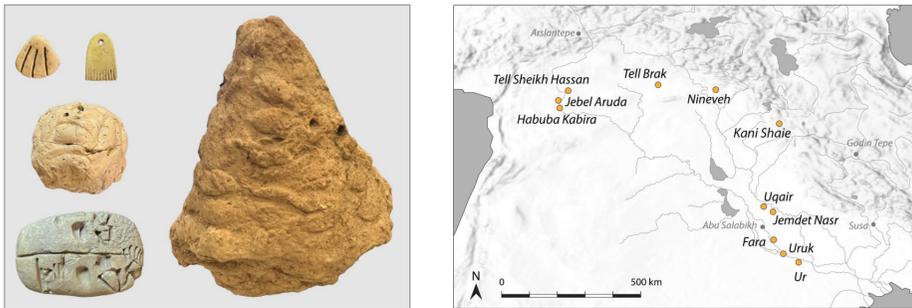


States of Clay, 3700-2700 BCE

Bureaucratic systems founded in clay

Early societies of the Middle East used clay as a medium for administration of a wide range of social, political and economic activity. They wrote on clay, they sealed on clay, and they made tokens and counters out of clay. Despite the wealth of material evidence for these ancient bureaucracies, with hundreds of thousands of inscribed clay tablets and sealed objects available for study, there has not previously been an attempt to apply a multi-stranded methodology to investigate the material components as representing coherent bureaucratic systems. In the *States of Clay* project, we investigate some of the world's earliest, and best-attested, bureaucratic systems of Mesopotamia, at the very dawn of urbanism and the early state, 3700-2700 BCE.



Materials and methods

Fragmented corpora

In the *States of Clay* project, we apply multiple methods to the analysis of clay bureaucratic objects (tokens, sealings, inscribed tablets, hollow clay balls) from archaeological sites of Lower and Upper Mesopotamia (principally Iraq and Syria today), spanning the transition from the Late Chalcolithic to the Early Bronze Age, 3700-2700 BCE.

Working with collections housed in museums of Iraq and Europe, we are maximising the interpretive potential of early administrative documents for informing on how bureaucratic systems were situated within one of the world's earliest urban societies. We focus on the major cities of Uruk, Ur, Nineveh, and others spanning the millennium from 3700 BCE.

Reassembling the data

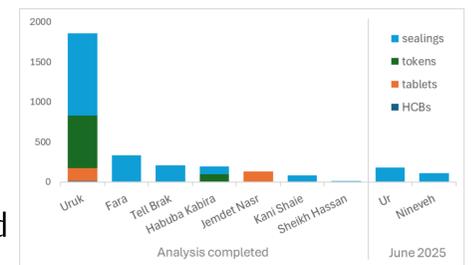
We are applying digital and scientific techniques to these integrated systems, to generate new insights into the workings of Mesopotamian bureaucratic systems. Our approaches include:

- iconographic and functional interpretation of clay sealings
- high-resolution imaging of tablets and sealings
- geochemical analysis (pXRF) of clays used for artefacts
- analysis of fingerprints frequently attested on clay objects

Highlights from the analysis

So far:

- >2800 objects analysed
- >1000 RTI/3D models
- >640 chemically analysed
- >350 fingerprints recorded



Social organisation

Analysis of key sealing types, such as conical jar mouth sealings, and the cylinder seal impressions across their surfaces is revealing relationships between administrative units and particular commodities. Through fine-grained documentation, we are shedding new light on the numbers and roles of administrators engaged in Mesopotamian bureaucratic systems.

Mobility

Analysis of the clays used to make these objects reveals the transport of sealed jars and portable goods, by people moving between the cities of Mesopotamia. However, most early bureaucracy focused on managing local agricultural and craft production, rather than on inter-city trade and exchange.

Gender

Fingerprints shed light on the demographic make-up of the people involved in bureaucratic practices. Our analysis demonstrates women's involvement in the earliest bureaucratic activities alongside men and provides evidence for the training of young apprentices.



Next steps

1. Publications on diachronic and transregional change, early symbolic representation, and social organization
2. Release of an open access research database
3. Preparation of a digital exhibition on early bureaucracy

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