Abstract: In February-March 2005, the joint University of Heidelberg-Yemen team conducted a season of mapping Zafar. Major tasks included the compilation of place-names of the different fields in the area. In this way, we obtain an instrument with which to identify fossil pre-Arabic place-names. Zafar is not the largest archaeological site in the Yemen, but may well be the second largest one after Marib. The large cliff of Zafar al-Dähāh turns out to result from the great earthquake of 1982. The rectification of a Quickbird image documents in concrete fashion the soil erosion and other environmental changes in and around the ancient city. Vulture reliefs from the surrounding area show a new style which appears to date to the 6th century, to judge from related images in Europe. Our recording is just keeping abreast of destruction mostly from building operations.

Keywords: Yemen, Zafar, Quickbird, GOAM, Masnaat Mariya

Following negotiations in 1996 with the Yemenite antiquities authorities, two years later the University of Heidelberg Expedition took up fieldwork at Zafar, the capital of the Himyarite empire. In the field we accent cultural resource management, the development of the site museum, mapping as well as research archaeology (Yule et al. 2007 and reports which followed). Our project accents the Himyarite empire (c. 270-523 CE) and late/post (523-632 CE) periods.

During the fifth campaign in 2004, certain tasks remained unfinished, as a result of the large number of different operations conducted in relation to the personnel available and the unexpected uncovering of complicated Himyarite architecture deep in our main trench, z400 - as luck would have it, at the very close of the season. Moreover, on site the most common find are relief fragments. The registration and recording of thousands of these consumes a great deal of time. Site mapping and museum-related work dominated our 2005 season.


A generous grant from the Kulturhilfe of the Auswärtiges Amt of the Federal Republic of Germany and from the Fritz Thyssen Stiftung made the present work possible. We thank the General Organisation for Antiquities and Museums (GOAM) and particularly its president, Muhammed Ba-Wasir for supporting work at Zafar. At the DAI research station, owing to the cooperation of Iris Gerlach, we the team recuperated away from our Spartan base in Yarm and evaluated our field data in an environment with working plumbing, electricity and without fleas.

The project leader enjoyed the close cooperation of the following Yemenite participants: Khalid al-Ansi, GOAM archaeologist for Ibb province, Isa al-Sabun and Ali al-Hakim, GOAM government inspectors. In particular, Ali Sannibni, GOAM archaeologist for Qumr province, allowed us to photograph the relief in the watch-
Fig. 1. Map of Zafar, as of July 2005.
Mapping and Site Documentation

The mapping of Ṣafār provides an instrument for both research and preservation work. Each successive season GOAM receive the updated site map. With these one can study the ancient cityscape and changes in ist preservation (Fig. 1). Fortunately, after several campaigns the mapping of the 1000 x 1200 m core area of this important but neglected site is all but complete (Carstensen 2005). Each season has yielded numerous Ḥimyarite archaeological contexts (Yule et al. 2007), 465 to date. In terms of the area built on, Ṣafār was one of the largest cities in Old South Arabia (OSA). Mapping field by field (Fig. 2) enables different investigations, for example, a systematic search for Sabaeo-Ḥimyarite fossil place-names known from different sources including medieval Arabic geographies such as those of al-Hamdānī (cf. Barceló / Kirchner / Torró 2000). Such studies illuminate the reliability of al-Hamdānī’s descriptions of Ṣafār, which, despite their brevity are all that we have of this kind of source in our area. Whether or not Hamdānī was ever there and if his site descriptions reflect his own observations or are heirlooms are questions which can be debated (M. Barceló and Y. Abdullāh, personal communication). The main question which we pose is, was the fall of Ṣafār and of Ḥimyar in the late 6th or early 7th century CE sudden with a major depopulation, or did the population dwindle gradually?

Fig. 1. The mapping of Ṣafār.

Fig. 2. Place-names at Ṣafār.


