

ḶAFĀR, CAPITAL OF ḶIMYAR,
IBB PROVINCE, YEMEN

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FIRST PRELIMINARY REPORT: SUMMER 1998 AND AUTUMN 2000

FOREWORD

Given the newness of the highly competitive field of Yemenite archaeology, it was decided to go ahead with the basic documentation and bring out our findings at the soonest possible opportunity. At the time of writing the present study was the first publication with an emphasis on a Ḥimyarite cemetery and intensive mapping. Aside from further excavation reports, a volume devoted to the inscriptions from the site museum, and another on its reliefs are in preparation. Some of this information remains new for only a relatively short time, and thus it

Apart from the abbreviations in ABADY 9 (2002) 248–252 the following are used:

Breton – Bāfaqih 1993

J.-F. Breton – M. A. Q. Bāfaqih, Trésors du Wādī Ḍura (République du Yémen). Fouille yéménite de la nécropole de Hajar am-Dhaybiyya. Institut français archéologie du proche-orient. Bibliothèque archéologique et historique 141 (1993)

Gaitzsch 1987

W. Gaitzsch, Ein westeuropäisches Pferdegeschirr des späten 13. Jahrhunderts aus Pergamon, *IstMitt* 37, 1987, 219–256

Gaitzsch 1997

W. Gaitzsch, Zaumbeschläge hochmittelalterlicher Kandaren, *Archäologisches Korrespondenzblatt* 27, 1997, 497–511

Herrmann 1989

G. Herrmann, Parthian and Sasanian Saddlery. New Light from the Roman West, in: L. De Meyer – E. Haerincx (eds.), *Archaeologia Iranica et Orientalis. Miscellanea in Honorem Louis Vanden Berghe II* (1989) 757–809

Katalog Wien 1998

W. Seipel, Jemen. Kunst und Archäologie im Land der Königin von Saba', Exhibition cat. Vienna (1998)

Sima 2000

A. Sima, Tiere, Pflanzen und Metalle in den altsüdarabischen Inschriften (2000)

Sources of illustrations: Fig. 1: Courtesy of Survey Authority Ṣan'ā', 1:50 000 map, series 1444 C4 »al-Ṣaddah«, edition 2-OSD 1986. – Fig. 5: drawn by I. Steuer-Siegmund (from photos). – Fig. 9: T. Pataky. – Fig. 12: B. Hamm. – Fig. 14: C. Bank. – Fig. 59: P. Garn. – Fig. 62: M. Mayer. – Fig. 63: T. Kühnel. – Fig. 95: after a photo of S. Antonini. – Fig. 98 a: drawn after MMA photos. – Fig. 98 b: after R. Ghirshman 1977. – Fig. 98 d: courtesy G. Herrmann 1989. – Fig. 100: drawn after a photo of the DAI. – All others: P. Yule

Campaigns took place in 25. 07.–25. 08. 1998 and 01. 09.–17. 10. 2000. This report was first submitted for publication on 01. 10. 2001 and was resubmitted on 10. 01. 2004. Select results of the 1998 campaign appeared supra. Our sincere thanks go to Yusuf Abdullah, President of the General Organisation of Antiquities, Museums and Manuscripts, and his director of exploration, Ahmed Shamsan. The Gerda Henkel Stiftung financed the excavation, the Foreign Office of the Federal Republic of Germany financed the first two seasons of mapping. DFG support began in November 2000. Ricardo Eichmann of the Orientabteilung of the Deutsches Archäologisches Institut sponsored the project as DFG patron and helped in numerous ways. Yemenia granted us generous support for our flights. In 1998 the German Mining Museum, Bochum provided equipment and much needed materials. Gunter Amtmann lent us a box kite, radios, and a middle-format camera. Walter W. Müller steered the editor away from numerous epigraphic and historic pitfalls, for which he is heartily thanked. Alexander Sima checked the orthography of the Old South Arabian names and provided diverse other corrections. This project owes its inception to Burkhard Vogt in 1996.

The field crew in the 2000 season consisted of Paul Yule (leader), Charlotte Bank (small finds specialist), Bettina and Thomas Hamm (general assistants), Manuel Hofmann (archaeologist), Matthias Lang (archaeologist), Kathrin Sachsenberg (archaeologist), Thomas Schupp (surveying engineer), and Carsten Witzel (anthropologist). At the University for Applied Science in Mainz, Institute for Spatial Information and Surveying Technology we are supported by Wolfgang Böhrer (professor for geoinformatic), Karsten Thiele and Volker Emmel (geodetic technicians). Henrike Kiewewetter corrected a version of the editor's English translation of Carsten Witzel's anthropological results.

The ancient »Zafār« today is pronounced with an initial voiced th-consonant. Other transliterations include Syriac: t. pr, typr; Greek: Σωφῆρα, Ταφάρ, Τυφρ, Tapharon, Greek-Latin: Sap(p)har, Tafra. Cf. *Reallexikon christliches Altertum* 15 (1991) 303–331 s. v. Himyar (W. Müller) 2001, 379 f. for the respective contexts.

seems advisable to make it available to colleagues and students as soon as possible.

Previously, the writer had studied a population, which wandered at least partly at the end of the 1st millennium BCE from the Yemen to the central part of Sultanate of Oman. Comparisons between the two parts of Arabia ideally would illuminate the identity of south and south-eastern Arabian populations in the early historic age. *Zafār* appeared an interesting topic of research in Arabia because it would be possible to study an urban culture there, having worked largely on a non-urban early medieval Arabian one in Samad al-Shān. In addition, despite detailed studies, such as for isolated inscriptions and history, the archaeology of Ḥimyar is a largely unrecognised research lacuna. The present work reflects no particular school of archaeology (post-processual American anthropology/archaeology etc.). Such intellectual ambitions would be difficult to realize within the framework of a preliminary report – first the building blocks and later the superstructure. The limitations in the report are a function of my ability or lack of such to motivate individual team members to exchange with each other and for this exchange to find expression in their own reports.

INTRODUCTION

A rich cultural history studded with innumerable archaeological monuments, the products of an urban culture, characterize Old South Arabia. Although its material culture is the equal of those in more accessible and better known areas, the Yemen belongs to the least studied ones in the ancient Near or Middle East. 25 years of research on Old South Arabia contrast with 150 years of mainstream research in the field of Near Eastern archaeology centred on Mesopotamia. As opposed to the traditionally defined subfields thereof, qualitatively greater changes occur in the archaeology of the new subfields because they have been ignored. If our discipline is to grow, then a serious commitment must be made outside its traditionally defined geographic and thematic areas, for example in the Yemen.

Most field projects devoted to Old South Arabia concentrate on early periods down to the mid 1st millennium BCE, and more particularly relate to Mārib, capital of the kingdom of Saba'. In practice,

in the eyes of most, Saba' has come to represent Old South Arabia per se. Alternatively, our intention is to investigate the little-known, late, or so-called Sabaeo-Ḥimyar age and deconstruct this parhelion. Given the fact that Ḥimyar's kings vanquished and succeeded their rivals, particularly Sabaeans, *Zafār* (14°13' N; 44°24' E) would seem the ideal place to study this period. Thus, the political history could be complemented by the kind of cultural evidence (burial customs, realia etc.), which archaeology can bring to bear. Anyone who reads this work will realize that the undersigned sees just such information as exactly what is needed for this subject.

From the late 3rd cent. onward, Ḥimyar became the seat of power in South Arabia, in the 5th cent. the fist of which reached far into the centre of the peninsula. During the 6th to 7th centuries CE competing religious and political interest groups made the Arabian Peninsula a hotbed of war and migration. For their own power struggles, the Sasanian and Byzantine empires ensnared and manipulated Ḥimyar and its neighbours. The struggle for universal empire and universal religion went hand in hand¹. In the mid 4th cent. an early monotheism (perhaps Henotheism [Müller] or Hanafitism [Beeston]), Judaism, and subsequently Monophysite Christianity germinate in Arabia, more particularly in *Zafār*, reaching the royal family in the later 4th cent.² With an eye to strategic military advantage, Orthodox Byzantium and Monophysite north-east Africa successfully fostered Christian proselytism in Arabia. Orthodox, Nestorian, and Monophysite sects were in constant turmoil with each other. To suppress the Monophysite »heresy«, the eastern church, in the first half of the 6th cent. excommunicated the Monophysites, who thereupon formally seceded from the parent church. The Sasanians would have supported the Jews, who had suffered at the hands of the Byzantines. One can validly question the nature and

¹ M. Rodinson, Mohammed (1977) 2.

² I. Shahid, *The Martyrs of Najrān New Documents* (1971) 186; I. Gajda, *Die Vereinigung Südarabiens unter dem Reich von Himyar*, in: *Katalog Wien 1998*, 269: Jews and Judaizing monotheists may have been perhaps already in South Arabia following the destruction of the temple in Jerusalem in 70 CE, but they are invisible until they gained political influence in the mid 4th cent. CE. The dedication in inscriptions to the »lord of heaven« replaced those to earlier gods. For this problem see *Reallexikon christliches Altertum* 15 (1991) 303–331 s. v. Himyar (W. Müller).

depth of the rulers' purported religious leanings at a time when a division of church and state was unthinkable. The dogmatic tenor of proselytisation and the competition for trade and political advantage around Arabia between Persia, Ethiopia, and Byzantium comprise an explosive mixture.

Until recently, epigraphic and historic analysis – far less that of archaeology – have dominated the ancient studies of Pre-Islamic Yemen. Our intention is to correct this imbalance with the help of a multidisciplinary approach at Zafār: Mapping, excavation, art history, as well as the analysis of the bones of humans and non-humans form the building blocks of our investigation. These combine with the results of on-site epigraphy. Mapping began in the first campaign in 1998 (Pl. 1).

Aside from the mapping, in the second campaign we investigated a Ĥimyarite burial ground, which promised to shed light on Zafār's history and religion: Textual sources reveal the development of re-

ligious life there, which from the 2nd to the 5th centuries CE evolves from polytheism to monotheism. Christianity and Judaism brought new models for the culture. Nothing is really known about a different purely local monotheism, which remains a hidden quantity in this question. Change in the burial customs could conceivably yield a qualitatively different kind of information regarding religiosity than that offered by the much biased historic narrative. Thus, as part of a long-term strategy to study the interesting Old South Arabian late period, desired was a Ĥimyarite cemetery less exposed to grave robbing than the large and conspicuous rock-cut tombs, numerous at Zafār.

The reorganizing of the site museum and registration of the finds comprises a third component of the project. Thereby we registered over 1000 valuable inscriptions and reliefs. Our expedition is an agent both for cultural resource management and research archaeology.

Table 1 Main events pertaining to Zafār³

630–	Islam
570–630	Sasanian domination
525–570	Ethiopian domination, churches rebuilt in Zafār
525	Ethiopian-Ĥimyarite war
518	Jewish Yusuf As'ar Ya'ar (arab. Dū-Nuwās) persecutes Christians (Ry 507, Ry 508)
late 5 th cent.	Ĥimyarite political expansion into Central Arabia
462	Šuraḥbi'il Ya'fur fits out his palace, Hargab, and repairs Mārib dam (zm 0001)
early 5 th cent.	Abikarib As'ad proclaims his conversion to Judaizing monotheism (Ry 509)
378	Monotheist Malikkariḥ Yuhā'min II builds the castle Šawḥaṭān (GI389, RES 3383)
mid 4 th cent.	Theophilus establishes a church in Zafār (following Philostorgios)
mid 4 th cent.	Judaizing monotheism and Judaism widespread in South Arabian towns
285	Šammar Yuhar'iš uses title »king of Saba' and Dū-Raydān, and Ḥaḍramawt and Yamanat«
232	Fortifications in Zafār South strengthened
230	Ethiopeans (Habashites) penetrate Zafār, extricated by Li'azz Yuhanuf Yuḥašdiq and Šā'irum Awtar (Ja 631, CIH 314+954)
c. 140	Saba' under protection of Ĥimyar beginning with Watarum Yuhan'im
10–20 CE (?)	Ĥimyar conquers part of Saba' and builds in Zafār
115 BCE	Conventional dating for the beginning of the Ĥimyarite era

³ Chronological basis: The year 640 Ĥimyar in CIH 621 dates to 525 CE and the massacre at Najrān dates to 518.

MAPPING AND SURVEY OF BUILDING STRUCTURES

Owing to its size and historical importance, this 110 ha city, lying at some 2800 m altitude, is a fascinating and rewarding object of study, however strenuous the working conditions there might be. At this stage of the work, not surprisingly, the mapping of antique and recent features lacks a depth of historical focus with regard to the stages of development of the city, which excavation could yield, but reveals considerable information about its appearance presumably in the imperial and late periods. That means from the 1st cent. CE – when Ḥimyarite kings adopt the title »ruler of Saba' and Dū Raydān«. However, the few chronological references, which are available raise the likelihood of yet later building programmes, that is, from the later 3rd cent. CE: Why? While on the one hand, the few examples of high quality stone masonry may predate the 3rd cent. CE, on the other, politically, economically, and militarily, Ḥimyar comes to fruition in the latter part of this century. And one expects major building programmes in this wealthy 250 year period – a time, politically and architecturally speaking, when the other Old South Arabian kingdoms had eclipsed⁴. The majority of the sculpture fragments from Zafār (see below) date to this time confirming its wealth.

Whereas prior to our survey no contexts in Zafār were considered intact⁵, even without excavation first survey results reveal a number of structures at the site, which require or even demand dating and interpretation. Surveyors mapped the topography with the help of an infrared tachymeter. Coordinates and heights initially taken from a large scale map, were combined with the data from handheld GPS receivers⁶. These served to orient the map. Since the historically most important part of the site appeared to be the Ḥuṣn Raydān, work commenced here in 1998. In Zafār South architectural features too large to be readily robbed shed light on the nature and dimensions of Zafār's fortification system. Notable among these are the entrance to Zafār South, fragments of casemate walls of the city defences, two towers, a settlement *extra muros*, and tombs of nobles as well. But unfortunately, the antique character of the large area where the present-day village is located remains completely unknown. Moreover, there are no indications for the

locations of the Kawkabān palace and that of Dū Yaz'an alluded to by the historian al-Ḥamdānī in his »al-Ikl il«. The mapping of the northern part of the ancient city (locally known as »al-Gusr« [=al-qasr]) followed in 2002. In 2000 in two test trenches in Raydān we recovered numerous small finds potentially useful for dating. But these amounted, in fact, to little more than surface debris without clear stratification.

In conjunction with the mapping, to date some 277 different architectural features (20 different feature-categories) have been registered and are locatable by means of their coordinates. Most common are the present-day houses in Zafār (88), which are built to a large degree from antique spolia. Numerous walls and fragments thereof (42) have come to light. These are distinct from »heavy walls« (32) – probably official structures, such as the defence system (for example, the city wall z183). Common are »cave entrances« (46), which vary in character and appearance. »Cave/tombs« (12) are difficult to distinguish from »cave entrances«, owing to differing states of preservation and complicated alterations presumably by human agency. Irregularly laid »stone rectangles« usually over 5 m in length are particularly notable on the south-western face of Zafār. There they consist of roughly hewn stone, and are taken to be the remains of medieval dwellings, since they are dissimilar to better known Pre-Islamic remains. Others, however, of large roughly hewn stone (for instance, features z144, z184, and z247) may be mountain sanctuaries or isolated official buildings of Ḥimyarite date. Other features include dams and their accompanying reservoirs (4), rock cut faces (4), »robbed walls« (2), »ways« (2), and »worked bedrock« (1), that is foundation trenches. This classification is not an end in itself, but rather it forms the structure of an ongoing documentational system, and is a precursor to a planned virtual reconstruction of Zafār, the first of its kind for an Old South Arabia capital.

⁴ Paradoxically for all its wealth, at this time Ḥimyar did not strike its own coins.

⁵ R. D. Tindel, Zafār, *Oxford Encyclopedia of Archaeology in the Near East* 5 (1997) 386.

⁶ The base map used is the »Saddah« sheet 1:50 000, 1444 C4, World Geodetic System 1984, edition 1-DOS 1984.

Masonry Chronology

Ĥimyarite activity first appears to scholars in an inscription dated to the 1st cent. CE from Ḥaḍramawt and from mention in classical sources, such as by the elder Pliny in his »Natural History« at about the same time. At present, no means are available to date the finds and architectural structures from Ĥimyar to its historic origin and one assumes that what is visible postdate it. As noted above, most Arabia experts consider early masonry to be of higher quality than that of the late period. The quality and manner in which building stone is hewn and its finish provide some hint of chronology. A few rare walls distinguish themselves by virtue of a high standard of stone masonry. Until outside parallels for them can be dated, these may be attributed to the early period, which ranges from the beginnings of the Ĥimyar capital until perhaps the 1st cent. CE. But precise dates are known neither for the type nor quality of the best masonry from Zafār, possibly apart from those of the neighbouring Ġabal al-ʿAwd. At this stage of research a less likely alternative is that such walls are simply better workmanship of the imperial period. Research on the masonry chronology is still in its earliest stages.

A single, but important portion of the city wall (Pl. 2, 1) and its masonry style seems dated by a text (Pls. 2, 2 a. b), which is preserved in three large fragments. According to the museum custodian, one came to light near the wall in Zafār South c. 1990. The mending of the city wall, mentioned in the text, is dated to 347 Ĥimyar/232 CE⁷. If one accepts the likely assumption that this inscription was built into the wall or gate there, then one gains an anchor point for the masonry chronology of both. Inscriptions are more common at prominent parts of the walls, such as near gates. The preserved city wall here (z183) is hardly a meter thick, thin in comparison to other Old South Arabian city walls, up to 3 m in thickness⁸. It is smooth and not niched. Presumably this last line of defence was considered unimportant, given the powerful army.

Gates of Zafār

Owing to the fact that less than 2% of the city wall is visible on the surface, its graphic reconstruction and that of its gates as well is a challenging but

risky undertaking, albeit one which enlivens our understanding of later Old South Arabian city architecture. Building remains and contemporary texts shed more light on the gates than on the city wall. We can surmise the positions of some of Zafār's alleged nine pre-Islamic city gates which al-Hamdānī mentioned in »*al-Iklīl*«. The main gate, with its presumably antique cobblestones, to judge from its size and position appears to be the present-day access to Zafār village (Zafār South). In the 1880s the Austrian Eduard Glaser describes the »east gate«. This is a »... regular thoroughfare flanked with well-preserved walls«⁹. Glaser's »thoroughfare« may have lain in the low eastern side of the ruin in al-Ġaḥw, or is perhaps the entrance to the present-day village in Zafār South. Both had a protected road, and both have been plundered beyond recognition. Indications point to Zafār's major entrance complex being located just to the south: A further gate there probably faced to the north-east near the city wall z183, some 100 m to the south-west toward Kitāb, to the south-south-east toward Bayt al-'Aṣwal, and to the north-north-east into the Wādī Zafār. The negative growth in an adjacent cultivated field (the light discolourations in the vegetation visible in Pl. 2, 3) where the city wall originally was built reveals the presence of part of the southern city gate complex just below the surface. Subsurface remains of walls and other structures reflected in these negative growth patterns cannot be simply reconstructed without the information provided by excavation. One assumes a complicated building history for the gate complex, fragments of which need not all be contemporary with each other.

The intact walls and the positions of urban centres suggest that monumental gate remains can be sought between al-Gusr and the Ḥuṣn Raydān in the saddle between these two volcanic mountains. Hidden in the massive rubble here are walls, which face north-east/south-west, the standard at Zafār and most other Old South Arabian sites. The rubble on

⁷ On the two inscriptions C. Robin, Note sur les monuments de Zafār, unpublished text dated 17.01.2001.

⁸ J.-F. Breton, Les fortifications d'Arabes méridionale du 7^{ème} au 1^{er} siècle avant notre ère, in: ABADY 8 (1993) 14.

⁹ H. von Wissmann, Zur Geschichte und Landeskunde von Alt-Südarabien, Sammlung Eduard Glaser III, SB Wien 246, 1964, 251 f. (Glaser daybook no. VIII, page 11a).

both the east and west slopes are particularly heavy. But these ruins more probably include the Šawḥaṭān castle located on the northern wall of Zafār (actually of Ḥuṣn Raydān), as the Ḥimyar monotheist (not necessarily Christian) ruler and builder Malikkarib Yuḥa'min II informs us in an inscription from 493 Ḥimyar 378 CE¹⁰.

No other traces of the main city gates are extant to date, but they must have existed at convenient points. Otherwise the inhabitants frequently would have to go to the extreme north and south ends of the city for daily coming and going. Despite the lack of traces of roads or ways emanating to/from the east and west sides, gates must have existed here. The same argument holds for Raydān North: Such a large fortified city certainly had an ingress to the north, and not solely that of the other fortresses to the south. None of the city gates can be identified by means of the names, which presumably reflect places or wadis in the directions which they faced. Aside from present-day roads, which lead to Zafār South, other ancient roads cannot yet be identified, which would help to localize city gates. The palace Hargab¹¹ of Šurahbi'il Ya'fur (440–458 CE) may have been combined with such a gate at mid-slope to the west of Ḥuṣn Raydān, where the rubble are particularly heavy, bespeaking the presence of a monumental building. Here (e: 435541; n: 1571533) his monumental building inscription lay on the surface until it was brought into the site museum.

Subterranean Cistern z096

Turning now to Zafār/al-Ġaḥw (Pl. 2, 5) a cluster of antique buildings command our attention, first an antique subterranean conoid chamber some 4.5 m in height (Pls 2, 4; 3, 1. 2). The bottle-shaped silo including a stair and banister is cut into the hard bedrock¹². Today the uppermost tip is housed by a simple stone building. Its shape seems most readily explicable as a granary. Its present owner is said to have rediscovered and excavated the silo some 25 years ago. It contains 40 m³ (40 000 Liter = 400 hl) in volume. For those familiar with the Heidelberg castle, the granary is about the same size as the »kleines Faß«. In all likelihood, such an ambitious building undertaking probably was not constructed by an individual but rather by the central authority.

Royal Tomb z066

A subterranean gallery in Zafār/al-Ġaḥw consists of a main gallery surrounded by chambers, which are sub circular in plan (Pl. 3, 3). The long axis deviates north-north-east/south-south-west from magnetic north. The lower sides of the main gallery form a bench flanked by chest-high walls and by piers cut out of the bedrock. A step leads into the northernmost central chamber. On the east side the chambers communicate with each other and from chest height upwards also with the central hall by means of an arcade, which separates them. The chambers on the north and east sides are approximately as deep as is the main gallery. During the rainy summer monsoon, water seeps into z066. At centre bottom of each chamber a cylindrical depression measuring some 20 x 20 cm is cut, evidently for drainage. Now-worn steps at the south end provide access into the gallery. In its present state, this part of the structure is enclosed by a stone barrel-vault some 35 years old. Despite the presence of three reused Ḥimyar reliefs, which decorate the exterior, the latter edifice is of no great antiquity. It now belongs to Ḥamūd al-Tam al-Zafārī. Aside from the addition of the vaulted stone building to the gallery, there is no evidence for different building phases of the structure. The antique complex is remarkable owing to its large size, elaborateness, and unique shape. Although it bears no inscribed name of a king of Ḥimyar or other personage, two goat representations cut in relief (Pl. 4, 1) on the two northernmost piers indicate that its owner was a polytheist who worshipped deities with goat-like attributes similar to those of other Old South Arabian polytheistic ones. The identification for z066 as a royal tomb is inferred by its size, elaborate construction, and location with other structures in what is taken to be the main palace area. Other potential royal tombs in al-Ġaḥw are choked with debris and are filled with

¹⁰ Wissmann op. cit. 70, inscription Glaser no. 389 (Répertoire d'épigraphique semitique no. 3383). Beside Raydān: al-Hamdānī, al-Iklīl VIII (N. Farīs, The Antiquities of South Arabia being a Translation ... of the Eighth Book of Al-Hamdānī's al-Iklīl [1938] 20).

¹¹ EI 11 fasc. 185/186 (2001) 379 s. v. Zafār (W. Müller).

¹² We wore out several steel chisels used only to cut a few surveying marks into the rock.

water. There is no more plausible explanation for this structure than that suggested.

»Bath« Structure z071

Also located in al-Ġaḥw is the oldest of the two mosques in Zafār (z070). Local inhabitants speculate that the present-day superstructure is some 160 years old. At the bottom of a flight of stairs cut into the bedrock on its south side, a chamber with a bent axis opens to the north (Pl. 4, 3). Since the floorplan does not resemble that of a tomb, we must seek some other explanation for the structure. The chamber below the present-day mosque contains clean water some 1.6 m in depth in the rainy season. The floor of the mosque is 2 m thick and connects with the underground chamber by means of a 30 cm wide vertical shaft. Chambers such as z071 are, as far as I know, unknown in mosques. A Christian baptistry or a Jewish *mikveh* (ritual bath) come alternatively to mind¹³.

The question arises whether z071 can be linked to polytheistic, local monotheist, Jewish, or Christian cult activities (or successively all four). Baptism derives from a large sphere of antique washings and rites of passage in the orient with roots reaching far into the past¹⁴. In any case, the chamber does not resemble the rare known early Christian baptistries or Jewish *mikva'ot*¹⁵. In the 4th cent. in Zafār the Byzantine king Constantius sent a delegation led by a certain Theophilus to Zafār who is said to have presented the Ĥimyarite king with 200 Cappadocian horses and financed the building of a church. Subsequently this was devastated or changed, and in the 6th cent. was followed by one or more¹⁶. A church (South Arabian: »q̄ls«, Greek: ἐκκλησία), such as described in the early written sources, would have been far larger than the little cube mosque, z070¹⁷.

The chamber walls are smooth, the floor level. This kind of carving may be relatively early (possibly predating the 2nd cent. CE), since this chamber is located in the area of heavy presumed early Ĥimyarite building activity, including a storage silo (z096), a large tomb (z066), heavy walls, and numerous foundation trenches (z069). Marshalling these arguments, the writer takes al-Ġaḥw and the Ĥuṣn Raydān to be part of the famous Raydān palace.

REORGANISATION OF THE ZAFĀR SITE MUSEUM

A final category of finds are sculpture and inscriptions. In 1975 the Ministry of Culture and Tourism built a museum at Zafār in order to house and exhibit numerous artefacts collected by Abdullah al-'Anābī. But this museum was only partially installed. Instead, it served principally as a repository for the sculptures. On arrival in 1998, we were alarmed to note that the floor of the museum magazine was littered in places with stone reliefs and inscriptions to a depth of over 1 m (Pl. 4, 2). These form the lion's share of the museum collection. The existing shelves in the magazine were poorly assembled, and collapsed some years ago shortly following their erection.

With the abiding support of our Yemeni colleagues, team members registered the different kinds of stone reliefs. Such comprise inscriptions, figural, phyllo-morphic, »ornamental«, and facade-like »architectural« groups. Given the large number and thematic variety of the reliefs, it was necessary to sort them on the floor throughout the entire museum (Pl. 5, 1), prior to their reshelving (Pl. 4, 4). A staff member thus preliminarily photographed and registered 1000 of the most important artefacts. First photos of the finds were recorded on CD and presented to our Yemeni colleagues, and to interested specialists.

The sculpture includes inscriptions and figural motives of local and in Greco-Roman style, which has a greater influence in the area than previously assumed. The female figure shown in Pl. 5, 2 a has been exhibited in the site museum for some years. During the cataloguing of the fragments in 2000, it proved the counterpart of an ensemble and its vis

¹³ G. Heuberber (ed.), *Mikwe. Geschichte und Architektur jüdischer Ritualbäder in Deutschland*, Exhibition Cat. Frankfurt/Main (1992) 1, antique examples (Massada, Khirbet Shema, Hulda, Ma'on, Ostia).

¹⁴ RE IVA2 (1932) 2501 f. s. v. Taufe (E. Fascher).

¹⁵ C. H. Kraeling, *The Christian Building*, in: *Excavations in Dura-Europos, Final Report 8, 2* (1967) 4 fig. 1 (Christian building). 145–150.

¹⁶ Summarised in Robin op. cit. from the »Book of the Ĥimyarites« and the letter attributed to Simeon of Bêt Aršam.

¹⁷ This brings to mind the burying of a church in Zafār which 200 Abyssineans had taken shelter in (Shahid op. cit. 44. 153, translated from Simeon's letter »G«). In the same source a church in Najrān is described as containing 2000 persons which give indication of the size of the churches.

à vis originally positioned on its right came to light (Pl. 5, 2 b). The former is polished by countless hands that touched the representation of what the locals consider a »bride fleeing her wedding«. In fact, represented is a *peplophore* standing aslant beneath a torso around which a snake is coiled. Between the snake and the *peplophore* the artist imposed a now damaged bead and reel row.

One wonders to what degree itinerant foreign artists worked in the Yemen, the extent of local copies of Mediterranean art, and how common imported works were. The presence of a dedicatory inscription written in Greek (Pl. 5, 4) and dated palaeographically approximately to the 2nd cent. CE by Christian Marek, awakens more tangible expectations of a Greek/Roman presence in the area¹⁸. It brings to mind the invasion of the Roman general Aelius Gallus in 25/4 BCE of Mārib, and raises the question as to the nature and extent of Greek and Roman presence in the area. This is strengthened by a hellenistic representation of a figure with a divine radiate crown (the deity Helios, Mithra, Šams or simply Raḥmānān?; Pl. 5, 6), probably of local workmanship. Much of the sculpture indicates a developed sense of style. It is hoped that the numerous sculpted artefacts can support a chronology of Ḥimyarite style and iconography. Even more significant is the observation that Ḥimyar has closer cultural contacts with the Mediterranean world than commonly understood.

These tantalizing finds fuel expectations for defining the succeeding cultural/historic stages. An excellent point of departure as a datable archaeological unit would be the investigation of the Šawḥaṭān palace, built by one of Ḥimyar's most important kings, the monotheist Malikkarib Yuha'min II.

CEMETERY zc001

Prior to excavation, holes and depressions pocked the north slope of the Ġabal al-‘Aṣabī (Pl. 5, 3) – clearly the remains of disturbed tombs. Robbers opened the ancient tomb entrances and left behind tunnels. The area selected for excavation lays in the midst of the main concentration of graves in an abandoned terrace field a few metres above the level of the Wādī Zafār. But for a single exception (grave zg011) the contexts were disturbed. In addition to the later disturbances, the overlapping of the burials (zg016–

018) worsened the preservation. The grading of the dirt road cut into the slope exacerbating the erosion, affecting even the deeper graves. Having measured the surface of the excavation surface, we freed the visible shafts from earth and stone debris and so began excavation of the tombs at the west end of the excavation surface (Pl. 5, 3. 5). A feature by feature excavation on 14 September gave way to excavation in horizontal spits. Deep tombs, such as zg018, 004 and 007, lay 3 m below the surface.

The builders of the chamber tombs cut into the topsoil, mixed clay, metamorphic and volcanic rock on the slope of the Ġabal al-‘Aṣabī. In plan, rectangular graves and chamber tombs with narrow entrances are typical. Such did not lie on a single level, but rather were scattered in the slope at different heights. Problems of a static nature resulted for builders, robbers, and archaeologists alike. Collapsed and overlapping tombs are evident in the plan of the cemetery (Pl. 6, 1. 2).

Grave zg011 was undisturbed and three other contexts were intact enough that the position of the skeletons was clear. They lay extended with the head toward the south. The accompanying finds, a seal stone, a small gold bell, and an iron knife are objects of a personal nature. Further iron weapons did not occur and presumably were not favoured. Iron splinters, traces which otherwise might reveal the presence of weapons, were non-existent. Old iron could not be recycled profitably and thus one might expect weapons, or splinters from them in the graves, unless the graves stood open for a considerable period. Pottery sherds were also extremely rare. 19 tombs and their fragments were documented. The human osteal material was identified in situ; human and animal bones were separated. Animal bones were identified in Germany.

