



Seminar for Arabian Studies 2017

Paper Abstracts

New data on the emergence of the Iron Age in south-eastern Arabia: the case of Salūt

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Session 5: The Iron Age in Arabia; 6th August 9.20

The emergence of Iron Age complexity in south-east Arabia has been traditionally investigated via research projects that focused on sites located especially in the United Arab Emirates. Sites such as Rumeilah (Rumaylah), Muweilah (Muwayliḥ) and Abraḡ have posed the bases for a wider regional chronological framework as well as for a deeper understanding of the dynamics that paved the way for some of the major changes occurring during first millennium BC (e.g. *aflāj*). The Iron Age archaeological evidence from Oman, has been, in this respect, less considered: recent excavations carried out by the Italian Mission to Oman (IMTO) in the site of Salūt (province of Nizwa) are, however, bringing to light substantial archaeological evidence that promises to give a fundamental contribution to the understanding of the Iron Age in south-east Arabia. In particular, excavations from the so-called lower settlement (Qaryat Salūt) indicate the occurrence at Salūt of a significantly larger inhabited area than previously considered. This evidence, if analysed in combination with the very high ¹⁴C dates from the upper area (Huṣn Salūt), may suggest the emergence, by the end of the second millennium BC, of a larger – possibly proto urban – settlement in central eastern Oman.

Keywords: Iron Age, Oman, settlement, complexity, urbanization

Liminality: narratives of identity on Abu Dhabi's desert islands

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Session 7: Ethnography and Travellers; 6th August 14.35

The coastline of the Emirate of Abu Dhabi boasts more than 200 islands and they play an important role in the narrative of national identity. This paper will focus on the desert islands of Dalmā and Ṣīr Banī Yās: exploring selected historical and contemporary oral history narratives of identity and place, bringing into focus the personal stories of these desert island inhabitants past and present. The numerous islands of the Arabian Gulf stand on contested boundaries of geography; history; culture; language and religion yet were once part of a dynamic regional and global trade network stretching back millennia. Archaeological evidence points to major periodic shifts in climate, habitation patterns and environment, resulting in the islands moving in and out of the consciousness of bordering coastal cultures. It is the ebb and flow of use, habitation and development of these liminal spaces through the height of the pearling economy to the discovery of oil and beyond; to the

initiation of tourism. The consequent cycles of depopulation and repopulation will be examined through personal histories.

Keywords: boundary, identity, liminality, islands, U.A.E.

A linguistic analysis of two literary mixed Arabic texts from late nineteenth to early twentieth-century Yemen

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Session 3: Arabian languages; 4th August 16.25

This paper examines two morpho-syntactic features, negatives and relatives, in two Literary Mixed Arabic (LMA) texts: Ḥayyim Ḥabšūš, 'Ru'yat al-Yaman' (1893), and Aḥmad al-Jarādī, 'Sīrat al-ḥawāğah al-'akram al-marḥūm Harmān Būrḥart al-'Almānī' (1910). The former is an account in Judaeo-Arabic by Joseph Halévy's guide of their journey made in search of pre-Islamic inscriptions in northern Yemen; the second a report by the secretary-guide of the German traveller and photographer Hermann Burchardt, concerning his last journey and eventual murder in Yemen.

There is a point to the comparison to these texts given the period, the geographical region, the genre and the language style, i.e. LMA. Little work has been done by scholars on so-called Late Judaeo-Arabic from the Yemen, as compared with similar writings in Egypt and Iraq, so an analysis of Ḥabšūš has much to contribute to work on Judaeo-Arabic. Our ongoing research project – of which this paper is part – adds further dimensions to this, however, by investigating and comparing linguistic features of the Judaeo-Arabic Ḥabšūš text with the language of Jarādī's text.

This paper discusses our analysis of negatives and relatives in the two texts, systematically investigating the nature and degree of mixing between Classical Arabic and colloquial Arabic. We show how mixing occurs even at the level of the morpheme, and we explore the extent of systematicity of this mixing within and then between each text. We reject the term 'Middle Arabic', arguing for a re-evaluation. Our results further evidence the argument that LMA is a conscious style of Arabic composed for a specific audience.

Keywords: Literary Mixed Arabic, Middle Arabic, Ṣan'ānī Arabic, negatives, relatives

Bahra-1: Eight years of excavations of an Ubaid culture related settlement on al-Ṣabbiyyah desert (Kuwait)

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Session 4: Arabian Prehistory; 5th August 11.25

Bahra-1 is a large Chalcolithic settlement situated in al-Ṣabbiyyah desert about 7 km from the shores of Kuwaiti Bay. Since 2009, it is excavated by joint Kuwaiti-Polish mission. Recent campaigns showed that it measured not less than 180 x 60m and was composed of at least nine building units the majority of which has been erected on a rectangular plan. There are three consecutive stages in history of the settlement. Some rebuilding of older structures may have been caused by destructions due to violent flooding which took place in ancient times. Pottery found there represents mostly decorated and undecorated Ubaid-2/3 ceramics while the rest belongs to Red Coarse Ware of the Arabian Neolithic. In most of the excavated structures, evidence of shell-bead making was found confirmed by numerous findings of flint drills and shell waste. The lithic assemblage from Bahra-1 is dominated by tools related to bead production; they are much more numerous

than those associated with household activities. Radiocarbon dates obtained from shell samples suggest for the Bahra middle phase a c.4750 BC date. Comparison of findings as well as physical proximity suggest that Bahra-1 may be contemporaneous with an H3 settlement located on sea shore.

Keywords – Kuwait, Ubaid, Chalcolithic, Arabian Neolithic, Mesopotamia

Life and living conditions in northern Arabia during the Bronze Age: First results from the bioarchaeological work at Qurayyah, Saudi Arabia

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Session 4: Arabian Prehistory; 5th August 15.20

In line with the general scarcity of archaeological work in Saudi Arabia, considerations of life and living conditions from a bioarchaeological perspective using skeletal human remains of the population as a direct source of data have so far largely been absent for this important region of Arabian Peninsula. Bronze Age burials discovered as part of the recently initiated multidisciplinary research project at Qurayyah, Saudi Arabia (Luciani 2016) offer the unique opportunity to open a new window into many aspects of life including health, diet, activity patterns, locality, mobility and migration. This paper will present the results of the first season of bioarchaeological work at Qurayyah. Despite difficulties posed by the considerable degree of fragmentation and commingling, the initial assessment of the individuals points towards high childhood mortality, a high frequency of fractures, the presence of nutritional diseases such as scurvy as well as infectious diseases including potential evidence for tuberculosis. These results will be considered within the archaeological and historic context of the ancient settlement of Qurayyah to highlight the potential of the material to elucidate living conditions in the area, address significant research questions about historic processes in northern Arabia as well as outline the framework for future studies.

