To move with the coastline, or not to move…

Diachronic Changes in Middle Stone Age Hunter-gatherer Mobility and Resource Utilisation in Response to Coastline Migration in the Southern Cape Region, South Africa

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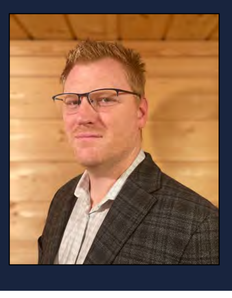

Background and motivation

I am an evolutionary archaeologist interested in the long-term interaction between humans/hominins and their physical environments. In specific, I focus on palaeo-economics—how the changing nature of the environment affected decision-making associated with the mobility and resource procurement patterns of our ancestors. I joined SEAS in January 2024 in order to investigate and reconstruct these behaviours in the context of fluctuating coastlines of Pleistocene South Africa, and to draw meaningful comparisons to 21st century human responses to fluctuating sea level.

Project description

Our species, *Homo sapiens*, emerged and spread across the African continent approximately 200,000 years ago. Their cultural materials attest to important adaptations to the diverse environments of Middle Stone Age Africa (MSA, 200-50 ka BP) (Fig. 1). Archaeological research at Blombos Cave and Klipdrift Rockshelter in the southern Cape region of South Africa continues to demonstrate the importance of these archaeological sites for understanding the nature of these adaptations. During the MSA, sea level migration shifted the coastline to up to 50 km away, opening up the fertile Palaeo-Agulhas Plain. Each site contains the development of ecocultural niches, interpreted from an emphasis of coastal or inland subsistence and related to the proximity of the coastline. These are represented in part by sophisticated stone toolkits made from silcrete and quartzite rocks (Fig. 2). My project explores the nature of mobility and lithic resource procurement at these two sites. It involves a comparison of petro-chemical profiles of lithic artefacts from Blombos Cave and Klipdrift Rockshelter and geological sources within the southern Cape region (Fig. 2-3). This comparison will allow the identification of which sources were accessed and exploited. Information on raw material preferences, territoriality, task organisation, and distances traveled will be produced and cross-referenced with each ecocultural niche to understand the palaeo-economics of these Pleistocene hunter-gatherers.

Main questions

- Which silcrete and quartzite sources are hunter-gatherers accessing for the manufacture of stone tools at Blombos Cave and Klipdrift Shelter?
- How do the resource utilisation patterns change as the coastline migrates during the MSA, and how do these relate to the ecocultural niches (coastal or inland) at the two sites?
- What evidence is there for connections among MSA sites of the southern Cape region, the Palaeo-Agulhas Plain, and the Little Karoo interior, and can these be related through mobility patterns?

Highlights

- ✓ March-April 2024 Fieldwork and sample collection in South Africa
- ✓ May 2024 Poster presented at XXIV Southern African Society for Quaternary Research
- ✓ May 2024 Fieldwork and sample collection in South Africa
- ✓ July 2024 Paper presented at Unraveling the Palaeolithic, York
- ✓ August 2024 Paper presented at European Association of Archaeologists, Rome

Supervisory team

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Fig. 1. Location of study area—the southern Cape region and Palaeo-Agulhas Plain.

Marine sustainability

My projects explores the responses of ancient humans to receding and advancing coastlines over long periods of time. It reveals the adaptive nature of humans and their capacity to develop coastal and inland ecocultural niches for subsistence. It further spotlights the importance of marine resources and their contribution to the longevity and development of our species. The results will inform on similar issues for populations today.

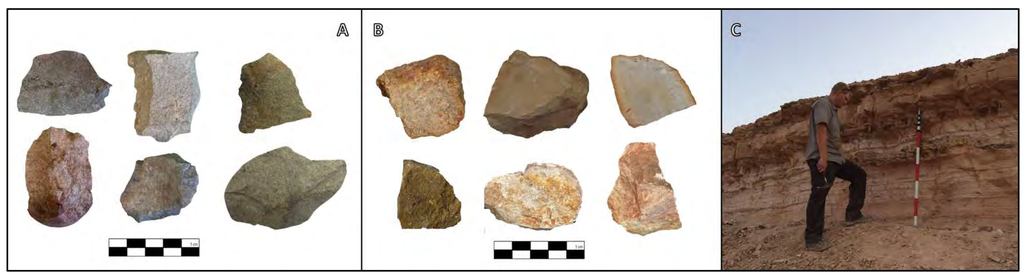

Fig. 2. A: Examples of silcrete artefacts from Blombos Cave. B: Examples of silcrete sources from the southern Cape region of South Africa. C: Surveying for outcrops of lithic materials.

