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## Trade-routes through the steppe

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Phrygians – Tocharian  
– Baleful signs –  
Ebola – The Islamic  
Empire – The temple  
of Kellis – Buddhism  
in Gandhara – The  
Lost City of Salt –  
The Udruh Project

# A spects of globalisation

Mobility, exchange and the development  
of multi-cultural states

**Most people will consider globalization as a 20<sup>th</sup> and 21<sup>st</sup> century phenomenon. Today's world is one of unprecedented connectivity, trade and mobility. There is no doubt that globalization has made a significant impact on contemporary society, in both positive and negative ways. It has brought greater wealth to many countries and a far wider availability of foreign goods that were hitherto difficult to obtain. People have greater mobility and economic freedom than ever before, and the ability to seek out better job opportunities or living conditions in other parts of the world. But globalization and the increased entanglement of local economies, cultures and state institutions, has also resulted in an increased exposure to economic woes, social troubles, or state collapse elsewhere. The banking crisis, the current migrant crisis, a growing distrust in the capacity of political leaders and state institutions to deal with local or national problems, and a wide-spread sense of losing one's cultural identity and the ensuing need to 'take back control' (think of Brexit, or the election of Donald Trump in the USA) are all directly related to global connectivity; to globalization.**

All this, of course, is not new, and aspects of globalization have been extensively studied. What few people realize, however, is that many of the results of globalization and indeed the phenomenon itself are no recent developments but instead hark back to much earlier times. Economic crises engulfing vast parts of the world, massive population movements resulting from and leading to social unrest and even state collapse, civil wars and even a sense of 'taking back control'; it all happened before. Looking at the effects, benefits and drawbacks of connectivity – then and now – may provide us with some much needed references as to why things happened, where we come from, and where things may be heading to. By looking back, we may see the future, or at least may understand how to handle what is coming towards us.

Leiden University has an international – indeed, a global – reputation for excellent research in the Humanities. In this publication, some of the University's most promising scholars in the Humanities present their research into various aspects of the 'entangled' world. This booklet is divided into three sections, each highlighting distinct aspects of globalization.

Papers in part 1 focus on the mobility of people and the resulting spread of the most elementary identity markers of all; language and script. Even though many of us today may think of our language as something that belongs 'here' and that helps define who we are – Dutch, British, French, German, or even 'European', most of the languages that are spoken by the majority of people in the Netherlands and indeed, in Europe and America, did not in fact originate in those parts, but may well have come from the Russian steppe. Moreover, languages that are related to, say, English and Dutch, were for a long time spoken in western China, as well as in Turkey. How did these languages arrive here and there, where they spoken by people akin to us, or adopted by local societies? Similarly, the letters that are used in this book, although they are frequently described as the 'Roman' alphabet, have a far more complex and foreign pedigree than most of their users may think. Leiden-based research is now questioning old assumptions regarding the origin of our script, and may provide new answers to the questions how, why, when and where our script was first developed. But we are also investigating how that script is used in contemporary society, with the rise of new (social) media, such as Twitter.

## By looking back, we may see the future, or at least may understand how to handle what is coming towards us.

Part 2 includes two papers that highlight how some of the first empires dealt with multiculturalism, especially how various population groups, with their own traditions, histories, and religions could be accommodated within a single political body. One example comes from the Dakhla Oasis in Egypt, where Leiden-based researchers have uncovered the remains of a shrine dating to the Roman period, which incorporates Greek, Roman, and Egyptian architectural and pictorial elements – suggesting a flexible and inclusive approach to local faith and religion. The other case study also comes from Egypt, this time in the early Arab period. By analysing numerous 7<sup>th</sup> century AD papyri, this study highlights how the new Arab rulers and the local Greco-Roman-Egyptian populations communicated and (re)negotiated their respective positions within the newly formed Islamic Empire. The new overlords accommodated their subjects by, e.g. using Greek alongside Arabic in the administration, and by allowing many local customs and identities to endure, whilst at the same time stressing the authority of the new religion (Islam) over the realm. Under the Arabs, religious practice was perhaps less malleable than in previous eras, but its absorptive potential could (and did) serve as a unifying factor throughout the empire, conferring a common identity to all believers.