The few pottery sherds deriving from excavation were fragmentary to such an extent that they offer little information as to the form, technique and decoration of the pottery.

Chronology

Stratigraphy and tomb-orientation in zc001 help little to create a relative chronology. An absolute

¹⁸ Marek translated it 23. 10. 1998. His study is in preparation.

chronology for the tombs derives primarily from the small finds, which they contained and in one case from carbon dating.

The few artefacts allowed a rough dating for some of the tombs and but less so for the cemetery on the whole. In particular two finds can be dated by means of outside parallels: an early Sasanian seal stone engraved in white and dark black banded agate with six fake Old South Arabian script signs (tomb zg007, Pl. 7, 1) and a knife (tomb zg013, Pl. 7, 2 above). The former is engraved with a eagle-like bird *gryllos* consisting of human faces. The bird's left wing is formed by the profile face of an old man, its right wing is that of a young man, and its breast feathers show a frontal human face. That on the left has more sharply articulated features than its counterpart. The bird of prey grasps snake- or plant-like forms. Next to the head of the bird is a motive, which seems to be a seated sphinx. Near the bird's left leg is an indefinable animal. Notwithstanding the Old South Arabian characters, the style and iconography early in the Sasanian group is nearly in late imperial style. Symbol combinations and *grylloi* enjoyed considerable popularity during the Roman imperial period¹⁹. Roman seals also depict combinations of old and young faces²⁰. In any case, although nearly still Roman in style, the banded agate and the annular shape date it to the Sasanian style group perhaps in the 3rd cent. CE²¹. This is the only seal from the Himyar area of certain provenance²². Two samples of different human skeletons from tomb zg007 were submitted for carbon/AMS dating and yielded the following results (siehe Tabelle unten).

Laboratory results indicate that the reason for the discrepancy between the two assays lies not in a contamination of the samples, but rather in the time between the two interments. The seal appears an heirloom and entered the tomb perhaps a century after its manufacture. There is no way to determine

which of the two adults owned the seal because the context was disturbed. One of these was probably the original owner of the tomb. The other two individuals in the tomb were children who would not have a seal. These determinations lower the date of the tomb use to the mid 5th and 6th centuries.

The iron knife from tomb zg013 also yields a reference for dating. A parallel exists for the shape of the blade evidently from a grave in the Wādī 'Araf, which may date to the 2nd cent. CE²³.

Tombs zg001, 002, and 008 contained small fragments of pottery, which furnish little information. Other rare pot sherds derive largely from large storage vessels. A bell-shaped pendant made of gold from tomb zg001 finds parallels from different ages²⁴, and is dated by the other finds in the cemetery (Pl. 7, 2).

Both tombs and graves are represented in the cemetery (Pl. 6, 1): chamber tombs and narrow earth graves. The chamber tombs seem to have belonged to richer owners and these contained the most finds. The tombs (nos zg001. zg002. zg004. zg006. zg007. zg010. zg013) lie slightly deeper than do the narrow graves (zg005. zg008. zg011.

¹⁹ P. Zazoff, Die antiken Gemmen, HdArch (1983) 337 n. 246 and 249; cf. pl. 106, 6.

²⁰ P. Zazoff (ed.), Gemmen in Deutschen Sammlungen 4. Hannover, Kestner-Museum – Hamburg, Museum für Kunst und Gewerbe (1975) 150 pl. 150, 1113, which depicts an old silene and a young satyr.

²¹ I am most grateful to John Boardman and Antje Krug for sharing information on this dating to me.

²² CIAS I 2 Louvain (1977) 601 and title page is/was in the collection of J. Pirenne and had only a dealer's provenance, »Zafar«. Pirenne dated this seal implausibly to the »6th century BC«.

²³ B. Vogt – A. de Maigret – J.-C. Roux, Die Grabsitten zu Zeiten der südarabischen Hochkultur, in: Katalog Wien 1998, 243. 363 no. 392.

²⁴ L. S. Dubin, The History of Beads (1987) bead chart no. 319, c. 330 BC from northern Pakistan.

Lab No.	Sample	14C age BP	Calibrated age 2σ	Probability
KIA 22169	bone collagen 4.7 mg C	1525 ± 30	525–604 CE	95.4 %
	bone remains 0.4 mg C	1545 ± 45		
KIA 22170	bone collagen 4.6 mg C	1600 ± 20	418–533 CE	95.4 %
	bone remains 1.6 mg C	1535 ± 25		

zg014–zg017, zg019), which suggest that less effort was given the graves (floor level: 2762.70 m versus 2763.71 m above mean sea level). There is no evidence for a development in the burial customs in this small excavated section of the burial site. The diagnostic finds and radiocarbon suggest a dating around the 2nd, 4th and 5th cent. CE for the cemetery, a time of polytheism in the general population. At the time of writing only these and the royal tomb z066 in al-Ġaḥw at the foot of the Ḥuṣn Raydān can be dated with any degree of certainty²⁵. Archaeological evidence for the burial of Jewish and Christian inhabitants has not yet come to light.

Stratigraphy provided a single relative dating in the cemetery. Tomb zg004 lay deeper than zg007, which itself was deep below the slope. The entrances lay mostly at the north end, but some such zg004 opened to the north-west. This conceivably could reflect chronology. Zg004 contained several fragmentary skeletons, which might reflect its sustained reuse and greater age. The asimuth of the tombs in zc001 do not correlate with the orientation of the large rock-cut tombs (zg066, zg211 etc.), the orientation of which was dictated by other, presumably practical factors.

The only excavated and published cemetery contemporary with zc001 was salvaged in Ṣan'ā'/Ṣā'ūb late in 1999 by GOAM and staff members of the DAI²⁶. The excavators suggest a dating in the 2nd–5th centuries CE for the graves on the strength of the small finds. Sha'ūb may well predate zc001. The two cemeteries share few similarities. The main difference is that most of the burials at Ṣā'ūb are in stone-slab coffins, which are heterogeneously oriented.

Identity of the Interred

Having been robbed, the tombs revealed limited information about their owners and builders. Most importantly, pottery is missing. Jewellery found therein does not awaken the thought of the poorest dwellers in the city. But the diminutive tombs sunk into the soil differ essentially from those cut into bedrock. Social classes mentioned in the Old South Arabian texts relating to the inhabitants of Naḡrān from the time of Christian domination cannot be identified. These include »slaves«, »freemen«, »landmen«, and »manual workers«²⁷.

P. Yule

CATALOGUE OF TOMBS AND GRAVES IN CEMETERY ZC001

TOMB ZG001 (Pl. 8)

Asimuth of the long axis: 188/388 gon (S–N)
Length of the chamber floor: 1.90 m
Breadth of the chamber floor: 2.20 m
Level of the chamber floor: 2763.60 m
Secondary burial: not determinable

Description of the Context

The presumed tomb entrance was visible during the first inspection of the site as a hole in the horizontal part of the slope.

The form of the entrance was unclear. The red tuff into which the tomb was sunk lost its cohesiveness and with the removal of the debris, parts of the roof caved in. The tomb was filled with dark brown earth and stones with a diameter of up to 50 cm. In addition, we encountered the surrounding rock of the chamber. A stratigraphy inside the tomb was not recognisable. The shape of the chamber could not be reconstructed with certainty since a large part of the original surface had caved in. The preserved red antique chamber wall seems to have been roughly rectangular in plan. At different heights the debris contained human skeletal remains, none of which were in anatomical order. An inclined shaft coming from tomb zg003 led through the eastern entrance wall of tomb zg001 into zg006 (see zg006).

Skeletal Remains: At least Four Individuals

Age: 1) 30–60; 2) 17–25; 3) 4–6; 4) 0–1 year
Sex: 1) male?; 2) female?; 3) and 4) not determinable
Position: not recognisable

Finds

1 Bead, green glass, in the debris of the chamber near the floor, lz 9
2 Pendant in the shape of a bell, gold, lz 19
3 Pottery sherd, belly fragment, lz 36
The tomb also contained the osteal remains of small and large ruminants.

M. Lange

TOMB ZG002 (Pl. 9)

Asimuth of the long axis: 200/400 gon (S–N)
Length of the entrance and chamber floor: 2.52 m

²⁵ P. Yule, Mapping Ḥimyarite Zafār, in: Leaving no Stones Unturned, Festschrift for D. P. Hansen (2002) 294 fig. 8; above on p. 7, for the dating.

²⁶ B. Vogt – I. Gerlach, Bericht über die Notgrabungen im Friedhof von Ṣā'ūb (Ṣan'ā'), in: ABADY 9 (2002) 185–226.

²⁷ N. Pigulewskaya, Byzanz auf den Wegen nach Indien, Berliner byzantinische Arbeiten 36 (1969) 231.

Breadth of the chamber floor: 1.54 m
 Level of the chamber floor: 2763.28–35 m
 Secondary burial: not determinable

Description of the Context

During the removal of the surface a semicircular clayey deposit was recognisable in the surrounding red tuff. To the north-west a further filled area came to light, which initially was interpreted as the entrance to tomb zg002. During the subsequent excavation it turned out in fact to be the entrance of tomb zg003. In order to determine the eastern border of the tomb, excavation expanded in this direction. Disturbances were apparent on the eastern side of the tomb (tombs zg016, 017, 018).

The debris in zg002 contained large broken stones and clayey layers with basaltic stone and reddish tuff. A clear stratigraphy was not recognisable. The tomb was poorly preserved, and the roof of the chamber as well as the southern border of the entrance shaft were not determinable. Zg002 appears to be a chamber tomb with vertical entrance shaft presumably at the north end as with the other tombs in the cemetery. The shaft is reconstructable as c. 1.05 m wide and 0.50 m long. It was sunk to a depth of 2765.11 m and the floor lay a further 1.75 m below this. The eastern chamber wall was formed by a straight wall. The south and western chamber walls joined in an arch above them. The upper portions of the chamber wall were missing.

Sherds of two ceramic vessels (lz 34) came to light. The debris contained human and non-human osteal remains. The human bones consist of at least two individuals.

Skeletal Remains: At least Two Individuals

Age: 1) adult; 2) 12–17 years
 Sex: 1) and 2) not determinable
 Position: not determinable

Finds

1 Cylinder, copper alloy, in jaw of the individual, lz 24
 2 Pottery sherd, x2, rim, belly sherd, lz 34
 The animal bones derive from small ruminants. Jaws and teeth occur disproportionately often.

C. Witzel

TOMB ZG003 (Pl. 10)
 Asmuth of the long axis: 183/383 gon (S/N)
 Length of the chamber floor: 1.40 m
 Breadth of the chamber floor: 1.40 m
 Level of the chamber floor: not determinable
 Secondary burial: not determinable

Description of the Context

In the slope a horizontal shaft was visible. We excavated to the bedrock and discovered the remains of a grave or tomb.

It was poorly preserved and the surrounding rock very unstable. Several times the excavation trenches caved in.

The tomb was dug into the dark red tuff. It was filled with gravel and earth from the slope. The probable tomb chamber was rectangular in shape and showed an unclear entrance to the north. In the western wall 1 m below the recent surface a trench (robber trench?) led to tomb zg001 and further downward to tomb zg006. This contributed to the general instability of the immediate area, which led to subsidences of the excavated walls.

Human and animal bones but no finds came to light in the debris.

Skeletal Remains: Two Individuals the Chronological

Order of Which is Unknown

Age: 1) >20 years; 2) >20 years
 Sex: 1) male; 2) not determinable
 Position: not determinable

M. Hofmann

TOMB ZG004 (Pl. 11)
 Asmuth of the long axis: 161/361 (SE–NW)
 Length of the chamber: 2.3 m
 Breadth of the chamber: 1.5 m
 Level of the floor: 2762.30 m (chamber), 2661.97 m (entrance way)
 Secondary burial: determinable

Description of the Context

In the slope a recently dug horizontal shaft was recognisable. The surrounding area was cleared and in plan soil discolourations were sought. In the south and in the lower portions the context was well preserved. Owing to the erosion and the building of tomb zg012 the northern part of the tomb was poorly preserved. As found, the roof had collapsed.

The tomb had a chamber rectangular in plan with an entrance way directed to the north-north-west. Tomb zg012 cut into the west wall. The tomb was filled with earth, stones, and blocks of tuff, which collapsed from the roof. Immediately before the chamber entrance lay a bundle of bones (individual 1). The remains of at least two individuals lay in secondary position in the south-east corner on the floor (individuals 3 and 4).

No finds came to light. Skeletal remains: at least five individuals from two concentrations of human bones as well as those from the debris.

Individual 1
 Age: >60 years
 Sex: female
 Position: not determinable

Individual 2
 Age: 20–80 years

Sex: male
Position: not determinable

Individual 3
Age: 20–80 years
Sex: male

Position: not determinable

Individual 4
Age: 20–80 years
Sex: not determinable
Position: not determinable

Individual 5
Age: 14–18 years
Sex: not determinable
Position: not determinable

M. Hofmann

GRAVE ZG005 (Pl. 14, 1)
Asmuth of the long axis: 190/390 gon (S–N)
Length of the chamber: 1.00 m
Breadth of the chamber: 0.80 m
Level of the chamber: 2764.93 m
Secondary burial: not determinable

Description of the Context

The shaft is located to the north-east of tomb zg018. During the course the removal of surface soil to the east of grave zg016, beneath the stones of a recent terrace wall, in the red tuff the south end of a debris filled area came to light. This context seems to be an outline of a narrow tomb chamber. The investigation was terminated owing to the instability of the surrounding soil, so that the entire form remains unknown.

C. Witzel

TOMB ZG006 (Pl. 12)
Asmuth of the long axis: 177/377 gon (SSE–NNW)
Length of the chamber floor: 2.30 m
Breadth of the chamber floor: 1.90 m
Level of the chamber floor: 2761.66 m
Secondary burial: not determinable

Description of the Context

During the course of the excavation of zg001 a labourer broke through the floor into the roof of zg006. As in the case of zg001 large fragments of the chamber vault collapsed. Only in the south-west corner the roof is intact. A shaft from tomb zg001, from zg003, or from both cut into this tomb.

What remains suggests a rectangularly formed chamber. As a result of the erosion of the slope, is the majority of the rectangular entrance also lost. Chamber and en-

trance contained dark brown earth, and contained broken stones with a diameter of up to 0.30 m. A stratigraphy was in the debris not recognisable. At different heights in the debris osteal material came to light. No other finds were made.

M. Lange

TOMB ZG007 (Pl. 13)
Asmuth of the long axis: 194/394 gon (S–N)
Length of the chamber floor: 2.00 m
Breadth of the chamber floor: 2.58 m
Level of the chamber floor: c. 2760.00 m
Secondary burial: not determinable
14C: see p. ###

Description of the Context

While excavating tomb zg004 we cut into the chamber of zg007. With the exception of the roof, which was disturbed by the building of zg004, the preservation of zg007 is good. The walls of the chamber were no longer solid, and during excavation 4–7 cm spalled off of them.

The rectangular form was, however, clearly recognisable. A c. 2 m long entrance way led into the chamber from the north slope. From the floor to the roof it measured 1 m. The chamber and entrance contained alternating layers of earth, tuff, and basalt gravel. These looser, more recent layers contrast with the lowest 10 cm, which consisted of a dense brown earthen sediment.

In the lowest debris level the foot sherds of two large clay vessels (lz 27) came to light, which contained ash (lz 46). Aside from these, a seal stone appeared (lz 49), in addition to human osteal remains which were not in situ. The lowest level of debris may be of antique origin, in contrast to the looser overburden.

Skeletal Remains: Remains of at least Four Individuals

Individual 1
Age: 20–40 years
Sex: male?
Position: not determinable

Individual 2
Age: adult
Sex: female?
Position: not determinable

Individual 3
Age: 1–3 years
Sex: not determinable
Position: not determinable

Individual 4
Age: 7–10 years
Sex: not determinable
Position: not determinable

Finds

- 1 Pottery sherd, on floor, lz 27
 2 Seal stone, annular, black agate with white bands, 10 cm above the floor, lz 49

M. Hofmann

GRAVE ZG008 (Pl. 14, 2)

Asmuth of the long axis: 22/223 gon (SSW–NNE)

Length of the chamber: >1.64 m

Breadth of the chamber: 0.68 m

Level of the chamber: 2763.86 m

Secondary burial: not determinable

Description of the Context

While removing surface soil below a collapsed recent terrace wall in the red tuff, a trench filled with debris became noticeable. First only the south-east corner was recognisable.

At the same level a fragmented skull came to light in the debris west of this corner. Beneath the level of the skull the shape of the chamber became evident. It is highly likely that the context is a narrow tomb chamber. The north end is badly eroded. 26 cm beneath the northernmost end of the shaft an inclined north-east – south-west oriented floor was evident. The remaining parts of the chamber contained loose soil. This debris extended south into the native soil. Owing to the lack of stability of the surrounding soil, the excavation was terminated.

In addition to human and non-human osteal remains, a small ceramic belly sherd (lz 38) occurred. The animal bones belonged to a large animal.

Skeletal Remains

Age: 30–50 years

Sex: male

Position: cranium without mandible, eyes directed to the north

Find

Pottery sherd, in the debris of the entrance shaft, lz 38

C. Witzel

POSSIBLE TOMB ZG009 (Pl. 15, 1)

Asmuth of the long axis: 55/255 gon (NE–SW)

Length of the chamber floor: c. 1.40 m

Breadth of the chamber floor: not determinable

Level of the chamber floor: not determinable

Secondary burial: not determinable

Description of the Context

The form of this poorly preserved context is hardly recognisable as a tomb. The eastern part is eroded away and the southern part was not excavated, owing to the instability of the surrounding soil. From the chamber 1.30 m was

traceable and excavated. The floor was not observed. To a height of c. 0.50 m the north wall is clearly in evidence, its upper reaches are eroded away. The interpretation of this context is not certain, and possibly it represents the remains of the entrance ways of either tomb zg002 or zg017. Neither finds nor human bones came to light.

M. Hofmann

TOMB ZG010 (Pl. 15, 2)

Asmuth of the long axis: not determinable (c. S–N)

Length of the chamber floor: >1.40 m

Breadth of the chamber floor: 1.70 m

Level of the chamber floor: 2764.90 m

Secondary burial: not determinable

Description of the Context

This chamber collapsed during the excavation of zg001, which lay directly below it. Part of the floor, the north-east and south-west walls were preserved. The roof was destroyed as a result of the erosion or a robber's trench dug into it.

Position just above zg001 and slight to its north-east, exact shape of the chamber is unclear. To judge from the neighbouring zg001, it may have been a squarish chamber with an entrance to the north. The latter was not in evidence and presumably was eroded away.

Neither anthropogenic finds nor osteal remains occurred.

P. Yule

GRAVE ZG011 (Pl. 16, 1)

Asmuth of the long axis: 177/377 gon (SSE–NNW)

Length of the chamber floor: 1.80 m

Breadth of the chamber floor: 0.74 m

Level of the chamber floor: 2762.74 m

Secondary burial: not determinable

Description of the Context

During the course of the planing of the step trench the context became visible in profile. The south and west parts of the tomb were badly eroded and filled with the stone and soil from the slope. On the level of the interment the tomb outline was readily recognisable and well preserved. The tomb is imbedded in the dark red tuff. Debris consisted of brown slightly humous soil with a strong proportion of the neighbouring surface soil, as well as smaller stones with a diameter of 1 to 8 cm. West of the skeleton lay some larger stones, which were in part the debris from the adjacent zg013. Directly beneath the skeleton lay a 8–10 cm thick layer of loose dark red tuff mixed with iron pellets, usual to the area. Beneath this we encountered a layer of brown earth with fine tuff fragments. Grave zg011 cut into zg013, thus postdating the latter.

The burial chamber was rectangular with rounded corners. A height from 0.95 m was observable only in its south-west corner. The rest of the chamber was eroded. The original entrance was not recognisable.

The sole surviving grave good was a single bivalve (lz 44), which lay 1 cm south-east of the skull on the burial platform.

Skeletal Remains

Age: 35–50 years

Sex: male

Position: extended in dorsal position, hands both on the left half of the pelvis, left arm above the right, right arm angled slightly more than the left, eyes directed to the east, perhaps not in its original burial posture. Legs slightly contracted with the knees to the west.

Find

Bivalve, lz 44

M. Hofmann

TOMB ZG012 (Pl. 16, 2)

Asmuth of the long axis: 166/366 gon (SSE–NNW)

Length of the chamber floor: 2.20 m

Breadth of the chamber floor: 0.96 m

Level of the chamber floor: 2762.27 m

Secondary burial: determinable

Description of the Context

zg012 came to light during the clearing off of the uppermost surface of the cemetery. Three of the walls, the floor and the roof were nearly completely extant. But in the north front surface, parts of the roof were missing. The entrance to the chamber lay to the north on the slope side. The tomb was filled with the reddish white local soil in which consistently broken stones of this same material. The face of the skeleton was badly fragmented, as opposed to the rest of the skull. Only the left side of the mandible was provided. The entire remains at chest height were not preserved. The pelvis, femurs, tibiae, and fibulae were fragmented, but still lay in situ. The left foot was missing and two bones of the right foot were preserved. At the south end of the tomb slightly above the level of the floor, further osteal human remains occurred. Skull sherds and parts of humerus were in evidence. These belonged to a second individual. In the fill of the tomb two lower vertebrae occurred which could not be attributed to either individual.

The ground plan is rectangular and the north and south sides are short.

Skeletal remains: order of the burials, first 2 then 1

Age: 1) 40–60 years; 2) 20–40 years

Sex: 1) female; 2) not determinable

Position: 1) extended, skull lay to the south on the left side, glance to the west; 2) scattered, not determinable

Find

A cylinder of copper/bronze (lz 24) adhered to the roof of the mouth.

M. Lange

TOMB ZG013 (Pl. 17)

Asmuth of the long axis: 191/391 gon (S–N)

Length of the chamber floor: 2.00 m

Breadth of the chamber floor: 2.05 m

Level of the chamber floor: 2761.60 m

Secondary burial: not determinable

Description of the Context

This tomb was discovered while deepening the step-trench. The chamber is well-preserved, and the antique surface of the tomb readily recognisable. As discovered, the roof of the chamber was readily preserved. The floor of the chamber and of the entrance were preserved. They were filled with a red and white tuff soil. These were mixed with tuff and basalt stones of varying size. Unfortunately the upper part of the entrance way, including the presumed roof, was lost owing to erosion.

The level of the entrance lay 30 cm below that of the chamber. The former is 30 cm wider than the entrance itself to the chamber. The middle of the northern chamber wall was accessed. In its plan the chamber is square, and the entrance way is rectangular.

In the south-west of the chamber on the floor an iron knife (lz 28) came to light presumably in secondary position. A grip was clearly in evidence in the form of decomposed wood. It could not be salvaged intact. A sherd of blue glass (lz 30) occurred in the entrance way of the debris. Also in the debris human and animal bones were found. None of the bones were in their original position. The skeletal remains are fragmentary, not necessarily representative, and consist of at least one individual.

Skeletal Remains

Age: adult

Sex: probably male

Position: not determinable

Finds

1 Knife, iron, floor, lz 28

2 Glass sherd, floor, lz 30

M. Lange

GRAVE ZG014 (Pl. 18, 1)

Asmuth of the long axis: 186/386 gon (SSE/NNW)

Length of the chamber floor: >1.63 m

Breadth of the chamber floor: 0.58 m
 Level of the chamber floor: 2762.17 m
 Secondary burial: not determinable

Description of the Context

While levelling the step trench, this context came to light. Its south wall is completely preserved, but the east and west walls are only preserved at the south end. On the slope side the walls reach about half of their original height; the rest having been destroyed by the soil erosion. The floor was preserved in its entirety, as opposed to the lack of a roof. But a slight inward curve at the top of the south wall gave indication of the height of the roof at 0.70 m.

The plan shows a narrow rectangular chamber. The debris consisted of dark brown earth and small basaltic gravel from the immediate area.

Neither finds nor human skeletal remains were in evidence.

M. Lange

GRAVE ZG015 (Pl. 18, 2)
 Asmuth of the long axis: c. 190/390 gon (SSE–NNW)
 Length of the chamber floor: >1.60 m
 Breadth of the chamber floor: 0.75 m
 Level of the chamber floor: 2763.05 m
 Secondary burial: not determinable

Description of the Context

This grave came to light while planing the first step of the step trench. While the south wall was completely preserved, the eastern and western ones were preserved to a lesser height as a result of the slope erosion to the north. The entire floor of the chamber is preserved. No entrance way was in evidence. A roof was not preserved, probably as a result of the slope erosion. The grave was poorly preserved.

The grave is in plan rectangular, and the northern and southern ends were narrow. Dark brown earth and basaltic gravel debris filled the chamber, which leaked in from the slope above. Neither finds nor osteal remains were in evidence.

M. Lange

GRAVE ZG016 (Pl. 19, 1)
 Asmuth of the long axis: 212/12 gon (S–N)
 Length of the chamber floor: >2.10 m reconstructed
 Breadth of the chamber floor: 0.63 m
 Level of the chamber floor: 2764.71 m
 Secondary burial extant

Description of the Context

While determining the position of the entrance shaft of tomb zg002 on its eastern side, a reddish soil deposit ex-

tending to the north came to light, which lay parallel to it. Further excavation revealed a disturbed burial inside. The western side of the grave was disturbed by the building of tomb zg002; the southern by those of zg017 and zg018. Below the burial 50 cm of debris earth was clearly visible. This deposit was removed, and no finds were made.

This context is not a fully developed grave but rather seems to be a more modest narrow one. Difficult to explain is the heavy layer of earth below the skeleton, not to mention the presence of a second partial skeleton. At the north end the grave pit seems to narrow, but is not completely excavated. It cuts through the red tuff, narrowing from 40 cm in diameter to 30 cm. It opens above and to the west of grave zg005. Owing to the danger of collapse, the excavation terminated before the entire context was unearthed.

Grave goods were not in evidence. Osteal remains derived from small mammals.

Skeletal Remains

Age: 1) 14–16 years; 2) 1–2 years

Sex: 1) and 2) not determinable

Position: 1) the head was missing, but the remaining bones showed that the head originally lay to the south; 2) not determinable

C. Witzel

TOMB ZG017 (Pl. 19, 2)

Asmuth of the long axis: not determinable

Length of the chamber floor: not completely excavated

Breadth of the chamber floor: not completely excavated

Level of the chamber floor: 2765.00 m reconstructed

Secondary burial not determinable

Description of the Context

During the removal of earth east of tomb zg002, two large broken stones lay on an earthen floor. A floor terminated to the south in which direction it slanted downward. Further to the south at the same height, recognisable from a vertical eastern wall and a corresponding western one were the remains of what once was a tomb floor. The remaining parts of the floor collapsed into tomb zg018, which lies below it. To the south, the tomb is bordered by a vertically excavated and filled robbers trench.

Tomb zg017 is badly disturbed as a result of the building of adjacent tombs and by the activities of tomb robbing. The extant building remains belong to a chamber entrance in the north. Only its eastern wall of the entrance is preserved. The entrance must have been at least 90 cm wide. At the end of the entrance area a disturbance is manifest. But the eastern wall is also partly preserved. It shows a shallow corner 17 cm from the entrance, which continues in a straight line to the border of the excavation to the south. At the northern end the distance between the east

and west chamber walls amounts to 66 cm. To the south it measures 48 cm.

Neither anthropogenic finds nor osteal remains came to light.

C. Witzel

TOMB ZG018 (Pl. 20)

Asmuth of the long axis: not determinable

Length of the chamber floor: not completely excavated

Breadth of the chamber floor: not completely excavated

Level of the chamber floor: 2763.67 m

Secondary burial not determinable

Description of the Context

Directly below the destroyed floor of tomb zg017 a rock and earth-filled loamy area came to light. This extended to the south-east part of tomb zg002, c. 20 cm above the floor level of the latter. To the north-east, the end of a horizontal tunnel became evident (see below). In light of the height of the adjacent excavation walls, time did not allow the completion of this investigation.

Zg018 represents the remains of a burial chamber and the remains of its entrance way to the north-east. At the floor level, the latter was 0.70 m wide and c. 0.80 m high. The roof was arched. Only the chamber walls to the east and north were clearly visible. The chamber floor was cut

into the ochre-coloured tuff. To the west, cut by tomb zg002, no chamber wall was preserved. The collapsed material does not support the presumption that a wall existed here, or whether this was thin and collapsed anciently together with the roof. To the south, zg018 is cut by the robber shaft, which led to zg017, positioned above it. In this complex of overlapping tombs and robber shafts the attribution of the different contexts is not always clear: The entrance shaft of tomb zg005 may well have been part of the chamber of zg018.

Neither anthropogenic finds nor osteal remains were in evidence.

C. Witzel

GRAVE ZG019 (Pl. 20)

Asmuth of the long axis: 170/370 gon (SSE–NNW)

Length of the chamber floor: >1.70 m

Breadth of the chamber floor: 0.60 m

Level of the chamber floor: 2762.90 m

Secondary burial not determinable

Description of the Context

Zg019 is poorly preserved. It came to light while investigating Grave zg011. Zg011 cut into the northern part of this context. An erosion gully destroyed its southern end at a time when this part of the tomb was exposed. East

Table 2 Summary Description of the Tombs in zc001

Tomb Number	Tomb	Narrow Grave	Form Uncertain	L x B x H (m)	Asmuth of Long Axis
zg001	x			1.90 x 2.05 x 0.90	S–N
zg002	x			2.52 x 1.54 x >1.75	S–N
zg003			x	1.40 x 1.40 x ?	S–N
zg004	x			2.30 x 1.50 x 0.90	SE–NW
zg005		x		1.30 x 0.80 x >0.90	S–N
zg006	x			2.30 x 1.90 x 0.85	SSE–NNW
zg007	x			2.00 x 2.58 x 1.10	S–N
zg008		x		>1.64 x 0.68 x ?	SSW–NNE
zg009			x	1.40 x ? x ?	NE–SW
zg010	x			>1.40 x 1.70 x ?	c S–N
zg011		x		1.80 x 0.74 x 0.96	SSE–NNW
zg012				2.20 x 0.96 x 1.60	SSE–NNW
zg013	x			2.00 x 2.05 x 1.30	S–N
zg014		x		>1.63 x 0.58 x 0.90	SSE–NNW
zg015		x		>1.60 x 0.75 x ?	SSE–NNW
zg016		x		>2.10 x 0.63 x ?	S–N
zg017			x	? x ? x ?	not determinated
zg018			x	? x ? x ?	not determinated
zg019		x		>1.70 x 0.60 x ?	SSE–NNW

and west walls were fragmentarily preserved. Neither their height nor that of the roof were reconstructable, as is the case with the length of the floor.

The grave seems to have been a narrow rectangle in plan with the long walls to the east and west. Its northern half was filled with an orange-coloured tuff. In the southern part this consisted of dark brown earth and basaltic gravel from the immediate eroded slope area.

Anthropogenic finds did not come to light. In the northern part approximately 0.20 m above the chamber floor tibiae and fibulae of a man were in evidence. Further bones came to light in the chamber debris.

Skeletal Remains

Age: 20–40 years

Sex: male?