Keywords: north Arabia, Bronze Age, inhumation burials, palaeo-pathology

Neolithic stone beads from Oman Peninsula

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Session 4: Arabian Prehistory; 5th August 10.10

More than 30,000 beads were found at Neolithic sites in the Oman Peninsula. Most of them are made of shell, and stone accounts for less than 10%. While green softstones are most common, ornaments are also produced in red softstones, and in hard stones like carnelian and other chalcedonies, rock crystal, etc. This study will first focus on the working process used to produce these ornaments, looking at differences based on stone type. Based on eighteen sites (both settlements and graveyards) in the UAE and Oman from the sixth to the fourth millennium BC, we will then concentrate our attention on the evolution of the utilization of both shell and stone during those millennia in general, and among sites. Finally, the origin of these beads will be explored, and placed within the context of the circulation of raw materials and finished ornaments at that time.

Keywords: bead, ornament, Neolithic, UAE, Oman, circulation

Hidden waters? Diachronic study of artesian springs and wells in Masafi (UAE)

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Session 6: Landscape in Arabia; 6th August 11.55

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Since 2007, the work of the French Archaeological in the UAE has revealed that the area of Masāfī (Fujairah), in the northern part of al-Hajar (Jibāl Ḥajar), had been populated from the second millennium BC. The valley was densely populated during the Iron Age II and during the Late Islamic period (after AD 1500). In parallel to the excavation of settlement sites, a survey of the palm grove combined with test pits has also led to the discovery of cultivated layers and hydraulic structures from different periods, ranging from the beginning of the Iron Age to the present day. This paper aims to address the specific question of the evolution of groundwater resources, through a multidisciplinary approach combining archaeology, geoarchaeology, geomorphology, geomatics and ethnography. Today, the oasis is mainly fed by drilled wells and water resources are located deep below the ground. The identification of tufa deposits, however, allowed us identifying artesian conditions in the past, related to a specific geological setting. An ethnographic study has confirmed that these conditions maintained until the end of the twentieth century AD. Furthermore, the typo-chronology of wells, based on their architecture, type of supply and spatial distribution has allowed us to reconstruct the gradual drawdown of groundwater resources on the long term.

Keywords: Fujairah, Iron Age, Islamic period, artesian waters, hydraulics

Living in Madain Salih-Hegra in antiquity. Results from the excavations of area 1 in the ancient city

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Session 1: Pre-Islamic Arabia; 4th August 9.30

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This paper presents the results of the excavations undertaken in the residential area of ancient Hegra (modern Madā'in Sālih or al-Hijr) in north-western Saudi Arabia. Area 1 is in the northern part of the ancient city, and the first four seasons conducted there, from 2008 to 2011, have revealed a long sequence of domestic occupation from fifth/fourth centuries BC to mid/late 4th century AD. The interdisciplinary study of the archaeological and bioarchaeological material (pottery, coins, fauna and plant remains) allowed us to identify different activities that were performed in this area during its latest phase of occupation and to understand better the architectural evolution of a residential quarter at Madā'in Sālih.

The Great Mosque of Şan'ā' and its predecessors: 2000 years of religious tradition

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Session 2: Early Islamic Arabia; 4th August 15.10

The Great Mosque of Şan'ā' was originally erected in the southern part of the esplanade of Abraha's cathedral. It was gradually extended, until the church was eventually demolished in 136 AH / AD 753/4, with the mosque reaching its present form. Abraha's church was, however, not the first cultic building in this location. It was preceded by a pagan sanctuary; the central part of it – the tomb of a pre-Islamic divinity – has been preserved inside the Great Mosque to this day. The tomb has been carbon dated to the second century AD. The paper will focus on Abraha's church. It consisted of two buildings: one indeed a church, its construction supported by architects and craftsmen sent by Justinian; and a second (wooden) building housing the pagan sanctuary, and continuing its cult. Apart from the pre-Islamic tomb, another element of ancient South Arabian religion, prominently preserved in Abraha's 'church', made its way into the Great Mosque. These were two wooden poles, 'male' and 'female', adopted in the Great Mosque as two pillars (that still exist), equally 'male' and 'female'. The paper sheds new and unexpected light on the history of the Great Mosque, and the continued strength of the pre-Islamic religion.

Keywords: Great Mosque, Abraha's church, pagan sanctuary, pre-Islamic, Şan'ā'

The material and spiritual world of Early-Islamic Hijaz as reflected in the Hadith

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Session 2: Early Islamic Arabia; 4th August 14.45

In this exploration of the documented sayings and interactions of the Prophet Muḥammad and his community, the enquiry will focus on words and concepts that highlight cultural and linguistic exchange with neighbouring cultures. This will, however, not only testify to the materially and culturally rich environment in which Islam emerged and evolved but also more specifically draw attention to multilingualism in early Islamic society. In the only linguistic history of Arabic, we find one single hadith cited as containing a synonym for 'friend', and this reference is quoted from Classical Arabic lexicography and not based on individual research. By analysing the language of the hadith, rather than their authenticity or inauthenticity, a question that much scholarship has focused on in the past, this paper will illustrate a marginalised stage of the Arabic language.

Keywords: Arabic, Hadith, comparative Semitic Studies, trade, Late Antiquity

New aerial photography in the Arabian Gulf

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Session 6: Landscape in Arabia; 6th August 12.45

A new project at UCL-Qatar aims to acquire and research the historical aerial photography of Qatar and the wider Gulf region. It will assess the accessibility and utility of aerial photographs of Qatar and the wider region that are held at the National Collection of Aerial Photography (Edinburgh). This collection, comprising perhaps as many as twenty-five million photographs from British intelligence sources in the twentieth century, mainly from Royal Air Force reconnaissance missions, is known to include large quantities of aerial photographs from the Gulf that have never been seen outside of intelligence circles (approx. 400,000 from 1942–1960 have been

identified thus far). These photographs date from 1938 to 1989 and are an invaluable resource for the history of the entire region. This paper will describe the project of identification, classification and publication of specific images and demonstrate how others may gain access to this valuable resource, not only for the Gulf but for the entire MENA region. We will then focus on a small number case studies to explore the research values of these resources, and demonstrate how they enrich our understanding of the nature of settlement patterns, land use and urbanism in the pre-oil and early oil era.

