan celadon fragment from this site has a Bashpa inscription (Hobson 1926: 20). (Other celadon specimens are known from Aidhab, but have not yet been studied in detail, see Eliseeff et al. 1981: 38). From the Aden littoral, a number of pieces characteristic of Longquan celadon were found at Kawd am–Saila (Lane and Serjeant 1948: 125). From Fustat, a large number of celadon pieces are identified with the Longquan kilns and attributed to the Southern Song/Yuan Dynasties. These include pieces with the typical exterior vertical fluting, slender lotus petals, and the dragons/fishes in center interior relief (Scanlon 1970: 88–9 & fig. 10; Gyllensvärd 1975: 101ff.; see also the observations and comments of Mikami 1981: 68–9,81,83; Gray 1984: 193; for the southern Zhejiang province celadons on Bahrain, see Pirazzoli–t'Sertsevens 1982).

A small number of fragments from Aththar can be classed with the northern celadons of the Northern Song period and perhaps more specifically to the YAOZHOU ware (Pl. II *b*). Of three recovered production centers in Henan and Shenxi provinces, the most important was Yaozhou. Several investigators feel that the northern celadons are closely related to the Zhejiang YUE ware and may have been influenced or derived from it. Beginning in the late 10th century A.D., the ware seems to have flourished in somewhat diffuse stylistic stages through the 12th century.

The body is a very hard gray earthenware and glaze is olive green or olive brown. It often tends to collect in hollows and become darker while in relief areas it turns lighter. Characteristic shapes include bowls with narrow bases, dishes, and ewers. China specimens are decorated with peonies and lotus flowers and more elaborate examples intertwine bold continuous floral scrolls with peonies and lotus petals. (Sullivan 1963: 71; Medley 1976: 115–6; Beurdeley and Beurdeley 1978: 119–21; Gray 1984: 38, 40, 46, 50, 51; Gompertz 1958: 103–125).

Both Gray (1984: 55) and Beurdeley and Beurdeley (1978: 119) insist that northern celadons were not exported to the West due to the long distances of kilns from southern ports (Fig. 7). Gray suggests that YAOZHOU imitations, in Jiangxi and Guandong provinces were exported west (*op cit.*, p. 55) and that YAOZHOU did not reach the Red Sea. However, Gompertz does cite both Samarra and Fustat as having YAOZHOU examples (1958: 125). Several pieces were also found in Sri Lanka at the site of Allaippidy in what Carswell interprets as a maritime consignment of the Northern Song period (1978: 40 & pl. 4c). Waikam Ho has identified two pieces from Aththar with the characteristic peony and floral scrollwork as YAOZHOU. These pieces appear to come from the bellies of ewers (for the vessel type, see Gray 1984: 50, 51 & figs. 28–29). From the Aden littoral, Lane and Serjeant suggest that a few pieces from Habil characterized by profuse carving may also belong to north Chinese celadon (1948: 126). From Fustat, northern celadon was first identified by Ashton (1934: 67) and both Scanlon (1970: fig. 6) and Gyllensvärd have supported this identification. From the Scanlon excavations, Gyllensvärd describes a small number of pieces which have an olive–colored glaze and incised designs with peonies and palmetto scrolls (sickle leaf rolls) (Gyllensvärd 1975: 95–6 & pl. 3/1–3; pl. 7). While Gray does not believe that YAOZHOU wares were exported to the Red Sea, he declines to comment on Gyllensvärd's analysis (1984: 193).

The bulk of the Chinese white ware found at Aththar can be identified as DING ware (Pls. I, IV, V*a*, VI). The kilns which produced this ware were first found in the 1930s and subsequent investigations have localized their production at a series of sites in Hebei province (Fig. 7). The porcellaneous ware is somewhat related to the XING ware of the Tang period and, based on examination of the kiln sites, it was already produced in the late Tang period and continued to be made until the late 13th century.

Characteristics of the ware include a thin, hard, almost translucent body with an application of ivory–colored white glaze. "Tear stains" or drops of glaze are present on the outer foot. The method of firing the plates and dishes upside down in multiple saggars left an unglazed rim which was later decorated by a copper, silver or gold band. Decoration included designs which were carved, incised or molded and consisted of lotus blossoms, peonies, intertwined foliage with ducks, dragons, fish and birds. Shapes were apparently fairly restricted, enabling a multitude of fine pieces to be produced. Dishes, tea bowls, ewers, bottles, and plates were common (Sullivan 1963: 52; Medley 1976: 106, 110, 112; Beurdeley and Beurdeley 1978: 116–18; Gray 1984: 56, 58, 62).

