

Mobility in the ancient Near East: themes, issues, challenges

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Mobility in the Ancient Near East
Images in Context
Archaeology as Cultural Heritage
Engendering Near Eastern Archaeology
Societal Contexts of Religion
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Mobility in the Ancient Near East: Themes, Issues, Challenges

Roger Matthews¹

Abstract

Our world is full of mobility – people, animals, plants, pathogens, ideas and technologies are constantly on the move. At any time an entire city, some 2 million people, are mobile in the air. How did we get to this state and what can archaeology tell us about trends and patterns in mobility? In this keynote, I examine some critical aspects of mobility and put forward some suggestions for how the study of mobility might be progressed in future studies that draw on the rich evidence from the past of the ancient Near East.

Introduction: Mobile Worlds

We live today in an age of mass mobility and disruption. The modern Middle East is suffering a prolonged episode of enforced mobility on a scale that parallels, relatively speaking, the forced mobilities of mass populations imposed across the Near East by the Assyrian Empire in the Iron Age (Radner 2012), and with equally devastating results. Informed estimates indicate that at least 10 million people of the modern Middle East, almost exclusively from Syria and Iraq (UNHCR 2018), have left or been forced to leave their homes and have resettled elsewhere, temporarily or otherwise. These unfortunate people must be foremost in our thoughts and our commitments when we are considering the topic of mobility, as we proceed through the Congress this week. In thinking about mobility in the ancient Near East, we have lessons to learn from the modern world, and vice versa, about the specific contexts of why and how people move, and about the resilience of communities in the face of challenges that most of us can scarcely imagine.

Some studies of possible stimuli toward the Syrian uprising, for example, suggests that climate change, in the form of a once-a-millennium-scale drought, directly caused rural populations to abandon their ever-failing farmlands to migrate to the cities where, without employment or government support, an atmosphere of disillusion steadily evolved in time into outright revolt, claims that are disputed by some academics (Selby *et al.* 2017). More broadly, the trend of rural-urban migration, and the associated abandonment of centuries-old practices of rural village life, is a recurrent feature of the modern Middle East which has transformed both rural and urban landscapes beyond all recognition over the past 30–40 years (Hosseini *et al.* 2016), as many of us may have noted in the course of our careers.

The topic of mobility and dispersal continues to attract great academic attention, as attested by a wealth of recent major studies often employing cross-cultural approaches (Barnard and Wendrich 2008; Szuchman 2009; Potts 2014; Boivin *et al.* 2017). The word ‘mobility’ doubtless conjures up a variety of context-specific associations in our minds. In this key-

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note article, I would like to consider the concept of mobility – what it means, how we can approach it, how best to maximise our interpretive potential of it – through consideration of two major intersecting frameworks: firstly, by examining the subject-matters of mobility in the ancient Near East, that is the *who and what* of mobility. And secondly, by posing at the same time the *why and how* questions to interrogate the possible causes of, or pressures on, ancient mobility and to illustrate how modern archaeological approaches are articulating new integrated interpretations of mobility in the ancient Near East.

In the belief that “Archaeology is a source of essential data regarding the fundamental nature of human societies” (Kintigh *et al.* 2014a: 879; 2014b), a group of academics recently defined a series of Grand Challenges for Archaeology, setting out a bold and globally relevant agenda of issues where archaeology might make significant contributions to knowledge and understanding. The grand challenges are grouped in five headings:

- A. Emergence, communities, and complexity
- B. Resilience, persistence, transformation, and collapse
- C. Movement, mobility, and migration
- D. Cognition, behaviour, and identity
- E. Human-environment interactions

Under group C the sub-headings include:

1. What processes led to, and resulted from, the global dispersal of modern humans?
2. What are the relationships among environment, population dynamics, settlement structure, and human mobility?
3. How do humans occupy extreme environments, and what cultural and biological adaptations emerged as a result?
4. Why does migration occur and why do migrant groups maintain identities in some circumstances and adopt new ones in others?