Keywords: aerial photography, Remote Sensing, archaeological survey, landscapes

Analytical investigation of Early Islamic glass from Şīr Banī Yās (United Arab Emirates)

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Session 2: Early Islamic Arabia; 4th August 14.20

The discovery and exact date of the monastery on the island of Şīr Banī Yās, Abu Dhabi, have attracted much interest since its discovery in 1993 by the Abu Dhabi Islands Archaeological Survey. A significant number of glass fragments were recovered from these investigations and have been studied in preparation for the forthcoming final report. Like the published pottery and stuccoes, they are typologically dated to the eighth century when the complex came to an end. This is an important period for Early Islamic glass production but understanding where the pieces may have been produced requires an analytical approach. eighty-three fragments were therefore analysed by electron probe microanalysis for major elements and a subset for trace elements using laser ablation inductively coupled mass spectrometry. To our knowledge, this is the largest assemblage of this date to be scientifically analysed from this region. Using compositional categories developed by Phelps (2016), the glass appears to have originated from four different primary production centres, one Syro-Palestinian, and three hypothetical Mesopotamian groups. The data are compared with the analysis of glass from other sites including Kush and from Fulayj (Oman) to illustrate the range of sources supplying glass in the region.

Bridging enclosures and tower tombs: excavations at the Wādī Sharmah sites, north-west Arabia

Sumio Fujii (Kanazawa University)
Session 4: Arabian Prehistory; 5th August 14.30

Enclosures and tower tombs are ubiquitous stone-built features in the later prehistoric Arabian Peninsula, but little effort has been made to trace the transition between the two. This is because typological difference between them are too great to fill up the gap. Our recent excavations at the Wādī Sharmah sites in north-western Arabia have provided a specific breakthrough to this long-standing issue. A key to tracing the typological sequence is evidence of a rectangular niche with a few standing stones, also termed *masseboth*. Though the precise date of individual features is still ambiguous, available evidence including site stratigraphy and the converting-converted relationship of construction material suggests that the Chalcolithic–Early Bronze Age burial feature in the area changed from large enclosures incorporating the sacred niche into their eastern wall; to small, square enclosures adding a new, round feature as a proto-type of tower tombs in their centre; and early tower tombs incorporating the niche into their eastern wall; to standard tower tombs including an east-facing standing stone within their cist. Of significance is finding two transitional forms that bridge the enclosure and the tower tomb, thus far understood as entirely different features. Scattered evidence suggests that the supposed sequence is applicable to a wide range of sites including those in the Riyadh area.

Keywords: Wādī Sharmah, Arabia, tower tomb, enclosure, pastoral nomads

The sacred area of Daba (Musandam, Oman, II-I millennium BC). The LCG-2 complex: structures, materials, osteological elements.

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Session 4: Arabian Prehistory; 5th August 16.15

The Daba (Dibbā) burial complex, represented by two large collective graves (LCG1 and LCG2) and several pits with ritual offering, is located on the east coast of Musandam Peninsula (Oman). Research at Daba began through the accidental discovery of LGC-1; later the larger funerary complex called LCG-2 was identified and unearthed during the 2013 to 2015 fieldwork seasons. LCG2 is 23 m long and 6 m wide, including the outer arrangements. It has been built applying various building techniques and using both local stones and mud-brick. The whole area seems to be continuously occupied from the Late Bronze Age (1600–1350 BC) until the Iron Age II/III period (c.600 BC). To date, twenty-eight individuals from primary burials and a minimum of 202 individuals from secondary depositions have been found. They were accompanied by thousands of valuable objects (pottery, stone vessel, weapons, ornaments, etc.). Many phases of use have been identified, as well as different phases of restoration and reorganization of the various spaces. Nowadays, the excavation of LCG-2 has still not been completed but the preliminary stage of research suggests that the whole area could have been a monument or tribute to tribal alliances dating to the end of the second millennium BC.

Keywords: Oman, Musandam, Iron Age, collective grave, burials

Kingship in Pre-Aksumite Ethiopia from the perspective of Ethio-Sabaic inscriptions

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Session 1: Pre-Islamic Arabia; 4th August 12.05

During the first half of first millennium BC, ruling elites in northern Ethiopia were profoundly influenced by South Arabian culture, especially the culture of the kingdom of Saba'. Evidence of this influence survives in the form of Sabaic inscriptions, art and architecture inspired by South Arabian prototypes, and the worship of Sabaeen deities. Recent research has stressed that many of these South Arabian cultural traits were modified by local Ethiopian tradition. In the same spirit, this paper argues that, although kings in pre-Aksumite Ethiopia adopted South Arabian royal titles, theirs was a kingship that was essentially African. This is indicated by the prominent role played by royal women and the idea of the divine election of the king – features absent from South Arabian tradition. This hypothesis can be argued with reference to the royal inscriptions in Sabaic from northern Ethiopia, that indicate a sharp contrast in content with royal inscriptions from South Arabia. Some comparisons can, however, be made with kingship in Nubia during the same period. By better understanding kingship in pre-Aksumite Ethiopia, it is possible to see how local elites wished to present themselves to their subjects and to their South Arabian neighbours alike.

Keywords: kingship, Ethiopia, South Arabia, ideology, Nubia

Preliminary results of the archaeological excavation at the Umm al-Nar settlement at Dahwa DH1 and DH7: Third Season 2017

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Session 4: Arabian Prehistory; 5th August 15.50

As a result of the 2015–2016 archaeological survey in Dahwa region, northern Batinah (Bāṭinah), c.24 km to the west of the coastal city of Saham, five Umm an-Nar sites (DH1, DH5, DH6, DH7 and DH8) have been found at the foot hills of al-Ḥajar, clustering in an area that does not exceed a diameter of 1.5 km along the wadi system. DH1 and DH7 are the largest, each of them contain several buildings and tombs. Five buildings and four tombs have been excavated in DH1 as had one unique Umm an-Nar tomb in DH7. The excavated buildings in DH1 showed homogeneity in their architectural concept and differences in their construction technique reflect differences in their functions. These varied between industrial and domestic. Pottery showed intensive trade connections with the Indus Valley. Copper industry was the pillar of the economy of Dahwa. ¹⁴C dates set DH1 in the early phase of Umm an-Nar period. Preliminary analysis indicates that the excavated tombs at DH1 are typical Umm an-Nar sugar-lump in style and others could be dated to later periods (e.g. Wadi Suq, late Sasanian-Parthian). The unique Umm an-Nar tomb at DH7 (DH7:T1) was partially excavated and yielded rich material: specially the burial pit in front of it. It was reused in later periods.