2 Unless otherwise specified, the undersigned contributed the illustrations.

We also provide GOAM a catalogue of new finds, photos and other research materials each season. We deposited five DVDs of our project documentation for safe keeping with the DAI in Berlin and two further ones with geoinformatic data with the University of Applied Sciences in Mainz, Institute for Spatial Information and Surveying Technology.

While those experts concentrated on the place-names related to the ḍarīd (water/soil retainers of terrace fields), we systematically recorded place-names of girbat (cultivated fields) within our mapping area without any special accent.

man’s house. The team consisted of Nils Carstensen and Christoph Rusch, now civil engineers, Holger Schwarzer and the author for the museum and other work. Last but not least, Mechthild Kolb assisted in the museum and kept all well-fed and content in Yarīm.

At home the following individuals and institutions supported the project: Werner Arnold (University of Heidelberg, Seminar for the Culture and Language of the Near East, project patron), Wolfgang Böhler (University of Applied Sciences in Mainz, Institute for Spatial Information and Surveying Technology), Gunnar Brands (University of Halle-Wittenberg, art historian), Claus-Peter Haase (Preußischer Kulturbesitz, Museum für Islamische Kunst) and Armin Kirfel, (University of Bonn, Mineralogical-Petrological Institute). We thank the University of Heidelberg for allowing us to use their imprimatur.

I arrived 11.02. in Yarīm. After fulfilling formalities, work began on
Previous mapping campaigns began in the centre of the city area, working toward the periphery. This season surveyors mapped the far western and far eastern edges (Fig. 3). The slopes here contain Ḥimyarite tombs in prodigious numbers. Understandably, as a result of the greater distance from the city core, fewer archaeological contexts came to light than in previous seasons. With regard to the dating of this feature and others at Zafār, in the absence of finds and contexts other than later Ḥimyarite ones, there is no evidence to date them either before or after the empire and late periods. On the other hand, rare stray finds (e.g. knapped flint arrowheads) adumbrate earlier habitation which must have taken place here in light of the favourable climatic prerequisites for agriculture and the natural defences. Some 500 m to the west of the core area, on the same latitude as the Ḥūsn Raydān an antique roadway came to light cut from the granite bedrock. Two to three m in width and visible for some 200 m this way led to the centre of the city. It was associated with dozens of cubic basins, graves, watering troughs and fragmentary buildings – the evidence of a constantly changing function for the area. Since this way lies outside our mapping perimeter (its eastern end: UTM 38p e435186, n1571210), closer study will have to follow later. But what is preserved shows it to be a second main egress to and from the west, the main one accessing Zafār’s southern fortifications. Zafār is mainly accessible to the outside world from the west although small paths thread through the mountains in other directions (Fig. 4). Such topographic information allows a more precise picture about the size and appearance of the city. According to a recent population estimate for OSA towns, with some 50600 to 75900 individuals, Zafār would have been the most populous. Ist surface area serves as a basis for the estimate compared to settlement density of known settlements (Schiettecatte 2004: 141, table 2). This estimate must be reduced, however, to account for the local variability of the building density in the area, thinning from the core to the periphery. Differences in the population density are clear to judge from that of the house ruins with a denser population in the centre, south and east.

To the east of Zafār, we re-examined the reported temple ruins on the north face of the Č. al-ʿAṣābī (Yule et al. 2007), and confirmed their exact whereabouts and characteristics (site z150, cf. the sketch map of W. Radt (1971: 268, Abb. 23). No foundation walls are visible, nowadays just a scatter of exotic calcite (alabaster) and marble worked relief fragments. Unfortunately, one can say little about this building since little is extant.

