

1 | Technological Mobilities: Perspectives from the Eastern Mediterranean – An Introduction

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Abstract

In this introduction to the volume we argue that the later prehistory of the Mediterranean has much to contribute to current debates in the humanities on the subject of mobilities. Although often avoided or maligned for its association with migration as an outmoded explanation for culture change, mobility is belatedly finding its way back into archaeological interpretation. We propose that the papers assembled here effectively bring out the range of mobilities in later Mediterranean prehistory, with a particular focus on the circulation of technological knowledge at different scales.

The New Mobilities Paradigm

With this book we aim to foreground mobility as a fundamental condition of ancient societies. Archaeology identifies instances of mobility in the past as a matter of course; and yet there is a lack of explicit thinking about the range of forms of mobility, and their effects upon society. While our outlook is distinctively archaeological, as we will show, important lessons can be learnt from neighbouring disciplines. Indeed, there is a fresh focus on mobility in the social sciences; it has even been called a new paradigm (Sheller and Urry 2006), or a ‘mobility turn’ (Cresswell 2011). Clifford (1997) is often cited as the key voice inciting this move, with his call for a focus on ‘routes’ and not just ‘roots’, that is to say, acknowledging movement and mobility as inherent, and not just an adjunct: “cultural centres, discrete regions and territories, do not exist prior to contacts, but are sustained through them, appropriating and disciplining the restless movements of people and things” (Clifford 1997, 3). This call has been instrumental in generating an open analysis of globalisation, a necessary reaction to a ‘sedentarist’ perspective that has supposedly afflicted disciplines like geography, sociology and anthropology. With significant input from human geography (and see the new journal *Mobilities*, for example), the focus is very much on contemporary life, and is innovative as a framework in a number of ways.

First, mobilities research seeks to link different scales, “from small-scale bodily movements . . . to global flows of finance or labour” (Cresswell 2011, 552). Second, it also focuses on the movements of a variety of things along with humans, including objects. Third, mobility is “considered in relation to forms of place, stopping, stillness and relative immobility” (Cresswell 2011, 552). And fourth, it takes seriously the differential politics of mobility. Indeed, mobility is relational: it is “an orientation to oneself, to others, and to the world” (Adey 2010, p. xvii).

Even if Cresswell did not have the past in mind when identifying these points of interest in the mobility turn, each of them is highly salient for archaeological purposes. Indeed, the assumption that global mobility today contrasts with some kind of static past is picked up on by Flood, who argues that remarkable mobility also occurred in premodern periods – not least in the history of Islam, in which migration and pilgrimage are foundational (Flood 2009). Archaeology has, arguably, not been all that ‘sedentary’, but neither has an explicit concern with mobility been well expressed. So, these new directions for research in human geography can be extremely useful as a focus for a more coherent approach in archaeology too (see Sorge and Roddick 2012; Beaudry and Parno 2013). In order to put into context a renewed interest in mobility, we now briefly review how mobility is treated in archaeological theory.

Mobility in Archaeological Theory

Mobility has slipped in and out of the stream depending on the dominant academic paradigms. Human mobility, usually on the scale of populations, was central to the culture-historical approach that dominated most European archaeological research in the early to mid-20th century (and occasionally still persists). In this context, migration, invasion, trade, colonisation or diffusion were popularly invoked to interpret similarities and differences in the material cultures of sites or regions (Childe 1929; Trigger 1989). Mainly under the influence of positivism, the so-called ‘processual’ archaeology, later in the 20th century, shifted the emphasis towards explaining cultural change and its reflection in material culture in terms of endogenous processes: exogenous factors previously associated with mobility were seen as simplistic and naïve, and concepts associated with these terms such as migration and colonisation outdated and anachronistic (Binford and Binford 1968; Clarke 1973; Trigger 1989). Yet, the growing application of scientific techniques to the investigation of archaeological

materials also gave new impetus to the study of trade and circulation of material goods, even though such work was rarely properly integrated into archaeological research (movement of goods was thus identified but not always studied in its socio-economic and cultural context). More recently, under the influence of post-processual approaches, new perspectives on the study of mobility have emerged, integrating more systematically evidence generated using a growing number of scientific techniques (Colledge and Conolly 2007; Zakrzewski 2011; Colledge et al. 2013).