Keywords: Dahwa, Umm an-Nar culture, Indus pottery, tombs, copper industry

Mercurial amalgamation: Innovation in gold extraction in Late Antique Arabia

Ali Jarkhi

Session 1: Pre-Islamic Arabia; 4th August 12.55

In Late Antique Arabia, gold was extracted from oxidized quartz veins on a massive scale. This was accomplished using a combination of gravity-based methods and the use of mercury for amalgamation. The latter is a method that is still used today in small-scale gold mining around the world, but its historical origins remain obscure. The first detailed descriptions of the amalgamation processes employed by Arabian gold miners are found in al-Hamdānī's account from the tenth century AD. This historical evidence includes discussions of the availability of cinnabar, the use of mercury for pigmentation and amalgamation, and the density of mercury in coinage. This paper juxtaposes Hamdānī's descriptions with the archaeological evidence from Arabian mining sites to argue that the mercurial amalgamation process should be considered a local innovation. The paper presents select results from surveys and excavations at gold mining sites throughout south-western Arabia, and contrasts this with archaeological evidence from other intensive mining regions to test the hypothesis that mercurial amalgamation has its origins in Late Antique Arabia, spreading to the neighbouring regions in the Early Islamic period. The evidence includes metallurgical and geochemical analyses of the final products resulting from the mining, namely coinage.

Keywords: pre-Islamic/Islamic Arabia, mining, mercury amalgamation processes, coinage.

New evidences of Iron Age ritual practices in central Oman: 2017 excavations in Mudhmar East, near Adam

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Session 5: The Iron Age in Arabia; 6th August 10.10

In January 2017 the excavations of the French Archaeological Mission in central Oman on the Iron Age site of Mudhmar East (Miḍmār), near Ādam (al-Dakhiliyyah governorate), extended to the slope of the hill overhanging Buildings 1 and 2. The buildings already revealed substantial architectural features and a quantity of unusual copper objects that qualified the site as a relevant Iron Age II site probably linked with cultural activities, as witnessed by the quantity of metal weapons and replicas, snake figurines and peculiar pottery types. Stratigraphic excavation of the slope led to the discovery of new elements, including a large wall with a probable containment/terrace function and three postholes. Moreover, a remarkable quantity of potsherds and metal objects provide new evidence to suggest that the whole hill could be part of a cultic site. The abundant pottery assemblage will be presented and discussed, highlighting, among the most common types, a set of more rarely attested shapes that could be more specifically connected to non-residential nor productive sites. Among the metallic objects found, some arrowhead and dagger types are known in the region, while some other weapons seem unique and only dedicated to a votive function. An important series of representations of snakes (copper figurines and ceramic decorations) strongly link the site to a well-known cult that flourished during the Iron Age in south-east Arabia.

Keywords: Oman, Iron Age, pottery, weapons, cultic site

From traders to dwellers? Settlement pattern in pre-Islamic 'Aynūna

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Session 1: Pre-Islamic Arabia; 4th August 9.55

The Saudi-Polish archaeological project in Wādī 'Aynūna (Tabūk Province) is the first one, so far, to excavate this pre-Islamic coastal settlement in western Arabia. The project focuses on the issue of the infrastructure of international trade in the Red Sea in the Roman and late Roman period. Ancient 'Aynūna was originally a Nabatean port linking trade from Petra with the Red Sea and is most probably identical with Leuke Kome known from written sources.

'Aynūna in the Roman period played an important role as a trading station both in international as in regional trade. Its location between the sea and the mouth of a deep valley used as caravan route inland stimulated its architecture and settlement plan. Some changes occurred after the fourth century AD, when a new building was constructed possibly after some period of abandonment. This has been identified as a *khān* (no.1) and followed a completely different plan but was constructed from the material as some earlier buildings. The paper focuses on changes in character of architecture in 'Aynūna, reflecting possible shifts from its function as a trading station to compound that became more residential. As the project is ongoing this paper presents preliminary remarks on the wider issue of settlement patterns in the Hijaz and the coastal region of western Arabia.

Keywords: Hijaz, 'Aynūna, Leuke Kome, trade, settlement.

Discovery of Bronze Age trade with Dilmun on the island of Şīr Banī Yās

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Session 4: Arabian Prehistory; 5th August 12.40

This paper presents the results of recent excavations carried out in February 2017 that have revealed important new evidence of Bronze Age trade on the islands of Şīr Banī Yās, located in the western region of Abu Dhabi emirate in the UAE. A stone structure was identified that forms part of a larger site, located near to Şīr Banī Yās Airport, on the south-west coast of the island. A number of large Dilmun-type jars were found within a walled structure. These mostly consisted of large red, ridged storage jars, but there were also examples of darker ‘bread plaque’, ridged smaller vessels. A most remarkable find, discovered within the occupation horizon, inside the walled structure, was a Dilmun stamp seal. This was made in steatite (?) and had the typical design with three parallel grooves and four circles with dots on its convex surface, and a horned animal head, plus a possible figure, on its face. This is the first Dilmun stamp seal to be discovered from the al-Gharbia (al-Dhafra)/western region of Abu Dhabi. This new discovery supports the earlier hypothesis of Carter (2003) that the ‘Merchants of Dilmun’ were active along the coast of the UAE.

Keywords: Barbar pottery, Dilmun, seal, building, island of Şīr Banī Yās

The architecture and phasing of Muweilah

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Session 5: The Iron Age in Arabia; 6th August 9.45

Excavations at Muweilah (Muwayliḥ, Emirate of Sharjah, UAE) have uncovered a large proportion of an Iron Age II settlement with a fortification system and at least twelve buildings. This paper presents the results of a detailed analysis of the architecture and phasing. Recurring patterns in the sequence of construction and layout can be observed for several of the buildings, which offer insights into the organization of the settlement. These observations are contextualized within the larger building tradition evidenced in contemporary sites.