Position: legs extended in dorsal position

M. Lange

FINDS FROM THE SURFACE OF CEMETERY ZC001

1 Pottery sherd, x2, lz 32

2 Pottery sherd, above tomb zg004, lz 42

THE HUMAN SKELETAL REMAINS

INTRODUCTION

During the course of the campaign in 2000 our team investigated 19 tombs/graves either partially or completely. As explained above, resources did not allow a full investigation of the cemetery. Human and animal bones came to light in the debris inside the tombs and their entrances. The scattering of the osteal remains results from the activity of tomb robbers, the heavy erosion, and the subsequent agricultural use of the slope. Only in a single case (grave zg011) did an undisturbed burial occur. Three further tombs contained incomplete skeletons with the remains consisting of bones in partial anatomical articulation (zg012, 016, and 019). One tomb contained two accumulations of bones of which at least the first only consists of a single individual (zg004), which appears to have been reburied. Human and animal bones were mixed. The second accumulation of human bones represents at least three individuals. Two further tombs contained presumably intentionally isolated crania (zg008 and zg019). In the burial chamber of tomb zg001 near the entrance large parts of a cranial vault came to light, which did

not fit with the postcranial elements in the remaining debris. Also here an intentional deposition of bones comes to mind. Finally, seven tombs contained no bones at all (zg005, 009, 014, 015, 017, and 018).

The upper layers of soil in the cemetery contained primarily animal bones. The few human bones, which occurred here do not appear in the evaluation since they cannot be attributed with certainty to the primary use of the cemetery.

The deeper red soil was of volcanic origin and contrasts with the clear alternating layers of compacted volcanic ash. An upper layer of soil is clayey.

Generally, the human bones were poorly preserved. Most of the cranial and long bones, as well as the cancellous parts were fragmentary. The soil contributed to the poor condition of the osteal remains. Mineral accretions adhered to the bones in such a manner that they could not be removed by washing with water. Thus, only a rough mechanical cleaning was possible.

The author salvaged the skeletons and their remains. Characteristics of sex and age were diagnosed during such operations, which otherwise might have been lost. For the same reason the author measured complete but fragmented long bones in situ, in order to enable a reconstruction of the stature of the individuals. Human and animal bones, which occurred in the debris, were salvaged and later separated at the site museum. He separated the human bones according to kind and to the respective side of the body. Morphological criteria for age and sex were recorded. The morphodiagnostic criteria used are those of Ferembach et al.²⁸ The stature of the individuals were reconstructed by means of the formulas of Trotter and Gleser²⁹.

Inasmuch as fragmentary and incomplete material only in exceptional cases allow a secure identification to a particular individual, all of the human bones found in a tomb were examined for indications that more than one individual might exist. Such include, for example, the occurrence of paired elements or clear differences in the age of bones or

²⁸ D. Ferembach – M. Stoukal – I. Schwidetzky, Empfehlungen für die Alters- und Geschlechtsdiagnose am Skelett, *Homo* 32, 1979, 1–32.

²⁹ M. Trotter – G. C. Gleser, Estimation of Stature from Long Bones of American Whites and Negroes, *American Journal of Physical Anthropology* 10, 1952, 463–514.

groups of bones. In this way for each tomb a minimal number of individuals (MNI) could be determined. In the case of disarticulated skeletons, the exact number of individuals may in fact have been higher. Theoretically more individuals may have been buried than indicated by the individual bones found. By means of morphological comparison of corresponding bones of the right and left sides of the body and of fragments, which fit together, the number of individuals per tomb was reduced. For the analysis, bones, which clearly were not associatable, however, do not contradict the hypothesis that they derive from the same individual. This assumption seems adequate if one keeps in mind the size and kind of tombs, which we studied.

RESULTS

A. Demographic Distribution

In all the remains of 27 individuals (MNI) came to light. These include 19 adults (10 male, 3 female, 6 sex not determinable) as well as 8 immature individuals. The adults include individuals who died before reaching 40 years as well as those older than 60. The immature individuals fall into the following categories:

Juvenis (13 to 19 years): 3 individuals

Infans II (7 to 12 years): 2 individuals

Infans I (0 to 6 years): 3 individuals

The existence of all of the mortality classes including both sexes indicates that this cemetery repre-

sents the average population of a settlement. Also within the different tombs no special concentrations are recognisable. In the larger chamber tombs the bones of adult males, females as well as those of children appeared together. This may be taken as indication of a family burial.

B. Reconstruction of Stature

Only three individuals were sufficiently preserved that measurements of the long bones could be taken (see table 3).

C. Measurements of Skulls and the Skull Typology

For preservation reasons few skulls yielded dimensions. Thus these are not necessarily representative and do not support an evaluation. However, typologically they in fact do belong to the gracile Mediterranean group. Although all of the skulls were fragmented, and a reconstruction owing to the deformation resulting from the pressure of the overburden rarely was possible, a tendency toward long relatively small skulls with gracile contours was evident.

D. Non-metric Traits

Owing to the poor preservation only rarely was it possible to identify epigenetic characteristics. But evident was a relatively high frequency of ossicles at bregma and lambda in the skull sutures.

Table 3 Skeletons from Zafar zc001, which were measured

Bones	Side	zg004 (individual 1)	zg011	zg012 (individual 1)
Humerus	left		32.0 cm	
	right		32.5 cm	
Femur	left		45.5 cm	41.5 cm
	right		45.8 cm	41.0 cm
Tibia	left	34.0 cm		
	right	34.2 cm	36.8 cm	
	calculated	160.7 cm	170.4 cm	155.4 cm
	stature	+/- 4.1 cm	+/- 3.1 cm	+/- 3.7 cm

E. Condition of the Teeth

In cases whereby loose teeth occurred in a tomb, these were assumed to belong to the individual buried in the tomb unless other characteristics contradicted this (see introduction). The evaluation identified 10 individuals. The small size of this corpus limits possibilities for interpretation.

Tooth abrasion increases with increasing age of the individual. Only individuals whose age at death was greater than 40 years evidenced dental wear (stage 4).

Only four of the 10 individuals evidenced caries. Caries influences the ante mortem loss of teeth. In cases of advanced caries the pulpa of the tooth becomes exposed and bacterial can penetrate the roots thereby causing ante mortem tooth loss. Diets rich in carbohydrates contribute to this process³⁰. In the series under study 11 cases of ante mortem tooth loss were observed and three of the seven cases of caries (42.9%) the pulpa chamber was exposed. From these data result a corrected caries frequency of 11.6%³¹. The skeletons under study in cemetery zc001 evidence no essential increase in caries when one connects the presumed tooth loss as a result of caries. As a result of the small sample, the nutrition of the population cannot be determined.

Six of the 10 individuals suffered from plaque accretions, usually of a minor nature.

F. Degenerative Manifestations

With exception of the 60+ year old woman from tomb zg004, no individual suffered from degenerative symptoms. Young adults showed little or only incipient joint wear. The results correspond to those that one would expect as a function of age. The individuals studied showed no characteristic indications of physical bodily stress, which would have precipitated degenerative sicknesses in early years.

G. Miscellaneous other Pathological Findings

Neither bone fractures nor other afflictions were diagnosed, but for a single exception. An individual from zg001 suffered from a fracture of the sagittal suture, which could have arisen from a blow or a fall on the head.

CATALOGUE AND EVALUATION OF SKELETAL REMAINS

TOMB ZG001

Find numbers: 1, 4, 9, 19

Minimum number of individuals: 4

Remarks: burial not in situ

Individual 1

a. Bones Found

- Fragmentary cranial vault; mostly parts of the frontal, parietal, and occipital bone (fragments, which partly joined with each other, other parts, which are under-represented or lacking)
- Teeth: 36, 41 and 42 (isolated without jaw, could also belong to individual 2)
- Ossified thyroid cartilage
- Fragments of a right scapula and a few fragments of long bones

b. Estimation of Age

- The ectocranial sections of the coronary suture are clearly visible, whereas the corresponding endocranial sections of the coronal suture are closed
 - Endo- and ectocranial sections of the sagittal suture are closed (except section S1 here Ossicles)
 - Ossified thyroid cartilage
- Estimate: 30 to 60 years old
 Contradiction here owing to the minimum of abrasion (1st and 2nd degree) of the teeth

c. Estimation of Sex

- Eye orbits rounded
 - Marked slope of forehead
 - Frontal and parietal tuber little marked
- Estimate: tendency male

d. Remarks

- Ossicle at bregma
- The nasal bone is long, prominent, and robust
- A large, deeply imbedded Pacchionic granulation on both sides of the sagittal suture
- In the area of the suture S2 a light impression ectocranially, and a Y-shaped break on the right parietal bone as well as an old downward radiating fracture line on the left parietal, endocranially, the lamina interna is slightly raised and part of it is missing. This corresponds to

³⁰ For example, M. Schultz, *Umwelt und Krankheit des vor- und frühgeschichtlichen Menschen*, in: H. Wendt – N. Loacker (eds.), *Kindlers Enzyklopädie der Mensch* 2 (1982) 259–312.

³¹ For the method cf. G. C. Nelsen – J. R. Lukacs – P. Yule, *Dates, Caries, and Early Tooth Loss during the Late Iron Age of Oman*, *American Journal of Physical Anthropology* 108, 1999, 333–343.

what one would expect from an injury resulting from a blow or fall. No indication of healing.

Individual 2

a. Bones Found

- Vertebrae and thorax fragments; C4 or 5, C7, T2, T3, T?, L? Further vertebral fragments as well as rib and manubrium fragments
- Long bone fragments; left femur, tibia left as well as other small fragments also of other long bones
- Pelvic fragments: right ischium, right pubic bone as well as non specific fragments
- A few hand bones

b. Estimation of Age

- Covering plates of the vertebral bodies not joined; missing
 - Pubic symphysis: stage 1
 - Epiphyseal line on the left femoral head still visible
- Estimate: 17 to 22 years

c. Estimation of Sex

- Very gracile constitution
- Estimate: tendency female

Individual 3

a. Bones Found

- Germ of an upper permanent molar
- Thoracic fragments; sternal right clavicle, ribs
- Few non-identifiable fragments

b. Estimation of Age

Crown of a permanent premolar, completely formed, no sign of root formation
Estimate: 4 to 6 years
The other bones correspond to this stage of development.

c. Estimation of Sex

Not determinable

Individual 4

a. Bones Found

Germ of a first deciduous molar

b. Estimation of Age

Crown of a deciduous molar completely formed, no sign of root formation
Estimate: 0 to 1 year

c. Estimation of Sex

Not determinable

TOMB ZG002

Find numbers: 2, 10 and 12

Minimum number of individuals: 2

Remarks: burial not in situ

Individual 1

a. Bones Found

- Right talus
- Fragment left radius
- Distal fragment of the metacarpus V
- Fragment of occipital bone
(– Humerus fragment and 2 skull fragments not clearly human)

b. Estimation of Age

- Characteristics of maturity
- Estimate: adult, older than 20 years

c. Estimation of Sex

- No diagnostic characteristics
- Estimate: not determinable

Individual 2

a. Bones Found

- Lesser trochanter
- Part of the corpus sterni
- Pelvic fragments
(– Rib fragments not clearly human)

b. Estimation of Age

- Characteristics of maturity
 - Lesser trochanter isolated, epiphysis open
 - Sternebrae not fused
- Estimate: 12 to 17 years

c. Estimation of Sex

No diagnostic characteristics
Estimate: not determinable

TOMB ZG003

Find numbers: 7

Minimum number of individuals: 2

Remarks: burial not in situ

a. Bones Found

- Right calcaneus (morphodiagnostically individual 1)
- Fragment of a left ilium (morphodiagnostically individual 1)
- 4 Fragments of a left fibula (fragments join with each other, nearly complete; morphologically individual 1)
- Fragment of a further left fibula (morphodiagnostically individual 2)
- Fragment of a left os temporal bone (individual attribution not possible)
- Fragment of an os parietal bone (side not determinable; individual attribution not possible)
- (– Unspecified long bone fragments, not clearly human, individual attribution not possible)

b. Estimation of Age

- All bones found correspond to the maturity of an adult

Estimate: Individual 1 older than 20 years

Individual 2 older than 20 years

c. Estimation of Sex

- Pelvic bone: pre-auricular sulcus, arc composé
- Calcaneus right and fragmented left fibula, large and robust

Estimate: Individual 1 possibly male

- Remaining bones with indifferent characteristics

Estimate: Individual 2 not determinable

TOMB ZG004

Find numbers: 13, 29, and 31

Minimum number of individuals: 5

Remarks: burial not in situ, human remains from 2 concentrations of bones and from the debris of the chamber

Individual 1

a. Bones Found

- Nearly complete fragmented cranium
- Complete fragmented mandible
- Left and right tibia complete
- Fragments of further long bones (left humerus), (right humerus from the debris), right ulna, left and right femur, right fibula)
- Right clavicle complete
- Left and right scapulae fragmented, incomplete
- Atlas, axis C4, C5, T1, T2, T3 complete and vertebrae fragments from all of the remaining areas
- Rib fragments
- Pelvic fragments (large fragments right side)
- 2 fragments of the left pelvis
- 31 hand bones (all areas both sides)
- Talus and calcaneus left as well as 11 further foot bones (all areas both sides except the distal phalanges)

b. Estimation of Age

- Pubic symphysis on both sides stage IV
- Closure of the cranial sutures stage IV

Estimate: 60+ years

Other evidence (several ante mortem tooth loss with resorption of the alveolar bone, partly severe tooth abrasion as well as advanced degenerative manifestations on nearly all determinable joints) support this result

c. Estimation of Sex

- Determinable pelvic characteristics characteristically female (exception: ischiadic tubur: robust)
- Supraorbital ridges particularly female
- Mastoid process female
- Supraorbital rim, frontal and parietal eminences and gonial angle indifferent

- Supramastoid ridge, zygomatic, general appearance of the mandible and mentum more male

Estimate: female

d. Remarks

- Middle to advanced arthritic alterations in all parts of the spine (atlas and axis slightly altered)
- Light to middle arthritic alterations in the large joints (elbow without arthritic alterations, only the distal right humerus preserved)
- Squatting facettes on the tibia on both sides
- All of the bones studied occurred in a concentration in the entrance area and were mixed with animal bones (exception: diaphysis left humerus occurred in the debris, good morphological correspondence with the right humerus)

Further Individuals

a. Bones Found

Second concentration of bones

- Fragment of the epiphysis of the right humerus and distal third of the diaphysis
- Fragmentary of left femur without column and proximal epiphysis (morphologically plausible correspondence with a fragmentary right femur distal from the debris)
- Fragment of left femur without the distal half
- Fragment right tibia without proximal epiphysis (morphologically plausible epiphysis and proximal quarter of the diaphysis)
- Fragmentary left tibia without proximal epiphysis and proximal quarter of diaphysis (morphologically plausible correspondence with the right tibia fragment without the proximal epiphysis)
- Fragment of the tibia diaphysis without the proximal half
- Fragment of the right fibula without the proximal half
- Fragment of the left fibula without the proximal half
- Fragment of the left metatarsus III without distal epiphysis
- Fragment of a long bone diaphysis non specific

Bones from the debris

- 4 fragments of a frontal bone (which join, left part missing)
- Cranial fragment
- Basilar portion of a sphenoid bone
- Teeth 14 and 16
- Fragment of a right radius diaphysis distal quarter
- Fragment of a right ulna proximal epiphysis and distal quarter diaphysis
- Fragment of a right ulna ephiphyse and distal quarter diaphysis
- Fragment of a left radius ephiphyse
- Fragment of a right femur diastal epiphysis (morphologically plausible correspondence with a fragmentary left femur without collum and proximal epiphysis)

- Fragment of a right femur diaphysis distal third (very gracile, developmental stage: juvenis)
- Fragment of a left tibia distal diaphysis and parts of distal diaphysis
- Fragment of a left fibula distal diaphysis and parts of distal diaphysis
- Further small bones not identifiable by side or otherwise
- Long bone diaphysis fragments
- Fragment of unspecified vertebral arches
- Fragments of right ribs
- Fragment of ilium/ischium left
- Fragment of another ischium left
- Fragment of pubic bone, side not identifiable
- Fragment of metatarsus II left and metatarsus IV right without distal epiphysis

Because of the distal parts of a left tibia of an adult and the occurrence of bones of a juvenile the bones listed represent at least 4 individuals (+1 individual from the bone concentration in the entrance area)

b. Estimation of Age

Individual 2: adult older than 20 years

Individual 3: adult older than 20 years

Individual 4: adult older than 20 years

Individual 5: juvenis 12 to 17 years

c. Estimation of Sex

- Fragment ilium/ischium left, greater sciatic notch and arc composé male

Estimate: individual 2 male

- Fragment of another ischium left, robustness of ischial tuberosity more likely male

Estimate: individual 3 more likely male

Otherwise no elements with diagnostic characteristics

Estimate: individual 4 not determinable

individual 5 not determinable

TOMB ZG005

Find numbers: 8

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG006

Find numbers: 11

Minimum number of individuals: 1

Remarks: burial not in situ

a. Bones Found

Fragment of a distal or intermedial hand phalange, distal end

b. Estimation of Age

In their development the bones correspond to that of an adult

Estimate: adult >20 years

c. Estimation of Sex

Not determinable

d. Remarks

The only human bones in a concentration of animal bones

TOMB ZG007

Find numbers: 14 and 51

Minimum number of individuals: 4

Remarks: burial not in situ, ca. 10 cm above the level of the burial chamber a concentration of bones occurred, further bones came to light in the debris

a. Bones Found

Concentration of bones 10 cm above the floor of the tomb

- Fragment of a cranial vault
 - Fragment of a base of a skull
 - Fragmentary left and right femurs, proximal parts (right with femoral head)
 - Fragmentary left and right tibia
 - Proximal right radius
 - Fragmentary diaphysis of the right humerus
 - Fragmentary right scapula
 - Fragmentary left pelvis
 - 3 fragmentary vertebrae (lower thoracic and upper lumbar areas)
 - Fragment of a right proximal metacarpus II
- The preceding parts correspond to adult development.

- Cranial vault fragment
 - Crown from tooth 26
 - Distal fragments of a left and right femur
- The preceding parts correspond to infants I.

Bones from the debris of the burial chamber and entry area

- Mandible fragment (mentum with teeth 23 and 24)
 - 2 stray mandibular molars left (not more closely identifiable)
 - Fragment of a distal femur diaphysis (not identifiable as to the side)
 - Fragmentary left scapula
 - Fragments of a right pelvic half (which join with each other)
 - Fragmentary vertebrae (upper and lower thoracic and upper lumbar vertebrae)
 - A further left femoral head (much smaller)
- The preceding parts correspond to adult development.

- Bilateral femur fragments
 - Bilateral tibia fragments
 - Bilateral ischium, each slightly fragmented
 - Right ilium fragment
 - 8 metatarsal fragments
 - Proximal hand phalange fragments
- The preceding parts correspond to the development in infants II.

For the bones from the bone concentration and from the debris indications exist that a single individual is represented:

- Except for a smaller left femoral head (thus a further individual, no. 2) there are no double elements
- Articular facets of vertebral arches from the transition between the thoracic and lumbar areas of the spinal column fit together nicely
- Vertical diameter of the femoral heads fits bilaterally
- Good diagnostic correspondence of the proximal parts of the femurs

In addition two further individuals are identifiable.

b. Estimation of Age

Individual 1

- Dense spongiosa structure
- No and/or incipient degenerative manifestations

Estimate: 20 to 40 years

Individual 2

- From degree of maturity

Estimate: older than 20 years

Individual 3

- The maturity of the femur fragments
- The maturity of the tooth germ 26

Estimate: 1 to 3 years

Individual 4

- The maturity of the pelvis and general developmental grounds

Estimate: 7 to 10 years

c. Estimation of Sex

Individual 1

- General robustness

Estimate: tendency male

Individual 2

- Small femoral head

Estimate: tendency female

Individual 3

- No recognisable characteristics

Estimate: not determinable

Individual 4

- No recognisable characteristics

Estimate: not determinable

TOMB ZG008

Find numbers: 15 and 20

Minimum number of individuals: 1

Remarks: burial not in situ, skull in the tomb entrance, post-cranial fragments in the debris, find no. 20 consists of animal bones

a. Bones Found

- Skull essentially complete, fragmented, mandible missing

- Incomplete post-cranial fragments, left proximal ulna, bilateral scapula fragments, fragments of the left side of the pelvis, and a lumbar vertebral arch

b. Estimation of Age

- The endo- and ectocranial sagittal suture mostly closed
- Small fragments of the coronal and lambda sutures preserved, ectocranial ones clearly visible and endocranial ones at least the lambda suture closed
- Little tooth abrasion

Estimate: 30 to 50 years

c. Estimation of Sex

- Supramastoid ridge developed
- Mastoid process small, but clearly set off
- Zygomatic process robust
- Proximal ulna robust

Estimate: more likely male

TOMB ZG009

Find numbers: none

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG010

Find numbers: none

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG011

Find numbers: 11, 23, and 24

Minimum number of individuals: 1

Remarks: burial in situ

a. Bones Found

- Complete skull, fragmentary
- Complete mandible, fragmentary
- All long bones partially fragmented with a slight loss of substance
- Bilateral scapulae and clavicles fragmented with a loss of substance
- Ribs fragmentary with a major loss of substance
- C1 to T6 and L4 complete to slightly fragmented (remaining vertebrae badly fragmented with major loss of substance)
- Sacral fragment without the caudal part
- Pelvis bilaterally fragmented with a slight loss of substance (more on the right)
- Carpalia bilaterally complete through carpal and metacarpal bones
- Patellae bilaterally complete (but see remark)
- Tarsalia represented bilaterally mostly by tarsal and metatarsal bones (left talus and calcaneus missing)

b. Estimation of Age

- Spongiosa structure of the femur: stage II: suture closure: stage III
 - Irregular pattern of abrasion from slight to middle
 - Ante mortem tooth loss in the molar area
- Estimate: 35 to 45 years

c. Estimation of Sex

- All diagnostic pelvic fragments male to pronouncedly male
 - Zygomatic process and mentum pronouncedly male
 - Glabella, supraorbital rim, frontal and parietal eminences, supramastoid ridge, and mandible characteristically male
 - Mastoid process, external occipital protuberance and nuchal plane indifferent
 - Genial angle female
- Estimate: male

d. Remarks

- Ossicle at lambda
- Patella bipartita bilateral (small fragments of patellae missing, but lateroproximal edge with pseudoarthritic alteration)
- except for the osteophytes on the dens axis no further degenerative changes of the spinal column and major joints

TOMB ZG012

Find numbers: 22 and 26

Minimum number of individuals: 2

Remarks: remains of a burial in situ in addition to a few bones of a further individual at the foot-end of the burial chamber

Individual 1

a. Bones Found

- Skull vault, maxilla and mandible fragments, major loss of substance
- Fragments of the lumbar vertebrae and of the sacrum
- Bilateral pelvic fragments
- Bilateral femurs, badly fragmented with minor loss of substance
- Bilateral tibiae, badly fragmented with major loss of substance
- Few carpal or tarsal bones, fragmented

b. Estimation of Age

- Pubic symphysis: stage IV
 - Marked sloping tooth abrasion
 - To the extent determinable, no ante mortem tooth loss and only slight degenerative manifestations
- Estimate: 40 to 60 years

c. Estimation of Sex

- Ischial tuberosity, ventral arch, and ridge formation on the pubic bone are markedly female

- Mastoid process and supramastoid ridge female

Estimate: female

d. Remarks

- Minimal arthritic alterations on the pelvic joints (other large joints and the spinal column not determinable)
- The bones preserved lay essentially in their correct anatomical position

Individual 2

a. Bones Found

- Fragments of frontal, temporal, and maxilla
- 2 fragments of a right humerus
- Small fragments of bilateral fibulae

b. Age diagnose

- The bones and teeth correspond in their degree of development an adult
 - Abrasion of the extant teeth minimal
- Estimate: 20 to 40 years

c. Estimation of Sex

- Insufficient diagnostic characteristics
- Estimate: not determinable

d. Remarks

- The bones of individual 2 lay at the end of the tomb occupied by the feet. The postcranial bones may include some of those of individual 1, while the cranial ones certainly belong to a second individual.

TOMB ZG013

Find numbers: 17 (above spit 1) and 21 (below spit 1)

Minimum number of individuals: 1

Remarks: burial not in situ

a. Bones Found

- 4 fragments of a right pelvic bone (2 certain joins, the other 2 probable)
- 11 fragments of a left pelvis (6 certainly join and the others probable)
- See »remarks«

b. Estimation of Age

- All of the extant bones correspond in their development to an adult
- Estimate: adult >20 years

c. Estimation of Sex

- Left pelvis: small preauricular sulcus, ischial tuberosity robust, arc composé
- Estimate: more likely male

d. Remarks

The area anterior-superior iliac spine and anterior parts of the acetabulums manifest morphodiagnostic correspondences between right and left

Estimate: very probably one individual

TOMB ZG014

Find numbers: 18 and 25

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG015

Find numbers: none

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG016

Find numbers: 5

Minimum number of individuals: 2

Remarks: remains of a burial in situ and bones of a second individual in the debris

Individual 1

a. Bones Found

- Distal fragment of a right humerus
- Proximal fragment of an epiphysis, diaphysis of a right radius and ulna, and a distal epiphysis of the right radius
- Diaphysis fragments of the right radius and ulna
- Few ossa carpalia of both sides
- Bilateral pelvic fragments
- Bilateral fragments of femur diaphysis, left with proximal epiphysis
- Bilateral tibia fragments without proximal epiphysis
- Bilateral fragments of fibula diaphysis, the left one with distal epiphysis
- Bilateral tarsal fragments without phalanges

b. Estimation of Age

- Epiphysis of the distal radius, femoral head, greater and lesser trochanter, distal tibia, distal fibula, iliac crest and covering plates of the vertebral bodies completely developed but not fused
- Epiphysis sutures of the elbows partly and completely fused

Estimate: 14 to 16 years

c. Estimation of Sex

- No diagnostic characteristics

Estimate: not determinable

d. Remarks

- Both femurs manifest a hypotrochanteric groove

Individual 2

a. Bones Found

- 1 lumbar vertebral arch
- Fragment of a column and right femur diaphysis
- Fragments of a right distal femur epiphysis
- Fragments of bilateral tibia diaphysis

b. Estimation of Age

- General degree of development

Estimate: 1 to 2 years

c. Estimation of Sex

- No diagnostic characteristics

Estimate: not determinable

TOMB ZG017

Find numbers: none

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG018

Find numbers: none

Minimum number of individuals: 0

Remarks: no human bones

TOMB ZG019

Find numbers: 23, 47, and 48

Minimum number of individuals: 2

Remarks: only the calves of one burial occurred in situ, further cranial and postcranial fragments in the debris, complete fragmented cranium in the transitional zone to zg013

Individual 1

a. Bones Found

- Frontal, bilateral, parietal, right temporal, fragmented occipital with a loss of substance (some joins)
- Fragments of long bones (right distal humerus, right proximal ulna, right radius diaphysis, bilateral distal femur diaphysis, bilateral proximal tibial epiphysis, bilateral fibulae both without proximal epiphysis)
- Fragments of bilateral pelvis
- Rib fragments
- Fragments of bilateral metacarpals and phalanges
- Fragments of left metatarsals
- Fragments of a right calcaneus

b. Estimation of Age

- All of the extant bones correspond in their development to an adult

- No recognisable suture closure

- No recognisable degenerative manifestations

Estimate: 20 to 40 years

c. Estimation of Sex

- No preauricular sulcus

- Generally robust

Estimate: tendency male

d. Remarks

- None of the extant bones contradicts the assumption that the remains belong to 1 individual

- In the zone bordering with tomb zg013 a second nearly complete cranium occurred (below, individual 2)
- Individual 2*
- a. Bones Found
- A cranium in all essentials, fragmented with losses at the base of the skull and face (no mandible)
- b. Estimation of Age
- Skull sutures completely unfused (with exception of S2: stage 2)
- Tooth enamel only slightly worn
Estimate: 20 to 30 years
- c. Estimation of Sex
- Mastoid process as well as frontal and parietal eminences markedly male
 - External occipital protuberance, zygomatic and supra-mastoidal ridge are male
 - Superciliary arches are female
Estimate: male

Table 4 Summary of the Skeletal Identifications from Cemetery zc001

Tomb/MNI*	Age at Death in Years	Sex
zg001,1	30–60	tendency ♂
zg001,2	17–22	tendency ♀
zg001,3	4– 6	–
zg001,4	0– 1	–
zg002,1	>20	–
zg002,2	12–17	–
zg003,1	>20	more likely ♂
zg003,2	>20	–
zg004,1	>60	♀
zg004,2	>20	♂
zg004,3	>20	more likely ♂
zg004,4	>20	–
zg004,5	>20	–
zg006	>20	–
zg007,1	20–40	tendency ♂
zg007,2	>20	tendency ♀
zg007,3	1– 3	–
zg007,4	7–10	–
zg008	30–50	more likely ♂
zg011	35–45	♂
zg012,1	40–60	♀
zg012,2	20–40	–
zg013	>20	more likely ♂
zg016,1	14–16	–
zg016,2	1– 2	–
zg019,1	20–40	tendency ♂
zg019,2	20–30	♂

* Minimum number of individuals

NON-HUMAN OSTEAL REMAINS
FROM CEMETERY zc001*Hans-Peter Uerpmann (Osteal Identifications)*

The following osteal identifications derive from the cemetery and were excavated from the graves, and seldom are mere surface finds. Owing to the disturbances of the contexts, they cannot be narrowly

dated, and one must assume most to be from Himyarite times.

The domesticates by far outnumber wild animals, which are unimportant. One assumes that sheep and goats are the main non-human kind of bone in the tombs. They were placed there probably as grave equipment. But there is no evidence which allow a distinction between a funerary meal as opposed to grave provisions or offerings.

Table 5 Osteal Identifications from Cemetery zc001, Excavated in 2000

	Identified Fragments ³²			
	Number	%	Weight (g)	%
cattle, BOS	50	5.7	1275.5	26.2
sheep, OVIS	24	2.7	2640	5.4
goat, CAPRA	6	0.7	58	1.2
sheep or goat OVIS/CAPRA	753	85.9	2076.3	42.7
horse, CABALLUS	1	0.1	33	0.7
donkey, ASINUS	2	0.2	22.4	0.5
camel, DROMEDARIUS	12	1.4	1105	22.7
dog, CANIS	10	1.1	10	0.2
domesticates, total	858	97.8	4844.2	99.6
unidentified equid	1	0.1	1.7	0
wolf or dog	3	0.3	3.3	0.1
domestic or wild animals	4	0.5	5	0.1
gazelle, Gazelle spec.	11	1.3	9.6	0.2
unidentified birds	4	0.5	5.3	0.1
wild animals total	15	1.7	14.9	0.3
identified animal remains total	877	100	4864.1	100
identified bones	877	77.5	4864.1	89.1
unidentified bones	255	22.5	593	10.9
animal remains total	1132	100	5457.1	100
human bones, (Homo sapiens)	14	1.6	26.5	0.5

³² Source of the bone samples:

<i>Tomb/grave</i>	<i>serial number</i>	<i>Tomb/grave</i>	<i>serial number</i>
Gr. zg01	lz001	Gr. zg07	lz056
Gr. zg02	lz037	Gr. zg08	lz020
Gr. zg02	lz035	Gr. zg08	lz039
Gr. zg03	lz040	Gr. zg11	lz045
Gr. zg04	lz041	Gr. zg13	lz052
Gr. zg04	lz055	Gr. zg13	lz053
Gr. zg04?	lz054	Gr. zg14	lz025
Gr. zg05	lz008	Gr. zg14	lz018
Gr. zg06	lz043	Cemetery zc001,	
Gr. zg07	lz057	surface	lz033

SECOND PRELIMINARY REPORT,
SPRING 2002³³

MAPPING AND SITE TOPOGRAPHY

Introduction

In light of a lack of detailed information on the site and generally on the late Pre-Islamic period in the Yemen, like its predecessor, the present report on Ṣafār originated in a near archaeological vacuum³⁴. The site's historical importance, large size, multidimensional complexity, as well as numerous historic literary references in the East and West, impelled the undersigned to take up work there in 1998 by means of a surface survey and an extensive photo documentation (see appended CD) combined with a geo-informational database (see site list below). By means of the latter, one can readily retrieve an image of a given context by means of context numbers when the city plan is published; just as easily, one can locate the context in the plan from any photo number. Ultimately, our efforts reveal Ṣafār's great potential as an informational source and served to deconstruct its inevitable superficial denigration as a site utterly destroyed. In point of fact, prior to excavation such a description apply to nearly all ancient sites, and at face value need not, by any means, pose an insuperable problem.