Religion did not only spread through conquest and empire building, but often spread – and still spreads – as a consequence of trade. Part 3 includes contributions that highlight the role of trade and trade routes in the spread of religions and cultures. Trading contacts were not only of pivotal importance for the spread of faiths, but often had an impact on their iconography and related rites. Buddhism, for example, spread as a consequence of early trade routes that connected India to the Far East, but many early depictions of the Buddha also betray early contacts with the Hellenized Kingdoms of Central Asia. We see similar patterns of cultural mingling as a result of trading contacts in other regions. In collaboration with local partners, archaeologists from Leiden University are uncovering the remains of important trading centres in Jordan and Saudi Arabia, bringing to light remarkably advanced, but culturally hybrid societies that thrived in seemingly uninhabitable landscapes. These remote places were inhabited not because of the local resources, but because they were part of a wider world; they connected different regions and were vital conduits, not only of goods, but also of ideas and people.

Connectivity, entangled worlds, globalization. These are buzzwords that have dominated political and academic discourse over the past decade. But they matter, because they provide us with a framework to better conceptualize the ways in which societies are shaped, how they rise and fall, change and endure. On behalf of Leiden University and its Knowledge Exchange Office, LURIS, we hope that the studies presented in this publication may inspire the reader to rethink aspects of our own society. Aspects that strike us as familiar and 'modern', but that are as ancient as human society itself.

**Ivo de Nooijer,  
Director of Luris**

*Luris is the Knowledge Exchange Office of Leiden University and Leiden University Medical Center (LUMC) and connects academics of both organisations with the market and society at large, in order to make the most of their scientific knowledge.*

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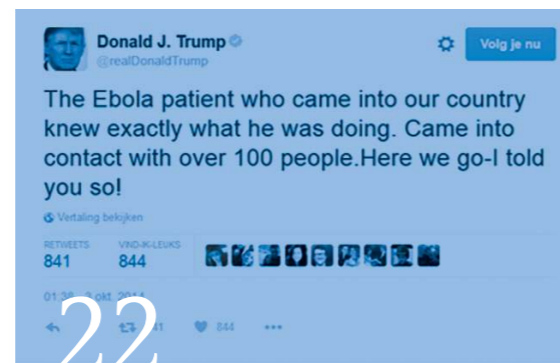
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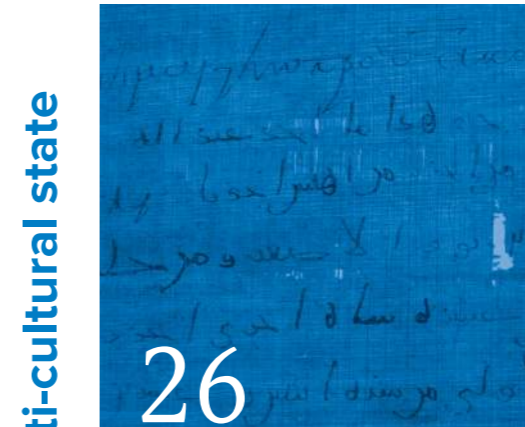
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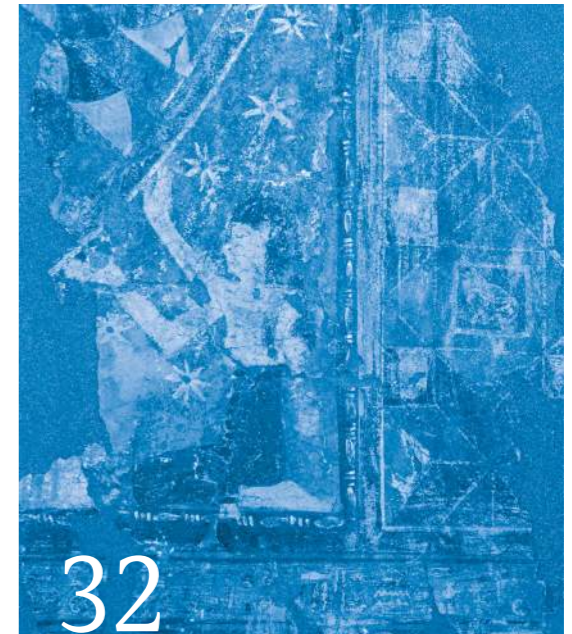
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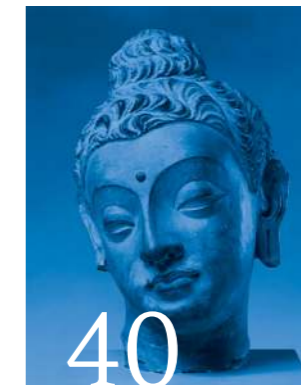
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## Trade-routes through the steppe:

Introducing the Udruh Archaeological Project.