Keywords: Iron Age, architecture, fortification, settlement

New excavations at the Royal Mounds of A’ali, Bahrain, c.2000–1700 BC

Steffen Terp Laursen (Moesgaard Museum, Denmark)

Session 4: Arabian Prehistory; 5th August 12.15

This paper presents the main results of ongoing investigations by Moesgaard Museum and the Bahrain Authority for Culture and Antiquities at A’ali. Although this iconic cemetery has been sporadically investigated over the course of the last one hundred and forty years, knowledge of the site was quite limited until the current project. During the joint project’s first three seasons of excavation and subsequent extensive analysis programme, an exciting new picture of the Royal Mounds of A’ali has emerged. An architectural typology of the royal tombs has been developed and the project’s extensive dating programme has established a robust

radiocarbon chronology for the evolution of the Royal Cemetery. Most spectacularly, new inscriptions found on softstone sherds reveal the names and Amorite ancestry of two Early Dilmun kings.

Keywords: Amorites, burial mounds, Dilmun, Radiocarbon chronology, A'ali

From the Bronze Age to the Islamic period: the site of al-Hamr al-Sharqiyyah, a preliminary approach

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Session 4: Arabian Prehistory; 5th August 16.40

While excavations and surveys in Dhofar have documented the presence of the Islamic period and the South Arabian population extensively, local settlements during the Bronze and Iron Age remain poorly documented. Results of recent surveys and test excavations in the coastline of Dhofar have revealed a site that may provide an important focus on Bronze and Iron Age. Lithics and materials studies suggest that at least a settlement at al-Hamr al-Sharqiyyah, in the area of Khawr Rori (Khawr Rawrī), was re-occupied or re-used during the Classical period (first century BC to the first century AD); and contemporary with Sumhuram, an important South Arabian city connected with the frankincense trade. Stratigraphic and palaeo-environmental evidence point to climatic change and a change of use on the promontory during the long life of the site from the Bronze Age to the Islamic period. The site of al-Hamr al-Sharqiyyah seems to suggest the presence of a long architectural tradition, and opens some interesting questions about the relation between Ḥadrami people that lived in Sumhuram, and the local population. Last, but not least, this site could exhibit the typical characteristics of each historical period allowing for a more complete comprehension of Dhofar.

Keywords: Dhofar, Iron Age, palaeo-environmental analysis, Bronze Age, architectural tradition

From 'tentscape' to landscape: a multi-scale analysis of long-term occupation patterns in north-western Qatar.

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Session 6: Landscape in Arabia; 6th August 11.30

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This paper presents results of the 2015-2017 seasons of The Crowded Desert Project. These results represent outcomes from an integrated field survey and excavation, covering an extensive zone from the coast to the inland desert of north-western Qatar. Data were collected from diverse archaeological sources, and at a variety of scales of resolution over the course of three field seasons, enabling the authors to engage with questions related to the long-term occupation of this complex landscape. Over 2000 finds and 2300 structures were recorded through survey, excavation and aerial photogrammetry. The visualization, intersection and analysis of consistent and validated data sub-sets within a GIS platform was fundamental to defining chronological sequences, and in understanding the significance of site accessibility, water resources and nomadic mobility. Ethnographic and ethnoarchaeological studies such as those of K. Ferdinand (1993) and A. Montigny (1979) currently represent the primary interpretive tools for analysing patterns of nomadic settlement in Qatar. The current work complements and enhances such scholarship, by providing a diachronic

perspective on the socio-economic context of settlement patterns in the research area from the pre-Islamic period to the present day, thus contributing to both local and regional archaeological narratives.

Keywords: Landscape, Qatar, GIS, settlement, nomads.

2009-2016 excavation seasons in the historical core of Dūmat al-Jandal, ancient Adummatu

Romolo Loreto (Università degli Studi di Napoli 'L'Orientale)

Session 1: Pre-Islamic Arabia; 4th August 11.40

Evidence from the Islamic era and back to the second half of the first millennium BC is presented. In 2011, a preliminary chronology of Dūmat was introduced at the Seminar for Arabian Studies by the Saudi-Italian–French project. Based on two excavation seasons carried out at the eastern foot of the acropolis, the first archaeological data for the ancient Adummatu, quoted in the Assyrian annals as the capital of the northern Arab people came to light. After eight archaeological campaigns in the historical core of Dūmat, it is now possible to define a more complex picture of the ancient oasis, by defining the urban topography and trade contacts related to the centuries dated to between the Early Islamic and Nabataean eras. Also, a first fragmentary inscription and artefacts related to the pre-Nabataean period could testify of an occupation during the second half of the first millennium BC, apparently a dark period both from textual and archaeological perspective. Archaeological activities were carried out in the acropolis, where the Byzantine Mārid castle stands; the lower city, where the ancient Nabataean urbanization was recognized and pre-Nabataean artefacts were collected; and west to the Early Islamic 'Umar ibn al-Khattāb mosque, where records from the Byzantine to the pre-Nabataean period were detected.

Keywords: Arabs in antiquity, Arabian archaeology, Saudi Arabia, Dūmat al-Jandal, al-Jawf

New archaeological joint project on the site of Qurayyah, north-west Arabia: Results of the first two excavation seasons

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Session 4: Arabian Prehistory; 5th August 14.55

From 2014, a new multidisciplinary archaeological project has been initiated on the site of Qurayyah, north-west Arabia, in a joint mission by the Saudi Commission for Tourism and National Heritage and the University of Vienna. Qurayyah is one of the largest oases in the northern part of the Arabian Peninsula. Scientific research was started on the site in 1968, thanks to the pioneering efforts of Peter Parr, Lancaster Harding and John Dayton (Parr et al 1970 and 1971). The paper will discuss the new joint project's choices (Luciani 2016) in the systematic investigation of the site and present an outline of the results of the 2015 and the 2016 excavation campaigns as well as the geomorphological survey. Radiocarbon determinations will be discussed for three different contexts in Qurayyah: the (1) pottery kiln producing famous painted ceramic formerly known as Midianite Pottery and now called Qurayyah Painted Ware; the (2) stone rectangular buildings used for multiple and repeated burials and featuring metal weapons and Barbotine Pottery as grave goods; and the (3) secondary inhumations of mainly children in the post-usage phase of the kiln (for anthropology report see 2017 Seminar paper by Binder, Jachs & Luciani). For the first time, a coherent and substantiated chronological frame for the material cultural remains in the oasis of Qurayyah may be proposed.

