Late Pleistocene hunter-gatherer networks: subcontinental or regional expressions? - interdisciplinary geoarchaeological investigations in south-western Namibia

INTRODUCTION
Middle Stone Age (MSA) research in southern Africa has become a multidisciplinary endeavor (Watley 2006; Henshilwood & Lombard 2013), reflecting the closely intertwined variety of involved research questions.

Given the current state of the art in south-western Namibia, a recently funded geoarchaeological research project analytically disentangles three scales of joint analysis and interpretation in order to understand varying dimensions of human-environment interaction during the Late Pleistocene. The main research questions, chosen methodologically as well as preliminary results will be summarised here.

LOCAL SCALE
Re-excavation & geoarchaeological sampling of Pockenbank 1 rock shelter

In 1969 a small-scale test excavation at Pockenbank 1 rock shelter (south-western Namibia) focused on tufa deposits (Wendt 1972). Additionally, a multi-layered Late Pleistocene stratigraphic sequence was encountered (Fig. 1). Several promising features were recorded, among them the presence of grass bedding, a rockfall layer, thick ash lenses and organic preservation.

Archaeologically, occurrences of so-called Still Bay- and Howieson’s Poort-horizons of Marine Isotope Stage (MIS) 4 as well as considerable deposits associated with late MSA and Pleistocene Late Stone Age (LSA) remains – broadly corresponding to MIS 3 and 2, respectively – have been recognised and initially studied (Vogelsang 1998; Dissendorf 2013). Thus, Pockenbank 1 mirrors the comprehensive cultural sequence of the regional key-site Apollo 11 (Vogelsang et al. 2010).

New excavations conducted in May 2015 generate basic framework-data on chronology and site format- tion processes by means of intensive geoarchaeological analysis and the application of modern excavation techniques. Detailed sedimentological (Fig. 2) and micromorphological analyses are currently underway, flanked by an AMS 14C and OSL/TL dating programme. The palaeoenvironmental context at the site is investigated by implementing archaeological analysis and palynology, as well as isolate studies on ostrich eggshell.

The geoarchaeological data will provide a framework for: (1) understanding the natural or anthropogenic origin of local processes and their interplay; (2) interpreting the palaeoecological signals; (3) reconstituting several behavioural facets of prehistoric hunter-gatherers by informed studies of the cultural material (technological, economical & functional studies).

REGIONAL SCALE
Landscapes studies between Namib Desert and Escarpment (Huib Plateau)

Research on the effects of prehistoric mobility on the formation of the archaeological record is poorly developed in southern Africa (Mitchell 2008). The modelling of cultural and chronological oscillations on a regional scale remains desirable. The same is true for obviously diverging regional climatic and palaeoenvironmental fluctuations in southern Africa (Chase & Meadows 2007).

Particularly in our study region – at the margins of the Namib Desert – it still has to be investigated whether Late Pleistocene human occupational pulses (Fig. 3) correlate with increasing rainfall. This has been proposed for similarly discontinuous and fragmented Holocene settlement phases (Klinain 2011).

The topographic position of Pockenbank 5 allows the tracing of both North-South as well as East-West connections. While the former are important to identify the varying spatial and temporal extent of several cultural complexes (Ossendorf 2013), the latter additionally covers human land use between the Escarpment and the Namib Desert plains, including the Atlantic coastline.

Considering other Late Pleistocene archaeological sites (Vogelsang 1998), a valid regional signal can be expected. This enables the reconstruction of several aspects of (changing) regional adaptations of desert foragers (Veth et al. 2005).

Archaeologically, the study of technological organisation, raw material provenance and subsistence studies will yield important clues on land-use patterns, long-distance transport and movement, and use of marine resources. The analysis and dating of lacustrine and aeolian deposits (Fig. 4) in direct regional context of Pockenbank provides an ideal opportunity to study this relationship between palaeoenvironmental changes and human occupation of the area and to develop a more nuanced understanding of hydrological (Fig. 5), geomorphological and environmental processes in the region.

SUBCONTINENTAL SCALE
Late Pleistocene climatic fluctuations & interaction with prehistoric networks

The south-western Namibian research region – uniting the most arid biomes of southern Africa (Desert, Karoo) and influenced by both summer and winter rainfall regimes – is crucial in order to test for the above mentioned hypotheses: it currently constitutes the northwesternmost distribution of Still Bay- and Howieson’s Poort-complexes (Fig. 7). Moreover, a complex and enigmatic Late Pleistocene settlement pattern has already become visible (Fig. 3) – consisting of similar occupational pulses, but not necessarily synchronous cultural developments compared to other southern African regions.

Our project will shift attention from local centres to peripheral regions of subcontinental prehistoric networks, ultimately aiming at the identification of cultural/behavioural and environmental variables leading to the success or failure of Late Pleistocene populations.