On the surface at Zafār, little Ḥimyarite architecture is preserved. Dwellings, however, are faintly echoed in numerous rock-cut tombs of this age. For example, tomb z091 lies in al-Ṣāh on the western slope of Ḥūsn Raydān, where tombs and other archaeological features most densely cluster (Fig. 5a and 5b). Tombs and graves at Zafār are profoundly disturbed, the result of centuries of use, reuse and misuse including repeated plundering. Nonetheless, in most, the original plan and nominal appearance can be reconstructed (Yule 2007: 70–76 for other tombs). Time sufficed in 2005 to clear and document the entrance of tomb z091, nowadays a welcome shelter for herdsmen and their sheep during daily August rainstorms. With a total length of 8 m of its north-south axis, this tomb is larger than most, and in addition has an elaborate, broad, sunken, entrance veranda. To make it cozy for the afterlife, the builders went so far as to cut a trough into the western part of the facade for a small flower bed. A central axis with four main flanking chambers is dissimilar to the usual single-chamber tombs. On the eastern side a curious small chamber lies raised above the floor between two larger ones. Since as long as anyone can remember, the Zafāris reused the tomb as a stable or stall, these villagers explain it originally as a Ḥimyarite one. Steps on the eastern side of the facade, now very worn, may be an original feature to facilitate access, but for obvious reasons the “porthole” in the facade is not. Other ancient tombs in the immediate area were damaged as a result of a
Fig. 3. The area in Zafar mapped during the 2005 campaign is circled in red. North lies to the upper left (map: N. Carstensen).

Fig. 4. Isometric view of the rugged area surrounding Zafar. The site is generally accessible from the west. North lies to the upper left (map: N. Carstensen).
subsidence which Abdallāh al-‘Annābi from the village explains took place some 40 years ago which gives great cliff, al-Ḍāḥāh ist present-day striking appearance. In view of this and similar scars on the adjacent cliffs, not to forget the exposed rock-cut tombs, other landslides have taken place for which no recollections exist. Unfortunately, z091 and the other tombs have no significantly close comparisons in terms of the plan outside of Ḥimyar which would enable their historical and regional contextualisation (e.g. Bayt Šearam/Israel). Nonetheless, tomb z091 clearly indicates the social rank of its owner, a leading and not an average citizen at Zafār.

With the rectification and first evaluation of Quickbird satellite imagery in and around Zafār taken on 01.02.2004 in multispectral (colour) and panchromatic (black and white) formats we would have a splendid instrument for the visualisation of the site topography. Panchromatic satellite images with 0.60 m/pixel resolution obviously have far more definition than multispectral ones with 2.5 m/pixel resolution. But a new technology (resolution merge) enables one to impose the colour of a given multispectral image onto a panchromatic one of higher resolution.

Fig. 5a. Tomb z091 in Zafār/al-Ǧāḥ, viewed toward the south.

Fig. 6 shows the main area of our field research. The heavy concentration of tombs close to Zafār’s centre is clear, especially near feature z070 in al-Ǧāḥ. Another aspect is the rectification of the satellite imagery. Raw satellite imagery are distorted for different reasons. In part because they are recorded obliquely, they deviate from the terrestrially mapped data and require rectification for precision mapping. The area around Zafār which Quickbird recorded comprises some 7 x 7 km (Fig. 7). Of this area C. Rusch (2005) rectified 1000 x 1200 m by means of the georeferencing of numerous benchmarks in the landscape with known distances and angles between them. Resultantly, one can, for example, superimpose the terrestrial survey on a rectified photo which gives a vivid impression of the ruins in their topography, makes one to think one’s way into the topography more quickly and more securely. For example, it is easier to find the exact location of photos tak-
Fig. 6. The main concentration of Ḥimyarite ruins and our excavation trenches z178, z300 as well as z400 lie in Ṣafār/ al-Ǧāh, just south-west of the Ḥims Raydān.
them more fluid. A normal low-pass filter for this task otherwise would calculate undesirable new grey values disharmonious with those already assigned. Having classified the land-use in the centre of the 7 x 7 km Quickbird image, we now know how the remaining area would react to land-use analysis. A further satellite image taken during the wet summer monsoon would yield better or at least complementary results. The land-use analysis shows the extreme barrenness of the present-day landscape and the extensive erosion at Zafar. The barren area no doubt reflects centuries of deforestation. Owing to droughts and Zafar's erratic rainfall, the Himyar built and cut water containers into the rock for themselves and the animals, as often as possible. Further attempts to reconstruct the ancient environment would be rewarding. We considered planting trees in Zafar, but at this mountainous height the precipitation was considerably less than expected in this well-watered area, and we found few soil deposits capable of sustaining tree growth. In the surrounding lower area, the situation is considerably more favourable.