The Antique Cityscape

Ṣafār's Ḥimyarite urban core has revealed itself to comprise some 110 hectares, about the size of that of Mārib, including a sizeable antique settlement on the south side extra muros (Pl. 21, 1)³⁵. Mountains, anciently fortified, form a chain, which from north to south are designated Raydān North (al-Gusr), Ḥuṣn Raydān, in addition to Raydān South (Ṣafār village). In 2002, surveyers mapped the topography of Raydān North. Authors and local inhabitants alike seldom distinguish these three areas of the city in a consequent way. Just east and west of the Ḥuṣn Raydān, two areas, known respectively as al-Suḥd and Maqāri', fall outside of the core area, as defined here. Presumably during the antique they consisted of houses and gardens, the latter of which were extensively terraced. Such in the plain al-Sillat are far more voluminous than in the Maqāri' terraces.

Increasing topographical knowledge results in an expansion of our perception of the extent, development, and nature of the city – in a word, its makeup and importance.

The number of contexts registered jumped from 278 in 2000 to 351 in 2002³⁶. Although some 72 thereof admittedly are houses built in the last 50 years of antique *spolia* (reused architectural remains), most contexts are of late antique/early medieval date, to judge from the accomplished masonry. These contrast especially with coarsely built later medieval ruins *e. g.* just south-west of Raydān South. Antique roughly hewn stone walls blend in optically with the mountainous surroundings and are difficult to recognise even if one is standing directly near or on them. Despite centuries of weathering, erosion, pillaging, and vandalism of the remains, intensive study leads to the reconstruction of large fragments of this rupestrian capital. The fortification contexts consist of dry stone walls, natural stone outcroppings used in the defences, and nar-

³³ The undersigned thanks here the Zayed Centre for Coordination and Follow-up of Abū Ṣabī Emirate (in support of the exhibition) and the Kulturhilfe of the Auswärtiges Amt of the Federal Republic of Germany (overall project support). GOAM supplemented this for the repair of the museum building. The team included Mechthild Kolb (photographic assistant), Petra Krebs and Jens Gutperle (archaeologists), Alexander Sima † (epigrapher), Markus Roth and Pascal Garn (geoinformatic engineers), Paul Yule (coordinator), 'Isa b. 'Alī b. 'Alī al-Šebānī and Ḥalid al-Ānsī (government representatives), Aḥmad Šuga (museum advisor from the Ministry of Culture), and Abdu Gerahah (driver). In Germany Muḥammed Maraqtan wrote and translated numerous texts into Arabic for the exhibition and served as advisor. Thomas Breier set the Arabic texts for the exhibition. This year again, the Yemenia provided us with favourably priced flights which furthered our work. Marcus Heid scanned large plans and printed the exhibition posters. Irene Steuer-Siegmund served as draftsman. Participating institutions are the University of Heidelberg, the Institute for Spatial Information and Surveying Technology of the University of Applied Science in Mainz (particularly Wolfgang Böhler), and the General Organisation of Antiquities, Museums, and Manuscripts (GOAM), particularly Prof Yusuf Abdullah, its president. In Ṣan'a' the Deutsches Archäologisches Institut provided us with a welcome hospitality again this year. The fieldwork in Ṣafār took place from 02. 03. to 09. 04. 2002.

³⁴ P. Yule, Mapping Ḥimyarite Ṣafār *op. cit.* 313–323; P. Yule *supra* present volume.

³⁵ Not including ancient scattered buildings, dams, cisterns, cemeteries, peak buildings, and terraces which thin out at the periphery.

³⁶ The appended list of sites gives the condition as of September 2003.

row foundation »terraces« cut into the slope in order to accommodate walls now robbed. The orientation of the Ĥimyarite cityscape and its constituent buildings is conditioned by the narrow format of the available building surfaces on the three mountains, al-Gusr, Ĥuṣn Raydān, and Zafār; with several exceptions it coincides roughly with north-north-west for antique but also some present-day buildings. This general orientation gives some clues for the dating of particularly enigmatic (for example, very fragmentary) walls of possible Ĥimyarite origin. Important for the chronology of the structures, after the fall of Zafār as a political capital, there is no evidence for building activity.

One may remark in passing that on the debit side of the ledger at Zafār, clandestine digging continues, especially on the northern face of al-Gusr, untroubled by the efforts of local inspectors to hinder them. Robbers look for and occasionally presumably find Pre-Islamic graves and their finds.

Palaces

Substantial stone structures built presumably under royal patronage flank most notably the Ĥuṣn Raydān on all four sides. Heavy multiple fortifications are conspicuous on its steep east slope. Concentrations of tombs, monumental Ĥimyarite building remains and antique subterranean storage facilities in and around the south slope, give reason to consider the historic Raydān palace complex to have been located largely, but not exclusively in this area, today known as al-Ġaḥw³⁷. These ruins terminate immediately to the north-west of the south slope, which at this place is dominated by tombs and unidentified Ĥimyarite buildings. Further on, the western slope consists of deep rolling fields of stone rubble. On the small north slope/saddle connecting to al-Gusr, substantial walls of major buildings and fortifications are partly recognisable. Poor preservation resulting from squatter occupation and stone robbing atop the Ĥuṣn Raydān inhibits risking resources for investigation there. This year's work took place following the peak of the dry season (December–January); the drop in the water table allowed access to large cisterns and tombs. Thus, the Ĥimyarite cistern z067 proved more than a simple subterranean chamber, as first thought on its discovery in 1998. Then, access could only be gained to the

first of its chambers. It now turns out to be a cavernous cluster of large cisterns, 200 m east of the other identified cistern, z096³⁸. At the south foot of the Ĥuṣn Raydān, z067 and z096 would certainly be well positioned to catch run-off water.

With regard to the location of the palaces, several places come into question. In 1998 the concentration of stone rubble located in the saddle between Ĥuṣn Raydān and al-Gusr were taken possibly to reflect the remains of a large pre-Islamic gate. Whether, for example, the Kawkabān, Kallānum, or the late 4th cent. Šawḥaṭān palace of the king Malik-*karib* Yuha'min II³⁹, be located partly in this saddle and/or perhaps on al-Gusr itself, is a moot question. This is all the more so since in 2002 a building of 100 m+ length came to light (walls z337–z344, z356–z358) on top of al-Gusr, which presents itself as a candidate for one of these. Šuraḥbi'il Ya'fur's monumental unfinished building inscription (dated 462 CE, siglum: zm1), which was found on the west slope of the Ĥuṣn Raydān in the densest stone rubble at Zafār, suggests a possible identification there for his palace, Hargab. But aside from this, the locations of all of the palaces in Zafār remain unknown, although certainly they are to be sought *intra muros*. In addition to the unexplored Ĥuṣn Raydān mountain, and the substantial ruins atop al-Gusr, another prime candidate lies in the cluster of houses on the north slope of the present-day Zafār village where there is adequate room for one or more palaces.

City Fortifications

To the highlights of the 2002 campaign belongs the identification of fragments of the antique-early medieval urban enceinte: east of the present-day village (contexts z330 and z331), on the eastern and south-

³⁷ EI 11 fasc. 185/186 (2001) 379 s. v. Zafār (W. Müller), »The site of Zafār is located at the foot of a hilltop with the ruins of an ancient castle, and remains of foundations and walls can be found at some points.« What Müller refers to here is the ancient state palace and not the entire ancient Zafār capital. By virtue of new topographic information, the undersigned distinguishes the Ĥuṣn Raydān fortress – part of the larger Raydān palace complex – as distinguished from the entire capital city.

³⁸ *Supra* Figs 6–8.

³⁹ RES 3383. H. von Wissmann's (op. cit. [note 9] 70) mention that this palace lay to the north of Ĥuṣn Raydān be indicated in the inscription is a mistake (A. Sima).

ern slopes of Ġabūbat al-Laḳīya (contexts z361–z367), and west of Maḳāri' (context z312, see site appendix below for these and other related features). In some places that which is preserved is smooth and without niches, but in others it is roughly built in irregularly formed casemates, best viewed on the south and east slopes of Ġabūbat al-Laḳīya. With few exceptions (walls z318 and z319 on Raydān North, which are particularly neatly masoned), the ashlar stone are roughly cut. Inner and outer walls can be discerned by numbering their fragments in the field and reconstructing them on paper. The heaviest measure some 1.5 m in thickness (wall z312, Pl. 21, 1). Wall fragments up to 100 m in length are traceable (for example, wall z337 on al-Gusr). Hardly to be ignored are the complex and numerous fortifications, which evolved, decayed over the centuries, and were continually rebuilt. From the high ground and over a maze of walls and terrace walls, Ḥimyarite archers could readily trim down and hold at bay approaching assailants⁴⁰. Ḥuṣn Raydān was itself a fortress inside and, as it seems, was protected additionally by at least two city walls. On the strength of the 3rd cent. CE building inscriptions zm2262, 2263, and 2264, the existence of a partial defensive entrenchment in connection with the city wall seems likely⁴¹. But a complete one, defying this mountainous landscape over the estimated 3600 m length of the city wall, would surpass even the very considerable manpower and engineering resources, which the Ḥimyarites had at their disposal.

A computer simulation of Zafār provides a model (Pl. 29, 1), which helps to formulate questions posed as to the nature and extent of the fortifications. Defensive towers, standing alone or built into the wall certainly were necessary in the late antique and early medieval periods to judge from contemporary fortifications in the entire Near East and beyond of this time, in light of increased siege capabilities⁴². Paradoxically, only three square towers (lat. *burgi*) of the city fortifications are visible on the surface (z179, z185, z331 in Zafār South) without excavation. The size, shape, and position of the towers in the late fortifications are currently under study.

Archaeological observation complements the few textual mentions regarding Zafār's city gates and discussions about them in the specialist literature. In Zafār South (more particularly, in al-Ḥayfa and al-'Uwār) mapping has revealed a complicated fragmentary Ḥimyarite gate complex. The only preserved

city entrance (way z190) is that of the present-day village with its presumably antique pavement. This walled thoroughfare seems to have been fortified at its lower (eastern) end inside the main gate complex. In addition, at the eastern end of the alley where al-Ġaḥw meets the northern edge of Zafār town, seems a likely location for a second city gate, which would provide access to the city at the juncture between the major building complexes of Zafār South and al-Ġaḥw. But no stones remain, just the alley. Al-Ḥamdāni's 10th cent. CE *al-Iklīl* mentions nine city gates, probably a simplification, since aside from nine main suspects, heavy postern gates also are known from one or two places inside the city walls (possibly z002 and certainly z015, Pl. 21, 1). The writer expects main gates hidden in the deep rubble on the north-western and western flanks of the Ḥuṣn Raydān, given the importance of the underlying structures there, the estimated large size of the population, and the need for access in not too great intervals. Antique changes in the fortifications over the centuries complicate our understanding of the situation since they are not precisely datable. For example, in al-'Uwār the large field terrace is encompassed on four sides by Ḥimyarite walls and on the north-north-west side by a dam and/or wall. But negative growth characteristics of the grain inside this area reveal heavy Ḥimyarite fortifications, which predate the outside walls.

Buildings for Worship

The functions of different Ḥimyarite buildings cannot be definitively identified on the surface without excavation. Although interested villagers attribute

⁴⁰ For the mistaken unimportance of archery, see A. F. L. Beeston, Warfare in Ancient South Arabia (2nd–3rd century A.D.) Qah-tan, Studies in Old South Arabian Epigraphy 3 (1976) 9–13, who at the time he wrote was unaware of the archaeological evidence from south-eastern Arabia. Considerable archaeological and textual evidence exist for archery at this time. Cf. P. Yule, Die Gräberfelder in Samad al-Shān (Sultanat Oman). Materialien zu einer Kulturgeschichte, Orient-Archäologie 4 (2001) 197–200 citing F. W. Schwarzlose, Die Waffen der alten Araber aus ihren Dichtern dargestellt (1886).

⁴¹ A. Sima, lecture in Bamberg 29.06.2002, a likely translation of 'ḥrr in the zm1 text of the king Šurahbi'il Ya'fur.

⁴² S. T. Parker, Fortifications of the Hellenistic, Roman and Byzantine Periods, in: Oxford Encyclopedia of Archaeology in the Near East (1997) 329–333.

architectural sculpture with motifs of a devotional nature in the site museum to the Ġabal al-‘Aṣabī, only a single 8 m long wall fragment there (z348, orientation: north-north-west/south-south-east) now bears witness to the presence of a reported »temple« (Pl. 21, 3)⁴³. On present knowledge, the occurrence of Maltese-like crosses on double capitals may reflect Christian iconography (Pl. 22, 2). Relief sculpture from a church (arab. *gulais*) mentioned by Costa from the »second layer« and »lower layer« on »Zafar hill« are irritating, for the locals whom the author is in continual contact deny knowledge of an ancient church in the village⁴⁴. Outlying hills crowned on four sides with bare, heavy walls, which come into question as hilltop sanctuaries (e. g. z247: Ġabal Ĥamārī and z347: Ġabal Aṣwar) for any of the early religions⁴⁵. Numerous capitals, doubtless from Zafār, which bear Roman and Byzantine motifs, date to the 5th and early 6th centuries of our time notation (Pl. 22, 1. 3. 4), bearing witness to both religious and secular architecture⁴⁶.

If, as the Syriac Vita of Grigentius indicate, the Abessinean Negus Ella Aṣbehā (byz. Cālēb) built three churches in Zafār around 525 CE⁴⁷, almost certainly one was located in or near Raydān, and at least two places there come into question: first, the small site of the oldest mosque in Zafār, z070/z071, and secondly, in the large area immediately to its east. First, one expects that the mosque would be erected on the site of a previous church or synagogue. Moreover, since the peculiar chamber below the mosque cannot be explained in terms of Islamic religious customs, an explanation can be best sought in an earlier religious context⁴⁸. A larger structure, capable of containing 300 worshippers (as one Syriac source would have it) might lie unrecognised embedded in the monumental building foundations to the east and north-east. Other potential ancient church sites can be located in the present-day village and in al-Ġaḥw. By the same token, since Jews, synagogues, and the community of Israel are textually mentioned in Zafār, at least one Jewish temple certainly existed, presumably in Raydān, not to mention in some other part of the city.

Elaborate Antique Tombs

Over time, the need for room for the dead appears to have expanded apace with that for the living,

from the centre of the city outwards. 1000 m to the east of the present-day village, largely on the north slope of the adjacent Ġabal al-‘Aṣabī, part of the main cemetery area seems to contain relatively early remains, possibly of the 2nd–5th centuries CE. Large later tombs also in the immediate area are discussed below. Inside the city, large tombs are considered to have originated at a time when more open space was available there⁴⁹. One of these (tomb z066, Pl. 4, 1) shows two goat reliefs associated with polytheism (an old established fertility symbol), from a time when the city’s elite still worshipped polytheistic deities. The goats bring to mind involuntarily the pre-monotheistic Sabaeen deity Almaqah.

During the dry season this year, some of the tombs could be measured, which in the monsoon in August are filled to the roof with water. Three large and splendid rock-cut tombs in the al-‘Uwār lowland dominate the foot of the eastern slope of Ġabal al-‘Aṣabī to the exclusion of all other tombs. Each has steps, which descend to a vertical entrance door. The tombs differ from each other in size and shape (Pls 23. 24), but have in common excellent workmanship with straight walls and regularly formed corners. Their rather precise cutting from the hard mafic bedrock represents indeed an effort of royal magnitude. Since the tombs lie outside the city gates, presumably they date to a time when their defense was taken for granted owing to the secure state hegemony.

⁴³ Cf. W. Radt, Forschungsreise in die arabische Republik Jemen, AA 1971, 268 fig. 23 »Tempel al-‘Aṣabī«. A Christian bronze weight inscribed with a Latin cross which bears this same provenance dates to the 4th cent. CE (G. Brands, Ein spätantikes Bronzegewicht im Jemen, AA 1998, 483 f.).

⁴⁴ P. Costa, Antiquities from Zafār (Yemen), AION 33, 1973, 191 nos. 35 and 36. This provenance contradicts that of his source, G. Garbini, Antichità yemenite, AION 20, 1970, 545.

⁴⁵ Oral communication Christian Robin.

⁴⁶ Costa op. cit. 201 no. 97 pl. 23, 1, Ḥuṣn Raydān is the provenance given here.

⁴⁷ EI 11 fasc. 185/186 (2001) 379 f. s. v. Zafār (W. Müller) 380 cites the Vita of Gregentius (ch. 63), who later became the bishop of Zafār. Accordingly, Caleb built three churches in Tephār including the large Holy Trinity. I am grateful to A. Sima and A. Berger for advising me as to the propagandistic even tendentious nature of this source.

⁴⁸ A tomb seems an unlikely alternative explanation for the structure.

⁴⁹ P. Yule, Mapping Ḥimyarite Zafār, in: Leaving no Stones Unturned, Festschrift for D. P. Hansen (2002) 321.

Impressive are the partition wall and an elaborate entrance step with landing of tomb z213 (Pl. 23, 1) cut from the living rock. With its two platforms 50 cm in height at the north and south sides of the chamber, tomb z212 (Pl. 23, 2) draws our attention. Perhaps they served as the final resting places of father and son or brother co-regents, if not a wife, all of whom are known to have existed in the later part of the Himyarite Period⁵⁰. The great co-regents Abīkarib 'As'ad and his son Šuraḥbi'il Ya'fur (mid 5th cent. CE) come to mind. The smoothness of the stone cut walls (Pl. 24, 2) and near 90° angles resemble those of the chamber with steps z071 in Zafār/al-Ġaḥw⁵¹. Few other tombs at Zafār match this quality of stone-cutting, although many also have simple bench-like furniture. More elaborate still, tomb z211 (Pl. 24, 3) is under study. Even during the dry season its chamber is filled with water to a depth of 2 m.

ZAFĀR MUSEUM AND ITS RELIEFS

The 25 year old site museum at Zafār houses an important collection of Himyarite, provincial Roman, and local Late Antique sculpture, which in 2000 our team documented in a provisional way⁵². Owing to the quality and quantity of this collection, its cataloguing – one of our main tasks – requires considerable effort above the pioneer work of P. M. Costa in the early 1970s⁵³, at the founding of the museum. Many a piece, which he catalogued in the ›Wunderkammer‹ of Abdullah b. Saleḥ al-'Anābi ultimately found its way into the museum collection. Over the years numerous further ones were acquired, making a catalogue a must. To wit, many of the published pieces yield information about the city, its inhabitants, and its buildings⁵⁴. Unfortunately, many of Costa's 170 photos are too small, not suitably clear for study, and thus have to be redone⁵⁵. Some of the finest sculptures have been on an international travelling exhibition since 1998.

An astonishingly high percentage of the 1000 reliefs in the museum (about one third) depict humans and animals. In addition to these come 195 inscriptions, over twice as many of which seem written in late Sabaeen (mid 3rd to 6th centuries CE)⁵⁶ than in middle Sabaeen (1st cent. BCE to mid 3rd cent. CE), and presumably these same proportions hold for the museum's relief sculpture. Two frag-

ments, possibly of a single inscription, are written in Axumite, another in Greek. Phyllo-morphic motifs, the largest category of reliefs, account for 40 % of the collection. Finally, with 82 examples, »architectural« motifs (i. e. stylised representations of niched facades) are less numerous. By means of a visual databank-study of the fragments, a relatively modest investment in time has revealed several fragments, which possibly join.

At first glance, the majority of the reliefs conceivably might be provisionally designated early Christian or Byzantine, but notable are also works of classical Roman inspiration, such as a Hercules (Pl. 25, 1), which may well belong to an earlier period of production, if they are not heirlooms acquired from outside during the city's zenith in the 4th to early 6th centuries CE. Aside from works in Mediterranean classical style of considerable artistic quality, those clearly of local inspiration, and a few revealing Egyptian motifs also occur. Their great variety is by no means surprising in urban international Zafār, with its manifold contacts with the outside world. The large number of imported and local figural artefacts from the nearby satellite settlement on the Ġabal al-'Awd also underline the importance of Mediterranean art forms to patrons in distant South Arabia⁵⁷. Several works of local origin show a predilection for depictions of palaces, high-status persons, and narration. Be they scenes of the capital itself, they adumbrate what awaits the excavator. A case in point is a relief depiction of a leop-

⁵⁰ I. Gajda, Die Vereinigung Südarabiens unter dem Reich von Himyar, in: Katalog Wien 1998, 270.

⁵¹ *Supra* Fig. 12.

⁵² Contributed by Selma al-Rādī and her colleagues.

⁵³ P. Costa, AION 33, 1973, 185–206; idem, AION 36, 1976, 445–452.

⁵⁴ There is also some lack of agreement as to the provenance of selected pieces in his catalogues and those given by various informants in the village. This is compounded by duplicated inventory numbers, unaccounted zm numbers, and an older inventory, not present in the museum, but rather in the GOAM offices in Ṣan'a'.

⁵⁵ Costa 1973 op. cit. pls. 11; 12, 1; 13, 4; 14, 1; 16, 1; Costa 1976 op. cit. pls. 8, 132; 10, 134; 14, 145 etc.

⁵⁶ A. Sima, Corpus der altsüdarabischen Inschriften aus Zafār 5, EFAH (in press).

⁵⁷ B. Vogt – I. Gerlach – H. Hitgen, Die Erforschung Altsüdarabiens. Das Deutsche Archäologische Institut Sana'a auf den Spuren des Sabäerherrschers Karib'il Watar, NBA 15, 1999, 148–150 figs 22–24.

ard statue poised on a base in a niche beside a column capital, which is decorated with a face couched in foliate ornament (Pl. 25, 2). At the top of the scene the rays of a sun are visible. This fragment brings to mind Šuraḥbi'il Ya'fur's description (zm1) of his placing bronze statues of panthers, lions and ibexes in his palace Hargab⁵⁸.

In the second half of the 4th cent. CE, temples decline. Invocations of the tribal South Arabian deities yield to those dedicated to the »lord of the heaven and the earth« or to »Raḥmānān« (the merciful), significantly in 384 CE by the Ĥimyarite king Abīkarib As'ad, co-regent with his father and brother. During the greater part of the period of production of the reliefs in the site museum, the country was ruled by kings who worshipped Raḥmānān, or one (Yusuf As'ar Ya'ar) who is considered to profess the Jewish faith⁵⁹. The first invocations of Raḥmānān never mention Jewish attributes. From 380 to 530 CE the inscriptions are monotheist, but later include a number of Jewish formulations (e.g. »prior of his people, Israel«). This suggests the idea that Raḥmānānism is a fiction and that the elite of Yemen in effect had already converted to Judaism⁶⁰. To complicate matters, somewhat later, Raḥmānān is invoked in both Christian and Jewish inscriptions (possibly by Henotheites, believing in one god without denying the worship of others)⁶¹. Moreover, the iconography of both groups is often indistinguishable with the exception of ossuaries in small format as well as motifs such as the *šofar*, torah shrine, *mesusa* and *menora*. Given this lack, perhaps we are dealing for whatever reason with a kind of minimal Judaism.

In the Levant, early medieval Jewish decorative programmes demonstrably contain late antique motifs, for example, unidentical symmetrically composed lions, eagles, bulls, Nikae, peacocks, horned animals, dolphins, and the rose⁶². In the 4th to 6th centuries CE synagogues there used figural decoration, contrasting with the aniconic church. In the mid 6th cent., while the church shows figural scenes, they now disappear from synagogue floors⁶³. But notably missing in Zafār are all of these telling motifs and syntactic arrangements. Moreover, also absent are Jewish funerary texts, such as those known most notably from antique Rome. One motif in the Zafār assemblage had a special meaning to Jews, if not also to Christians: The pomegranate appears in relief at the top of a particular kind of arched

niche, and signifies integrity with regard to the torah (a niche for a torah scroll?)⁶⁴.

Ĥimyarite inscriptions show firstly that Judaism is already attested in the aristocracy and in royal circles in the later 4th cent. CE⁶⁵. Secondly, a religious neutrality in their content may be taken to imply that the kings are Jewish. Thirdly, Muslim sources indicate a basically Jewish presence in the Yemen from the time of the Ĥimyarite king Abīkarib As'ad (first third of the 5th cent. CE). If the Ĥimyarite royal house were Jewish, then this still seems not to have been the state religion *per se*, and the broad population substrate probably still worshipped more than one deity. In the background of the Sasanian-Byzantine war, around 516–522 CE, politics spalted along the lines of religion. When king Ma'dīkarib Ya'fur overtly propagated Christianity, this elicited political repercussions. The reaction of king Yusuf As'ar Yath'ar (Arab. Dū-Nuwās), to publicly unite citizens of Jewish confession against the foreign Christians, led ultimately to the well-known conquest of the land in 525 CE by the Christian Negus, Ella Aṣbeḥā, from Axum.

Would it be appropriate to refer to Jewish and Christian Periods in Ĥimyar? This question of definition is likely to be answered differently by a traditionalist familiar with the country's history and inscriptions or by one who places more emphasis on the visual arts and iconography. On present knowledge, and given the ephemeral nature of both religious groups as rulers, this chronological terminology has no good chance of supplanting the existing one, late Ĥimyarite.

In the context of cataloguing of the museum artefacts, the question arises, which of the numerous stone sculptures reflect Jewish, and Christian cul-

⁵⁸ Costa 1973 op. cit. 196 cat. no. 64 pl. 17, 1, explains the representation in a different way. Inscription: Sima op. cit.

⁵⁹ EI 11 fasc. 185/186 (2001) 379 f. s. v. Zafār (W. Müller) 309.

⁶⁰ C. Robin, De Jésus à Mahomet, les religions de l'Arabie avant l'Islam, Le monde de la Bible 129, 2000, 31.

⁶¹ Reallexikon christliches Altertum 15 (1991) 303–321 s. v. Ĥimyar (W. Müller).

⁶² R. Hachlili, Ancient Jewish Art and Archaeology in the Land of Israel, in: Handbuch der Orientalistik I 2 no. 4 (1988) 370.

⁶³ Ibid.

⁶⁴ This fertility image also signifies the Christian faith.

⁶⁵ Robin op. cit. 31.

tural remains and culture. Stylistic dating of the available material does not offer the means to make precise distinctions between these three categories. Although the Christians doubtless reconstituted at least one of their churches destroyed in the persecution in the years following 525 CE, one can question whether the Christian building boom accounts for the high proportion of the late Ḥimyarite reliefs in the collection of the site museum and/or, alternatively, if they derive from a long rule by early monotheists and Jews. The classification of the different stone artefacts as documents of their patrons and owners as Jewish, or Christian is open to discussion.

Our team renewed the museum installation, and the building was refurbished (Pl. 26, 1. 2). The photographic documentation of the artefacts is a larger undertaking still in progress. An Arabic-English sign at the entrance (Pl. 26, 4) and 14 bilingual posters were installed. The four exhibition rooms (Pl. 26, 3) are devoted to the history of Ḥimyar and inscriptions (room 3); archaeological sites, tombs, and religion (room 4); as well as visual arts and other aspects (room 5). Zafār village received a tarmac road during 2002, and electricity in September 2003.

3 Excavated Stone Structure, z178

In 1998 citizens from Zafār recounted to the author that some 20 years previously at the southern foot of the Ḥuṣn Raydān fortress in the eastern part of the sloping plain, al-Ġaḥw, stone robbers (i. e. other local villagers) exposed heavy antique walls. In order to protect these from further depredations, the Zafāri villagers buried them under a thick cover of stone debris. In 2000 a small portion of this wall was exposed at the spot indicated as a control for the mapping and in order to test the potential of this part of the site, which appeared to be part of the Raydān palace complex. In 2002 resources enabled minimal excavation and documentation of the structure (Pl. 27, 1. 2). Work remains to be done on the building's northern and western flanks. In the uppermost debris a stone figurine came to light of local manufacture, which as depicted, is finely clad (Pl. 25, 3). Despite the limited nature of the test trench, it confirmed the nature and position of large buildings and shed light on the state of preservation in al-Ġaḥw.

Description of Context z178

The context consists of a roughly north-north-west/south-south-east oriented ashlar wall⁶⁶, which forms the eastern face of a squarish platform structure (Pl. 28). A 1.50 m wide alley to its east separates it from a neighbouring building (z285) to the south-east and another to the south (z284). The south side of z178 has partially been cleared. Structural remains lie just below the rock debris resting on the bedrock and without foundation trenches. The uppermost courses of stone had long since been robbed. The wall z178 steps slightly inward from course to course ascendingly. The joints of the stretchers occasionally lie over each other, but more often are staggered. The west face of the wall z178 is rough and obviously not meant to be exposed. The 0.80 m wide wall z178 consists of nine courses of ashlar preserved or visible with a maximum elevational difference of 3.60 m, and a length of 11.30 m.

The building stones on top of this platform are heterogeneous in their form, size, as well as finish, and are minimally hewn, thus contrasting with the neatly cut ashlar blocks of the wall z178. Two west-south-west/east-north-east oriented parallel walls, z275 and z276, stand on top of the platform, roughly perpendicular to wall z178. The 5–7 m long and 1 m wide z275 consists of irregularly hewn boulders shimmed below with smaller stones. Wall z276 also measures 1 m in width. Both walls are preserved to some 1.60 m above the surrounding surface. Wall z276 is located 3 m north and parallel to z275. 3.2 m of the length of this 0.80 m wide wall are recognisable.

Located in the north-east corner of the excavation, the canal z277 is formed by flat stones covering smaller ones. This drainage canal runs down slope to the south-east.

Visible in the northern most balk at the northern border of the trench, z278 is a wall parallel to z276.

Z279 is a stone packing between z276 and z278.

Z280 is a stone packing between z275 and z276 in the middle of the context.

Directly adjacent to the wall z178 lies a packing (z281) of large stone blocks, which suggests the presence of a grave.

⁶⁶ The site z178 is comprised of the loci z178, z275–z286.

Z282 is a stone packing between z275 and z276 toward the west.

Z283 is a stone packing immediately adjacent to z276 at the western edge of the trench.

Z284 runs in a east-north-east/west-south-west direction, parallel to the southern face of z178. It existed prior to z285, and postdates wall z178.

Z285 is a north/south-oriented wall opposite the wall z178. At its southern end it joins wall z284. To the north it rests on debris similar to that of z178. Thus, it is later than the adjacent z178, which is built on bedrock.

Z286 is a secondary wall, which blocks the north/south access between z178 and 285.

The platform z178 finds a parallel in Ḥaḍrāmī Pre-Islamic Šabwa *bâtiment A*, a large part of the palace⁶⁷. Similar are the platform, the sandwich walls, and the strip-like wall footings atop the platform.

Context z178 had been stripped and contained few small finds, pottery, or architectural accessories (building sculpture, gargoyles etc.). Wood from a timber frame building that probably rested on top of the platform z178 was not preserved.