Mobility is thus attracting greater attention in current archaeological discourse, with parallel developments in the relevant theoretical and methodological approaches. A shift has taken place away from paradigms constructed under the influence of the empirical tradition and theoretical models such as world systems analysis, and towards post-colonial approaches (Dietler 2010; van Dommelen and Knapp 2010; note the impact here of some of the globalisation literature; see also LaBianca and Scham 2006; Jennings 2011; Versluys 2014) and network thinking (e.g. Knappett 2011a). Beyond the development of more appropriate interpretative models, a burgeoning range of methods and techniques developed in disparate fields, from genetics, chemistry and geology to Information and Communication Technology, can be now applied to the study of ancient material culture. Thus the archaeological study of mobility becomes very timely.

Arguably, we can see a more explicit concern for mobility now emerging in macro-scale work too, for example, in the volume *Deep History*, which has a chapter on ‘migration’ as viewed over the very long term (Shryock and Lord Smail 2011). Spatial displacements are key events in humans’ deep history. For example, the Palaeolithic movement of modern humans out of Africa (e.g. Klein 2008) and across the globe is a major research topic (with the peopling of the Americas c.15,000 years ago much debated – Stanford and Bradley 2012); the Neolithic spread of farming across Europe (e.g. Robb 2013) is another critical instance of complex spatial displacements and mobility. However, they are largely conceived at the *population* level, with little scope for shifting down the scale to evaluate the perceptions and values of those individuals and communities on the move (see Robb 2013, on this scale issue) which is precisely the kind of scale-shifting that ‘mobility’ as a contemporary concept is able to address. In early historical periods, we have documented population movements, with Greek and Phoenician colonisation across the Mediterranean, with the capacity to name the colonies, their foundation dates and their originating cities (Boardman 1980; Malkin 2011). Furthermore, we see evidence for mobilities at a much more individual scale as well, and with a range of motivations; this applies to

the Near Eastern world as well as the Classical, where written sources, not least the *Odyssey* and *Iliad*, provide a level of narrative detail missing from some earlier periods. But although in Classical archaeology the evidence may afford the bridging of scales, this subdiscipline sees only sporadic integration within broader archaeological theory.

Mobility and the Mediterranean

The examples of Greek and Phoenician colonisation here raise the issue of the specifically Mediterranean nature of our enquiry: the ‘inside out’ topography of this region, with landmasses facing onto a single body of eminently navigable water, itself dotted with islands, would seem to scream out for ‘spatial displacement’. The Mediterranean thus attracts narratives of mobility in late prehistory, protohistory and history like no other (e.g. Horden and Purcell 2000; Abulafia 2011; Broodbank 2013, Chapter 2, this volume). However, there has been disagreement as to whether mobility is a unifying or fragmenting force. Although Braudel was the first to study the history of the Mediterranean and the Mediterranean world as a whole, he argued that there is no single Mediterranean Sea but there are many seas (Braudel 1972). Contemporary scholars have identified fragmentation as a fundamental feature of landscape, culture and history in the Mediterranean, arguing that Mediterranean unity is an intellectual construct (e.g. Theroux 1995; Carpentier and Lebrun 1998; Norwich 2006; Abulafia 2011). Horden and Purcell (2000) also talk about exceptional fragmentation and see the Mediterranean as numerous micro-landscapes and seascapes with extremely unstable and unpredictable prevailing environmental conditions. However, for them it is mobility and connectivity that link the micro-regions and compensate for the uncertainty, making the Mediterranean a place of opportunity as well as risk, when people choose to pool resources, relocate in bad times or seek gain abroad in good. As Broodbank (2013) underlines, whatever its scale and however it is characterised (in diverse terms from exploration to diaspora, subsistence, kinship or mercantilism), mobility is a shared necessity “for survival and prosperity in a Mediterranean theatre full of challenges and opportunities”.