Zafar Museum

The site museum contains numerous reliefs, inscriptions and other finds which GOAM has acquired since it began in 1973, as well as those from our own activities since 1998. Initiated by Abdullah al-'Annabi and other Zafaris, and later housed by the government, the collection, is the largest assemblage of Himyarite sculpture in the Yemen, to say the least. Despite our reorganisation in 2000, which doubled the amount of shelv-
In the magazine, mostly stone reliefs have accumulated such that the magazine has reached the bursting point. In addition, since 1998 we have excavated large numbers of sculptural fragments. In order to use the last remaining space in the museum storerooms, we literally have to hang our tools from the roof beams. In 2005 we inventoried and catalogued all of the excavated finds and assigned them "zm" (Zafār Museum) numbers. Thus the finds are now de facto and de jure property of GOAM and its site museum. The inventorying of the new finds allowed the opportunity to photograph some further 200 relief fragments which also turned up during the course of the year in the museum itself. Each year, sanguine villagers collect fragments and bring them to the museum for sale to GOAM. They invariably give a provenance in the immediate area. Fig. 9a and 9b, for example, show an intriguing Ḫīmyarite relief with no known significant stylistic or typological parallels. With regard to the subject matter, in the centre a woman standing beside a strangely stylised tree holds a bird in her left hand. Her right hand grasps a stylised tree branch. It emits something ethereal - water, clouds or perhaps vapour. On the far right, a vertically positioned bead and reel band decorates a moulding. Scene left, a second woman poised coquettishly with crossed legs. With her left hand she plays with her hair. The surfaces of the figures themselves have largely spalted off, but their silhouettes are still recognisable. The relief evidences a curious narrative scene, the meaning of which is lost to present-day viewers. In contrast, Sabaean and other Old South Arabian sculpture, which predate this relief, are frontal, hieratic in style and as such represent a different style epoch. Reliefs such as this often become recognisable after comparing different photos and drawing studies of them.
Over the years, we have observed rather painfully that if antiquities such as in Fig. 9 are not purchased and recorded, they simply sicker into local markets (Yule in press), which is what happened with this relief. As a final measure of our museum project, to counter vandalism and for general security reasons, in 2005 we installed eight vitrines in the museum exhibition to accommodate existing and new finds (Fig. 10).

Recording in the Vicinity of Żafar

Each year our recording of reliefs and inscriptions in the vicinity of Żafar has been fruitful and 2005 was no exception. Unfortunately, certain Ḥimyarite reliefs known from earlier publications neither can be found nor photographed, and evidently have changed hands and for whatever reason are no longer in the Żafar area. To these belong often the most interesting works known unfortunately from fuzzy snapshots taken in what can be described as emergency or pioneer recording situations. On the positive side, in 2002 Alexander Sima first photographed a relief with an "eagle" motif in the town of village Ḥaddat Ǧulays (Fig. 11, cf. Yule in press), 1 km to the north of the northern edge of Żaf-

5 For example, P. Costa 1973, pl. 11, p. 192-193, cat.-no. 46 (lion hunt, zm0004); pl. 20.1, p. 198 cat. no. 80, a Ḥimyarite relief of a leaping ram (zodiac sign, Aries); idem 1976, cat. nos. 132 (cherub) and 134 (knight). R. Tindel 1984, 44 middle (niche relief, zm0003).
Fig. 11. Ḥaddat Čulays lies 1 km to the north of Zafar/al-Gusr (al-Qasr). In this view to the north, the arrow shows the present location of the vulture relief.