Keywords: north Arabia, Bronze Age, Urban Oases, Qurayyah Painted Ware, Barbotine Pottery

Environmental impacts on the occupation of Qatar and the gulf during the Holocene Period

Phillip G. Macumber

Session 4: Arabian Prehistory; 5th August 9.45

This paper covers the impact of environmental changes during the Holocene period on the occupation of Qatar, brought about by climatic and sea-level fluctuations. During the Hydrological Optimum (Macumber, 2011) from c.7,600 to 6,000 yr BP, the climate was wetter with 2–3m higher sea levels; there was widespread Neolithic occupation of the coast and inland areas in the south, which are not habitable today. Conversely from 6,000 yr BP to early Islamic times, Vita-Finzi (1978) and Drechsler et al (2016) noted a dearth of occupation, while more generally Uerpmann (2003) observes a ‘Dark Millennium’ across eastern Arabia after 5000 yr BP.

The environmental processes responsible for the distribution and movement of populations are examined. They include an early-mid Holocene monsoonal incursion into Qatar, mid-late Holocene aridity with a 3,000 year long hyper-arid phase, and a 2,000+ year long saline event stemming from seawater intrusion into the high-level coastal shoreline. The marine regression after 4,000 yr BP led to the flushing of intruded seawater onto the newly emerging coastal plain instigating the development of coastal sabkha. The profound environmental changes documented in Qatar have broader implications for occupation elsewhere along the Gulf, wherever flat hinterlands occur.

Keywords: occupation, sea level, palaeoclimate, salinization, sabkha

Sharbithat and the Early-Middle Holocene chronology (Dhofar, Sultanate of Oman)

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Session 4: Arabian Prehistory; 5th August 10.35

In the region and the plain of Dhofar the coastal plain of Sharbithāt has been scarcely explored. With its 14-km long shoreline, its succession of wide mesas and wadis deltaic branches and its abundant flint sources, Sharbithāt represents one of the most promising Neolithic archaeological areas of the Omani coast. A first campaign in this area has been therefore undertaken in January 2017 in the framework of the expedition programme entitled ‘Archaeology of the Arabian Seashores’, directed by V. Charpentier, and of the NeoArabia, a ANR-funded project. The Middle Holocene occupation in the surveyed terraces and low plateaus is particularly dense. Sites SHA-2, SHA-7 and SHA-10 revealed the presence of Neolithic dwellings (Recent or Late Neolithic period II, c.4500–3100 BC). Moreover, in addition to the ordinary fishing equipment that characterizes this period, an astonishing lithic industry was also discovered. It consists of lunates, backed blades and points made on flakes, similar to the so-called ‘Fasad points’ dating to the Early Holocene. This final evidence suggests the use of such a point type for a period longer than previously supposed; or their attribution to the Late Neolithic, rising important chronological questions that must be carefully tested. Middle Neolithic occupation (c.6500–4500 BC) has also been recognized at Sharbithāt SHA-4, an exceptional site that provided stone structures, one burial at least, many bifaces, several ‘façonnage’ products and dozens of arrowheads with trihedral-shaped distal and plano-convex mesial. This type of projectile points was already known in the Ḥaḍramawt area in contexts dated between the sixth and fifth millennium BC, but their chronological horizon in Oman has to be further detailed with new dates.

Keywords: Sharbithāt, Middle Holocene, marine terraces, projectile points, Fasad

Women in Soqotri and Omani folklore

Vitaly Naumkin (Russian Academy of Sciences), Leonid Kogan (Russian State University for Humanities)

Session 7: Ethnography and Travellers; 6th August 14.10

In 2014, the present speakers, in collaboration with a team of their colleagues, published the first volume of their *Corpus of Soqotri Oral Literature* (CSOL I) and are currently working on the new volumes. Some texts testify to the important role women were playing in traditional Soqotri society. Compared with what we know of Omani folklore and history, the specimen texts collected by our team demonstrate clear commonalities related to this role in both Soqotra and Oman that have a solid foundation in history. The Omanis appeared on the island earlier than customarily believed, and they introduced Islam to the island, according to al-Hamdānī's account. The author of a well-known Omani chronicle wrote about dramatic events related to the relatively unknown history of the arrival of the Omani Kharijites on the island. At the same time, the chronicle provides evidence of an incredible mission carried out by a Socotra woman, al-Zahra, who during the rule of 'Azzan bin al-Saqr (d. AD 881), wrote a poem to the Imam that narrated to him how many wrongdoings had been allegedly committed by the Christians on the island. Muḥammad al-Zarqa believes that the term 'Christian' in the text referred to Ethiopians. Using a comparative approach, the present paper analyzes some common plots and beliefs related to women. It focuses on a newly discovered Soqotran text with the title 'A Man's Advice to His Comrade', in which a woman is the main character. An English translation is included in the paper.

Keywords: Oman, Soqotra, women, oral folklore, Christians

Ancient agriculture and runoff harvesting in the mountain oasis of al-Rustāq, Oman

Louise Purdue (University Côte d'Azur), Dave Moger (Durham University), Gautier Durrier de Madron

(University Côte d'Azur), Gourguen Davtian (University Côte d'Azur), Sam Botan (Sultan Qaboos University)

Session 6: Landscape in Arabia; 6th August 10.35

In south-east Arabia, the development of intensive agriculture since the Bronze Age is often closely tied to groundwater harvesting, but rarely to other autigenic water supply techniques such as run-off harvesting, despite their efficiency and sustainability. Recent investigations in the oasis of al-Rustāq (Oman) (RBAS project, Dir. D. Kennet; Kennet et al. 2016) revealed cycles of settlement patterns from the Iron Age as well as the management and hydro-agricultural artificialization of small catchments throughout the valley. To better understand the importance of run-off harvesting techniques and the socio-environmental factors behind their conception, use and abandonment, a multidisciplinary study was conducted in a small watershed north of al-Rustāq (Manāqī). Archaeological surveys and mapping were combined with geoarchaeological test pits and systematic soil sampling for palaeo-environmental and chronological studies. Results highlight the continuous but irregular use of small-scale run-off farming from the Iron Age, with the construction of diversion and check dams associated with the accumulation of silts and burning practices. They also raise the question of demand versus resource availability: was run-off harvesting a complementary technique, a dominant one or solely a result of pressures of increasing population? The results will be placed against the regional socio-environmental background as part of a funded project on the development of agro-systems in Arabia since the Bronze Age.