*....'After Jesus was born in Bethlehem in Judea, during the time of King Herod, Magi from the east came....and they bowed down and worshiped Him. Then they opened their treasures and presented Him with gifts of gold and of incense and of myrrh'...*

These magi and their precious gifts from these excerpts of Matthew's Gospel (2: 2, 12) most probably relate to the Nabataean people. The Nabataeans developed from a nomadic tribe living on the desert fringes of present-day Jordan, to an independent state in the last centuries before our Common Era. The basis of their economic, political and military dominion, which covered large parts of the current Middle East, lay in their involvement in the long-distance trade of myrrh and frankincense from South Arabia, the processing of these aromatics and their expertise in water management. The famous rose-red city of Petra – the Nabataean capital – was established at a strategically situated node of caravan routes, and is renowned for its monumental buildings. Archaeological research in the Petra area focused for a long time on its urbanity and monumentality. Although the sedentarisation of

the Nabataeans resulted in an agricultural intensification of Petra's hinterland, this has hardly been of interest for archaeological research for a long time. The hinterland of important centres like Petra can provide however pivotal information contributing to the understanding of their rise, expansion and decline.

The Udruh Archaeological Project (UAP), a joint venture between Leiden University and the local Al Hussein Bin Talal University, aims to initiate the first in-depth research into the development of a complete region in the hinterland of Petra. This project, which is headed by Leiden archaeologist Mark Driessen and his Jordanian colleague Dr. Fawzi Abudanah, started with large-scale field surveys, small-scale excavations and diverse GIS-related and subsurface detection techniques. After five years of predominantly

### Mark Driessen

is a lecturer at Leiden University's Faculty of Archaeology. Supported by the Stichting Van Moorsel en Reinierse and the Dutch Ministry of Economic Affairs, and in collaboration with Jordanian academics, he is currently excavating the site of Udruh; an important 2<sup>nd</sup> century BC site in Jordan, which served as a transit for trade routes to the major city of Petra.



crowdfunded and self-funded campaigns we have been able to reconstruct a significant part of the 48 km<sup>2</sup> Udhruh region. We can state that the region around Udhruh, 12 km east of Petra, was actively exploited in antiquity. Ingenious and elaborate investments were made on the fields of agriculture, water management, caravan and trade services, military dominion, communication and security networks.

The current village of Udruh is dominated by, and centred around, the still standing remains of a Roman legionary fortress. This 4.7 hectare Roman military town was partly built over a smaller Nabataean trade or caravanserai post. The spring of Udhruh was most certainly an important criterion for the choice of location for this post. The strategically position of the southwestern part of these settlements is another apparent reason for starting these on this location. This naturally elevated corner tower of the fortress connects visually to all parts of a regional communication and security network. During our surveys we encountered a chain of watchtowers and fortlets laid out on several hills in the vicinity. The visibility from these hilltops struck us immediately, reaching sometimes an unblocked and clear view of more than 40 kilometres. These intervisibly connected watchtowers were constructed along the north-south trade and caravan route, but also next to the road to Petra. Together with the presence of Nabataean pottery at all of them, this resulted in our hypothesis that these watchtowers were part of a security network guarding and controlling the antique caravan routes through which the fabled treasures were transported.

This chain of communication was reused in Roman and later periods for military and other purposes/means. The Roman authorities decided upon constructing a legionary fortress in the place that was also known by the same name in antiquity. Measuring and reconstructing the visible parts of the curtain wall of these castra – which at some points still stand about 6 metres above the current ground level – is also part of our archaeological field work. The layout and realization of these defensive works and the retrieved architectural elements, which most probably belonged to its headquarter, make clear that the legionary base of Udhruh was definitely of more monumental stature than its counterparts along the limes Arabicus. Functioning as a desert gateway to Petra was most probably one of the reasons for this monumental refurbishment. Collected pottery and stray find coins show that there was most

probably an active Roman occupancy of the settlement throughout the second half of the third century, and a complete building inscription makes clear that the fort was rebuilt in 303/4 CE. This was carried out by the Legio VI Ferrata, for which a large area northeast of Udhruh was quarried. Large rectangular coquina blocks – some measuring around 2 cubic metres – were used to construct the curtain wall.

