

## CONFERENCE REVIEW

# Review of Green Arabia: Human Prehistory at the Crossroads of Continents

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'Green Arabia' was a lively and smoothly run conference held at St John's College, University of Oxford between the 2nd and 4th of April 2014. The facilities and organisation were excellent, and an opening address from HRH Prince Sultan Bin Salman Bin Abdul-aziz Al-Saud set the stage for a densely packed programme of world class research in Arabian archaeology. Papers arising from the organisers' ongoing ERC-funded Palaeodeserts Project formed the backbone of four sessions on the environment and human landscape of early prehistoric Arabia. Michael Petraglia introduced this project in his keynote. The project targets an area largely neglected since systematic archaeological research began in Saudi Arabia in the 1970s, but which, as highlighted by Abdullah Alsharekh and Ali bin Ibrahim Al Ghabban, has recently been thrust onto the international research agenda. The central message that emerged over the two days was neatly summed up by Huw Groucutt: we can no longer 'draw lines through Arabia' when considering the dispersal of modern humans. The peninsula, linking Africa to Europe and Asia, was a critical nexus in early prehistory and demands the close attention of archaeologists in years to come.

The driving force behind this reconsideration of Arabia's role in early prehistory is palaeoenvironmental research, taking centre

stage in the title of the conference and the first of four sessions. Although extremely arid today, Rick Potts and Adrian Parker introduced the idea that Arabia had, during several periods in the Pleistocene, been 'green'. The peninsula sits at the confluence of three major global climate systems: the Mediterranean westerlies, the East African monsoons and the Indian Monsoons. The latter two in particular form the potent 'intertropical convergence zone', which during interglacials shifted northwards from its present position, bringing water and life to the Arabian Peninsula. This was vividly demonstrated by Richard Jennings using global climate models. However, subsequent talks by Ash Parton and Christopher Stimpson, on geoarchaeological and faunal evidence from the Nefud, stressed the spatial and temporal complexity of these long term trends. Taken together with papers from the first session Nick Drake Christopher Thomas, these represent a robust portrait of the Arabian environment in prehistory, but also highlight a clear challenge for future palaeoenvironmental reconstruction in Arabia and beyond: integrating microregional environmental archaeology into macroregional palaeoclimate models; this is no easy task, but one that must be faced if we are to understand the nuanced and diverse geography of the Arabian peninsula in prehistory.

Given the tight integration of palaeoenvironmental models and data in the first session, it was disappointing that few of the

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presentations in the second, nominally on 'behavioural responses to environmental change', systematically considered environmental change. One exception was Sam Smith and Andrew Wade on Neolithic south Jordan; they put forward hydrological modelling as a 'bottom up' means of linking abstract climate models to hard archaeological evidence of cultural change. The creation of robust computational models of palaeoenvironmental change in recent years challenges archaeologists to up their game; it is no longer enough to state the 'environmental context' as a preface or to juxtapose archaeological data and climate curves as a substitute for an explicit model of covariance and the underlying causal relationship. Nevertheless, the papers in this session were of great value to those interested in the sequence of modern human dispersal in Arabia and adjacent areas. Lyn Wadley and John Shea's stood out in particular, both making a convincing case that behavioural adaptations underpinned modern humans' diffusion out of Africa. For Wayland, these were cognitive: the ability to reason abstractly and analogically, as shown in the ability to manufacture compound glues and heat treated lithics, gave modern humans the flexibility to adapt their botanical knowledge to new environments. Shea added a complementary cultural innovation: lightweight 'complex' projectiles (as opposed to simpler, heavier projectiles) were a Pleistocene technological adaptation on a par with farming in the Holocene. These two innovations helped humans inhabit almost the entire surface of the earth, making our species, in Shea's words, 'extinction-proof.'

I found the third session the most informative, with speakers presenting a range of promising new methods applied to Palaeolithic archaeology: using the vegetational niches present at sites to test hypotheses linking human evolution to environmental change (Laura Basell); multivariate statistics to explore lithic variation (Eleanor Scerri); remote sensing data and hydrological modelling to map palaeolakes and predict site locations (Paul

Breeze); the state of the art in absolute dating with uranium series, thermoluminescence, cosmogenic nuclides and amino acids (Frank Preusser); Bayesian calibration of optically stimulated thermoluminescence dates (Laine Clark-Balzan); and whole-genome studies of human ancestry (Aylwyn Scally). To these can be added an informative, if somewhat out of place, talk by Mark Thomas in the first session, on genetic approaches to reconstructing demographic history, which also stimulated a lively debate on the prospects of using archaeological data to achieve the same end with summed radiocarbon probability distributions ('dates as data').

One major debate that surfaced in discussion throughout the conference was over an 'early' (120,000–70,000 BP) model of human dispersals out of Africa (Petraglia et al. 2010) versus a 'rapid' (60,000 BP) model of dispersal along the coast of the Indian Ocean (Mellars et al. 2013). Chronology did not feature heavily, but given the conference's focus on the early Palaeolithic archaeology of inner Arabia, possible dispersal routes did. The Palaeodeserts group challenged the orthodoxy of a rapid coastal dispersion. They criticised the lack of direct evidence for this model, weaknesses in using lithic typologies to trace human movements, and reported significant evidence for an early human presence in inland Arabia and South Asia – to strongly voiced objections from Paul Mellars.

Some much needed perspective was brought to this debate in the fourth session, with Jon Erlandson detailing the difficulty of finding evidence of coastal settlements in the Pleistocene given that sea levels were much lower for most of the epoch, and Geoff Bailey reporting on another ERC-funded project on Palaeolithic Arabia—DISPERSE—and its progress in documenting a 'Blue Arabia' of rich coastal habitats along the peninsula's southern coast. As several discussants pointed out, inland and coastal routes need not be opposed. Prehistoric humans were not racing (or fleeing) across Eurasia with a goal in mind, and the assumption should be that they diffused

across the continent exploiting the range of ecological opportunities presented to them – an assumption borne out in the Arabian data. At this point both 'early' and 'rapid' models of this dispersals are hypotheses; high quality field research of the type being carried out by the Palaeodeserts and DISPERSE teams are needed to progress further.

Although most of the paper presentations focused on the early prehistory of Arabia and especially modern human dispersals, posters displayed throughout the conference broadened its temporal and geographic range, offering complementary perspectives from the Sahara and the Levant to South Asia and Australia, and extending into the Holocene. In addition, archaeologists of other periods will have found much to take away from the methodological innovations presented in the first and third sessions.

Proceedings from the conference are to be published in *Quaternary International*.

## References

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