The dating of the initial building and suspected rebuilding(s) of platform z178 at this stage of research is unclear. General principles of construction, such as known from the palace at Šabwa, help little to pinpoint its dating. The latter was destroyed in the 3rd cent. CE, probably in 225 by the Sabaean king Šā'irum Awtar⁶⁸. At Zafār at this stage of research, coinciding with the rise in political, financial and military fortunes, one assumes extensive building in the latter 3rd cent. CE. These buildings may have been continually refurbished and new ones added to them, thus confounding the dating.

Summary

Recent documentation of the Ĥimyarite capital, Zafār, reveals a late antique/early medieval centre, complementing data from textual sources. A tachymetric survey and virtual simulation provide means to reconstruct the ancient cityscape, especially its fortifications, prior to its demise in the 6th cent. CE. Some walls appear to have been in use for over 300 years spanning different Ĥimyarite phases. To judge from the extant surface remains, the main palatial area centred in and around Ḥuṣn Raydān. Building ruins suspected to have been used for worship lie

both inside and immediately outside the city. Outside the walls in al-'Uwār, presumed royal tombs appear to date to the 5th cent. CE.

Preliminary study dates most reliefs in the local museum after c. 400 CE. Rarely can the iconography of the different relevant religions in Zafār be distinguished individually. The museum building and exhibition were renewed, and a catalogue of the artefacts is in preparation.

The Ĥimyarite stone platform z178, excavated in al-Ġaḥw, seems part of the Raydān palace complex.

P. Yule

HANDLIST OF SITES AT ZAFĀR ORDERED BY THEIR CONTEXT NUMBER

The following list does not represent a classification *sensu stricto* of the different kinds of contexts, but rather is a systematic attempt to complement the map. The coordinates given below derive from a closed mapping system referenced into the UTM network by means of hand-held GPS. Nuances in the descriptors reflect the certainties and uncertainties of the descriptions. This explains, for example, the difference between »tomb entrance«, »cave/tomb entrance«, »tomb/cave entrance«. The definitions shall be made available in a later publication.

Two exceptions occur: Certain ones remain to be verified (signed #). Other were determined solely by means of a GPS (signed +), and were determined at a time when »selective availability« was not in effect. They usually lie outside the terrestrial mapping proper.

Line 1 gives the context number (for example, z007), descriptor, and UTM coordinates.

Line 2 gives the place name at Zafār, and main distinguishing features.

z001 wall 435577 1571602
H Raydān, NE corner, NE/SW+NW/SE, 10 x 1.4 m

z002 entrance 435575 1571600
H Raydān, N end, NE/SW, 1.4 m wide

⁶⁷ J.-F. Breton, *Le site et la ville de Shabwa*, Syria 68, 1991, opposite 118 fig. 4 b. I thank H. Hitgen for this reference.

⁶⁸ J. Seigne, *Le château royal de Shabwa, architecture, techniques de construction et restitutions*, Syria 1991, 156, based on textual information.

- z003 heavy wall 435573 1571591
H Raydān, N side, NE/SW, 32 x 1.4 m
- z004 way 435570 1571605
H Raydān, leads from z002 to NW. c. 2 m wide
- z005 wall 435591 1571586
H Raydān, NW bastion, NW/SE, ±40 x 0.35 m
- z006 heavy wall 435601 1571578
H Raydān, NW/SE, 30 m, 0.5 m wide
- z007 heavy wall 435623 1571547
H Raydān, NW/SE, 15 m, S of z006 and lower, red stone, more finely dressed than z006, 1.1 m wide
- z008 rock outcropping, bastion 435610 1571530
H Raydān, z007 switches up the hill, z008 lies to E, abuts it, NW/SE, 5 m, near z009
- z009 wall 435630 1571520
H Raydān, z008+9 same system, jogs to E, continues to N, 0.8 m wide continues SE side and then to NW 25 m, dressed brown stone
- z010 wall 435639 1571524
H Raydān, below z009, E corner and SE side, NNE/SSW, 8 m, 0.6 m wide, roughly dressed grey stone
- z011 wall 435643 1571525
H Raydān, NE/SW, 5 m, connection with z010? 0.5 m wide
- z012 rock cut face 435609 1571502
H Raydān, fortification, max 4 m high
- z013 foundation or ramp 435632 1571507
H Raydān, along side of rock face z012, NE/SW, 2 m wide, SW side
- z014 wall 435635 1571559
H Raydān, joins z009, NW/SE, 60 x 0.5–0.8 m, forms entrance to »king's chamber«, dressed grey stone
- z015 tunnel entrance 435641 1571544
H Raydān, NE/SW, »kings chamber«, secondarily formed
- z016 steps and entrance 435644 1571547
H Raydān, NE/SW, 4 m, inside z014 and z015
- z017 wall 435612 1571546
H Raydān, NW/SE, 5 x 0.5 m, above z008 and z009 edge of summit
- z018 terrace 435632 1571595
H Raydān, NW/SE, 70 x 4 m, E side, 12 m below wall z014
- z019 wall 435565 1571544
H Raydān, NW/SE, 20 x 0.8 m, continuation on W side of z009? Rough grey blocks, +435571E; 1571529
- z020 wall 435563 1571540
H Raydān, 4 m W of z019, inner and outer face of same system, grey rough dressed, patinated, like z019. 50 x 30 x 40 cm, 6–7 m
- z021 house/room 435565 1571555
H Raydān, NW/SE, 10 x 11 m, greyish red stones W brick, 0.75 m wide, rough dressed, local sources: recent
- z022 cistern 435556 1571561
H Raydān, immed N of NW corner of z021, N/S 3 m, E/W 3.5 m, red dressed blocks, concrete. 2nd cistern inside of z022
- z023 stone basin 435573 1571563
H Raydān, 0.80–0.85 m wide, H 1.06 m, inside 0.8 m, original polish preserved, not in situ
- z024 wall 435573 1571591
H Raydān, NE/SW, 2 x 0.8 m, beneath/earlier z003
- z025 house/walls 435583 1571541
H Raydān, NE/SW, walls 0.6 m wide, at highest point on Husn on W side
- z026 house 435589 1571535
H Raydān, NNE/SSW, 4.0 x wall 0.7 m, good masonry on SW side, toward S edge of cliff, irregular shape
- z027 wall 435588 1571531
H Raydān, NW/SE, 10 x 0.7 m, edge of cliff, large and small red and grey stones, fortification, wall of z025 abuts it
- z028 house 435598 1571537
H Raydān, NW/SE, 17 x 10 m, highest point on Husn, NE of house z026, 0.8 m wide, test excavation
- z029 house 435573 1571543
H Raydān, NW/SE, 14 x 8 m, wall 0.75 m wide, W of z025
- z030 courtyard 435584 1571555
H Raydān, NW/SE, 10 x 10 m, S of z032, NW of z028
- z031 house 435571 1571564
H Raydān, NNW/SSE, 8 x 8 m, NW of z028, near NW edge, walls 0.85 m wide
- z032 house/room 435586 1571567
H Raydān, N of open area, little collapsed stone, debris here, wall 1.1 m wide

- z033 house/room 435598 1571561
H Raydān, NE/SW, 3 x 4 m, NE edge, N of z028 by c. 25 m, wall width 0.75 m
- z034 wall/room 435600 1571599
H Raydān, NE/SW, 2 x 4 m, on NE edge S of z033, wall width 0.75 m
- z035 wall 435546 1571557
H Raydān, NE/SW, 3.0 x 0.5 m, W side at N corner, along top of rock outcropping, reddish grey stone
- z036 wall 435555 1571541
H Raydān, NNW/SSE bent, 10 m, stones 2 m long, along SW side, z020 below, c. 8 m distant
- z037 wall 435570 1571523
H Raydān, along SW side of Ḥuṣn S of z036, rougher and smaller stones, near S corner
- z038 rock cut face 435557 1571549
H Raydān, possibly connected with z035 as part of uppermost defenses, on W side
- z039 heavy wall 435619 1571405
al-Ġaḥw, al-, N/S, 10 m, in line with z065
- z040 terrace 435544 1571530
H Raydān, N/S, 2 m wide, slightly slanting to slope
- z041 wall 435457 1571592
H Raydān, NW/SE, 35 x 1 m, grey blocks, 4 courses finely dressed, roughly dressed blocks above, terrace just above z041
- z042 wall 435471 1571608
H Raydān, NW/SE, 50 x 0.6 m, rough stones, blocks fr z041, 10 m below hill crest 8 m up from foot of z041 to top of z042
- z043 wall and terrace 435491 1571604
H Raydān, NNW/SSE, 3 m, W side, 5 m higher than z042, 0.45 m wide
- z044 wall 435494 1571610
H Raydān, NW/SE, 25 x 0.5 m, not as finely masoned as z041, 10 m above z043, 2nd fr. 1 m distant, next to z044
- z045 wall 435494 1571609
H Raydān, NW/SE, 12 x 0.5 m, rests on z044 and continues N of it
- z046 wall 435497 1571615
H Raydān, 4 m above top of z045, grey blocks as z009, 30 m long, 50 (w) x 30 x 40 cm blocks as with wall z020, stepcut into bedrock
- z047 house 435635 1571350
Zafār, Bayt Saleḥ ‘Abdullah Mhd al-‘Anābī
- z048 cave entrance 435652 1571322
Zafār, opens to e, in Bayt Saleḥa l-‘Anābī’s garden/courtyard
- z049 house 435656 1571322
Zafār, facing cave entrance to W reliefs (hand and bucranium), Bayt Saleḥ Musalleh al-Zafāri
- z050 house 435649 1571327
Zafār, Bayt Saleḥa l-‘Anābī, small stone with carved rosette and sharp pointed flower
- z051 house 435651 1571339
Zafār, Bayt Tāher al-Zafāri, immediately N next to Bayt Saleḥa l-‘Anābī
- z052 house 435662 1571340
Zafār, Bayt Mhd Hussein’s Sa‘ad Saleḥ al-Zafāri, E of z051, S of z053
- z053 house 435656 1571354
Zafār, Bayt Ḥimyar Tāher al-Zafāri, N of z051/052. 2 families, 2 houses, bull sculp set into wall, inscribed stone
- z054 house 435661 1571370
Zafār, Bayt Saleḥ Musleh al-Zafāri, NE of z053
- z055 house 435679 1571376
Zafār, Bayt Ḥamūd ‘Abdullah Aḥmad al-Zafāri, E of z054, inlaid reliefs
- z056 cave entrance 435690 1571373
Zafār, E of Ḥamūd ‘Abdullah’s house, almost directly beneath it on a slope, 3 chambers
- z057 cisterns 435695 1571429
Zafār, belongs to Mhd Saleḥa l-‘Anābī, E and N of Ḥamūd ‘Abdullah’s house, 6 cisterns
- z058 cave entrance 435615 1571424
Zafār, near Bayt Mhd Saleḥa l-‘Anābī, two level cave, above one cistern
- z059 cave entrance 435709 1571430
Zafār
- z060 tomb entrance 435712 1571433
Zafār, below z059, arched cut stone entrance, »king’s tomb«, excavated, old no. 14, »Bāb Suq al Layl«
- z061 cave entrance 435714 1571432
Zafār, E of z060, entrance to E, E edge of village

- z062 cave entrance 435694 1571444
 Ẓafār, on a narrow alley, 7 m, entrance to SE, dressed stone entrance with concrete against stone outcropping
- z063 house 435690 1571396
 Ẓafār, Bayt Saleḥ al-Burāti, E of Ḥamud 'Abdullah's house, down slope from there
- z064 house 435624 1571389
 Ẓafār, Bayt 'Alī Hussain and Sa'ad Saleḥ al-Ẓafāri, goat relief
- z065 wall 435615 1571389
 Ẓafār, W of Bayt 'Alī Hussain Sa'ad Saleḥ, T 0.7 m
- z066 tomb entrance 435610 1571423
 Ġaḥw, al-, entrance to W, Ḥamūd al-Tam al-Ẓafāri's dwelling, carved stone: bucranium and woman, old no. 12
- z067 cistern 435603 1571421
 Ġaḥw, al-, W of z066, entrance to S, W of z061 and below house of Ḥamūd al-Tam al-Ẓafāri
- z068 house 435598 1571426
 Ġaḥw, al-, Bayt Ḥamūd al-Tam al-Ẓafāri
- z069 bedrock, cut 435594 1571418
 Ġaḥw, al-, below and W of z068, house foundations, water channel cut into bedrock
- z070 mosque, old 435579 1571425
 Ġaḥw, al-, next to rock cut chamber, entrance e, old no. 19
- z071 chamber entrance 435579 1571425
 Ġaḥw, al-, stair going from old mosque to rock cut chamber, entrance to W
- z072 cave entrance 435581 1571419
 Ġaḥw, al-, upper and lower chamber, latter reachable by stairs, entrance upper chamber rectangular with channel
- z073 cave entrance 435576 1571419
 Ġaḥw, al-, lower chamber of z073
- z074 cave entrance 435487 1571413
 al-Ġaḥw, al-, S of z072 and z073, entrance to S, old no. 23
- z075 cave entrance 435593 1571407
 al-Ġaḥw, al-, E of z074, entrance to S, old no. 24, deep single chamber
- z076 cave entrance 435564 1571407
 al-Ġaḥw, al-, S of z074, entrance to S, down hill and W of z074, 3 badly eroded chambers
- z077 cave entrance 435567 1571400
 Ġaḥw, al-, S of z076 and lower, entrance to S chambers
- z078 cave entrance 435569 1571405
 Ġaḥw, al-, next to (w of) z077 and lower, entrance to S, walled in chambers
- z079 cave entrance 435501 1571448
 Dāḥāḥ, al-, W and S of z078 down the hill, Bayt Aḥmad Mus'id Assad, above entrance to SW
- z080 cave/tomb entrance 435503 1571454
 Dāḥāḥ, al-, double chamber, above z079 cut into cliff
- z081 cave entrance 435597 1571454
 Dāḥāḥ, al-, house and cave W of z079, base of cliff is worked, arch entrance arch inside separates front and back chamber
- z082 cave entrance 435513 1571437
 Dāḥāḥ, al-, high in the cliff, W of z081, »Himyarite prison«
- z083 cave entrance 435510 1571435
 Dāḥāḥ, al-, high in the cliff, below z082
- z084 cave entrance 435524 1571441
 Dāḥāḥ, al-, wide opening, single chamber shallow rock face runs SE/NW
- z085 cave entrance 435521 1571449
 Dāḥāḥ, al-, above and behind z083 in cliff
- z086 cave entrance 435517 1571453
 Dāḥāḥ, al-, above and behind z083 in cliff
- z087 cave entrance 435513 1571457
 Dāḥāḥ, al-, above and behind z083 in rock face, nice cut rectangular entrance and rectangular rear, entrance to SW, old no. 44
- z088 cave entrance 435510 1571461
 Dāḥāḥ, al-, above and behind z083 in cliff, old no. 45, faced with stone wall, main and subsidiary chambers, rectangular door
- z089 cave entrance 435504 1571472
 Dāḥāḥ, al-, above and behind z083 in cliff, entrance to W, opening filled in/closed W dressed stones, old no. 46
- z090 cave entrance 435500 1571582
 Dāḥāḥ, al-, last of the series, old no. 41, Marrabat al-Khiyul al-Suflah, rectangular entrance, multiple chambers

z091 cave entrance Dāḥāḥ, SE of z090 and higher in cliff, entrance with gallery, perpendicular chambers, Marrabat al-khiyul al-ilya (upper)	435511 1571465	z108 wall and terrace Gusr, W side, NNE/SSW, 20 x 0.4 m	435483 1571633
z092 cave entrance Ġaḥw, al-above z091, gallery with perpendicular chambers, Marrabat al-Khiyul al-Ilya (Ilya=upper)	435529 1571458	z109 wall Gusr, al-, W slope, NNE/SSW, c. 45 m C 35 m down slope	435450 1571672
z093 cave entrance Ġaḥw, al-, SE of z092 at same level, Aḥmad Meshed Assad's house, directly S	435537 1571448	z110 terrace/robbed wall Gusr, al-, top, W side, above wall z109, worked face of bedrock above/behind it, just over edge	435446 1571678
z094 cave entrance Ġaḥw, al-, few metres uphill from z093, entrance to NW	435547 1571541	z111 cliff, worked Suḥd, al, NE/SW, 20 m, 4 m high	435696+ 1571519+
z095 cave entrance Ġaḥw, al-, above (ne) of cave z094, entrance to S, multiple chambers	435566 1571452	z112 wall Gusr, al-, above wall z318 at edge of summit of Gusr, c. 18 m, N/S, rough stone up to 2 m in height preserved	435435 1571703
z096/cave entrance Ġaḥw, al-, S of z095, entrance to N, 3 chambers, 1 cistern, just N of open air mosque, H 4.3 m	435568 1571427	z113 stone square, room Gusr, al-, W end, NNE/SSW, 20 x 16 m, poor preservation and masonry, incomplete	435452 1571693
z097 cave entrance Ġaḥw, al-, below courtyard of mosque z071, stairs leading down	435575 1571426	z114 house Ẓafār, Bayt Hussan Mhd al-Waqādat, double house, other house is z047	435634 1571357
z098 cave entrance Ġaḥw, al-, at S foot of H Raydān and immediately N of Ẓafār, entrance to S/SE	435608 1571454	z115 mosque, new Ẓafār	435630 1571355
z099 wall H Raydān, above wall z009, NNE/SSW and SE/NW, 4.0 x 0.5 m	435628 1571524	z116 house Ẓafār, Bayt Saleḥ 'Abdullah Mhd al-'Anābī, NW of z115	435639 1571343
z100 wall H Raydān, NW/SE, 10 x 0.4 m	435616 1571531	z117 house Ẓafār, Bayt Saleḥ Mus'id al-'Anābī	435624 1571379
z101 heavy wall H Raydān/Gusr, NW/SE, 1.1 m wide	435541 1571609	z118 house and stall Ẓafār, Bayt Saleḥ Mus'id al-'Anābī. SW of 117. Dated 1991	435609 1571309
z102 wall H Raydān/Gusr, NE/SW, 10 m	435537 1571608	z119 house Ẓafār, Bayt Alī Farhan al-Sa'ad, SW of z117	435623 1571297
z103 heavy wall H Raydān/Gusr, NW/SE, preserved 65 m, 3 m wide	435502 1571646	z120 house Ẓafār, Bayt Mhd Ġasim al-Ẓafāri, ene of z119, E side. L 8 m	435639 1571292
z104 heavy wall H Raydān/Gusr, NNW/SSE, 25 x 1.5 m	435488 1571670	z121 house Ẓafār, Bayt Mhd Ġasim al-Sa'ad, 1/2 of house z120, length E side 8 m, Ḥimyarite relief as decoration	435641 1571288
z106 wall Gusr, W side of wall preserved	435481 1571658	z122 house Ẓafār, Bayt Ġamal Tāher al-Ẓafāri, built onto z121 to S	435647 1571284
z107 heavy wall Gusr, NNW/SSE, 30 m	435520 1571680	z123 house Ẓafār, Bayt Ġamal Abd 'Alī Mhd al-Sa'ad, NE of z121	435656 1571299

z124 house Zafār, Bayt Saleḥ ‘Alī al-Sa‘ad, S of z123, 1 owner, 1 of the 2 houses is a flour mill	435666 1571286	z141 museum Zafār, museum	435683 1571165
z125 house Zafār, Bayt Aḥmad Abd al-‘Anābī, 40 m S of z118	435579 1571285	z142 reservoir Zafār/‘Uqlat, al-	435549 1571237
z126 house Zafār, Bayt Aḥmad Abd al-‘Anābī, SE of z125	435583 1571273	z143 wall H Raydān, E/W, 8x0.6 m, NNW from z028	435587 1571537
z127 house Zafār, Bayt Saleḥ ‘Alī al-Sa‘ad, S of z119	435610 1571284	z144 graves, Him. ‘Aṣabī, Ğ al-, 2 graves newly exposed	435965+ 1571418
z128 house Zafār, Bayt Saleḥ Mus‘id al-‘Anābī, NE of z127	435624 1571309	z145 wall H Raydān, NW/SE, 10 m, SW side, 6 m below z020	435550 1571537
z129 house Zafār, Bayt Saleḥ ‘Alī al-Sa‘ad, S of z128	435631 1571286	z146 cave entrance Dāḥāḥ, walled entrance, above house of ‘Alī al-Mas‘udi	435522 1571414
z130 house Zafār, Bayt Mhd Saleḥ Abdullah al-Zafāri, directly S of z127	435629 1571269	z147 cave entrance Dāḥāḥ, al-, walled entrance, left of dwelling of Thabit al-Mas‘udi	435526 1571411
z131 house Zafār, Bayt Mhd Saleḥ Abdullah al-Zafāri, directly S of z130	435623 1571277	z148 cave entrance Dāḥāḥ, walled entrance, dwelling of Thabit al-Mas‘udi	435527 1571408
z132 house Zafār, Bayt Mhd Saleḥ Yaḥya al-Zafāri, SE of z131	435641 1571265	z149 excavation H Raydān, = zcw001	435640 1571580
z133 house Zafār, Bayt Abdullah Saleḥ ‘Alī Saleḥ al-Zafāri, SSE of z124	435670 1571265	z150 wall ‘Aṣabī, Ğ al-, NE/SW, 10x0.8 m wide, »temple«	435587 1571537
z134 house Zafār, Bayt Aḥmad Saleḥ ‘Alī Saleḥ al-Zafāri, directly SSE of z133, next to polygon point 107	435685 1571252	z151 house Zafār, Bayt ‘Alī and Mhd ‘Abdullah Mus‘id al-Zafāri, E of house z135	435714 1571240
z135 house Zafār, Bayt Aḥmad ‘Abdullah Mus‘id al-Zafāri, SSE of z134	435699 1571235	z152 house Zafār, Bayt ‘Abdullah Ḥamūd al-Zafāri, next to cistern z142	435550 1571210
z136 house Zafār, Bayt Abdu ‘Abdullah Aḥmad al-Zafāri, SSE of z135	435719 1571220	z153 house and stall Zafār/Qism al-Dair, Bayt Abdullah Saleḥ al-‘Anābī	435543 1571270
z137 house Zafār, Bayt ‘Alī Saleḥ al-Zubaidi, directly SW of z136	435723 1571201	z154 cave entrance Zafār, faces NNW, 20 m NE of z118	435624 1571327
z138 house Zafār, Bayt ‘Alī Saleḥ al-Zubaidi, directly SE of z137	435709 1571194	z155 house Zafār, Bayt Ḥamūd al-Tam al-Zafāri, W of z052	435668 1571314
z139 house Zafār, Bayt ‘Alī Abdullah Aḥmad al-Zafāri, E of z137	435740 1571215	z156 house Zafār, Bayt Ğamal Tāher al-Zafāri, directly W of z155	435668 1571314
z140 house Zafār, Bayt ‘Alī Ğassim Said Mas‘ud al-Zafāri, directly S of z132	435634 1571256	z157 Zafār, Bayt Ḥamūd ‘Abdullah Aḥmad al-Zafāri, directly W of z156	

z158 house Zafār, Bayt Faisal 'Alī Firhan al-Zafāri, directly W of z157	435668 1571314	z175 wall H Raydān, E side, 8 m below z014, excavated 10.09.00	435645 1571557
z159 house Zafār, Bayt Najī Saleḥ 'Alī al-'Anābī, directly E of z159	435668 1571314	z176 tomb Zafār, SW side, N of al-Dāḥat al-Saḥrār, good workmanship	435484 1571084
z160 house Zafār, Bayt Najī Saleḥ 'Alī al-'Anābī, directly E of z159	435689 1571319	z177 tomb/cave Zafār, W of z049, entrance to e	435650 1571320
z161 cave entrance Zafār, 20 m S of z159, faces e	435681 1571294	z178 wall Ġaḥw, al-, corner of large well-hewn blocks of a large building, walls NNW/SSE, excavated 2000	435623 1571485
z162 stall Zafār, SE of z161	435694 1571280	z179 stone square, heavy 'Uwār, al-, NNW/SSE, 8 x 14 m	435166 1571187
z163 house Zafār, Bayt Mhd Saleḥ Aḥmad al-'Anābī, E of z057	435702 1571440	z180 heavy wall 'Uwār, al-, NE/SW, 40 x 1.5 m	436036 1571174
z164 house Zafār, Bayt Saleḥ Abdu Mhd Hussain al-'Anābī, across from new mosque in Zafār	435647 1571348	z181 heavy wall 'Uwār, al-, NE/SW, 26 x 1.8 m	435047 1571173
z165 rock cut face Ġaḥw, al- W of z073	435559 1571421	z182 heavy wall 'Uwār, al-, NE/SW, 16 x 1.5 m	435990 1571133
z166 cave entrance, walle Ġaḥw, al- entrance faces SSW, E of z167, old no 56, next to house of Yahyah and Aḥmad Mus'id	435550 1571418	z183 heavy wall 'Uwār, al-, WSW/ENE, 60 m, best preserved in the area, crosses road	435979 1571117
z167 house Dāḥāḥ, al-, Bayt Yahya and Ahmad Mus'id al-Zafāri, W of z166	435531 1571424	z184 stone square, heavy Ḥayfa, al-, heavy stone oppos. bastion z185, NW/SE, 10 x 14 m	435974 1571075
z168 house Ġaḥw, al-, NNW/SSE, E of z167	435539 1571428	z185 stone square, heavy Ḥayfa, al-, NE/SW, large bastion oppos z184, width 10 m	435946 1571080
z169 cave entrance Ġaḥw, al-, corner of house Ahmad Mus'id al-Zafāri	435519 1571436	z186 heavy wall Ḥayfa, al-, NNE/SSW, 16 m, U-shaped	435927 1571083
z170 cave entrance Ġaḥw, al-, 10 m SW of z167	435526 1571412	z187 heavy wall Ḥayfa, al-, NNE/SSW, 30 m+, with offset wall, S fortification	435915 1571094
z171 cave entrance Zafār, 2 entrances of 1 cave, W cave, 200 m NNW of z153	435494 1571332	z188 heavy wall Ḥayfa, al-, NNW/SSE, 60 m, casemate walls	435890 1571095
z172 cave entrance Zafār, 2 entrances of 1 cave, E cave, 200 m NNW of z153	435483 1571318	z189 heavy wall Ḥayfa, al-, NNW/SSE, 45 m, 1.55 m wide, casemate wall, connects with Ḥayfa z209	435872 1571084
z173 mosque enclosure Ġaḥw, al-, 60 m N of z064, unroofed	435607 1571460	z190 entry to Zafār Zafār/Mudarrag, al- entry E/W to present-day village, largely destroyed 2004	435830 1571044
z174 cistern Zafār/Araḍat 15.5 x 11.0 x 7.0 m, backwall 7 m high	435570 1571075		

z191 house Zafār, Bayt Saleḥ Muslah al-Zafāri	435742 1571089	z208 heavy wall 'Uwār, al-, WNW/ESE, 3 m	435651 1571095
z192 house Zafār, Bayt Aḥmad Saleḥ al-Zafāri	435728 1591108	z209 heavy wall Ḥayfa, al-, NW/SE, 12 m, S fortification, connects with z189	435903 1571039
z193 house Zafār, Bayt Naḡi Saleḥ 'Alī al-'Anābī	435707 1571127	z210 heavy wall 'Uwār, al-, NNW/SSE, 18 m, continues as foundation terrace +40 m	435074 1571178
z194 stall Zafār, Saleḥ 'Alī al-'Anābī	435698 1571131	z211 tomb 'Uwār, al-, August filled with water	436086 1571163
z194a house Zafār, Bayt Saleḥ 'Alī al-'Anābī	435682 1571142	z212 tomb 'Uwār, al-, August water 4 m deep, 5 steps in entrance	436080 1571191
z195 house Zafār, Bayt Mhd Saleḥ 'Alī al-'Anābī	435687 1571150	z213 tomb 'Uwār, al-, August water 4 m deep, 8x8x5 m, 5 steps in entrance	436081 1571212
z196 house Zafār, Bayt Aḥmad Mhd 'Alī al-Zafāri	435665 1571141	z214 cemetery, Ḥimyarite N of Gusr, area called Š'abayna, robbed in 1998 (Info: Saleḥ Methuna Alī Ġulais) near Haddah	384351+ 1571149
z197 house Zafār, Bayt Abdul Fatah al-Zafāri	435652 1571150	z215 wall 'Uwār, al-, W wall of reservoir, ESE/WNW, 110 m, extends through wall to S, concrete in SW corner	435014 1571096
z198 house Zafār, Bayt Saleḥ Mhd al-Zafāri	435658 1571157	z216 wall 'Uwār, al-, E wall of reservoir, ESE, wall robbed, NE part of reservoir but not corner	436131 1571088
z199 house Zafār, Bayt Mhd Saleḥ 'Alī al-Zafāri	435612 1571153	z217 wall 'Uwār, al-, S side of reservoir, 1 course visible	436102 1571055
z200 house Zafār, Bayt Ḥimyar Tāhir al-Zafāri	435607 1571175	z218 tomb Ġirbat al-'Uwār, W side of road, August filled with water, 03.2004 destroyed	435998 1571317
z201 pumphouse Zafār, pumphouse	435596 1571160	z219 wall Danān, al-, NE/SW, 9 m	0436031 1571857
z202 house Zafār, Bayt Aḥmad Mhd Saleḥ al-Zafāri	435586 1571161	z220 stair/ramp Ḥayfa, al-, NE/SW, 5 m	435897 1571097
z203 house Zafār, Bayt 'Abdullah Saleḥ al-'Anābī	435591 1571180	z221 heavy wall Ḥayfa, al-, NE/SW, 8 m, meets z189 at 90	435879 1571080
z204 house Zafār, Bayt Aḥmad Mhd Saleḥ al-Zafāri	435576 1571168	z222 wall Ḥayfa, al-, ENE/WSW, 9 m	435837 1571070
z205 house Zafār, Bayt Aḥmad 'Alī Mus'id al-Zafāri	435558 1571187	z223 heavy wall Ḥayfa, al-, NW/SE, 10 m, perpendicular to S city wall, parallel to terrace wall	435932 1571123
z206 house Zafār, Bayt Ḥamūd 'Alī Mus'id al-Zafāri	435564 1571196		
z206a house Zafār, Bayt Ḥamūd 'Alī Mus'id al-Zafāri	435556 1571193		
z207 heavy wall Ḥayfa, al-, ENE/WSW, 15 x 4 m, 90 angle, S fortification	435970 1571092		