Because of the limited time frame at Aththar, it is important to de-

scribe the DING ware found there in detail and relate it to known examples from elsewhere. All of the examples found at Aththar (and at Sharja) were fired on the foot. They either tend to be non–porcellaneous in many cases, or quite thick. The foot in the vast majority of cases is unglazed. (Several pieces have the characteristic tear stains). Gray (1984: 58) suggests that these are characteristics of pre–Song DING ware. The most popular type at Aththar is an open bowl with exterior lotus petals carved in a double or treble series of rows emenating from the base (Pl. VI). Since late Tang DING ware is not supposed to be decorated (Gray 1984: 58), it appears that the vast majority of our material belongs to the Five Dynasties period (907–960 A.D.). No complete specimens are known from Aththar and parallels for our material are not common. In fact, Gyllensvärd has suggested that the Chinese exported special types specifically for the Islamic market (1973: 92).

We do see parallels in a few specimens from China. Excavations under a Buddhist pagoda in Hebei province yielded a complete DING bowl with exterior lotus petals identical to our specimens. The pagoda's stela of founding was dated to 977 A.D. (Anonymous 1973: cat. no. 321; Gray 1984: 56,8). Two other vessels, a flask (*Ibid.*: pl. 34, dated to 955 A.D.) and ewer (*Ibid.*: pl. 37), have the identical carved lotus blossoms on the exterior. From European collections, a similar vase with carved lotus petals is illustrated by Hobson (1915: pl. 18/fig. 2) and attributed to the Song Dynasty.

A smaller group of pieces from Aththar exhibit the freely growing lotus scrolls (Pl IV*b*), the carved peony flower on small bowls (Pl. V*a*) and a few pieces carry peony sprays which include the combing technique (Pl. IV*a*).

The well–known DING open plates and flatwares, which were made by the mould technique and include complex designs such as floral scrolls, sprays, phoenixes and landscapes, belong to late Song and principally Chin and Yuan Dynasties (Medley 1976: 106, 108, 110; Gray 1984: 72ff.). No piece of this type has been found at Aththar and this again confirms the abandonment of the site prior to the 12th century A.D.

Few parallels to the DING ware have been reported from the Red Sea area. Two fragments from the Aden littoral at Kawd am Saila have been described as rather thick with exterior radiating petal–patterns in relief (Lane and Serjeant 1948: 126). Based on the above description, it seems the material could be DING ware of the Five Dynasties period. From Fustat in Egypt, Gyllensvärd notes that it is difficult to pick out real DING ware, identifying less than ten pieces from a four thousand piece collection (Gyllensvärd 1973: 117 & pl. 2b). (The majority of lotus design bowls, he assigns to YINGQING [GINGBAI] wares, see below).

Both Gray (1977: 233) and Mikami (1981: 79) suggest that the white wares of Northern Song date at Fustat belong to YINGQING ware of southern Chinese tradition.

The last identifiable category of Chinese ceramics at Aththar, forming a rather large group, is the ware labelled GINGBAI from kilns in Jiangxi province (Pls. III*a* IV*b*, V*b*). Although this term, meaning "clear white", is also used with the later term "YINGQING", denoting "shadow blue", the former term seems to be be preferred. This fine white porcelain is stated to have a slight bluish caste caused by impurities in the clay; still, separating this ware from the northern DING wares is often very difficult. The characteristics of the ware include a thin and translucent white body, a bluish–green white or pale blue glaze, and a restricted repertoire of basic shapes. The earlier or Northern Song decoration techniques include incising and combing but as in the case of the DING ware, moulding was added somewhat later. The earlier GINGBAI wares were fired on the foot and only in later examples from the Yuan Dynasty were they rim fired. Incised motifs in the earlier examples include peonies, highly stylized birds, small hatched backgrounds, and wave scrolls. Exports to the Red Sea area were considered common. Often an inferior ware was shipped, principally from Jingdezhen and Jizhou (Beurdeley and Beurdeley 1978: 141; Sullivan 1963: 105; Medley 1976: 165–8).

We note several examples of the GINGBAI ware with the predominant wave or *cloud* scrolls at Aththar (Pl. IV*b*). Several other pieces exhibit the exterior plantain leaf motif (Pl. III*a*) (Carswell 1978: 39 & fig. 6, *passim*). An aththar piece (Pl. IV*a*) is identical to a small sauce dish from Jingdezhen, whose entire internal surface is covered by a single, fully–opened lotus flower with petals radiating from the center (Medley 1976: 168). A small group of fragmentary GINGBAI sherds from Aththar (Pl. IV*b*) is dominated by background carving and combing. Two fragments may exhibit the stylized birds also characteristic of the ware.