Fig. 12a. Ḥaddat Čulays, relief.

Fig. 12b. Ḥaddat Čulays, relief (final drawing: I. Steuer-Siegmond).

ing a reddish, coarsely mottled marble beneath. Given a lack of known stylistic and typological parallels, initially it was difficult to fit the motif into a larger historic-cultural context. In 2005, time allowed to re-photograph the relief mounted on the facade of the house of Muḥammad Ahmad Čulays inside the village (Fig. 12a and 12b). The bird on this 54 x 36 x 12 cm relief block is posed in the upper right corner of an arch. It faces left and is rendered with a long swan-neck. On the left edge of the relief a late Ḥimyarite sunk calligraphic monogram appears. Below

Cf., however, as a parallel, a Ḥimyarite seal which depicts an eagle, purchased in Șan’a and presently in the collection of W. Daum (Pirenne 1977: 601; also published in Daum 1987: 89, above left).
left a row of relief-cut leaf buds delineate the curvature of the arch. Owing to weathering and the coarse crystalline structure of the stone, initially the inscription was illegible. But an impression enabled its visualisation. The villagers led me to the find-spot of the relief 400 m south-west of the centre of the village, an east-west oriented stone wall known as Ġîrn al-Ǧîr‘ayn, which is 50 m long and preserved to a height of some 50 cm.

Nearby, between Ḥaddat Ġulays and Ẓafār on the mountain slope "al-Ḥanūnah" (Fig. 15), we stumbled onto more ubiquitous evidence for recent intensive and extensive clandestine excavation. Such activities occur despite the worthy efforts of diverse GOAM watchmen in the area. This is certainly not only a problem in the Yemen; it is
the same all over the world. Beside a quadractic stone dwelling ruin of some 15 x 15 m visible was a freshly robbed shaft tomb (UTM 38p e0436293, n1573025) with a simple rectangular opening which measured some 3.1 x 1.2 m in width. The shaft tomb appears to be over 10 m deep. Dug into the soft bedrock, it seems to be of the same type as the large Ḩimyarite shaft tomb "ar1" in neighbouring al-ʿArāfah, which the undersigned excavated for GOAM in 2004, following its robbing by local villagers (Yule et al. 2007). The mountains are full of recent unofficial excavations – mainly of tombs. The villagers explain that they even excavate with their bare hands, without tools if necessary. Grave robbing, a blissful nocturnal pastime and welcome source of income for the locals, unfortunately shows no sign of abating.

In August 2004 Alexander Sima and I came upon a beautiful, large, Ḩimyarite relief arch which shows two antithetically poised eagles. It was hidden in the house of the guards in the village Qaryat Māriya just next to Māṣnaʿat Māriya (ancient Samjān, 12 km west of present-day Ḍamār, Fig. 15). Seven months later official permission to photograph was forthcoming. Late Ḩimyarite sunk calligraphic monograms lie between and below the eagles. Vines, leaves, grapes and pomegranates accentuate the arch curvature. According to a local guard cum school teacher, Ṣāleḥ ʿAlmād Boğās-ā, in 2003 robbers dug into one of the many mounds on the escarpment, once perhaps a splendid villa. This yielded the relief which broke into three large fragments (Fig. 16). The breaks are fresh and free of accretions, a sign of recent damage - and an indication of the recent removal of the relief. After the thieves transported the c. 250 kg relief from the site, police recovered it and deposited it securely in the house of Ṣāleḥ Boğāsā. The latter led me to the alleged find-spot in which recent excavation is clearly evident in what appears to be a room some 2.5 x 4 m in interior length to width in a debris mound. How exactly the 2.25

Fig. 16. Reconstruction of the relief from Māṣnaʿat Māriya (final drawing: I. Steuer-Siegmund).
Fig. 17. H.imyarite inscription in al-Sirreh near Bayt al-‘Ashwal (photo: M. Schicht, 2003).

x 0.89 x 0.14 m relief fit into or next to this chamber is unclear. After a few studies, we were able to reconstruct the relief arch graphically (Fig. 16).