z224 wall Laqīya, Ğ al-, NNW/SSE, 18 m	435873 1571137	z243 wall Dārī al-Qaylīmān, NW/SE, 15 m	435883 1571695
z225 wall Zafār, NNW/SSE, 20 m, medieval house foundation?	435504 1571137	z244 rock Ġirāġir, 100 m fr. Bayt ‘Alī ‘Abdullah to Bayt Muslah ‘Abdullah	435734 1571224
z226 wall Zafār, W, NNW/SSE, 8 m	435499 1571123	z245 wall Ḥarimat, al, NW/SE, 15 m	435891 1571704
z227 stone square (house) Zafār, W side, NW/SE, 8 x 10 m, medieval?	435515 1571108	z246 tombs, Ḥimyarite Ḥamārī, Ğ al-, 10 tombs, recently robbed	435884+ 1570702
z228 stone square (house) Zafār, W, 8 x 8 m, medieval house foundation?	435539 1571100	z247 stone square, heavy Ḥamārī, Ğ al-, NW/SE, 13 x 20 m heavy stone square	435827+ 1570731
z229 stone square (house) Zafār, W, medieval house foundation?	435528 1571111	z248 house Zafār, Bayt Naġi ‘Alī al-Zafāri	435755 1571228
z230 stone square (house) Zafār, W, medieval house foundation?	435512 1571130	z249 cave/tomb entrance Ġaḥw, al-	435546 1571425
z231 stone square (house) Zafār, W, medieval house foundation?	435503 1571161	z250 cave/tomb entrance Ġaḥw, al-, opens to W, next to house of Yahyah and Aḥmad Mus‘id (z167)	435546 1571421
z232 stone square (house) Zafār, W, medieval house foundation?	435491 1571175	z251 cave/tomb entrance Ġaḥw, al-, opens to S, next to house of Yahyah and Aḥmad Mus‘id	435522 1571449
z233 tomb Zafār/Š‘abat al-Dāḥāḥ, S of z234, entrance faces WSW	435476 1571177	z252 cave dwelling Ġaḥw, al-, just S of polygon point 202 and slightly below it	435524 1571445
z234 tomb Zafār/Š‘abat al-Dāḥāḥ, filled with stone, entrance faces W	435472 1571181	z253 cave/tomb entrance Ġaḥw, al-, a kind of garden in front of it, August full of water	435514 1571442
z235 tomb Zafār, W of, entrance faces W	435470 1571163	z254 cave/tomb entrance Dāḥāḥ, al-, in the row of caves beginning with z080	435521 1571436
z236 cemetery, Islamic Zafār/Maginnat, 1 grave deviates from qibla	435625 1571208	z255 tomb Danān, al-, entrance to S	435973 1571776
z237 wall Zafār/Maginnat, next to Bayt Alī Saleḥ al-Zubeidi	435702 1571179	z256 cave/tomb entrance Dāḥāḥ, al, entrance to S, old no. 50	435540 1571411
z238 wall Zafār, NNW/SSE, 15 m	435462 1571194	z257 cave/tomb entrance Dāḥāḥ, al, entrance to S, old no. 51	435540 1571411
z239 reservoir wall Zafār/‘Uqlat, S wall, E/W, 15 m	435548 1571221	z258 cave/tomb entrance Dāḥāḥ, al, entrance to E, old no. 52	435540 1571411
z240 reservoir wall Zafār/‘Uqlat, W wall, NNW/SSE, 18 m	435533 1571238	z259 cave/tomb entrance Dāḥāḥ, al, entrance to S, old no. 53	435540 1571411
z241 reservoir wall Zafār/‘Uqlat, N wall, E/W, 20 m	435546 1571249		
z242 tombs, Ḥimyarite Ġirbat al-Ġirn, N/S, 10 x 10 m	435925 1571531		

z260 cave/tomb entrance Dāḥāḥ, al, entrance to E, old no. 54	435540 1571411	z279 stone packing Ġaḥw, al-, WNW/ESE, between z276 and z278, excavation z178	435620 1571489
z261 house Maqāri', Bayt Mislāh al-Masa'udi	435409 1571305	z280 stone packing Ġaḥw, al-, WNW/ESE, between z275 and z276, excavation z178	435620 1571489
z262 house Maqāri', Bayt 'Abdullah Mislāh al-Masa'udi	435397 1571274	z281 stone packing Ġaḥw, al-, possibly a grave just W of z178	435622 1571485
z263 house Maqāri', Bayt Yaḥer Mislāh al-Masa'udi	435372 1571281	z282 stone packing Ġaḥw, al-, between z275 and z276, excavation z178	435619 1571483
z264 house Maqāri', Bayt 'Abdullah Mislāh al-Masa'udi	435361 1571290	z283 stone packing Ġaḥw, al-, adjacent z276, W edge of trench, excavation z178	435618 1571485
z265 house Maqāri', Bayt Mhd Mislāh al-Masa'udi	435351 1571329	z284 wall Ġaḥw, al-, perpendicular to S face of z178 and just S of it, excavation z178	435623 1571481
z266 house Maqāri', Bayt Aḥmed Mislāh al-Masa'udi	435359 1571350	z285 wall Ġaḥw, al-, parallel to z178 and just E of it, excavation z178	435623 1571482
z267 house Maqāri', Bayt Saleḥ Mislāh al-Masa'udi	435366 1571354	z286 wall Ġaḥw, al-, perpendicular to z178 and just E of it, excavation z178	435623 1571482
z268 house Maqāri', Bayt Mhd Mislāh al-Masa'udi	435356 1571306	z287 wall Š'abat dī Mirfad, NE/SW, 10 m, 45 m SW of z293	435701+ 1571966
z269 heavy wall Maqāri', NNW/SSE, 100 m	435329+ 1571431	z288 tomb Ḥudat al-Ḍaḥab, entrance to S, subquadratic plan	435844+ 1572263
z270 heavy wall Maqāri', NNE/SSW, 20 m	435275+ 1571560	z289 wall Dārī al-Qaylīmān, NE/SW, 15 m	435881 1571661
z271 heavy wall Maqāri'	435244+ 1571567	z290 wall Š'abat dī Marfad, E/W, 20 x 1.5 m, parallel to z291	435669+ 1571970
z272 cemetery, Ḥimyarite Maqāri', sherds and bones, settlement pottery	435146+ 1571635	z291 wall Š'abat dī Marfad, E/W, 30 m, parallel to z291	435669 1571970
z273 cave/tomb entrance Ẓafār, W, combined with wall, 2 m S of z227, not in plan	435515+ 1571082	z292 wall Š'abat dī Marfad, part of fortification?	435690+ 1571983
z274 wall Siḥrat, N/S, 10 m	435887+ 1572066	z293 wall Š'abat dī Marfad, NW/SE, 20 m	435746 1571984
z275 wall Ġaḥw, al-, E/W, excavation z178	435620 1571483	z294 wall Š'abat dī Marfad, NW/SE, 30 m	435747 1571998
z276 wall Ġaḥw, al-, E/W, excavation z178	435620 1571484	z295 tomb Gus, al-, entrance to E, 10 m SW of z329	435559 1571786
z277 canal Ġaḥw, al-, NE/SW, 2 m, excavation z178	435624 1571491		
z278 wall Ġaḥw, al-, WNW/ESE, excavation z178	435620 1571489		

z296 house Ġaḥw, al-, Bayt Aḥmad Mus'īd al-Ẓafāri, built June 2003	435676 1571388	z315 cave/tomb entrance Ẓafār, NE slope, entrance to NW	435479 1571313
z297 rock Ġaḥw, al-, NE/SW, 7 m, 30 m W of polygon point 138	435733 1571537	z316 cave/tomb entrance Ẓafār, NE slope, entrance to NW	435460 1571313
z298 stair Ġaḥw, al-, upward to e, 4 m S of polygon point 138	435763 1571558	z317 cave/tomb entrance Ẓafār, NE slope, entrance to NW	435505 1571460
z299 cave/tomb entrance Ra's al-Sillat, entrance to N	435626+ 1571935	z318 heavy wall Gusr, al-, NW slope, E/W, 15 x 1 m, corner with z319, bastion	435415 1571683
z300 excavation 2003 H Raydān, W of, excavation 2003, zm001 found here	435515 1571536	z319 heavy wall Gusr, al-, NW slope, NNW/SSE, 25 m, corner with z318, bastion, dry masonry, beautiful stoneworking	435421 1571690
z301 wall Maqāri', NNW/SSE, 20 m	435342 1571338	z320 wall Gusr, al-, NW slope, NNW/SSE, 8 m	435370 1571658
z302 heavy wall Maqāri', N/S, 20 m	435349 1571369	z321 wall Gusr, al-, NW slope, NNW/SSE, 10 m	435393 1571665
z303 wall Maqāri', N/S, 30 m	435351 1571394	z322 wall Gusr, al-, N slope, N/S, 18 m	435388 1571645
z304 heavy wall Maqāri', NE/SW, 10 m	435317 1571405	z323 wall Gusr, al-, N slope, NW/SE, 20 m	435390 1571657
z305 heavy wall Maqāri', NW/SE, 10 m	435323 1571428	z324 cave/tomb entrance Ẓafār, W of, entrance faces WSW, August full of water	435300 1571260
z306 heavy wall Maqāri', NNW/SSE, 50 m	435323 1571438	z325 cave/tomb entrance Ẓafār, W of, central stair	435259 1571228
z307 heavy wall Maqāri', NW/SE, 40 m, follows the slope	435285+ 1571474	z326 dam Šuqāq, al-, N/S, c. 35 m wide and 4 m high	434778+ 1570956
z308 wall Maqāri', E/W, 20 m	435243 1571570	z327 dam Ẓafār, W of, c. 60 m wide, 3 m high	434865 1570914
z309 wall Maqāri', E/W, 15 m	435270 1571646	z328 dam Ẓafār, W of	435260 1570902
z310 grave, Him. Maqāri', entrance to SSW	435135 1571553	z329 cistern Gusr, al-, entrance to NE, 10 m NE of z295	435564 1571788
z311 grave, Him. Maqāri', entrance to SSW	435145 1571541	z330 heavy wall Ẓafār/Lawuhaš, al, NW/SE, 15 m	435713 1571261
z312 heavy wall Maqāri', W of, outer city wall, N/S, 28 m	435045 1571355	z331 heavy wall Ẓafār, NW/SE, 60 m, continues z330	435740 1571231
z313 heavy wall Maqāri', N/S, 10 m	435204 1571379	z332 heavy wall Laqiya, Ġ al-, NNE/SSW, 4 m	435817 1571248
z314 cave/tomb entrance Ẓafār, NE slope, entrance to NW	435488 1571324		

z333 heavy wall Laqīya, Ġ al-, ENE/WSW, 10 x 10 m + 15 m, perpendicular offset, casemate(?)	435805 1571213	z350 wall Zafār, W of z190, 4 x 3 m, probably tower, surrounds mp118	435770 1571060
z334 heavy wall Zafār/Qism al-Dāyir, ENE/WSW, 10 x 10 m	435498 1571260	z351 wall Gusr, al-, W slope, corner, NNW/SSE and WSW/ENE, 18 m	435440 1571699
z335 wall Zafār/Qism al-Dāyir, NW/SE, 6 m, next to Bayt ‘Abdulah Saleḥ al-‘Anābī	435508 1571281	z352 wall Gusr, al-, NW slope, foundation terrace	435456 1571777
z336 heavy wall Zafār/Qism al-Dāyir, NE/SW, 8 m, stone square(?)	435518 1571276	z353 wall Gusr, al-, W slope, N/S, foundation terrace	435352 1571857
z337 heavy wall Gusr, al-, SE slope, NNE/SSW, 100 m	435507 1571759	z354 foundation terrace Gusr, al-, N slope, NE/SW, 50 m	435409 1571844
z338 wall Gusr, al-, N slope, NE/SW, 15 m	435526 1571818	z355 foundation terrace Gusr, al-, NE slope, ENE/WSW, 40 m	435450 1571817
z339 wall Gusr, al-, N slope, WSW/ENE, 12 m	435526 1571818	z356 stone square, room Gusr, al-, top, NNE/SSW, 10 x 6 m	435506 1571777
z340 stone square, room Gusr, al-, E end, NNW/SSE, 14 x 10 m	435527 1571792	z357 stone square, room Gusr, al-, top, NNE/SSW, 15 x 10 m, corners on cardinal points	435491 1571749
z341 stone square, room Gusr, al-, E end, NNE/SSW, 9 x 8 m	435515 1571773	z358 stone square, room Gusr, al-, top, NNE/SSW, 13 x 7 m, u-shaped, corners on cardinal points	435480 1571740
z342 corner stone Gusr, al-, N slope, NW/SE connects with z339	435484 1571785	z359 wall Gusr, al-, N slope, NW/SE, 50 m	435534 1571868
z343 corner stone Gusr, al-, N slope	435477 1571791	z360 wall and terrace Gusr, al-, SE slope, NW/SE, 50 x m	435530 1571765
z344 corner stone Gusr, al-, N slope	435477 1571792	z361 heavy wall Laqīya, Ġ al-, NW/SE, 170 x m, follows the slope, crenellated	435835 1571248
z345 wall Gusr, al-, NW slope, NNE/SSW, 32 m, 2 perpendicular offsets	435410 1571760	z362 heavy wall Laqīya, Ġ al-, S of z361, N/E, 15 x m	435905 1571165
z346 wall Gusr, al-, NW slope, NNE/SSW, 36 m	435400 1571750	z363 heavy wall Laqīya, Ġ al-, S side of, near z187	435905 1571135
z347 stone square, heavy ‘Aṣwār, Ġ al-, N wall: NNW/SSE (350), 30 x 30 m	436050+ 1570816	z364 heavy wall Laqīya, Ġ al-, SE side of, links to z124	435895 1571190
z348 wall ‘Aṣabī, Ġ al-, SW upper slope, NNW/SSE (350) of »temple«, 8 m	436149 1571272	z365 heavy wall Laqīya, Ġ al-, E side of, 3 different directions, links to z364	435900 1571220
z349 cliff, worked Ġaḥw, al-, NNE/SSW, 30 m, conical hole, around pp138	435751 1571547	z366 stone square, heavy Laqīya, Ġ al-, top of, NNW/SSE, 10 x 8 m, fortification	435880 1571195

z367 heavy wall Laqīya, Ġ al-, from top down slope to z361	435900 1571190	z386 wall H Raydān, W slope in excavation z300	435545 1571501
z368 heavy wall Laqīya, Ġ al-, near summit, NNW/SSE, 20 m	435890 1571180	z387 wall H Raydān, W slope in excavation z300	435551 1571495
z369 conical hole Ġaḥw, al-, 46 cm deep, 33 cm wide, 5 m E of polygon point 138	435760 1571566	z388 wall H Raydān, W slope in excavation z300	435543 1571543
z370 wall H Raydān, W slope in excavation z300	435548 1571500	z389 room H Raydān, W slope in excavation z300	435545 1571506
z371 heavy wall Ḥayfa, al-, NE/SW, 5 m, E wall of z375	435930 1571070	z391 sounding H Raydān, W slope in excavation z300	435549 1571497
z372 heavy wall Ḥayfa, al-, NNE/SSW, 20 m, parallel to z221 and z376	435890 1571082	z392 drain or wall H Raydān, W slope in excavation z300	435549 1571498
z373 wall H Raydān, W slope in excavation z300	435545 1571500	z394 wall H Raydān, W slope in excavation z300	435541 1571505
z374 room H Raydān, W slope in excavation z300	435546 1571500	z395 room H Raydān, W slope in excavation z300	435542 1571506
z375 cistern Ḥayfa, al-, between z371 and z396	435924 1571067	z396 heavy wall Ḥayfa, al-, SE/NW, 5 m, W part of z375	435930 1571070
z376 heavy wall Ḥayfa, al-, NE/SW, 15 m, continuation of z186	435895 1571065	z397 water facility Ḥayfa, al-, NW/SE, W part of cistern z375	435930 1571070
z377 floor Ḥayfa, al-, 4 m W from z396	435919 1571067	z398 wall Zafār, NNW/SSE, 20 m, W of the reservoir al-Uglah, buttresses z240	435527 1571238
z378 wall H Raydān, W slope in excavation z300	435551 1571495	z399 cliff, cut Ḥayfa, al-, NW/SE, 10 m	435790+ 1571030
z379 wall H Raydān, W slope in excavation z300	435550 1571497	z400 excavation 2004 H Raydān, W of, excavation 2004	435515 1571536
z380 pavement H Raydān, W slope in excavation z300	435549 1571493	z401 heavy wall H Raydān, SW slope in excavation 2004	435570 1571480
z381 wall H Raydān, W slope in excavation z300	435551 1571497	z402 wall H Raydān, SW slope in excavation 2004	435561 1571488
z382 room H Raydān, W slope in excavation z300	435545 1571502	z403 wall H Raydān, SW slope in excavation 2004	435561 1571488
z384 wall H Raydān, W slope in excavation z300	435544 1571503	z404 wall H Raydān, SW slope in excavation 2004	435561 1571488
z385 wall H Raydān, W slope in excavation z300	435546 1571500	z405 wall H Raydān, SW slope in excavation 2004	435561 1571488

z406 entrance? H Raydān, SW slope in excavation 2004	435561 1571488	z451 heavy wall Zafār, directly N of z240, NW/SE, 12 m preserved	435533+ 1571243
z407 slabs, stone H Raydān, SW slope in excavation 2004	435561 1571488	z452 heavy wall 'Azafat, ENE/WSE, 8 x 2.4 m, well masoned, greenish stone, together with z453, z454 and z455	435620+ 1570988
z408 entrance? H Raydān, SW slope in excavation 2004	435561 1571488	z453 heavy wall 'Azafat, ENE/WSE, 10 m, well masoned, greenish stone, parallel to z452 and z455	435622+ 1570999
z409 heavy wall H Raydān, SW slope in excavation 2004	435561 1571488	z454 heavy wall 'Azafat, NNW/SSE, 2.8 m, well masoned, greenish stone, perpendicular to z452 and z455	435622+ 1570999
z410 blocks, stone H Raydān, SW slope in excavation 2004	435561 1571488	z455 heavy wall 'Azafat, ENE/WSW, 8 m with lacunae, well masoned, greenish stone, parallel to z453	435622+ 1570999
z411 steps, stone H Raydān, SW slope in excavation 2004	435561 1571488	z456 wall Mirrat, al-, NW/SE, parallel to slope, SE of z306	435333+ 1571261
z412 blocks, stone H Raydān, SW slope in excavation 2004	435561 1571488	z457 cliff, worked Gusr, al-, NW/SE, 11 m, rest of walls	435597+ 1571856
z413 pavement H Raydān, SW slope in excavation 2004	435561 1571488	z458 quarry Zafār/aḍ Ḍaḥat aš-Šaḥrār	435508+ 1570972
z414 blocks, stone H Raydān, SW slope in excavation 2004	435561 1571488	z459 wall Š'abat dī Marfad, NW/SE, 7 m, next to Ḥimyarite graves	435758+ 1571823
z415 entrance H Raydān, SW slope in excavation 2004	435561 1571488	z460 heavy wall 'Azafat, NW/SE, 9 m, poorly preserved	435646+ 1570971
z416 pavement H Raydān, SW slope in excavation 2004	435561 1571488	z461 wall Ḥayfa, al-, NNW/SSE, 30 m	435837 1570989
z417 pavement H Raydān, SW slope in excavation 2004	435561 1571488	z462 cliff Ḍaḥah, aḍ, contains numerous graves, dwellings and chambers	435515 1571430
z418 pavement H Raydān, SW slope in excavation 2004	435561 1571488	z463 wall Gusr, al-, NNE/SSW, 20 m, hydraulic mortar on cliff	435550 1571890
z419 wall H Raydān, SW slope in excavation 2004	435561 1571488	z464 walls 4 Ḥayfa, al-, NE/SW, 14 m, parallel and perpendicular to the slope	435830 1571070
z421 heavy wall H Raydān, SW slope in excavation 2004	435561 1571488	z465 walls Š'abat dī Marfad, 2 parallel and 1 perpendicular, NNW/SSE, 14 m those perpendicular to the slope	435711 1571852
z422 pavement H Raydān, SW slope in excavation 2004	435561 1571488	z466 cliff, worked Ḥamari, Ḡ al-, hypothetical tower platform, 5 x 10 m	435744 1570892
z423 slabs, stone H Raydān, SW slope in excavation 2004	435561 1571488		
z424 slabs, stone H Raydān, SW slope in excavation 2004	435561 1571488		
z425 pavement H Raydān, SW slope in excavation 2004	435561 1571488		

z467 wall corner Siḥrat, N/S, 6 m	435901 1572025
z468 terrace wall Siḥrat, E/W, 5 m, medieval?	435900 1572073
z469 wall Siḥrat, NE/SW, 20 m, above a rock cliff	435900 1572073
z470 stone square Ḥamari, Ġ al-, long rectangle, NW/SE, 25 x 16.5 m	435795+ 1570795
z471 heavy wall Ġirbat al-‘Uwār, NNW/SSE, 4 x 1 m	435986 1571251
z472 wall Ġirbat al-‘Uwār, NW/SE, 3 m	435958 1571279
z473 heavy wall Buqaṭī, al-, NE/SW, 8 m	435924 1571308
z474 heavy wall Zafār/Qism al-Dāyir, SW/NE, 2 m	435500 1571285
z475 wall Zafār/Qism al-Dāyir, SW/NE, 10 m	435457 1571327
z476 heavy wall Maqāri‘, E/W, 5 m, corner, platform foundation	435352 1571393
z477 wall Šabat dī Marfad, E/W, 10 m	435716+ 1571975
zc001 cemetery, Him. ‘Asabī, Ġ al-, N slope	436125 1571481
zcv00test trench city wal H Raydān, next to terrace z018 and wall z175 5x5 m trench = z149 8.09.2000, E side	435643 1571582
total: 451, 08.05.2004, 09:08	

THIRD PRELIMINARY REPORT, SUMMER 2003⁶⁹

At the beginning of 2003, political unrest had become acute in the Yemen. Thus, the University of Heidelberg Expedition postponed its fieldwork, scheduled for February, until mid-August and September, when conditions had relaxed. A mission of

research, training, and cultural resource management emphasizes the neglected late Ḥimyarite period (post 350–380 to 525 CE), prior to the fall of Ḥimyar as well as the Axumite invaders’ subsequent transfer of the capital to Ṣan‘ā’. This season’s activities consisted of: 1. mapping Zafār’s eastern flank, 2. continuing the cataloguing of artefacts housed in the Zafār Museum, and 3. excavating a large building structure on the south-west slope of the Ḥuṣn Raydān. These three project components help correct commonly-held oversimplifications that the site is: a. completely destroyed, and b. that Saba’, with its capital Mārib, is the »main« pre-Islamic kingdom in Old South Arabia.

MAPPING ZAFĀR

This season’s mapping of Zafār’s eastern flank illuminates the once elaborate, yet little- understood

⁶⁹ This project was made possible by a generous grant from the Fritz Thyssen Stiftung. We thank the General Organisation for Antiquities and Museums (GOAM), particularly Yusuf Abdullah, its president, for allowing us to continue at Zafār. Heartfelt thanks go to I. Gerlach of the Deutsches Archäologisches Institut, who lent us a generator, enabling the photography. At the DAI research station in Ṣan‘ā’ we were able to recuperate away from our base in Yarim. The author thanks Yemenia Airways, which provided much-needed logistical support, thus freeing funds for posts that could not otherwise be financed. J. Heckes, of the German Mining Museum, advised us at various points.

The project leader enjoyed the excellent cooperation of the following participants: K. al-Ansi, GOAM director for Ibb Province, S. ul-Din, foreman (GOAM), F. Krämer, archaeologist and Arabist, M. Mayer, geoinformatic engineer, S. Mühl, archaeologist, A. Ruzak, GOAM government inspector, R. Rechmann, archaeologist, B. al-Sami, GOAM government inspector, M. Schicht, photographer, C. Weides, geoinformatic engineer.

At home the following individuals and institutions supported the project:

W. Arnold (University of Heidelberg, director, Seminar for the Culture and Language of the Near East, project patron), W. Böhler (University of Applied Science in Mainz, director, Institute for Spatial Information and Surveying Technology), G. Brands (University of Halle-Wittenberg, art historian), C.-P. Haase (Staatliche Museen zu Berlin, director, Museum for Islamic Art), A. Kirfel, (University of Bonn, director, Institute for Mineralogy), M. Maraqtan (University of Mainz, epigrapher), and A. Sima† (University of Heidelberg, epigrapher).

Excavation began on 23.08.2003 and ended on 24.09.2003.

antique access and defensive systems. Surveyers from the University of Applied Sciences in Mainz laid the groundwork for more intensive study of the topography here, that enables other research methods, for example, geoprospection. The mapping increases the known topography by 22 ha as well as illuminates details of a first animated model of the ancient city, which was finished in 2002 (cf. Pl. 29, 1), and is useful as an instrument to more intensively study the size and position of the fortifications. Moreover, numerous placenames are as mapped available for study, which hopefully may contain Ḥimyarite fossil names. High resolution satellite imagery of the entire complex is under study.

THE ZAFĀR MUSEUM

The original agreement with GOAM foresaw the cataloguing of the artefacts housed in the site museum, notably which contains the largest collection of Ḥimyarite reliefs known. On stylistic grounds, the majority date to the late period. It is hoped that a careful study of this collection will reveal anchoring points for the development of Ḥimyarite style, which remain unarticulated.

Over the years, spurious registrations had grown perniciously, as a result of the piecemeal acquisition of numerous artefacts, notwithstanding a lack of organisational coordination. Previously, as many as three different reliefs or inscriptions may have bourn the same inventory number, if not two different ones. Since many of the numbers had worn away, a verification of each and every one was a must. The team reduced four different inventory series down to one.

During the brief campaign of 2000, the team had first photographed and reorganised the museum magazine, ordering the reliefs by motif. This year, the high aesthetic quality of many and the reduction of anticipated subsequent printing costs for the catalogue, provided grounds for a professional photographer to replace the working photos with ones suitable for publication. With the rephotographing completed, the aesthetic value of the reliefs became even more evident than before. Digital technology enabled the optimising of the contrast, background, size, and resolution of the photos while still in the field. Recently, a team came together to finish the cataloguing per se of the reliefs.

In 2000, for lack of time, numerous, small, poorly preserved and/or iconographically redundant fragments, were neither registered nor photographed. This year, the photo team carefully reexamined the corpus for iconographic or stylistic unicata, thus increasing the number of registered reliefs from 821 to 900. These were reorganised and reshelved according to their new inventory number. We upgraded the museum, making numerous repairs, installing new exhibits, as well as vitrines. Additional shelving partly alleviates the badly crowded conditions in the magazine.

EXCAVATION OF THE BUILDING Z300

Twenty years ago on the south-western slope of the Ḥuṣn Raydān, the long, fascinating building inscription (siglum: zm1) of the late Ḥimyarite, 5th cent. CE king Šuraḥbi'il Ya'fur came to light, in which he described his palace, Hargab⁷⁰. Surveyers designate this area z300. Owing to the fact that in late Ḥimyarite times Zafār served as the capital, building remains at z300 dating to this period come as no great surprise. Moreover, very few Islamic finds and find contexts have thus far occurred anywhere at Zafār, save the present-day village itself. The south-western slope of the Ḥuṣn Raydān, *intra muros*, was predestined for archaeological investigation, first because of its heavy layer of late antique/early medieval debris, which hopefully would protect it from stone robbing. Second, the proximity of z300 to the centres of the Raydān palace, especially in the saddle known as al-Ġaḥw, indicates the building's importance (Pl. 29, 2). Finally, a heavy concentration of worked marble and limestone blocks on the surface, gives further indication of an important building below, making z300 more desirable for excavation than other sites.

The upper 3 m of the 20 x 10 m excavation in the steep rubble slope proved to be disturbed by recent stone scavenging. At the end of the second day, the remains of walls came to light. Numerous fragments of architectural building sculpture awakened hopes

⁷⁰ A. Sima lecture in Bamberg 29.06.2002 republishing the original translation of G. Garbini, *Antichità yemenite*, AION 20, 1970, 537–548.

that the architecture below would be at least partly intact.

In all, the excavators documented 25 contexts, 11 of them walls (Pls 30–32, 1). The latter enclosed four rooms, which were not entirely excavated for reasons of time. Notably, in room z374 burnt earthen strata were evident. Here, in the largely loamy, homogenous debris, concentrations of glass, beads, and relatively few of the usual relief fragments occurred. Typically, on the other hand, in the other three rooms, stone debris lay in very loose soil and stone. Except for room z382, in which a concentration of pottery sherds appeared, the find-distribution spread over the excavation surface remained constant.

The exterior (south-east face) of the north-east wall, z370, is more carefully masoned than the others. It bonds with the wall z385, being contemporary with it. Together with wall z373, these form the already mentioned room z374. Inasmuch as wall z385 closes by means of a large stone, it may be concluded that the latter forms a door frame. In the north-east profile of this room a further wall, z393, was manifest. This joins with wall z373 and its upper courses seem displaced c. 20 cm to the north-east. Its full form and preservation require investigation.

Bonded with each other, walls z373 and z386 also form a building unit. Here a doorway is located beside the end of the wall. The room z382 is closed off to the north-west by means of wall z384. The north-east profile is formed by stone debris. The exterior walls z385 and z386 are aligned, thus forming a structural/chronological unit.

A further wall, z394, is north-west/south-east oriented, and lies on an axis different from the others. Thereof, only a single course of slightly tipped stones were excavated. Similarly, of the wall z388, all that remained to excavate was a fragment, which thus is not described in detail.

In the south-east of the excavation surface at 2800.3 m above mean sea level, a broad pavement of basalt square plates irregular in size came to light (z380), to the south-west some 30 cm lower. To the north-west, the slabs were larger than those to the north-east. These slabs, which show traces of burning, border on the south-east side of wall z370. On this side where c. 2 m² of the slabs were missing, it was opportune to investigate beneath the pavement. Here in a c. 1.5 x 2 m sounding (depth: 2799.05 m to 2798.74 m) the trench struck bedrock. Wall z370

rested on an earthen shim layer thereon. This means that the wall z370 was erected before the pavement z380. Since the wall z370 was constructed as an outside wall, it appears that we have at this point the south-east exterior of a building complex; the pavement is a later addition. Owing to the location of plaster and marble fragments, we are dealing with the interior of rooms and the coarse slabs paved a courtyard.

A further interesting context, z392, which came to light in the above-mentioned sounding, can later be more closely investigated. The small sounding did not reveal whether this is a relict of a wall or that of a drain. Like z370, the context is located on a earthen levelling layer c. 15 cm above the bedrock.

Two further wall remains, z378 and z379, and a stone bank, z390, rest on the eastern part of the pavement z380, postdating it. The wall fragments form a right angle to each other. The original purpose of z390, which lies within this corner, remains unclear because it consists of only a single layer of stone, which have survived. This feature probably extends to the north beyond the excavation surface.

In 375 labourer-days some twenty labourers ultimately removed some 360 m³ of stone debris, which they deposited in five 30 m long terraces, regular in shape. There is no possible unclarity as to the original and the altered landscape in the mapping. Given the high concentration of sites near z300, this terracing was the only viable solution available. Large numbers of relief fragments came to light, the smaller ones too numerous to register and store. Labourers constructed a lapidarium on the uppermost terrace to deposit building stones too large and unsuitable to bring into the museum. A fence and a sign, prohibiting the removal of objects, protect the monument.

The most numerous type of find are stylistically late Himyarite relief fragments, for example, a large architectural niche (Pl. 32, 2). Most notable among the pottery are fragments of large storage vessels.

To judge from their relative similarity in shape, size, and position to each other, the excavated rooms may have been shops or storage chambers of a larger building complex, which has no close parallels in South Arabia. The large building, in fact, may be the Hargab palace.

P. Yule

FOURTH PRELIMINARY REPORT,
SPRING 2004⁷¹

Some 130 km south of the capital in Ṣan‘ā’, Ẓafār lies in the mountainous region (2800 m altitude) of the Ibb Province. In keeping with our late Ḥimyarite emphasis, in 2004 excavation centered on this same period. Main activities included enlarging a trench, which we began in 2003 at the foot of the Ḥuṣn Raydān. We also took the opportunity to salvage excavate a deep shaft tomb in neighbouring al-‘Arāfah. Apace with this, student surveyers mapped 21 ha of the area east of al-Gusr (= al-Qasr, Pl. 33). On arrival, disconcerting collateral damage, which resulted from road building, necessitated salvage excavation at the village entrance. While good roads no doubt are a boon for the population, their construction has a decidedly negative impact on the local archaeological remains. For example, what remained of the 1500 year old antique entrance to Ẓafār village and its pavement were destroyed in early February. Unfortunately, before they could be documented, in al-‘Uwār Ḥimyarite heavy walls and a large tomb (z218) also fell prey to the bulldozer. Site robbing has become a popular pastime, and its untoward traces have become ubiquitous. Given a lack of effective legislation and enforcement regarding cultural resource management, and at the present rate of attrition, ten years from now Ẓafār and its surroundings will be in a far worse condition than they are today. In light of recent destruction, many of the contexts, which we have photographed since 1998 already have become historic.

