



Shifting Paradigms: The Impact of Multidisciplinary Developments on the Study of Relations between North Africa and the Near East during the Holocene

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In prehistoric studies, interrelations between North Africa and the Near East during the Holocene has long been constrained by rigid, single-discipline interpretations, heavily influenced until recently by cultural diffusion models. However, with rapid advancements in multidisciplinary research, a significant theoretical and methodological shift is currently underway. Rather than defending the now accepted demic hypothesis against the idea of mere cultural diffusion, this lecture provides a critical analysis of how the integration of geoarchaeology, palaeoclimatology and archaeogenetics (i.e. ancient DNA) is changing our understanding of population dynamics in this context.

To illustrate the implications of this integrated framework, we examine empirical evidence operating across multiple scales. Firstly, geoarchaeological and palaeoclimatic data reveal that arid events were a key ecological factor in triggering population displacement from the southwestern Near East to the Nile Valley, while also reshaping migratory patterns across the wider Mediterranean. Secondly, the early appearance of domesticated goats and fully domesticated *Bos taurus* in Lower Nubia underscores not only economic shifts but also the complex logistical requirements necessitated by the physical relocation of herding groups. Importantly, recent high-resolution bioarchaeological data from the same region corroborate these movements, revealing significant biological turnover and morphological discontinuities that trace previously overlooked routes and interactions.

Ultimately, this multidisciplinary approach demonstrates how cutting-edge technologies are reshaping our understanding of prehistoric connectivity. By moving beyond the mere verification of demographic movements, this framework reveals promising avenues for tracing the long-term development of pastoral societies in north-eastern Africa up to the threshold of recorded history. It also explores how these demographic trajectories may have affected the linguistic composition of the regions involved.