People on the Move, with Baggage

Let us begin with people. We humans are mobile mammals. No other single mammal species has achieved such a global distribution as we have over the millennia since our African origins at least 200,000 years ago. Human societies can be found at all Earth latitudes from polar extremes to dry deserts and in almost all land environments in between (Boivin 2017: 3). Underpinning our mobility is our adaptability and our skills and ingenuity in the cultural construction of human-environment interfaces. Through clothing, housing, and socially situated behaviours we construct and carry around with us the means to shape the world in the ways that make it habitable and even rewarding for us.

Today we walk, drive and fly across the planet’s surface at an ever-increasing intensity and rate, with more than 4 billion scheduled airline passengers carried in 2017 (Statista 2018). Such intensity of connectivity, additionally characterised by major synchronous hu-

man movements such as people travelling home for the Chinese New Year, the annual Hajj pilgrimage, and seasonal urban-rural migrations across central Africa, coupled with increased speed of travel, generate significant new challenges in terms of associated pathogen and pest movements across the planet (Tatem 2017). This facet of mobility is just one aspect, a potentially catastrophic one, of the pivotal role we humans have played, and continue to play, in reshaping the planet through our mobility, for better or worse.

And yet despite the ever-increasing scale and speed of our mobility, we are predictable in the specifics of how and where we move about the world, in particular at the daily time-scale. Recent studies of human mobility through analysis of mobile phone Call Detail Records or CDRs, which log exact time and spatial coordinates of billions of phone calls, have exploited CDRs' unprecedented resolution regarding the day-by-day, hour-by-hour mobility of people (Lu *et al.* 2012; Tatem 2017). These studies show that, even in times of catastrophic crisis such as the 2010 Haiti earthquake, algorithms based on CDRs can accurately predict more than 90% of human mobility patterns. Daily human movements, which we might call micro-mobilities, are not random but are highly structured according to historical contingency, and therefore largely predictable. Research into CDRs is directly impacting ongoing studies into pressing issues such as the spread and control of diseases such as malaria. Within archaeology and ancient history, there is immense potential for combining the methodologies and insights of contemporary CDR analyses with sophisticated interpretive frameworks such as Social Network Analysis, which has so far been stimulatingly applied to a range of areas, including food webs and pollination systems as well as to the development of early metallurgy in the Balkans (Radivojević and Grujić 2018).

We humans are mobile, then, even if often predictably so. But we never move alone. We are also a mobile-making species, knowingly or otherwise, carrying with us, behind us or ahead of us, often running away from us, a wealth of other species and impacts. On our bodies, in our bags, in our wagon trains, ships, and planes, with our crops, herds, dogs, rats, fleas, and pathogens, clutching our cherished possessions, transporting our beliefs and sometimes our gods as well, we are never truly the Naked Ape. But we need to be wary of the notion of intentionality in human and human-associated mobilities. It is misleading to see humans as always the main driver of change and movement. If animals and plants and pathogens move with us, or even ahead of us, it may be because it is in their interests, in evolutionary terms, to do so. Thus, the human management and domestication of animals such as goat and sheep enabled the spread of these animals way beyond their natural habitats as wild species, opening up immense new territories for them to colonise, even if under human protection (or in feral state). The modern migration of rural foxes into urban contexts can be viewed in a similar light (Scott *et al.* 2014).

Neolithic Mobilities

At the start of the Holocene 11,600 years ago, when across the Fertile Crescent grasses and grass-eating animals spread into newly warm and wet regions, humans followed them, generating newly intensified interactions between plants, animals and humans that led over some 3000 years to settled agricultural life, the Neolithic transition. This great transition cannot fruitfully be addressed through the lens of human intentionality, instead demanding integ-

rated approaches which situate humans within a rich nexus of competing and occasionally collaborating co-evolutionary components. In this regard, we advocate the ‘ontological turn’ in anthropology which decentralises human exceptionalism and accredits agency and biography to non-human actors including plants, animals, artefacts and materials (Alberti 2016; Halperin 2017). The development and dispersal of agricultural modes of production is seen by almost all scholars as fundamental to structuring post-Neolithic societies across the planet, enabling scales, densities and complexities of human and animal populations that would not otherwise be sustainable. As Fuller and Lucas put it, “the transportation of agricultural landscapes has been the most important process, in quantitative terms, for transforming the world from one of hunter-gatherers occupying biomes to one of mainly food producers living in anthromes” (Fuller and Lucas 2017: 308).