In Byzantine times Adroh (Udhruh) is mentioned in antiquities sources as a large and important town, and was prestigiously renamed as Augustopolis. In the 5th and 6th centuries bishops of Udhruh are mentioned along bishops of Petra. These indicate that Udhruh had a bishop of its own, and a sign that Petra experienced a gradual process of decline in the 6th and 7th centuries, paralleled by a growth in importance of Udhruh. One of these sources – the Petra papyri – show that, on the basis of the place names, the region was in a process of Arabization well before the conquest by the Muslims. This might be due to the presence of the Ghassanids/Jafnids as clients of the Byzantine state. Archaeological research by means of trial trenches in the fortress underline these transformations in post-Roman periods.

An extra-mural Byzantine church next to the southwestern corner tower was ‘cleared’ and ‘restored’ by local authorities for tourism purposes in the early 2000’s. This clearance was not carried out along the standards we would expect today, with important information having been lost. However, it produced some very interesting Christian inscription in Greek and Arabic. The 12th and 13th century Christian-Arabic inscriptions are quite unique and show that an Arab-Christian community still existed in Udhruh, many centuries after the Muslim conquest. This summer we were able – with financial support of the ‘Stichting Van Moorsel en Reiniere’ – to further investigate this church, its layout, continuity and the religious transformation of this special community. A community that was also chosen to host an important arbitration ceremony between competing Muslim parties of the battle of Siffin, which resulted in the establishment of the Umayyad state in 660 CE.

Although the above makes clear that archaeological research on the site itself is very diverse and stimulating, we put most emphasis on the hinterland during the first years of the project. Already after our first surveys, and considering the previous work done by Fawzi Abudanah,

we realised that the region has great potential for archaeology. Next to the already mentioned security and communication system, it became very obvious that the landscape, with the most southern occurrence of fertile yellow Mediterranean soils, was selected for an active agricultural use. After five years of archaeological field work, we can conclude that the research area around the town of Udhruh is one of the most complete and best preserved field ‘laboratories’ in Jordan to study the long-term development of innovative water management and agricultural systems throughout the Nabataean, Roman, Byzantine and early Islamic periods (2nd century BCE – 10th century CE).

Three different antique agro-hydrological systems can be distinguished in the Udhruh region. The already mentioned perennial source in Udhruh was used to irrigate a patchwork of small fields, which were laid out eastward of the village. Retrieved ceramics date the fields from the Nabataean period and onwards.

In the hilly area northwest of Udhruh a combination of ancient rainwater-catchment and floodwater-harvesting techniques is observed. These terraced fields cover a vast area of several square kilometres and provided surface finds dating from predominantly Nabataean and Byzantine times.

Southeast of Udhruh an impressive network of well-preserved ancient subterranean and surface-water conservation measures and connected irrigated fields – a qanat-system – was recorded in a large flood plain largely covered by alluvial deposits. The basis of these qanats consist of four aquifers or water levels, tapped by subterranean canals which are constructed and maintained through more than 200 vertical qanat-shafts, hacked out of the limestone bedrock over an overall distance of more than 8.5 km. The surface transport of the water is through more than 2000 m<sup>3</sup> of solidly built channels and aqueducts. It accumulates in large reservoirs, with capacities of millions of litres of water, constructed to irrigate an extended agricultural field system with at least 35 hectares of tilled land. It became clear through observations in erosion gullies, small-scale excavations and a combination of non-destructive geophysical ground-based and airborne exploration methods, that the long sustaining Udhruh qanat and field systems are perfectly and quite completely conserved.

Access to water is one of the greatest challenges mankind has to face in the 21st century. Scholars from different fields of research around the world are dealing with the ever-growing demand for water. Ancient societies dealt with similar problems, as can be seen for the Udhruh region where innovative investments in agricultural and water resource management led to a massive transformation of the landscape and turning parts of the desert into green oases. For the Udhruh Archaeological Project we have gathered an international and interdisciplinary research team of scholars that will examine, in close cooperation with the local communities, what the key to this water management and agricultural success was in ancient times.

**It became clear that the long sustaining Udhruh qanat and field systems are perfectly and quite completely conserved.**

Additionally, we hope that the acquired knowledge of the ancient agro-hydrological systems can contribute to sustainable agricultural and water management solutions for the future. So a future gospel will say that the Magi from the east brought a treasure many people can benefit from; the liquid gold: WATER.