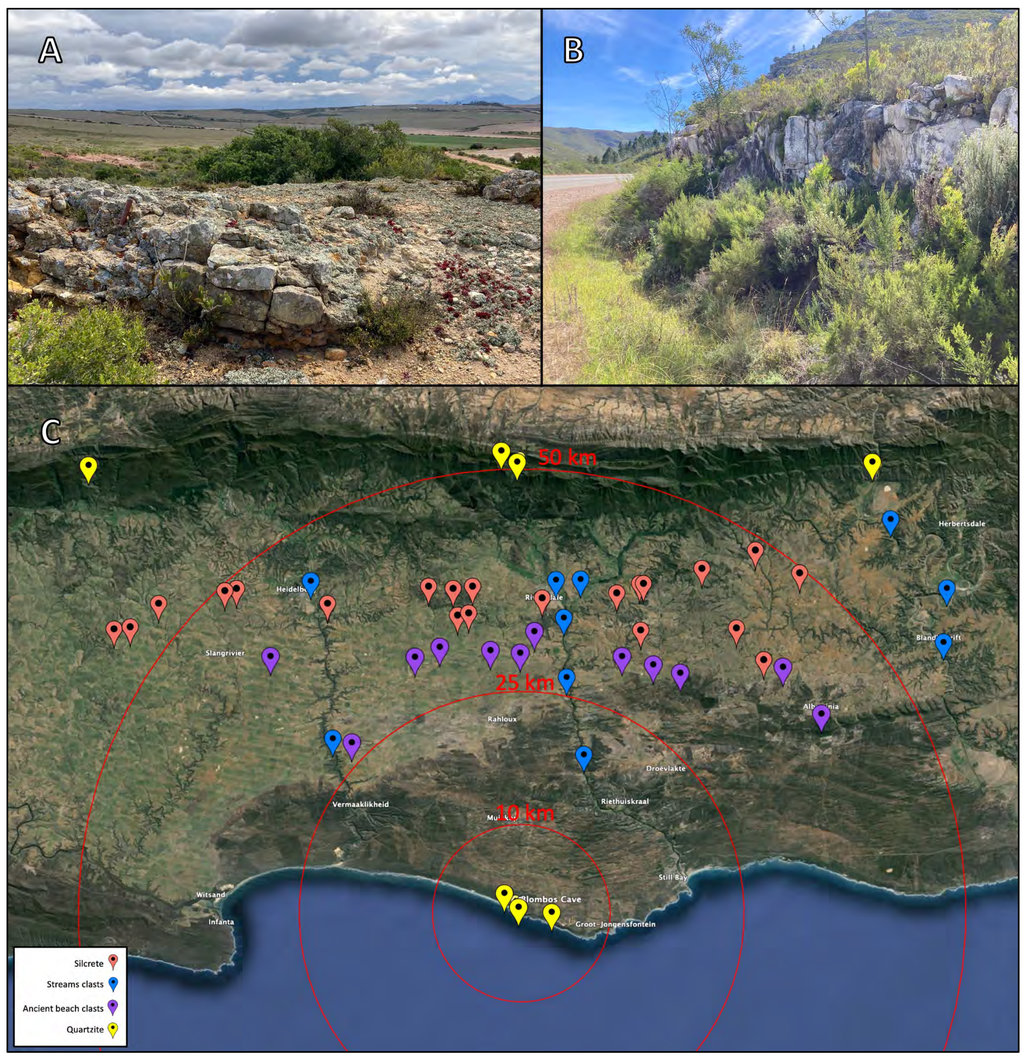

Fig. 3. A: Silcrete outcrop. B: Quartzite outcrop. C: Distribution of identified raw materials in the southern Cape region with Blombos Cave as the epicentre.

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