As humans we naturally find the issue of human mobility an especially intriguing topic for investigation. Approaches to the mobility of humans, as with other species, have been revolutionised in recent years through major advances in molecular genetics, in the recovery and analysis of ancient DNA or aDNA, an approach which is succeeding in delineating mobilities that may otherwise be completely undetectable (Reich 2018). While the achievements of aDNA studies are truly remarkable, there is a need above all now for a “deeper, more sustained collaboration between geneticists and archaeologists” (Johannsen *et al.* 2017: 1120) to ensure that the claims of the aDNA modellers are firmly rooted in valid archaeological frameworks.

Not solely human aDNA informs us on human mobility: aDNA of domesticated species of plants and animals, often moving into regions where they could not survive without human protection and intervention, can also be informative regarding human mobility. Studies of the aDNA of rats, sheep, goats, cows and pigs have all been highly informative in this regard, providing proxies for the dispersal of human farming communities across Europe and other regions of the world (Larson 2017). Melinda Zeder’s (2017) work on the dispersal of domestic livestock from the Near East into Europe and Africa elegantly illustrates the complex interplay of biological, geographical and cultural factors at work in the dispersal of each of the major species. Under the protection of their human co-evolutionary partners, domestic sheep, goats, pigs and cattle dispersed along with core cereal crops, together forming agricultural economies that have come to dominate much of the world.

As an example, Greger Larson (Larson *et al.* 2007; Larson 2017) and his team’s work on aDNA and molar morphometrics indicates that pigs were domesticated in the Near East and translocated by people into Europe in the Neolithic period, but the aDNA of post-Neolithic pigs in Europe possesses exclusively European mitochondrial signatures, indicating that the domesticated Neolithic pigs originally introduced from the Near East had been genetically replaced or swamped by pigs maternally descended from European wild boar. The only European exception to this picture is the pigs on Corsica which, even today, retain their Neolithic Near Eastern mitochondrial signatures, a good example of how an island can be insulated from selected significant mobilities. Even the pigs in Anatolia, of Near Eastern stock in the Neolithic period, have been almost totally replaced by pigs of European descent over a period of several centuries from *ca.* 1200 BC. Tighter control on chronologies and increasingly contextualised recovery of archaeological and archaeozoological remains

from excavated sites of the Late Bronze Age and Iron Age across Anatolia and beyond should one day enable us firmly to associate some of these dramatic genetic patterns with the mass movements of people that appear to be such a distinctive feature of the historical and archaeological record of the Bronze Age-Iron Age transition in Anatolia and the eastern Mediterranean more broadly. Notable in this regard is the strong association between early Philistine settlements of the southern Levant and their high consumption of pigs, in marked contrast to the extremely low levels of pig representation at contemporary central highland sites. Recent aDNA studies suggest that the Philistines travelled with their pigs from the Aegean world to the southern Levant in the Early Iron Age (Meiri *et al.* 2017).

Perhaps the most significant finding of the new genetics has been to underline the degree to which human populations were mobile in prehistory. Our understanding of the spread of farming from the Near East into and across Europe is now dominated by models of so-called demic diffusion (as it used to be prior to the radiocarbon revolution of the 1950s and 60s), with people, crops, weeds, herds and bugs moving together as farming packages. But the famous ‘wave of advance’ model of Ammerman and Cavalli-Sforza (1971) which depicted steady waves of movement across Europe has been succeeded by more nuanced interpretations, taking closer account of landscape and pre-existing conditions. Colonisation happened firstly in regions ideally suited to the new agricultural practices and also usually in regions only sparsely occupied by native hunter-forager populations. This model is supported by DNA profiles of Neolithic Europeans and their modern descendants, as well as by isotope analyses that suggest significant intermarriage between incoming Neolithic farmers and their indigenous forager partners. These waves of mobility were not uniform and unitary, but took place in punctuated pulses, with initial Neolithic incursions backed up by Bronze Age and later introductions and reintroductions of people, plant and animal stocks (Fort 2015).