Keywords: land use, run-off harvesting, geoarchaeology, Oman

Routes across Arabia: Pilgrimage routes from the UAE region in historical context

Fergus Reoch (Barker Langham)

Session 7: Ethnography and Travellers; 6th August 15.00

The Hajj routes followed by pilgrims from the UAE region developed from ancient trading routes across the Arabian Peninsula. This paper focuses on routes taken by three twentieth-century pilgrims from the present-day UAE (Abdullah bin Nasib; Umm Ubayd; Sa'id bin Rashid al-Zu'abi), and contextualizes them by examining how they fit into earlier journeys by mediaeval Muslim travellers (Nasir-i Khusraw; Ibn Battutah; al-Hamadānī), and twentieth-century British explorers (Harry St John Philby; Wilfred Thesiger). The paper draws on original accounts written by the travellers in question, as well as oral history interviews of the Emirati pilgrims collected by Abdullah Abdulrahman in the 1980s, which have been published as *Finjan Qahwa* [A Cup of Coffee]. The analysis also relies on the close examination of satellite images, combined with historical and contemporary maps of the Arabian Peninsula to gain a more accurate understanding of possible pilgrimage routes. The paper's significance lies in its introduction of Arabic-language primary sources into the English-language literature on the topic, and its empirical focus on the less commonly examined issue of pilgrimage routes from present-day UAE.

Keywords: Hajj, UAE, Arabia, routes

The Thaj Archaeological Project: results of the first field season (2016)

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Session 1: Pre-Islamic Arabia; 4th August 10.45

Located 90 km inland from the Gulf coast, west of modern al-Jubayl, Thāj is the largest ancient site known in eastern Arabia. It was a major hub for long-distance trade in the 'Hellenistic' period and in the first centuries AD. It has been known to western scholarship from the beginning of the twentieth century, but only limited surveys and excavations have been carried out at the site so far. In 2016, an international archaeological project led by the CNRS (France), Leiden University (Netherlands), and the Saudi Commission for Tourism and National Heritage was launched in order to conduct a comprehensive archaeological exploration of the site, including large-scale excavations and a wide array of specialized studies. The present paper presents the results of the first field season of this project, which took place in October and November 2016. These first results already shed critical new light on the ancient environment, the plan, the chronology and the material culture of Thāj.

Keywords: Thāj, archaeology of eastern Arabia, 'Hellenistic'/Late pre-Islamic period, town-planning, fortifications

A tumulus cemetery on the north coast of Kuwait Bay: Results of survey and excavation in al-Subiyah region

Łukasz Rutkowski (University of Warsaw)

Session 4: Arabian Prehistory; 5th August 11.50

From 2007, the Kuwaiti–Polish Archaeological Mission has been working in the coastal region of al-Subiya (al-Şabiyyah), a desert plateau extending along the north coast of Kuwait Bay. They carried out an extensive survey and excavated selected stone structures, mainly burial mounds. More than two hundred archaeological sites and structures, including around 130 tumuli and around a hundred stone features of different types, were recorded. A selection of forty stone structures were excavated, of which twenty-seven were burial mounds.

This paper summarizes the results of six seasons of investigations, from 2007 to 2012.

The survey, coupled with excavation of selected structures from the survey area, has provided extensive data for a preliminary analysis of the tumulus cemetery found in al-Subiya. Based on this research, it is possible to present the following: a provisional classification of tomb forms; distribution patterns of the burial mounds; specific burial practices in the region; and a tentative chronology of the sepulchral structures.

Keywords: Kuwait, tumuli graves, typology, burial practices, Bronze Age

KALAM reloaded

Ronald Ruzicka (Simutech, Vienna, Austria)

Session 1: Pre-Islamic Arabia; 4th August 12.30

The word analyser KALAM for Sabaic words has been developed within a Master thesis. KALAM is a tool for the automatic detection of morphological attributes of a Sabaic word, like stem, conjugation, case and person. Connected to a computer based dictionary it provides also the translation, including prefixes and postfixes, like possessive pronouns and particles. KALAM is based on the most recent Sabaic grammar of Peter Stein. New research work has connected KALAM reloaded to online dictionaries like the Saba-Web and is now extended to Minaic, Qatabanic and Ḥaḍramitic, too. The final aim is the automatic translation of sentences of ancient South Arabian languages. The development work will be supported by using the newly digitized texts of the Glaser collection and building up annotated trees in a database in an iterative process, improving the algorithms. In an intermediate step KALAM will learn to automatically complete words with missing characters. The research work will show, whether and to which extent it is possible to automatically tag the words and build up the tree for these languages. The final question is, whether the system can automatically help to complete sentences where parts are missing in inscriptions.

The Al Ain oases mapping project: Hili Oasis 2017

Peter Sheehan (Abu Dhabi Tourism & Culture), Tim Power (Zayed University), Omar Al Kaabi (Abu Dhabi Tourism & Culture),

Session 6: Landscape in Arabia; 6th August 12.20

Since 2014 Abu Dhabi TCA and ZU have been running a short annual field school aimed at introducing Emirati students to archaeological methodology and the oasis landscape of Al Ain (al-'Ayn). In 2017 the focus of this program has been the oasis of Hīlī, the northernmost of the group. The project adopts a holistic approach to understanding the cultural landscape of the oasis that combines the detailed survey of historic boundary walls

with stratigraphic excavation, finds processing and the compilation of oral histories through interviews with local landowners and residents. Its aim is to understand the chronological development of the oasis and its relationship to the cycles of activity that we can trace in finds assemblages and the archaeological record of the standing historic buildings. The location of this year's survey also allows us to consider once again the relationship of the historic oasis landscape to the nearby prehistoric sites of Hili. The mapping data and other information gathered during the project form the basis of a cultural heritage site inventory that will be used to prioritize conservation and interpretation of the oasis, one of the core components of the UNESCO World Heritage Site of Al Ain.

Keywords: al-'Ayn; Hīlī; oasis landscape; survey; World Heritage Site.

Early and Middle Stone Age activity in its landscape context: recent work at Wādī Dabsa, Asir Province, south-west Saudi Arabia

Anthony Sinclair (University of Liverpool), Robyn H Inglis, (Macquarie University, University of York), Abdullah Alsharekh (King Saud University) , Patricia Fanning (Macquarie University), Dan Barfod (Scottish Universities Environmental Research Centre), Abigail Stone (University of Manchester), Harry Robson (University of York), Andrew Shuttleworth (University of Durham), Geoff Bailey (University of York).