THE EXCAVATION Z400
SOUTH-WEST OF THE ḤUṢN RAYDĀN

By enlarging 2003’s excavation (trench z300), in 2004 in z400 we refocussed our work near the core of the Raydān palace in what is called al-Ġaḥw (Pls 33. 34), more precisely on the south-west slope of the Ḥuṣn Raydān. The expansion of the already excavated surface offered the obvious advantage of enlarging the view of what is hoped to be a palace or temple structure in our emphasis period. Given the steep slope to the east of z300 (Pl. 35, 1. 3) and apprehensions about a possible lack of deep stratigraphy here, we postponed excavation in this direction

and continued immediately to the south. A further reason for the choice of this particular site was its nearness to our disposal area – a logistic/financial consideration. Nor did we want to encroach on numerous other sites in the immediate area, bury them with the excavated debris, or falsify the topography as a result of random disposal. Finally, to judge from small soundings, other sites, such as on top of the Ḥuṣn Raydān (context z028) seemed particularly plagued by stone robbing. These failed to offer the preservation and deep stratigraphy desired – prerequisites for meaningful excavation.

This year’s excavation surface contained not only late Ḥimyarite levels, but also a fragmentary earlier elaborate – even precision – architecture built presumably by and for the rulers to judge from the quality of the work. The excavation penetrated

⁷¹ This season was made possible by a generous grant from the Fritz Thyssen Stiftung. We thank the General Organisation for Antiquities and Museums (GOAM), particularly Yusuf Abdullah, its president, for allowing us to continue at Ẓafār. At the DAI research station in Ṣan‘ā’ owing to the steady hand of Iris Gerlach we were able to recuperate away from our base in Yarim and evaluate our data. The author thanks Yemenia Airways, which provided much-needed logistical support, thus freeing funds for posts that could not otherwise be financed.

The project leader enjoyed the excellent cooperation of the following Yemenite participants: Ḥalid al-Ānsī, GOAM archaeologist for Ibb Province, Saleḥ al-Numieri, foreman (GOAM) and ‘Alī al-Naqib, GOAM government inspector. The team consisted furthermore of Michel Blumenroth and Burkart Dähne, surveyers, Anja Dreiser, Kristina Franke, archaeologists and Arabists. Corinna Borchert and Cornelius Mayer, of Eastern Atlas Geophysical Prospection, were responsible for the geomagnetic survey. Last but not least, Elke Schmidgen-Hager investigated the city defences.

At home the following individuals and institutions supported the project: Werner Arnold (University of Heidelberg, director, Seminar for the Culture and Language of the Near East, project patron), Wolfgang Böhler (University of Applied Sciences in Mainz, director, Institute for Spatial Information and Surveying Technology), Gunnar Brands (University of Halle-Wittenberg, art historian), Claus-Peter Haase (Staatliche Museen zu Berlin, director, Museum for Islamic Art), Armin Kirfel, (University of Bonn, Mineralogical-Petrological Institute), Muhammed Maraqtan (University of Mainz, epigrapher), and Alexander Sima† (University of Heidelberg, epigrapher). I thank the latter colleague for going over the manuscript, and being a general source of specialist information. Marcus Heid scanned and plotted diverse plans in an excellent manner.

The excavation began on 03. 03. 2004 and ended on 09. 04. 2004.

deeper into the surface than in the adjacent z300, and successive building phases became identifiable.

Procedure

The 20 x 10 m excavation surface, z400, was divided into 1 m squares; the south-west corner corresponds to 0/0 and the north-east one to the point 10/20. The designations of the squares relate to the position in relation to the south-west corner. Owing to the complexity of the stratigraphy, the positions of the small finds were determined by square and not individually. At the end of the season the architectural remains were fixed using a tachymeter. The area/context designations are defined by deposits of the same consistency, material and colour. Building contexts received the numbers z401–z425.

Results

Following the removal of the surface debris, a large structure appeared, formed by areas consisting exclusively of stone, and those of stone mixed with earth. The eastern part of the trench contained collapsed debris, which increased manifestly in volume as the trench deepened. Our assumption (as in trench z300) at the beginning of excavation that where large and small stones occurred amassed together that we had encountered robbers' trenches, cannot be substantiated. In any case, below these funnel-like depressions a wall from the latest period as well as layers of earth came to light. Within the depressions Himyarite reliefs, glazed pottery, glass fragments and beads occurred. By virtue of the different masonry styles, materials and stratigraphy, three building phases are identifiable. But within this framework certain contexts and local stratigraphic sequences elude dating (Pl. 36, 1). Time and personnel were lacking in order to enable the removal of the latest walls in order to get a clear picture of the earliest building remains. Twenty-five stratigraphic units were recorded, which include walls, pavements, less easily definable contexts, as well as fragmentary steps. Since complete rooms were obscured by intrusive walls and other such disturbances (Pls 34, 35, 2), they are not individually numbered, but rather are subsumed in the context numbers.

The Contexts

Latest Building Phase

The latest phase contains walls, made of rough-worked stone, were mostly covered with a thick layer of evaporation and water-laid calcareous white accretions. Regular hewn/worked stones from other contexts were secondarily used. In order to build with these damaged and rough-worked stones, smaller ones fill the interstices, thus stabilizing the walls, as nowadays still practiced. This building phase includes the walls, z401–z405, z409 and z421. Some of these may conceivably be the foundation walls of robbed buildings no longer extant, which would explain the depressions.

The contexts z401, z421, z409 (from west to east) designate a sandwich-wall made of stones, which contain an earthen fill. In the west, this wall is preserved as high as 1.30 m. At its eastern end, only 0.50 m is preserved. This curved wall is east/west oriented and at its easternmost end connects with z409. Locus z409 is preserved only two to three courses high, being about 1 m long. These courses are jerry-built possibly on packed earth. Area z421 designates a partly collapsed area of the wall. Since initially it was not clear whether a link would manifest itself between z401 and z409, we gave this context its own number. This area seems to have been repaired, since its masonry is irregular and is filled-in with debris. In fact, it is not clear if post hoc it was constructed in its present position.

Context z402 designates a wall, which only is recognisable in profile. It is oriented north-west/south-east, disappears in the profile, and is preserved in five to eight courses from 2.0 m to 2.5 m in height. Our resources sufficed to reach the lowermost stone course. This wall rests on top of the pavement z417.

The wall z403, consisting of two rows of stones bonded to each other, is north-east/south-west oriented and its position is clear, although it generally is poorly preserved. The south end is collapsed; the north end seems to bond with the south exterior of wall z404. They form approximately a right angle with each other.

z404, a sandwich wall with a filling of earth and gravel, is north-west/south-east oriented. Its western part is evidenced with only a single layer – preserved in the east four courses (1 m) high. During the earliest work here it collapsed partly. Context z404 is

built on and in connection with feature z408 and z416. The foundation wall was visible in most but not all of its entirety. Its length was observed, as resources allowed this season. That part of it, which corresponds in its upper level with that of z403 is more or less debris. To the west it disappears into the edge of the trench.

Context z405 designates a wall built of two rows of stones, which are preserved at least in a single course. This bonds with the western portion of z403 at an 85°/95° angle. Nor is z405 parallel with z404. Nonetheless, z403, z404 and z405 define a space, the western wall of which was not investigated.

The stratigraphic sequence within this three-wall complex is unclear because it was not possible to investigate the foundation trenches in profile. The seemingly older wall z408 was not damaged by the building of z401 and its good quality stone was not reused there.

Older Building Phase

The older building phase contains several building features the stratigraphic sequence or association of which varies in its certainty. In terms of their masonry they all consist of hewn stone, which however, differ from those of the oldest building phase (see below). They lie below layers of earth and do not seem recently disturbed.

Context z412 consists of four cleanly hewn dark grey basalt blocks, which underneath are pointed, and which preserve their original shape. Although their length varies to a maximum of 1.30 m, the width and breadth measure 0.70 m. They join cleanly with each other and their upper surface lies in one plane. Contexts z401 and z419 both consist of a single stone, show the same kind of masonry as well as kind of stone. On this row of stone, Sabaean inscribed pottery sherds with fingerprints occurred.

Context z414 runs parallel to z412 in the latter's northwest part. It consists of reddish, obdurate, neatly hewn mafic stones, which are 0.30 m high, and like those of z412 beneath are slightly pointed. Further to the north in this row two further blocks are of the same width, but are only half as long. One consists of basalt and the other of the above mentioned reddish hard stone. A further basalt block of the same size lies before this last stone block. All of the blocks lie on one level. The upper surface of con-

text z414 lies 0.30 m beneath that of z412. The interstice between the two rows of stones amounts to their combined width. South-east of z412 lie six slabs, z424, these at the same height at z412.

Context z410 designates two dark grey slabs south-east of the slabs z424, which lie 0.20 m above them. A burnt layer lies above these contexts.

It seems possible that the first blocks from the stone row z414 are remnants of a larger feature. Between it and z412 lay a further row of blocks of the same width. This suggests a north-east/south-west stair, which descended to a structure here, which no longer exists. Given the same level and direction, the row z424 seems to belong to this structure, although stratigraphic evidence for this is lacking. In light of its orientation, z410 seems also to belong to the same context. Immediately to the south a broad collapsed area may be contemporary, but its association is unclear. Furthermore, at this point it may be mentioned that the column juxtaposed to z415 seems capped so as not to project into z410. Between these cut off column and z421 lies a worked stone, which in terms of its material, level and direction jibes nicely with z410. Similar stones also secondarily fitted into the later wall z401–z405 are in evidence, as well as in the wall z419, which has not yet been described.

Context z419 designates a poorly preserved wall fragment, the lowest course of which consists of two quadratic stone slabs, which share the same orientation with z414 without, however, fitting meaningfully into a larger context. The above-lying poorly constructed structure consists of three to four courses with a height of some 0.85 m. It is principally built from the stones in the same kind of masonry as z410, z412, z414 and z424. The resulting wall seems thus later than this complex, and cannot however, be attributed to any other structure.

The stone pavement z422 joins to the north with z380, that of the excavation z300. But while the slabs used for z422 are oriented north-north-west/south-south-east, those of z380 lie north-east/south-west. On the other hand, the pavement stones of z422 resemble closely in their material and colour those used in z380. The slabs consist of light brown, partly reddish hard stone, and are ±0.22 m in thick. Particularly in the north-western contact area of z422 slabs of the same red stone as that used in z414, occur. The slabs are in part damaged to such a degree that their original form no longer is identifiable. This holds particularly in the south-east where

the surface disturbance and discolouration, as in z380, indicate a fire. However, a burnt layer was not in evidence above this pavement. Nowhere does pavement z422 lie beneath another feature within the excavation area. To the south-east z422 seems, however, to be disturbed by context z414; thus, z422 is later than z414.

Context z417 designates two long slabs, which lie partly beneath z402. Their orientation corresponds with that of z422. Their fair appearance may in fact result from better preservation and not better workmanship. In addition, they are considerably longer and only 0.15 m thick. While, in the north-east the slabs from z422 and z417 jibe with each other, stratigraphic contemporaneity is possible, but not proven.

Context z406 consists of blocks in the north-western part of the trench. It includes a 0.07 m deeper lying 0.12 m thick stone slab and in the south an associated stone. This stone is not shaped like a block, but in its orientation and details of production it might well be the southern edge of the slab. At least three smooth black stones, z411, possibly only fragmentarily preserved, run from the centre slab in z406 in stair-like fashion to the south-east. This suggests an entrance/exit situation. In the west of this feature lies a further row of stones, z407. But the stone slabs in the north of the row lie c. 0.15 m higher. Similar fragments of slabs are located east of this row, z423, which lie on the same level with the northern slabs of z407. The suggestion of different building operations may explain the differences in this area since the various contexts have no direct stratigraphic relation with each other. In the earthen debris above this context finely worked relief fragments came to light, which differ clearly from the rest of the reliefs in the trench. Further finds include a bronze disc 1.3 cm in diameter and a thin bronze plate (7 x 2 x 0.4 cm).

Oldest Building Phase

The oldest phase of building distinguishes itself by means of the finely masoned slabs and blocks. Enframed by two blocks, the entrance z415 consists of a slab, which lies on other blocks, which are marginally draughted and pecked (Pl. 36, 2). These resemble most closely van Beek's type 6: smoothed face; on each panel, blocks and courses simulated by incised lines defining borders and pecked areas;

pecking sparse and oblique in direction⁷². Lying somewhat to the east, a further block bore this same kind of rectangular field decoration. In the debris above this construction, numerous other such decorated fragments came to light. Furthermore, this debris contained smoothly worked fragments of polished limestone slabs. On top of the western block stood the fragmentary column already described in connection with z410. Just to the north, further stone slabs with the same finely worked smooth surfaces join the centre ones of z415 at the same height. Context z413 is an excellent limestone pavement in the easternmost part of the trench, which slopes slightly to the south. To the south it disappears below a massive heterogeneous slaggy accumulation, as visible, the 3 x 2 x 1 m thick burnt layer »Y«.

In the southern part of z413 several pavement slabs are missing, and to the north, one was tampered with anciently. A c. 0.07 m thick burnt layer, which contained much charcoal and some bone covered all of z413 and z415. A small bronze disc also came to light, which resembled at first glance that above in context z407. Like the aforementioned stone blocks, the slabs show traces of reddish and blackish discolouration, indicating a fire. Radiocarbon samples from here are being processed, and may yield a chronology for the entire complex. The debris above this construction contained fragments of large sculpted figures of humans and animals, which differed in their style from the usual floral and architectonic patterns common to the site. Whether the debris consists largely or entirely of material from this construction is not clear, but the presence of the marginally drafted pecked masonry is an argument for this association. Further slabs similar to those in z413 in their kind of stone, details of workmanship and orientation lie within and below z404, as well as west and east of z403. Context z418 designates the slabs in and below z404. These include at least four slabs, the upper surface of which have been smoothed. These border directly on z408, to the north of z404. Such consist of a centre slab and two laterally positioned blocks, whereby the southern one is integral with z404. These blocks do not, however, show the same decoration mentioned above. In any case, they form a right angle with z415.

⁷² G. W. van Beek, Marginally Drafted, Pecked Masonry, in: R. Le Baron Bowen – F. P. Albright (eds.), *Archaeological Discoveries in South Arabia II* (1958) 287–295, esp. 291b and 295b.

A direct connection between these contexts was not determined this campaign; a wall of the late phase first must be removed. Further slabs of this same kind (z416) are located west of z403, between z404 and z405. Here three oblong, narrow slabs enframe the quadratic slabs – possibly an enclosure. Also east of z403 lay two such slabs (z425), which appear to continue below z403. It may be mentioned here that in connection with the slab z392 uncovered in sondage z391 last year just above the bedrock, that there may exist a stratigraphic correspondence. The connection of the slabs mentioned here and the contexts rests on similarities of their material, orientation as well as details of construction.

Comment

Trench z400 yielded many-faceted results, but the relative and absolute chronology will take on significant form only with further excavation and carbon determinations. That several phases of building exist is not simply probable, but also is stratigraphically clear. Four stratigraphic groups of contexts can be identified, which do not link with each other *senso stricto* (Pl. 35, 2). To reach more exact chronological results, the following operations are recommended: First, the excavation of 2003 (z300) must be expanded to the east in order to allow a more differentiated picture of the relation with this year's excavation surface, in particular the pavements z380 and z422. It would be desirable also to expand z400 to the east in order to clarify the connection, on the one hand of wall z402, and on the other the extent of the nicely built flooring, z413/z415, in order to elucidate their associated building. Also, west of z400 a few metres must be removed in order to understand the contexts z403–z405, even if a deep stratigraphy cannot be expected here. The removal of the walls described in »Latest Building Phase« would allow us to understand the spatial appearance of the earliest building phase of the trench. Furthermore interesting would be a 5 x 5 m trench on the western edge the excavation z300, which hopefully would reveal the early structures and their finds, which came to light in z400 this season.

A future desideratum is also the evaluation of the pottery stratified in the architecture. A clear distinction between upper and lower levels is already clear, at least subjectively. For example, different

pottery types, such as the rim decoration of fine ware with a yellow slip no longer occurred in the lower levels. But here a relatively rough ware came to light, some of which is attractively decorated. Such extensive details are in a further campaign possible and could easily bring interesting new results for the Old South Arabian chronology.

K. A. Franke

FINDS

Despite their fragmentary condition, interesting indeed are reliefs, which for the first time have come to light in quantity in a late Himyarite archaeological context. Most striking are representations of humans somewhat less than life-size, some of which are described in the following. To judge from their shape and size, the reliefs decorated buildings of different sizes including larger ones. One of these limestone fragments depicts the right shoulder of a male figure clad with a busily pattern-inscribed garment (Pl. 36, 4). Above to the left in the background is a paw-like motif and a so-called leaf-cross, neither of which has anything to do with the figure itself or its garb. On this and other sculptures slight traces of red paint are preserved, recognisable to the naked eye. Other smaller fragments of the garment patterning are attributable to this or to a similar statue. Larger in scale than this figure is a frontally depicted fragmentary face (Pl. 36, 3). Visible are an eye, cheek and part of the hair of a woman. Lacking close stylistic parallels for these two figures, by virtue of their context they may be considered mature/late Himyarite. These and other such relief figures from the excavation and today in the site museum are represented aspectively and often frontally, but rarely strictly so. Another frontal face with prominent curly locks and a schematically rendered ear (Pl. 36, 5) represents several similar reliefs in various states of preservation, which have been catalogued in the Zafar Museum⁷³. The fragmentary forms to the right of the head are difficult to comprehend.

The discovery of several life-size sculptures awakens the question of their original context, positioned together or alone in the sacral or profane parts of the

⁷³ The catalogue of the reliefs in the site museum is actively in preparation.

palace complex. The reliefs are not in situ, but occur in debris. Who do the reliefs depict? Their style may provide a hint. While the face in Pl. 36, 3 reveals at least some attempts at individuality, Pl. 36, 5 is schematically rendered, and perhaps shows a deity rather more abstract than expected of a mortal. On the other hand, a lack of obvious godly attributes and in the context of numerous other parallels deposited in the site museum, could be taken as an indication that we are dealing with depictions of mortals, and those wealthy enough to have commissioned sculpture. In other reliefs presumably from Zafār and housed in the site museum, the Ḥimyarites depict themselves, their dwellings, sculptures and activities in a concrete fashion.

One of the most interesting fragments from a debris zone of trench z400 shows two arches flanked by columns and their capitals, which contain each a female figure, originally part of a row (Pl. 37, 1). A more complete version, which is immured in a house wall in Bayt al-'Ašwāl, 3 km to the south of Zafār village, complements this image (Pl. 37, 3)⁷⁴. Local sources recount that like the other reliefs there, this last one originated from Zafār. Both friezes are of the same size and are rendered in the same style. That from z400 is a red limestone and that from Bayt al-'Ašwāl is similar but weathered to a light orange-grey. The frieze from trench z400 originally depicted at least four frontally rendered ladies, each inside an arch flanked with columns, column bases and capitals and each bearing a fruit in an offeratory gesture. A close perusal of the Bayt al-'Ašwāl relief reveals from left to right a woman who seems to hold a pomegranate. The second and third women certainly hold this symbol of fertility, one of which shows a horizontal band of diagonal hatching. Of the fourth figure, visible is only the left column of its arch. Since the women's faces tip slightly downward, they were intended to be viewed from in front and below. These two reliefs may have adorned door lintels. In view of the ongoing weathering of the Bayt al-'Ašwāl relief, we recorded it – the only nearly complete one of its kind. The enigmatic subject matter, belongs in the cultic realm but fits neither into the worship of Judaism nor Christianity, despite its presumed 4th–5th cent. context.

An eye, muzzle and whiskers facing toward the right in a fragmentary large lionine representation are schematically, but competently rendered (Pl. 37, 2). To judge from the size of the fragment, were it de-

picted standing, the animal would have measured over 1.4 m in height. Curiously, no other fragments of such figures have come to light. This is first evidence for monumental Ḥimyarite sculpture known to the writer.

Roman imports also came to light, including a *terra sigillata* foot sherd from the surface of a field just east of Zafār village known as Qism al-Ṭawīl. From trench z400, and of excellent quality is an oval fragmentary opaque-white cameo rendering a *peplo-phora* raised on a translucent grey-green chalcedony ground (Pl. 37, 4). To judge from the shape of the stone and its edges, it was clasped.

The most numerous type of find in the museum and in the excavation are simply modelled ornamental relief fragments, which stylistically speaking may be designated late Ḥimyarite. A variety of subjects and styles exists, ranging from abstract to naturalistic. Plant ornament and plant elements dominate, especially so-called leaf-crosses. The proportions of the human figures are stubby, as one might expect in the Omayyad/early Byzantine/early Christian periods⁷⁵. Their style and the preferred type of stone deviate decidedly from those of most known Old South Arabian sculpture. Further excavation will hopefully enable a stylistic differentiation between mature and late Ḥimyarite sculpture.

Finally, numerous worked building stones were not of sufficient quality to warrant storing in the site museum, which is literally bursting with old and new finds. A lapidarium, which was laid out immediately south of z400 contains these. Relief fragments of lesser quality were buried in the museum courtyard for lack of space in the museum. At the end of the excavation season, the site and the lapidarium were fenced in.

P. Yule

RINGSTONE WITH A JEWISH ARAMAIC INSCRIPTION

One of the villagers in Zafār owns an intaglio – an opaque, red cornelian, flat in section and ovoid in

⁷⁴ Its lower surface is visible and reveals it to originally to have been the outer face of a column capital. It shows as the main decoration two large birds of prey, evidently in late Ḥimyarite style.

⁷⁵ I thank A. Berger and J. Deckers (both Munich) for discussing this topic with me.

plan, allegedly from the ruins south of the city wall in Zafār South. The stone is in an excellent condition. A Tora shrine with a curtain dominates the composition (Pl. 37, 5). The name Yishāq bar Ḥanina appears engraved in reverse. Although the personal name Yishāq appears in biblical Hebrew, Ḥanina does not. The name is known in the time-zone 330 BCE to 200 CE⁷⁶, but also later in the synagogue inscription at el-Hammeh⁷⁷. Comparable representations occur, for example, in synagogue mosaics in Ḥammāt Tiberias, Kapernaum Dura Europos or Bet Šean, but also on antique coins⁷⁸. Different, but not very unusual, is that the Jewish-Aramaic owner is called »son of«, not *ben* but rather *aram bar*.

On its own, the palaeography allows no clear dating. To judge from the script, names and iconography, a dating from the 2nd cent. CE onward seems possible. The kind of stone, its reversed inscription and the motif indicate it to be a seal⁷⁹. Although a surface find, it is undoubtedly antique and provides welcome new evidence for the early Jewish settlers in the area.

G. W. Nebe

MAPPING IN ZAFĀR

This season's goal, the mapping of the area immediately east of al-Gusr (Raydān North), the northern fortification of ancient Zafār (Pl. 33), yielded a number of Ḥimyarite contexts. For example, just to the east the remains of an entrance way to the antique defences came to light. A second access in the middle of the eastern side of the ancient city must have led from a way, which still exists in the direction of nearby al-'Arāfa (a proven Ḥimyarite settlement), but owing to changes in the size and shape of the surrounding fields and the houses in this part of al-Ġaḥw is visible only in fragments. The nature and position of the city defences are currently under study, and in a future season the western flank will hopefully complete our understanding of the access and defences. First results in the mapped areas confirm the till now assumed existence of a double city wall, albeit only in fragments. A key and still unanswered question is whether towers occurred at regular intervals in the wall as platforms for defending archers.

Time sufficed to clean, measure and record selected subterranean structures including z067, a cistern (Pl. 38, 1. 2) carved out of the hard mafic and

metamorphic bedrock in al-Ġaḥw. This lies a few metres south-west of the old cube mosque (z070) and the enigmatic rock-cut chamber immediately below it (z071). Contexts z067, z071 and z096 (a second nearby cistern)⁸⁰ are accessible by means of stairs, which during the rainy season lay below the level of the water. Measuring some 4.90 m in height and 6.50 m long, cistern z067 has a rather large storage capacity, exceeding that of the neighbouring z096. Its dating rests on its position in the midst of other contexts of presumed and certain Ḥimyarite date. Most importantly, these include the »royal tomb« z066, a bare few metres to the east and the aforementioned subterranean z071. The arguments for the dating of both of these contexts appeared in a previous preliminary report.

During the wet season a 9 m long rock-cut tomb, triangular in plan (context z255, Pl. 38, 3. 4) in the plain al-Danān, some 600 m to the east of al-Ġaḥw, provides a source of water and a place to wash clothing. During the dry months we cleared and documented it. Access lies to the south by means of a step carved out of the rock. The method used for the removal of the rock here was presumably in large part fire-setting, which may have resulted in the rough and irregular walls. Toward the entrance, a rectangular rock-cut support bears the weight of the roof. But during its construction, the entrance appears to have caved in. Thus, the builders cut a 20 x 10 x 8 cm slot into the southern face of the support in order to position a horizontal beam here. To the south, the other end rested on the flanking entrance construction. This makeshift attempt to shore up the roof cannot have been very stable. Tombs such as z255 lay probably on roads, and provide an additional source of information for their position.

⁷⁶ T. Ilan, *Lexicon of Jewish Names in Late Antiquity I* (2002) 103–105.

⁷⁷ K. Beyer, *Die aramäischen Texte vom Toten Meer* (1984) 384 (just before 438 CE).

⁷⁸ L. Levine, *The Ancient Synagogue* (1999) 335 fig. 74 (gold glass); 216 f. figs 31 and 32 (mosaic floors); E. Goodenough, *Jewish Symbols in the Greco-Roman Period* 13 (1968) 191 f. But see also R. Göbl, *Der sasanidische Siegelkanon*, in: *Handbuch der mittelasiatischen Numismatik IV* (1973) Siegel-Motivklasse 98a for an aedicula similar in appearance to the Torah shrine.

⁷⁹ *Enzyklopädie des Judentums* 1971, 1072–1081, 1074: on seals from the 2nd to 5th centuries. In Babylonia from 634–44 the caliph forbade Christians and Jews from carrying seals, with exceptions of Exilarchen and Gaonen.

⁸⁰ *Infra* for this cistern and the underground chamber z071.

Three large stone foundations, rectangular in plan, measuring over 10–35 m on a side, which were built in Ĥimyarite masonry technique, lie immediately to the south of Zafār village on the Ġ. Aṣwar and Ġ. Ḥamārī. Given their poor preservation, they are difficult to visualize, but may be sanctuaries *extra muros*, which C. Robin described in a lecture in Bamberg in 2002. Despite repeated efforts, it has not proven possible to locate an antique church in Zafār itself, even if one or more existed, as written sources attest.

In June a new access to Zafār village altered the area locally known as al-Mudarraġ. This necessitated the partial remapping of newly uncovered building remains, including a Ĥimyarite cistern (z396, z397).

It is interesting to note that much of the stone robbing done in Zafār seems to have taken place fairly recently. The houses in the village, most of which are under 70 years old, are built of the local spolia. This gives an idea of when much of the pilaging took place.

P. Yule

MAGNETOMETER PROSPECTION

Geomagnetic Prospection

Geophysical investigation centred on selected contexts, which fulfilled its prerequisites. These include first the large terraced fields subsumed in al-‘Uwār (Pl. 39), which, to judge from negative patterns of plant growth, harbour antique ruins a little below the present-day cultivation. Other potentially informative surfaces were located in the fields Zafār/Ġirbat al-Ġirn and al-Ḥayfa. The geomagnetic data show on the one hand interesting archaeological structures, but on the other the general difficulties of geomagnetic prospection in a basaltic environment. The terraces offered favourable conditions because of a considerably lower magnetization of the soil compared with the solid basalt rock. Thus it was possible to distinguish single walls and accumulations of building rubble in the ground from obviously empty areas. But on the same terraces enormous magnetic anomalies appear caused from the slightly soil-covered outcropping rock base and changes in the mineral composition, respectively.

Geomagnetic Technology

For the measurements we used a constellation consisting of five Fluxgate-gradient probes with a vertical separation of 0.4 m. The two sensors of the probes measure the vertical component of the earth's magnetic field with an accuracy of 0.1 nT (nano-Tesla). The measured gradient is insensitive for the typical large fluctuations of the earth magnetic field and determined only by the magnetisation of the ground.

The data were collected by a 6-channel data logger manufactured by the Heslab company at profiles with a line separation of 0.4 m and an inline separation of 0.05 m for each point. For presentation and further analysis the data were set to a grid of 0.2 m x 0.2 m and afterwards processed with a 3 x 3 median filter. Because of the high magnetisation of the ubiquitous basalt rock, the dynamic scales of the grey scale images range from ±90 nT up to ±180 nT.

Archaeogeophysical Interpretation

Zafār/al-‘Uwār

In 1971 W. Radt first sketch-mapped this large field terrace (Pl. 39) as ending in a dam at its northern (downhill) end⁸¹. But the developmental situation is more complicated than this because the field was enlarged down slope toward the north as early as the late Ĥimyarite period. In the south of the field a west-south-west/east-north-east striking anomaly indicates a wall just below the surface – the old terrace wall of the field. The centre instead shows geological structures, as seen also in the south as a white (negative), east/west striking band. In the north there are slight traces caused from the remains of walls but we could not articulate a close coincidence of negative vegetal growth patterns and geomagnetic anomalies.

Zafār/Ġirbat al-‘Uwār

Just to the north, at Ġirbat al-‘Uwār we investigated three smaller fields, each between 1000 m² and 2000 m² in size. Strong anomalies occur mainly

⁸¹ W. Radt, AA 1971, 268 fig. 23.

along the uphill slope coming from construction debris as well of the terrace walls and of buried buildings. All three terraces contain slight anomalies obviously from foundations in the ground. In the lowest terrace there is a certain coincidence of plant patterns and anomalies. Weak positive (black) anomalies indicate fillings of pits.

Zafār/al-Ḥayfa

In the northern part beside the visible remains of walls we found a perpendicular north-south striking structure. Another wall runs along the northern terrace wall. At the north-east corner great anomalies with a gap in the centre may indicate a massive wall of about 5 m width, but it may be caused by a geological structure, too. Apart from those walls there are also other weak anomaly patterns. It is likely but not certain that foundations of buildings have survived beneath these marked zones.

The southern part of the surface is influenced by an outcropping basalt vein or dome, which complicates the interpretation of the geomagnetic data. Due to the extensive geomagnetic anomalies, there is no possibility to recognise archaeological structures. Only in the most southern part smaller anomalies show potentially interesting structural features.

Zafār/Ġirbat al-Ġirn

At Ġirbat al-Ġirn we investigated an area of about 3000 m² to localize tombs of a reported but till then unconfirmed Ḥimyarite cemetery (Pl. 40). Geomagnetic anomalies concentrate mainly in the eastern corner of the area. Two larger anomaly patterns appear at the south-western border of the field, indicating possibly larger tombs. East-west and north-south graves axes exist. There is no evidence that the smaller anomalies in the northern part also belong to the cemetery. They are rather caused by pits and single basalt stones in the ground. The area of the cemetery extends only over the southern half of the area.

Summary and Conclusions

Generally the presence of basaltic rock is not conducive to a reliable archaeological interpretation of

geomagnetic measurements. The ubiquitous geological influence on the measurements shows the capability limits of geophysical investigations at a site like Zafār. Nevertheless, it is possible to recognise structures and obviously empty areas even at small fields as seen here. Geomagnetic prospection is a suitable tool to get a quick view over potentially interesting surfaces without digging. As a result of the extreme disturbance of the foundations in al-Uwār and the aforementioned extension of this site toward the north, other geophysical prospection methods like ground penetrating radar and geoelectrics do not promise a significant growth of information in a reasonable time frame.