So, the role of mobility (of any type and in any scale) and connectivity in shaping Mediterranean world(s) through time has been central, as the Mediterranean has been a “global microcosm” (Alcock 2005), the meeting (and melting) point for some of the most important civilisations (Assyrian, Egyptian, Minoan, Mycenaean, Phoenician, Greek, Roman) and some of

the most influential religions. This volume covers the later prehistory of the Mediterranean, when the landscape, environment and climate had acquired, more or less, their familiar form (Broodbank 2013). It is mainly during this period, and especially towards the late 2nd millennium BC, that distant places within the Mediterranean become more connected; people travelled from one end to the other, and there were people living in one end that knew about those in the other, the earliest period of wide and continuous mobility. And yet, mobility is far from the norm throughout the millennia of the Mediterranean's late prehistoric occupation; or rather, there are many different kinds of mobility, with almost innumerable motivations at the individual and community level. On the whole, although new lifestyles emerge in many parts of the Mediterranean, patterns of occupation set in the Neolithic appear to continue in other parts. So we are faced with the challenge of how to characterise the mobilities we encounter or imagine. There are two immediate problems.

Two Problems with Mobility

The first problem arises when mobility is defined only at a single scale, instead of at multiple scales. For example, mobility can all too easily come to be equated with macro-scale processes such as migration. However, such movements are relatively intermittent and infrequent; are we then to assume that immobility and sedentarism then take over once migration is 'complete'? There are many other kinds of mobility, at different scales. Perhaps we can better imagine mobility being an everyday condition of existence for hunter-gatherer communities, rather than an extraordinary event.¹ With the association of farming communities with sedentism, perhaps it seems more natural to assume 'immobility' as the norm. Nonetheless, there is plenty of evidence to indicate that a degree of mobility was a condition of life in sedentary communities too, and often a prerequisite for physical and social reproduction, through marriage networks, trade, hunting, etc.

One way in which mobility has recently been reimagined for Bronze Age European communities involves striking individual mobility on the part of a select, influential few. According to a recent synthetic treatment, we should have in mind Odysseus as a model (Kristiansen and Larsson 2005; Chapter 10, this volume), not to retroject Classical ideas, but simply to get

¹ See also 2006 special issue of *Journal of Anthropological Archaeology* on Mesolithic mobility; and Barnard and Wendrich (2008).

used to thinking that extreme mobility could well have been the norm for some individuals. Indeed, the mobility of particular individuals may have become institutionalised in the course of the Bronze Age, at least in northern Europe, with war leaders having a distinct source of power from ritual leaders, the former based largely on long-distance mobility and trade (Earle and Kristiansen 2010a). This is an important shift of perspective, one that disentangles mobility from migration. It has the strength of identifying motives for mobility at the micro-scale, while also maintaining a 'global' perspective in terms of the impact of such mobility. For example, one might distinguish two kinds of objective for mobility in the political economies of early complex societies: staple finance and wealth finance respectively (Earle et al. 2011). However, while this kind of distinction may be salient for some aspects of the elite-driven international commerce of the Mycenaean period (Burns 2010), it is too crude for many other situations (cf. Nakassis 2010). Taking this kind of perspective, focused on elite political economies, and assuming that mobility was the preserve of a select few, disallows the possibility of very varied kinds of mobility, spread more widely across society. We can be lulled into thinking that an interconnected world was achieved by mobility solely in the domain of the chiefly elites, set against a background of immobility at the household level. This may not allow us to do justice to mobility across a wide range of circumstances, such as in the Early Bronze Age (EBA) Cyclades (Broodbank 2000), or in processes of 'Minoanisation' (Broodbank 2004; Chapter 7, this volume) or Mycenaeanisation (Chapter 9, this volume). These may well have involved a much wider section of the population, in many different kinds of, and motivations for, spatial displacement.