Session 4: Arabian Prehistory; 5th August 9.20

Despite its key position at the crossroads between Africa and Asia, the potential for the south-west Saudi Arabian Palaeolithic record to inform on the dispersals of hominin populations is only beginning to be realized (Bailey et al. 2015). In order to understand the archaeological record that we observe today, however, we need to understand the development of the landscapes in which we observe the present-day artefact distributions, before we use these distributions to interpret early hominin behaviour. This paper presents 2017 fieldwork carried out by the SURFACE project at Wādī Dabsa, Harrat al-Birk, south-west Saudi Arabia, funded by the BFSa. Located in 2015 (Foulds et al., in press; Inglis et al., in press), the site yielded over 2000 surface ESA and MSA basalt artefacts associated with extensive tufa deposits. The fieldwork employed a multi-scalar geoarchaeological approach to: a) record the distribution of the artefacts in their geomorphological setting; b) clarify the relationship of the artefacts to the tufa; c) carry out techno-typological analyses of the artefacts; d) conduct geomorphological survey of the wider landscape and e) collect samples from the landscape for the future dating and palaeo-environmental analyses. Preliminary interpretations of the observations, and their implications for understanding the palaeolithic history of south-west Saudi Arabia, will be discussed.

More about the SURFACE project can be found at: <https://surfaceproject.wordpress.com/>

Keywords: Palaeolithic, landscape archaeology, geoarchaeology, Saudi Arabia

Understanding urban space. The oasis of Taymā' during the Nabataean, Roman and Late Antique Periods

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Session 1: Pre-Islamic Arabia; 4th August 10.20

The oasis of Taymā', located in north-west Arabia, was an important nodal point along the ancient trading network, known since the first millennium BC as the 'Incense Road'. The site has a continuous stratigraphic sequence from the Bronze Age until the Islamic period and has been under excavation from 2004 by the multidisciplinary Joint Saudi-German Archaeological Project (Saudi Commission for Tourism and National

Heritage and German Archaeological Institute). The location and function of the oasis led to the hypothesis that there must have been influences from the various cultural contacts made at this nodal point: what impact had the Nabataean influence or the Roman annexation on the daily life of the oasis of Taymā? Can such influences be seen in the archaeological record on a domestic level, i.e. the architectural remains? The aim of this paper is to understand how historical aspects have influenced the perception of space on an everyday level. Focusing on a residential area during the Nabataean, Roman and Late Antique periods, I shall present a hypothesis formulated through a spatial-functional analysis based on the space syntax technique for four buildings: two pairs of buildings were built sequentially on the same locale in different occupation levels. The first pair was built on top of each other during the Nabataean and Roman periods; the other two during the Roman and Late Antique periods. In this paper these four buildings will be used as a case study, the analysis of which will be applied to all buildings of the residential area. An analysis through space syntax describes, in its first step, the built environment in a factual way, mainly in terms of accessibility, movement and distribution of space. This analysis will be carried out on three levels: micro (building), meso ('module' – complex of buildings) and macro (residential area), considering that the fourth level, nano, is the room. The second step incorporates the social meaning given by the wider historical frame. The result should lead to an understanding of the ways by which the occupation of the residential area continued or changed from the previous one, taking into consideration the use of space and the degree of impact made by elements of socio-economic, cultural and political dynamics passing through the oasis.

Keywords: Taymā', north-west Arabia, domestic architecture, spatial analysis, space syntax

Ssshhh! A new analysis of the Šherēt ṣ̌ ~ ṣ̌ contrast

Janet C.E. Watson (University of Leeds) and Alex Bellem (University of Durham)

Session 3: Arabian languages; 4th August 16.00

Modern South Arabian (MSAL) consonant systems pose a challenge to linguists working on these languages, with comparatively little work published on the phonology and phonetics of these languages, and little of this work grounded in primary first-hand data. This paper presents a new analysis of Šherēt (*aka* Jibbāli) ṣ̌, grounded in an empirical study of original data. Contrary to previously published accounts of the Šherēt voiceless sibilants – which derive mainly from Johnstone (1981) – fieldwork conducted by Watson indicated that aspects of the little that the scholarly world knows and perpetuates about Šherēt ṣ̌ were incorrect; to this end we present a revised account of this consonant. We contextualise by outlining the historical and contemporary correspondences of the MSAL sibilants. We then move on to a synchronic view of Šherēt ṣ̌, a typologically unusual sound, traditionally recognised for Central Šherēt, but – with the exception of Dufour (2016) – claimed not to be present in Eastern Šherēt (e.g. Johnstone 1981, and works following this). We confirm that ṣ̌ is indeed a feature of Eastern Šherēt (Bellem & Watson, in press). We then present evidence of how ṣ̌ is actually realised by different speakers, with perceptual, visual, and articulatory (palatographic) evidence of the articulation of sibilants in Šherēt. It becomes clear that there is considerable interspeaker – and even some intraspeaker – variation, but that ṣ̌ is not simply a rounded counterpart of ṣ̌.

Keywords: Šherēt, Jibbāli, Modern South Arabian, consonant, sibilant

Sarūq al-Ḥadīd: new insights from three years of field and laboratory research

Lloyd Weeks (University of New England), Charlotte Cable (UNE), Kristina Franke (UNE), H  l  ne David-Cuny (Independent Scholar), Claire Newton (Universit   du Qu  bec    Rimouski), Steve Karacic (Florida State University), James Roberts (UNE), Ivan Stepanov (UNE), Yaaqoub Yousif Al Ali (Dubai Municipality) and Mansour Boraik Radwan (Dubai Municipality).

Session 4: Arabian Prehistory; 5th August 14.05

In November 2014, UNE, in collaboration with Dubai Municipality, commenced a programme of excavation and post-excavation analyses that focused on the site of Sar  q al-Ḥad  d in Dubai, UAE. This paper presents a summary and review of the results of this research, focusing on new understandings of the stratigraphy and chronology of the site; the subsistence base of its occupants; the human activities that were undertaken there; and the changing site environment. The paper will place the results of this research in the broader context of the Bronze Age and especially Early Iron Age society in the region, and will sketch the economic and social connections that can be demonstrated between Sar  q al-Ḥad  d and other sites in south-eastern Arabia and the wider Middle East. Sar  q al-Ḥad  d, discovered accidentally in 2002 in the mobile dune fields of southern Dubai, is one of the most important but enigmatic late prehistoric sites in Arabia. It displays a super-abundance of material remains (including items of copper, iron, gold, bone, wood, stone and shell, and metal production residues) in contexts characterized by pervasive ‘ritual’ snake imagery.

Keywords: Iron Age, desert, ritual, metallurgy, subsistence