C. Meyer

ARCHAEO-METRIC INVESTIGATION OF TWO ROCK SAMPLES

Two samples were selected for qualitative/quantitative analyses:

Sample 1: Sample of the bedrock from cave/tomb z073 in al-Ġaḥw. The question, which we posed was, does the hardness of bedrock condition where tomb sites were selected? In other words, did the builders select locations where the stone was softer and easier to excavate?

Sample 2: The glassy deposit »Y« in the trench z400, a presumed palace area, flows over the early Ḥimyarite pavement (see supra). Is it a result of a destruction by means of fire, or does it simply reflect industrial waste?

Polished surface cuts of the two samples were investigated with a CAMECA CAMEBAX microprobe (15 kV, 15 nA, 2 μm beam diameter). The standards used were oxides for Al, Ti, jadeite for Si, Na, Ca, sanidine for K and metals. Parts of the rock samples were ground for powder diffraction x-ray analysis (SIEMENS D5000, CuK).

Sample 1: Main mineral phases were anorthite, albite, diopside/hedenbergite, analcime and hematite. Orthoclase appeared to be not present. These results are consistent with an x-ray powder diffraction analysis. The hardness of the sample derives from the pyroxenes and the feldspars, being the major

constituents of the rock sample, which conforms with the local geology⁸².

Interpretation: The hardness of the basaltic bedrock seems to have played no role in the selection of a site for tomb or cistern excavation, the Ĥimyarites accustomed, as they were, to working hard rock.

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Sample 2: The sample exhibited an amorphous porous matrix, which appears to originate from Na, K, Mg, Fe, which contained vitrified feldspars as manifested by the typical glass x-ray diffraction pattern. This amorphous component of the material must have been produced at a temperature of at least 1000–1100 °C. Some pores of the matrix contained zinc and copper. The sample also contained in abundance a crystalline phase identified as an Al-rich augite (pyroxene).

Interpretation: Formed partly of feldspar glass with charcoal inclusions (charcoal analysis forthcoming), the deposit Y brings to mind so-called slag walls, which are well-documented in fire destructions in early historic Europe, e.g. *muris gallicus*⁸³. The »palace-site« z400 is not plausibly explicable as an industrial site. Since the metals zinc and copper do not derive from the local rock, they rather may derive from associated metallic artefacts, which were molten in the fire.

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The microprobes were analysed by B. Spiering, B. Barbier executed the x-ray analysis.

*Rescue Excavation al-'Arāfa, Tomb Ar1*⁸⁴

During the past few years clandestine excavation generally have gotten out of hand in the Zafār and al-'Arāfa area. Three months prior to our arrival, while digging a grave outside the village of al-'Arāfa, just 3 km west of Zafār, the local inhabitants stumbled onto a large shaft tomb. This is located 500 m north of the centre of the village at the foot of the Ĝ. al-Ĥuṣn, between the Ĝabūbat al 'Arānib and the Ĝ. Raydān (Pl. 41, 1, 2). More precisely, the site lies some 30 m south-east of the house of Abdullah Nasir al-Hākim in the terrace named al-Bayāḍa, which belongs to 'Alī Mus'id al-Hākim. A few days after the author's first visit, individuals showed him finds, which they had looted from the tomb. Most

of these were copper and iron decorative fittings from wooden boxes or caskets. At the request of GOAM P. Yule started the excavation.

A visit to the site revealed a vertical shaft with a 1.5x2.6 m rectangular opening, which widened gradually a little toward its lower extremity (Pl. 41, 2). It was cut somewhat irregularly into the hard volcanic conglomerate with its large inclusions of fractured obsidian. Reportedly, the shaft was 14 m deep (Pls 41, 3; 42 a). On inspection, it proved to be choked with stone, earth and trash to a depth of 7 m below the surface. As the »tomb raiders« explained, after breaking into the burial chambers, on discovery of the grave goods, almost immediately they quarreled over the distribution of the loot, disbanded and refilled the entire complex, so as to avoid prosecution. The filling, which reached the ceilings of what proved to be two burial chambers, did not originate exclusively from the tomb, but contains also some of the surrounding surface soil.

Friendly inhabitants from al-'Arāfa were interested that archaeological work take place in their village. After a short time, Ḥalid al-'Ansi of GOAM and the writer gained their trust and were shown more objects allegedly from this and other tombs. Interesting indeed were the associated equestrian tack and other such accoutrements, which the writer viewed in the village. For maximal lucidity as to the find situation, the finders (who became our workers) gave provenances naming the size and positions of the artefacts while being interviewed *inside the chambers* themselves (Pl. 42 b, see below). Be this as it may, with all the grave robbing, which takes place in the area these days, finds may accumulate in the village for some time until local markets can absorb them. After a longer interval, the finder may forget

⁸² Middle acidic volcanics, see W. Kruck – U. Schäffer – J. Thiele, Explanatory Notes on the Geological Map of the Republic of Yemen – Western Part – (Former Yemen Arab Republic) scale 1: 250 000, Geologisches Jahrbuch B 87, 1996, 88 sheet 7.

⁸³ We thank Gerd Weisgerber for this information.

⁸⁴ Without the liaison on site of Shaikh Abdul al-Hākim and 'Alī Mus'id al-Hākim with the villagers, the work would not have taken place. The undersigned acquired the finds not already disposed of in al-'Arāfat for GOAM, which otherwise would have dispersed in local markets. The excavation took place from 10 March to 03 April 2004. Although the writer was accompanied by an inspector from GOAM, essentially he conducted the work alone. Site position: 14°13'16.08" N, 44°25'19.1" E; UTM 38p, 0437646e, 1572287n.

a provenance of no immediate importance for the sale. As a result of and despite these difficulties, the writer decided to investigate the tomb. A first impression of the finds is that they might illuminate the late Himyarite period and its ruling class in a manner consonant with the writer's research design.

Excavation of the shaft began with four workers. A pulley was set up above and workers were lowered in. A warning sign inside the fenced in entrance served to prevent individuals from looking or falling into the shaft. As the excavation reached the chamber entrances lying to the north and south, it was possible to increase the number of labourers. A constant danger was rocks weighing up to 150 kg, which occasionally managed to free themselves from the steel cable and hook, which we used, and fall back down the shaft onto the excavators.

Located on the south side of the shaft, chamber 1 proved to be irregular in shape, small (2.5 x 2.5 m x height 1.4 m), and the debris filling at the entrance reached some 20 cm below the ceiling level (Pl. 43, 1). Its stone and dry earth filling ranged from 70–90 cm in thickness, which merged into a layer of moist soil – the old chamber debris. This contained remains of obvious recent disturbance (plastic bottles, cigarette packs etc.), which the robbers had churned down into it. At the rear of the chamber the new debris layer was thinner than the old one. It was hoped that the old and/or new debris would contain finds, which had escaped antique and recent robbing.

Chamber 2 (Pl. 43, 3) lies on the north side, is more regular in shape, and is considerably larger than the neighbouring chamber 1 (2.5 x 4.5 m, height 1.5 m). Its long axis is east/west oriented and neither in line with the axis of chamber 1 nor with that of the shaft. It also was filled with recently deposited stone and earth.

*The Tomb Prior to its Robbing –
Confessions of a Tomb Raider*

‘Alī Mus‘id al-Hākīm, one of the four discoverers of tomb Ar1, related the find situation to the writer: »I was the first to view the shaft and later its two chambers. To a depth of some 11 m, mixed large and small stone and earth filled in the tomb shaft. Beneath this, only loose soil occurred«. After the robbers removed all of this, they found, »a wall of rough stones which blocked the chamber entrances«.

»It was possible to peek into the south chamber«. About 40 cm of dust lay on the floor, which Alī Misaid and his accomplices partly removed. On the west side lay iron bands and flat hook decorations from a wooden box, its wood had decayed owing to the moisture«. Alī Mus‘id showed with this hands, compared to a measuring tape, a size of some 80 x 65 cm for this find group. »On the opposite side of the chamber lay a rectangular low paving of fist-size stones. Between them a belt (c. 1.2 x 0.05 m) lay extended, fashioned of gold threads«. The S-curve decoration resembles the wave-like motifs of present-day brocade belts in the Yemen, which seem to have an antique origin. »The copper alloy corners lay in this chamber near the iron bands. The only preserved bone was a knee cap in the north-east area of the chamber. The tomb showed no sign of robbing«.

»In the north chamber directly inside the entrance lay four large stones. Just beside the north wall lays the nosepiece of a bridle visible on the surface. More finds were present in this chamber, but were no longer available for study, having been sold in Yarīm. A disheveled mass of iron bands lay in roughly rectangular form in the dust. Therein lay one iron stirrup and two circular openwork bronze phalera. One shows a radial arrangement of three birds of prey (Pl. 43, 2)⁸⁵. The other was a radial arrangement of the heads of wild goats. The extant phalera preserves traces of enamelling in red, white and blue in the concentric channeled recesses. The iron j-hooks of the damaged and decayed wooden container were oriented lengthwise (c. 1.0 x 0.60 x 0.60 m, Pl. 43, 4). Two missing copper engraved plaques, c. 20 x 10 cm showing archers and ibexes also were reported. In June Sabina Antonini spotted an object in a shop in Ṣan‘ā’, which fit the description of one of the lost artefacts (Pl. 44, 1)⁸⁶. It appears to be a copper belt buckle decorated with two pairs of mailed horsemen separated by monogrammes. Many of the silver inlays have been pried out. The silver inlaid leafs are identical with ones on the nosepiece just mentioned. A second belt, also decorated with gold brocade, lay extended in the east part of the chamber«. Conspicuously missing were a skeleton and pottery.

⁸⁵ 13.0 x 14.0 (pres.) x 0.8 cm.

⁸⁶ P. Yule – S. Antonini – C. J. Robin, Le harnachement du cheval d'un Haṣḣaḣide, découvert dans une tombe de Zafār, *Revue de Sabéologie* 2, 2004, 12–22.

The description of the find situation of chamber 1 as intact is internally inconsistent: The position of the kneecap away from the burial platform and a lack of a skeleton suggest that in fact, the burial was disturbed. The burial in chamber 2 was clearly disturbed: Some the iron straps showed tell-tale twisting formed prior to their thick covering with corrosion. Only one stirrup was said to be found, but one would expect two. Most striking was a decorated copper noseband of a bridle from the north chamber. No traces of a horse or its burial were found. The finders destroyed the two fragile brocaded belts while removing them.

The Reexcavation and the Finds

Sieving the soil of the south chamber 1 yielded a variety of small finds including fine golden threads, pottery sherds and fragmentary iron bands. The latter match finds, which the al-'Arāfa villagers sold to GOAM during the excavation⁸⁷. Two kinds of iron bands exist; those which originally served to strengthen the wooden boxes, and curved branching ones, decorative in nature. None of the iron bands recovered from the robbers or from our reexcavation were bent in a 90° angle as if to wrap around a box-like container. Instead, some bands were pierced with nails to which wood fragments still adhered.

The sieved debris of the north chamber 2 also contained gold threads, iron fragments of an arrowhead, thorns of others and numerous fragments of knives and perhaps daggers of diverse size and shape (Pl. 44, 2). The threads adhered to the stones and to the corrosion of some of the iron bands. Chamber 2 yielded far more sieved finds than did the other chamber, including 2 kg of iron fragments, 800 g of animal bone fragments, a small bag of small pottery fragments also came to light. The teeth proved to be those of cattle⁸⁸. Iron implements had wooden grips, possibly one of which is a knife.

Ḥalid al-'Ansī acquired diverse other finds from the villagers for GOAM and more particularly for the Zafār Museum, mostly fragmentary iron bands and rings. It is unclear to which of the chambers, or both, the latter can be attributed. For example, a small oblong wooden container of unknown function with a removable cover came to light (Pl. 44, 2).

The most important find is the copper bridle accessory, which the villagers cleaned in order to

increase its saleability (Pl. 45)⁸⁹. Given the narrow breadth of the noseband (9.5 cm), the associated horse may correspond to the Arabian breed, characterised notably by small and elegant heads⁹⁰. Unfortunately, with the question of what kinds of horses were bred, trained and ridden, no Old South Arabian texts are available to help us⁹¹. The noseband bears five Sabaean monogrammes, pairs of fronds, leaves and rosettes, which are inlaid with silver and/or silver alloy (niello?)⁹². The surface is further enlivened with decorative punchmarks and delicate incising. The monogrammes reveal the owner's identity and help date the piece (see below). The noseband would have been worn in such a way that the monogrammes could be properly read. Luxury articles, such as this bridle accessory, fit well in the context of Ḥimyar at its peak – which, given its size and wealth, must have been a craft centre. Presumably it was produced locally, although during the course of military undertakings it could have been acquired outside of Zafār.

The copper band fit over the animal's nose and the bale fit snugly at its chin (see below). Unfortunately, despite reported traces of leather when first found, none have survived. Two metal flanges positioned left and right on the ends of the noseband (as worn) appear to have been recently clipped off, the cuts showing no sign of corrosion. Obvious bit fragments were not identifiable, and unfortunately the tack is incomplete. Nor are traces of use-wear observable. Given the uniqueness of the al-'Arāfa noseband, in this preliminary report it deserves our attention. Roman, Parthian and Sasanian snaffle bits exist, but more common are leverage bits, including a related noseband and bit in the Metropolitan

⁸⁷ See the appendix at the end of the article which was prepared without the benefit of enough time to write a proper catalogue.

⁸⁸ Our thanks go to H.-P. Uerpmann for the identification, personal communication.

⁸⁹ The entire assemblage is to be restored in a state of the art laboratory. My comments in this preliminary report regarding the condition of the bridle accessory are thus preliminary in nature.

⁹⁰ A. Hyland, *Equus: the Horse in the Roman World* (1990) 24–27 on the antiquity of the Arab breed.

⁹¹ Sima 2000, 63–81.

⁹² No analyses have yet taken place on the bridle accessory. But analysis of a coin of the Ḥimyarite royal series revealed a silver content of 99% purity (time-of-flight-neutron-defraction). I thank Armin Kirfel for this oral information.

Museum in New York (Pl. 46, 1 a)⁹³. The al-‘Arāfa bridle accessory can be understood in the light of this piece as well as the evidence for tack represented in Sasanian royal reliefs. The New York noseband is longer and less elevated (L 20.2 x H 10.4 x W c. 12.0 cm)⁹⁴ than that from al-‘Arāfah (L 16.0 x H 13.5 x W 9.5 cm, measured as »standing«, i. e. the decorated curved band positioned horizontally). The former noseband was fashioned for a larger and more robust head, which one might expect of a heavy Sasanian cavalry mount⁹⁵. Owing to the general appearance of the leverage bit, in relation to those depicted in Sasanian reliefs, the New York piece derives from the Sasanian sphere, but the decoration does not point to its centre⁹⁶.

How the al-‘Arāfa bridle and its bit originally were worn can be reconstructed with reference to royal Sasanian bridles, the solid nosebands of which appear in several rock reliefs (cf. Pl. 46, 1 d). Metal cavessons (»muzzle bridles«) kept the muzzle shut of the unmannerly warhorses of the day for maximum control over the animal⁹⁷. They could be and were combined with a leverage bit. The pairs of hanging bit levers depicted in the Sasanian reliefs invariably curve away from the animal’s body, unlike most used today. As worn, the levers of the Metropolitan Museum bit would have had about this same angle in relation to the head, jaw and mouth.

Two more iron bits excavated from a 4th cent.(?) context in Susa are important for the biting of the time⁹⁸. But as worn, their bit spoons point in the other direction (toward the muzzle) and function by means of pressing downwardly on the animal’s tongue (Pl. 46, 1 b). This bit was not nearly as severe as that in the Metropolitan Museum. Unfortunately, in the original publication, the excavator neither described the find circumstances of its context in *niveau iv* in any detail, had relevant sketches, nor gave other information such as size, which might help to understand this equipment, the size of the horse’s head or the how the bit functioned. Paradoxically, he described the two »caveçon« as halters for »leading nervous horses« and thus reproduced them, as well as one of the two excavated bits, upside down. This presents obvious difficulties, were one to query how cavesson and bit functioned together, a question, which appears not have occurred to Ghirshman. In any case, there are no traces of fittings, which might hold them together while worn.

In the case of the New York bit and its numerous relatives, when reining the horse the spoon tips upward and forward, gouging the roof of the horse’s mouth. The bar positioned immediately above the rein rings of the flanking bit levers holds the construction together⁹⁹. Referring again to the Sasanian reliefs, that bar would be located too far from the animal’s chin to serve as the fulcrum point for a possible lever bit. In these reliefs, given a lack of either a chin-chain or chin-bar, they do not evidence a true curb-bit (German: »Kandare«), whereby the scissor-like effect of pressure is applied to the top and bottom of the chin, so-called *psalia* (Latin). Such finicky details evidently were simplified in the reliefs. However, the lever effect of the New York piece

⁹³ Herrmann 1989, 760–762. 791 pl. 2 b. Most of her examples are Roman. This equipment must have influenced Sasanian tack, as in all other areas of contact between the two realms. But see also the Roman »hackamore« from Wiesbaden, in: *Reallexikon germanischer Altertumskunde* 23 (2003) 43 fig. 9 s. v. *Pferdegeschirr* (J. K. Koch). The present writer avoids here the term »hackamore« which is confusing in our context.

⁹⁴ The lever bit measures c. 12.0 cm wide, 12.5 cm horizontally, 16.0 cm vertically in the position presumably as worn/used. This means that in our drawing the rein ring points downward and the palate spoon points upward to the right.

⁹⁵ M. Junkelmann, Review of A. Hyland, *Equus. The Horse in the Roman World*, in: *BJb* 192, 1993, 666 citing his calculations on the size of a Sasanian horse (withers 147–157 cm).

⁹⁶ I thank the staff of the Ancient Near East Department of the Metropolitan Museum for photos and a description of the bit and bridle. Similar spiral decoration also occurs in the Yemen, cf. Breton – Bāfaqih 1993 pl. 30 figs 91 and 92 for this kind of spiral ornament.

⁹⁷ J. H. Stocqueler, *The Military Encyclopedia, a Technical, Biographical, and Historical Dictionary* (1853) 30: »A kind of nose-band of iron, leather, or wood, fixed to the nostrils of a horse, to curb or render him manageable through the pain it occasions«.

⁹⁸ R. Ghirshman, *Le harnais de tête en Iran*, *Studies in Memory of Gaston Wiet* (1977) 1–5 + figures and plates, cited by Herrmann 1989, 760. For a reevaluation of the pottery of *niveau 4* to time frame »Parthian-Sasanian« see M.-J. Steve – F. Vallat – H. Gasche in: *Supplément au dictionnaire de la Bible* 74 (2003) 522 s. v. *Suse*. I thank R. Bouchard for this citation.

⁹⁹ A. Gelbhaar, *Mittelalterliches und frühneuzeitliches Reit- und Fahrzubehör aus dem Besitz der Kunstsammlung der Veste Coburg 1. Die Gebisse, ihre Typologie, Chronologie und ihre Anwendung*, *Jahrbuch der Coburger Landessiftung* 38, 1993, 205–207, corrects several incorrect descriptions of how the historic »Kandare« functioned. See Gaitzsch 1987, 219–256 also for a solid account and bibliography; Gaitzsch 1997, 497–511; Koch op. cit. (note 91) 42. I thank W. Gaitzsch, who pointed out recent specialist literature to me.

probably functioned by virtue of rings (that on the right side is broken and poorly visible) flanking the bit levers in order to fasten a chin-chain. By reining, one could thus apply pressure from the bit levers to the sensitive corners of the mouth, to the jaw and at the same time combined with a sharp pressure from the spoon, as described above. This is the way that palate spoons generally function¹⁰⁰. The palate spoon of the New York bit corresponds to W. Gaitzsch's type B: a simple loop-like metallic construction¹⁰¹. A further curb bit, which was excavated from Noruzmahale (Pl. 46, 1 c) in northern Iran, suggests that in the Parthian/Sasanian age such were more common than hitherto presumed. In the originally published drawing, its true appearance and hence function are unclear.

To further clarify the question of how the New York bit and its relatives functioned, one may again turn to Sasanian relief depictions, which show two double reins fastened solely to the bit lever, but not four individual reins mounted to the bit as well as to its lever, as in the case of modern curb-bits.

Aside from the bit, also missing from the al-'Arāfa noseband is a strap or band around the underside of the jaw, to judge from the remains of removed fittings where one would be required to stabilize the entire construction as worn. A second would have fastened the noseband from the preserved metal tabs to the back of the poll. How exactly the noseband would have harmonised with the missing bit to keep the latter properly positioned in the horse's mouth is not completely clear (Pl. 46, 1 e), notwithstanding Sasanian relief depictions such as that from Darabgird (Pl. 46, 1 d). Roman and Sasanian leverage bits and rigid bridles were to be used one-handed, the left hand also holding a >5 kg shield. The other wielded whatever weapon was used. Heavy-handed movements, such as those, which inevitably would occur in battle, probably produced edgy, if not disfunctional horses, with badly mangled mouths, prone to throwing their heads constantly. Barbaric by today's standards¹⁰², the bits and bridles just described got even more brutal into the Renaissance, with stronger lever bits, as attested to by numerous representations and excavated examples¹⁰³. Absolute performance was trained, doubtless at the cost of good character. Horses were expendable.

If stirrups in fact did occur among the grave goods at al-'Arāfa, then they would have been unusual at this time in the Near East. Given the pre-

sumed harsh biting, one would expect spurs as part of the riding equipment. But they are neither reported nor appear in contemporary representations, and for what it is worth, at the time of writing, are not documented in the region. It goes without saying that the biting is only part of a constellation of equestrian helps, which complements the rider's back, legs, balance and voice helps.

The aforementioned flat phalera (Pl. 43, 2) would have been worn as a decoration suspended from a girth slung from the saddle around the horse's chest and/or croup¹⁰⁴. It has no close stylistic or iconographic parallels. In their absence, a provenance in Ḥimyar seems a likely guess.

P. Yule

THE INSCRIPTIONS

The dating for the tomb derives from a noseband of a bridle, which shows five late Ḥimyarite monogrammes, two of which are identical (Pls 45, 47). South Arabian monogrammes are assemblages of letters. They are formed with the totality of the letters of a proper name, of a personal epithet, of a constructed name, or of a name giving lineage. Rarely do they use all of the letters of a proper name and of a personal epithet. Occasionally they only make use of a part of the letters of a proper name or join a symbol with some letters.

The analysis of a monogramme does not permit an absolute certain identification of all of the letters since certain ones can be confounded with an initial element of beginning in the composition of another

¹⁰⁰ I thank A. Gelbhaar for discussing this matter with me. The palate spoon is not a »Zungenfreiheit« (port). Important is that the palate spoon of the New York bit is fixed and does not swivel on the bit. It is unlikely that the bit be reversed in position so that the spoon would tip upward with the point of leverage at the front.

¹⁰¹ This in German »Gaumendrücke« (a palate presser) was developed later from the 4th cent. CE in blade and V-forms (Gaitzsch 1987, 219–256; Gaitzsch 1997, 497–511).

¹⁰² A rider depicted on a silver ladle from the Wādi Ḍura' in Ḥadhramawt uses no stirrups. This piece was not in situ and not readily datable, cf. Breton – Bāfaqih 1993, 88 pl. 24, 5. The excavators suggest a dating around the 1st cent. CE which can be dated later by dint of similar representations on metal bowls from graves in 'Amlah/al-Fuwaydah in the Sultanate of Oman.

¹⁰³ Gaitzsch 1987, 219–239; Gaitzsch 1997, 497–511.

¹⁰⁴ Cf. Herrmann 1989, 789 fig. 7 e (Bishapur VI).

letter. For example, the appendix of *alif* possibly could be read *nūn*; or the circle of *yā'* may conflate with the *'ayn*. The reading of monogrammes is therefore a perilous exercise with texts, which do not confirm the interpretation. Here are some of the possibilities:

Monogramme A

composed of the letters $\text{'s}^2 f \underline{t} t$

possible reading: $\text{'s}^2 f \underline{t} t$

Monogramme B

composed of the letters $r s^2 \text{'}$

possible reading but very uncertain: $\text{'s}^2 r \text{'}$

Monogramme C

composed of the letters $y f' l$

possible reading: $\text{'l} y f \text{'}$

Monogramme D

This figure combines the royal Ḥimyarite symbol and two elements of a letter. This figure was already attested to in Ja 1816 from Širjān where it seems to correspond with the name of the lineage *Hṣbbḥ* – the three other letters may be read from right to left: *Kwkbḥn* (name of the palace of the banū Haṣbaḥ), *\text{'l} t b \text{'}* (name of the author of the text), *\text{'g} s^2 r* (epithet of the author of the text).

This interpretation finds a certain reinforcement in the fact that the name $\text{'l} y f \text{'}$, which can be read in monogramme C, is bourn by a Haṣbaḥi (cf. Haṣī 1).

Monogramme E

same as monogramme C

Conclusion

It is possible that the inscribed piece was produced for an Haṣbaḥi named Iliyafa. In this case, the two other monogrammes could give his epithet and the name of his horse.

C. Robin

SUMMARY COMMENTS ON THE 2004 CAMPAIGN

Planned research and fortunate happenstance at Zafār enabled the illumination mostly of the late Ḥimyarite Period, as evidenced from the data from

the excavation, mapping, random finds of reliefs and inscriptions in the area. In addition, manifest in the excavation z400 was a stratigraphy, which offered a comparison of early, middle and late phases. Most interesting is the carefully fashioned early architecture of context z415, which indicates building of importance. A decline in building technique over time is readily visible. The early architecture contrasts with the roughly hewn stones of late period, which bring to mind Sasanian rough-stone masonry, but without evidence for cement or for stucco decoration. With the carbon determinations still pending, the marginally draughted and pecked masonry of van Beek's type 6 are in evidence in z415, but are not fixed in point of time. Nonetheless van Beek wrote that these were known from a period between the 1st cent. CE and the »last Pre-Islamic period«. For this age there are few comparisons, dated or not.

Despite the flawed nature of our information for the tomb Ar1 at nearby al-'Arāfat, clearly it is unique, the largest and most important of its kind from early or late Ḥimyar. Tomb Ar1 supplies a tantalizing view of the burial and grave good custom of Ḥimyarite noble of the banū Haṣbaḥ. The burial customs are rather different than those which we know from Zafār. The palaeography of the monogrammes on the bridle accessory may point to between 150 and 400 CE¹⁰⁵, but C. Robin prefers a dating in the 5th cent. (*supra*). The writer interprets a dating for the tomb in this later timespan, at a time when Ḥimyar was approaching its historic peak.

Mounted soldiers, such as the interred, were a small percentage of the armed forces relative to infantry¹⁰⁶, who were of essential strategic importance. Whether a force was small or large, the strategy of the age still depended on them. Despite the fewness of arrowheads from tomb Ar1 or from other contexts in Ḥimyar, archery was a general feature of military tactics of the age in Arabia, Iran and the eastern Mediterranean, as best witnessed from relevant finds particularly in South-eastern Arabia¹⁰⁷. A fragmentary small (preserved L c. 40 cm) stone bearing a latish middle Sabaeen inscription (possibly c. 350 CE) and a depiction of one or possibly

¹⁰⁵ A. Sima, personal communication 22.06.2004.

¹⁰⁶ Sima 2000 text nos. 16. 28. 31. 37. 45. 46. 48. 67 and 68.

¹⁰⁷ P. Yule, Die Gräberfelder in Samad al-Shān (Sultanat Oman). Materialien zu einer Kulturgeschichte, *Orient-Archäologie* 4 (2001) 199.

more attacking knights in Sasanian-Ḥimyarite style brings to mind the Sasanian heavy cavalry (*clibanarii*) famed in antique written sources and in the archaeological evidence, where both rider and horse wore armour (Pl. 46, 2)¹⁰⁸. Behind the knight, the warrior wielding a battle axe (evidently of Indian type)¹⁰⁹ removes this depiction from a possible Christian context of *i. e.* St. George attacking a dragon.

Since little is known of the toreutic art of the Yemen at this time, the decoration of the noseband from tomb Ar1 cannot be maintained to be typical of the period, nor is the aforementioned toreutic casket ornament known from the numerous stone reliefs at Zafār.

The vague echo of the Sasanian world in the form of the nosepiece from tomb Ar1 is complemented by the early Sasanian style seal from tomb zg007¹¹⁰. The Sasanian appearance of the relief in Pl. 46, 2 may simply be a more general period-style. Zafār hitherto has yielded little evidence relating to Sasanians. Evidently they simply inhabited what already was built and constructed little themselves.

The diverse subjects of late Ḥimyarite reliefs (especially those such as in Pl. 37, 3) suggest that a summary grouping of religions into the categories polytheistic, Jewish, Christian or perhaps »Raḥmānānīsh«, may oversimplify the real situation.

P. Yule

¹⁰⁸ This dating rests largely on somewhat difficult palaeographic grounds. I thank A. Sima for advising me on this matter. The style of the relief gives a less exact dating.

¹⁰⁹ Cf. Anonymous, Excavation in Ramapuram, Dist. Kurnool [AP], *Indian Archaeology a Review 1980/81 (1983)* 3–7 pl. 4 a; Breton – Bāfaqīh 1993 pl. 17. 48 from the Wādī Ḍura' in Ḥadhramawt perhaps from the same general time.

¹¹⁰ *Infra*. It is the only Sasanian seal known to bear Sabaeen characters.

APPENDIX

LIST OF ARTEFACTS RECOVERED FROM TOMB Ar1

Description	Length x Width x Height (cm)	Weight (g)
Wood	9.3 x 4.8 x 3.4	83
Cu corner 2 frs	20.0 x 10.7 x 0.9	237
Cu corner	11.2 x 10.5 x 9.5	341
Cu corner	10.5 x 10.4 x 10.2	267
Cu corner	10.5 x 10.3 x 9.5	260
Cu corner	11.0 x 10.3 x 10.3	346
Cu corner	11.0 x 10.6 x 10.4	292
Cu corner 2 frs	19.6 x 10.7 x 0.3	237
Fe ring	7.2 x 6.1 x 3.1	139
Fe ring	8.3 x 6.6 x 6.1	215
Fe ring	7.6 x 6.3 x 3.4	181
Fe ring	8.2 x 6.5 x 3.3	205
Fe ring	10.3 x 6.3 x 3.5	202
Fe ring + frs	11.8 x 9.3 x 3.5	303
Fe fr.	10.3 x 9.1 x 1.3	70
Fe fr.	8.5 x 4.8 x 1.2	78
Fe fr.	11.5 x 8.0 x 1.0	—
Fe fr.	40.8 x 15.3 x 1.0	—
Fe fr.	55.0 x 12.2 x 1.5	—
Fe fr.	34.4 x 13.5 x 0.9	—
Fe fr.	18.8 x 17.6 x 1.9	—
Fe fr.	25.5 x 13.7 x 1.4	—
Fe fr.	16.1 x 8.9 x 0.8	—
Fe fr.	18.3 x 13.8 x 0.6	—
Fe fr.	13.0 x 9.0 x 0.9	—
Fe fr.	15.8 x 9.7 x 1.0	—
Fe frs	8.4 x 1.5 x 1.5	—
Fe frs	35.1 x 9.5 x 1.2	—
Fe hook	4.9 x 4.6 x 4.3	—
Cu nosepiece	13.5 x 16.0 x 9.5	—
Fe small frs x225	—	—

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