With regard to the identification of large birds of prey, W. Müller (1994) explains that in different Semitic languages, with some exceptions the common root našru/nišru does not distinguish between eagles and vultures. Ancient Arabian representations of large birds of prey also often elude identification by species. Nonetheless, the two reliefs under discussion appear to depict the cowardly vultures, which is far less suited as a sign of symbolic power than inimitable eagles.

The vulture relief from Mašna’at Māriya is much better preserved than one from Ḥaddat Čulays, with which it shares a close stylistic, typological and iconographic similarity. First, the style of both eagle motifs is purely linear and unmodelled. Second, the intricately imbricated rendering of the feathers brings to mind fortuitously, cloisonné work. In another study (Yule in press) the writer presents arguments for both reliefs as key examples of Himyarite style in its terminal phase, possibly in the 6th century. These include that a medallion forms the breast of the Mašna’at Māriya vultures with radially ordered lines, such as, for example, in the case of early medieval Gothic eagle fibulae. Also, the edges of the wings of both show the same narrow parallel border channels broken at regular intervals. Similar stylistic tendencies are characteristic of migration period metalwork. Robin dates the style of the monograms – not the relief - to the 5th or 6th century CE (Robin in press), which partially supports the author’s dating.

Other late Himyarite inscriptions come to light each year, e.g. in the area of Bayt al-‘Āswāl at al-Sirreh (Fig. 17), which complement the late Himyarite emphasis of our project.

As previously in 2002 and 2003, in our final days this season on the site, bulldozers again widened and planed the road from ḽafār to al-‘Arafāh, mauling and completely eradicating several Himyarite contexts in the southern fortifications – the best preserved part of the ancient site (Fig. 18). The patron of this particular ‘improvement’, the police, are by no means required to notify the antiquity authorities of their building activities, or stop work when damage occurs. Unfortunately, it was...

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8 Contexts z180, z181, z184, z207, all Himyarite fortifications in al-Ḥayfāh and al-‘Uwār. W. Radt reported these features in his report of 1971.
neither possible for GOAM representatives to impose a building-stop nor to investigate prior to this careless destruction. Although but GOAM recently conducted cultural resource operations, for financial and other reasons this area remains largely the activity of foreign archaeologists. Mindful of this, the more we do in the area to record, the more finds and contexts will survive for future generations.

Paul Yule
Seminar für die Sprachen und Kulturen des Vorderen Orients
Seminar für Ur- und Frühgeschichte und Vorderasiatische Archäologie
Schulgasse 2
D-69117 Heidelberg

paul.yule@t-online.de
Bibliography

Barceló, M./Kirchner, H./Torró, J.

Barceló, M./Torró, J.

Carstensen, N.

Costa, P.

Daum, W. (ed.)

Müller, W.

Pirenne, J.

Radt, W.

Robin, C.
In press Muhaqra’ ‘Arabe Muqra une tribu ḥimyarite méconnue, Mélanges Qāḍī Ismā‘īl al-Akwa’.

Rusch, C.

Schiettecatte, J.

Tindel, R.
1984 Zafar Archaeology in the Land of Frankincense and Myrrh. In: Archaeology, March–April, 40–45.

Weisgerber, G./Yule, P.

Yule, P.
2007 Himyar—Die Spätantike im Jemen/ Late Antique Yemen. Aichwald.

In press Late Ḥimyarite Vulture Reliefs. In: Gedenkschrift für Alexander Sima.

Yule, P./Franke, K./Meyer, C./Nebe, J./Robin, J./Witzel, C.