As regards Neolithic dispersals outwards from Near Eastern core zones, what remains much less clear is the eastwards expansion of agricultural societies from the core region of the Zagros across the Iranian plateau (Harris 2010; Broushaki *et al.* 2016), following the two timeless routes shaped by climate and landscape, north and south of the great Dash-e Lut desert of central Iran. Certainly, archaeobotanical evidence indicates a steady spread of wheat species and barley eastwards across northern Iran and into Turkmenistan (Lister *et al.* 2018) but without the flax and pulse components that characterise early agriculture in the core region of the Zagros (Fuller and Lucas 2017).

Critical to a realistic apprehension of past mobility, whether of people, plants, animals or materials, is the need for increasingly accurate and high-resolution chronologies. While the main chronological outlines of domesticated plant and animal diffusions across the Near East and Europe are increasingly clear, our understanding of the chronology of their diffusion eastwards into Central Asia and South Asia is in need of much richer archaeological data. Moreover, attempts to associate site or regional abandonment, a special category of social mobility, with evidence for trans-regional episodes of climatic adversity, such as the well-known 9.2kya and 8.2kya events, are not supportable with currently existing chronological frameworks (Flohr *et al.* 2016).

There has been much debate about the possible stimuli to human mobility in the past. Regular, structured mobility, often seasonally determined, may be a factor of humans following the availability of attractive resources, whether they be herds of hunted animals, harvests of particular plants or extraction of desired materials such as obsidian for tool manufacture or cherished stone such as carnelian or lapis lazuli to make items of personal adornment. At least from the Early Neolithic onwards there is ample evidence of trans-regional networks of engagement spanning much of the ancient Near East, even if the scale of material and human movement may have been quite modest.

One of the advantages of Social Network Analysis is its ability to articulate so-called ‘weak links’, which studies have shown to be critical in sustaining complex systems such as long-distance trade and exchange networks (Coward 2013). Such weak links are attested at Early Neolithic sites of the eastern Fertile Crescent in the persistent presence of small quantities of obsidian tools, so-called Çayönü tools, which appear to be associated with the working and polishing of high-quality bracelets (Matthews *et al.* 2018). The bracelets themselves occur across a huge arc of the ancient Near East, usually in alabaster but an obsidian example from Aşıklı Höyük in central Anatolia shows a distinctive blend of trans-regional design with local material preferences. Here the concept of the finished bracelet, with its distinctive flanged profile, is mobile while the material itself is local.

Connected to the pursuit of attractive resources is the idea of ‘low ecological resistance’ to human mobility, whereby humans move across similar environments until a point of contrast or challenge is met. The spread of early humans out of Africa and across much of Asia has been linked to the strong connectivity of savannah landscapes stretching from Africa and across Asia at the time. Similarity of environments coupled with attractive resources such as animals and plants for hunting and foraging underpinned early human expansion across enormous distances. Such a model may also explain how new farming and herding communities spread across Europe in the unfolding of the Neolithic. This is not to deny the capacity of mobile communities in effect to carry their landscapes with them, for example by clearing and burning forest and shrub-lands, by decimating and obliterating native, and often naïve, local fauna and flora and by replacing them with their own favoured species, part of a process often called human or cultural niche construction.

We should not forget also the impact of increasing technological capability, for example in the form of metal tools, pack animals, wheeled vehicles and sea-going craft, in enabling humans to move into new environments and to shape them to their desires. These capabilities and the uses to which they are put are always culturally constructed and historically contingent. Beyond the Neolithic period, it is also the case that the Chalcolithic, Bronze and Iron Ages across most of the Old World, and certainly all of the ancient Near East, hosted remarkable connectivities and mobilities across great distances and in a huge range of items, including people, animals, plants, products and other often unintended passengers, as most richly attested by spectacular finds such as the Uluburun shipwreck.

In this keynote article I have been able to touch upon only a selection of major issues around mobility in the ancient Near East. Certain topics have gone undiscussed, such as social mobility within non-mobile societies for example, and many others. But I hope I have

been able to illustrate and emphasise the great potential for archaeology to contribute towards the topic of mobility, and to enhance our understanding of mobility within the context of our rapidly changing world.

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