Life and Death in Trying Times: A Bioarchaeological Study of the Effect of Socio-political and Climatic Changes on the Memphite population of Saqqara, Egypt

In the Nile Valley, climate and environmental changes have influenced the pattern of human settlement, mobility, and development of complex cultures. The gradual change of the north-easter region of Africa from a wetter to a drier climate pushed people to look for hospitable places to live, mostly along the Nile, eventually leading to the formation of one of the greatest and long-lasting civilisations – ancient Egypt. The hot and dry climate of the Nile Valley together with elaborate funerary traditions developed by the ancient Egyptians has helped to preserve a rich archaeological record of their splendid culture. Extensive cemeteries established at the margins of the desert provide large and often well-preserved collections of burials of the once-living people, whose remains hold the key to unlocking the past and shedding light on life and death over the span of thousands of years. During this long period, there were times of severe drought and insufficient flooding of the life-giving Nile, resulting in wide-spread famine and leading to social unrest that jeopardised the continuity of the ancient Egyptian state.

This project aims to investigate the impact of such events that took place towards the end of the Old Kingdom (2686–2160 BC) and during the Graeco-Roman Period (332 BC – AD 395) on the population of the ancient Memphite region by studying human remains and funerary textiles from the Saqqara cemetery, which is located immediately to the west of the so-called Step Pyramid. The discrete burial areas – rock-hewn tombs of the Old Kingdom versus simple sand-dug pit graves of the Late and Graeco-Roman Period – attest to the use of the cemetery during different time periods, providing an opportunity for comparative studies and investigation of temporal trends. Specifically, the project will aim to investigate the link between environmental and climatic changes, and physical health and diversity of the Saqqara population during different time periods of ancient Egyptian history.

The premise of the project is that the periods of drought and reduced Nile flow resulting in widespread famine will have negatively impacted the health of the Memphite population, and likely reduced the region's capacity to sustain both local and incoming people seeking refuge in times of difficulty. This is supported by written and pictorial evidence, which give accounts of periods of drought and famine, and their devastating impact on the ancient Egyptian population. We predict that the Memphite elite suffered fewer health implications as a result of the wide-spread famine – due to their privileged access to food and resources – in comparison to the non-elite Egyptian population. It is also expected that in hard times of climatic perturbations and decreased seasonal Nile floods, traditional textile production will have suffered due to the priority being given to food crops instead of flax plantations. Taking into account the importance of textiles in the post-mortem treatment of the body, particularly in mummification, and the great quantities that would be required, it is expected that during the times of regional drought: (a) the quantities of textiles used in funerary contexts were overall reduced, (b) the quality of textiles used was poorer (e.g. repurposed textiles), and (c) alternative fibres to flax were used to make funerary textiles.

These predictions will be investigated and tested through the application of bioarchaeological studies, including (a) detailed macroscopic studies of human remains to determine the health status and diversity of the Saqqara population in two temporally-distant periods; (b) isotopic studies to determine changes in diet and climate; (c) analysis of textiles and botanical remains from burials to assist with establishing social stratigraphy of the Saqqara cemetery population and seasonality of death. The results of the study will be compared with available data from other Memphite cemeteries and other ancient Egyptian cemeteries in an attempt to determine geographical and temporal variations in health during the periods of interest and in relation to the major socio-political and climatic changes.