Finally, we note a substantial group of porcelain fragments from Aththar which are difficult to classify (Pl. V*b*). While they may be DING or GINGBAI, the plain white saucers or dishes are both lobed and foliated. The small ring base is fully glazed. These may be characteristic of the Liao period.

Parallels for the GINGBAI ware from the Red Sea area are, again, restricted to a few sites. One fragment of the ware was found at Kawd am–Saila on the Aden littoral. The piece is lightly incised on the interior (Lane and Serjeant 1948: 127). Gyllensvärd describes the GINGBAI ware as second in popularity at Fustat. A group of vessel fragments includes our foliated, lobed variety from Aththar (Gyllensvärd 1973: 106 & pl. 13/1, 14/4,6,7,9,10). Other GINGBAI types come from Jiangxi kilns

(*Ibid.*: 110–12). Dates are attributed from the late Tang through the Northern Song dynasties. Mikami (1981: 78–9 & pl. 30) and Scanlon (1970: fig. 9) also described GINGBAI wares from Jingdezhen at Fustat. The lobed and foliated dish also has parallels at Siraf (Whitehouse 1979: 884 & fig. 8) and is attributed to the Liao period by Gray (1978: 233). While Gray had earlier suggested that the GINGBAI examples from Fustat were all virtually Northern Song from the Jingdezhen kilns and datable to c. 1100 (Gray 1978: 233), more recently he has suggested that the manufacture and trade of this ware continued through the Southern Song and Yuan periods from kilns specifically operating near Canton (Gray 1984: 193).

SUMMARY

A number of studies within the last fifteen years have defined and illustrated the complexity of the inter-regional trade network between the Middle East, East Africa, India, Southeast Asia and Far East beginning in the 9th century A.D. (Whitehouse 1979a; Chittick 1977; Jun-yan 1980; Wong 1979; Carswell 1979, 1983; Goitein 1954, 1970, 1980; Yajima 1976; Grosset-Grange 1978). The focus of most of this research has revolved around the Abbasid empire centered in the Arabo-Persian Gulf and the Chinese Dynasties beginning with the Tang. This relationship was brought to light by the excavations at Samarra (Sarre 1925, 1935) and more recently at Siraf (Whitehouse 1968, 1970, 1971, 1972), Bahrain (Kervran 1982; Larsen 1983) and along the East Arabian littoral (Whitcomb 1975, 1978). As a result of these efforts, many investigators who have examined various aspects of the Arab–Chinese trade network have tended to place undue emphasis on the Gulf archeological record. For example, foreign ceramics found at the East African coastal settlements and the Comoro Islands are attributed to trade with the Persian Gulf (Chittick 1977: 185; Whitehouse 1979a: 883; Wright et al. 1984: in press).

This paper has sought to balance this point of view by examining the Red Sea coastal zone (Fig. 1). Within the purvue of the Red Sea, the excavations at Fustat have dominated the literature (Bahgat Bey and Gabriel 1921; Scanlon 1965, 1966, 1967, 1974, 1976; Kubiak and Scanlon 1973; Mikami 1981). Unfortunately, this corpus has had to be studied in a more or less isolated context since little was known of other similar sites along the Red Sea littorals (for the Aden coast, see Lane and Serjeant 1948; Doe 1960: 13; Whitcomb n.d.). However, within the last decade survey work has begun to examine the Arabian Red Sea coast both in Saudi Arabia (Zarins et al. 1981: 12, 32–33; Whalen et al. 1981: 51–53; Ingraham et al. 1981: 78–79), and Yemen (Keall 1983; al-Radi and Stone 1983; Tosi 1985). On the African side, recent work has also stimulated a review of the evidence (Whitcomb and Johnson 1979, 1982; Carswell 1982; Hakem et al. 1979; Elisseeff et al. 1981). This archaeological activity has shed new light on the idea that Red Sea commerce was only largely stimulated in the late 9th century A.D. by the collapse of Abbasid/Buyid power and the rise of the Fatamids (Labib 1970: 64–65; Lewis 1949; Hamdani 1967; Lowick 1974: 321; Hrbek 1977: 72; Tamrat 1977: 105). Finally, the recent archaeological work has provided new insights into the nature of the Red Sea trade and the navigational techniques practiced during the late first and early second millennia A.D.

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