The second problem, when it comes to mobility, concerns how we conceptualise the relationship between humans and their artefacts. In old-fashioned culture history, ironically, they were very much inseparable, with the equation of 'pots equals people'. The counter-reaction to this essentialist viewpoint saw them pulled apart. And yet they are deeply interconnected: to talk of the movement of human populations must also be to speak, in most instances, of the movement of artefacts and technologies. However, there are many different kinds of mobilities for these phenomena, and they do not always map neatly onto one another: the movement of artefacts reflects some level of human movement, but is it the movement of an individual, a community or an entire population? This is a particular challenge we face for the Bronze Age, where we do see the mobility of raw materials, finished products and technologies, arguably at an unprecedented scale. Yet it is hard to know what these artefactual and technological displacements represent in terms of human movements, with so many possible causes and

circumstances of mobility; some of these will inevitably remain beyond our reach in prehistory.

Suggestions

So what can we do to respond to these problems? First, we ought to think much more clearly and explicitly about the potential diversity in who was moving and why. This may then allow us to grasp a fuller range of causes for cultural convergence, without reverting to outmoded interpretations of culture diffusion. Secondly, we need to make proper use of the abundant and diverse material culture forms available for study, a particular strength in the archaeology of the Bronze Age east Mediterranean. For example, Kristiansen argues that material culture may have been actively engaged in facilitating mobility between regions, with standardised forms – particularly those closely associated with the body, and personal identity – serving as a ‘passport’ to mobility, opening doors and establishing familiarity (Chapter 10, this volume). But on the other hand, one can imagine situations in which mobility may actually have been hindered by material culture markers. Thirdly, distinctive to our approach is the idea that mobile humans may be accompanied by technologies, in the general sense, as ways of doing things, from cooking to potting, from cultivating a field to sailing a boat or fighting a battle; and that technologies can be transmitted through different kinds of human interaction and mobility.

One of us (CK) has come across probable signs of human mobility in researching the spread of technological practices from Crete to the Cyclades, but has faced problems in interpreting this spread satisfactorily (e.g. Knappett and Nikolakopoulou 2008; Chapter 7, this volume). The other (EK) has developed ideas of mobility in her research on technological practice, coming across evidence for relocation of potters that is suggestive of marriage networks in Final Neolithic (FN) southern Greece (Kiriati in press), migrant potters from Crete to Kythera in Early Bronze Age (Kiriati 2003; Broodbank and Kiriati 2007) as well as mobile potters travelling from Middle Bronze Age Kythera to the Greek mainland (Kiriati 2010), from the Mycenaean core areas to central Macedonia (Kiriati 1999; 2000), and elsewhere in the Mediterranean (Chapter 9, this volume). Hence this volume: to serve as a forum for discussing research agendas and methodologies combining technological practice and landscape knowledge at the micro-level, such that they might then be integrated into macro-level narratives and processes. Combining the

two is not an easy feat, and both of us as volume editors feel that there are one or two difficulties to overcome moving forward.

Methodology – Technologies

Methodological limitations are in part to blame, particularly the difficulties in the archaeological identification of human mobility; there are no neat equations between material culture and social identity. What we need is a set of approaches that can reveal the complexities of material practices as they relate to human mobility, which means going beyond simply looking at material culture as a proxy for human mobility. This volume therefore seeks to develop *technological* perspectives on the processes of human movement, focusing primarily on the diverse landscapes and seascapes of the prehistoric Mediterranean.

Technology is increasingly viewed as a social phenomenon in archaeology, thanks to the recognition of the importance of agency in social practice. Technology as skilled and situated practice is thus very much interwoven with social identity. Based on the fact that people usually move not only with their beliefs and worldviews, but also their artefacts (personal belongings or objects of trade/exchange) and technological knowledge, the study of the transfer of technology within or across landscapes can contribute significantly to the understanding of wider mobility phenomena, especially in the context of Mediterranean prehistory.

What is *technological mobility*? First, it could describe a technology that in and of itself requires mobility to integrate its various components. For example, in early metallurgy, artisans needed to travel across physical (and perhaps social) landscapes in order to find exploitable ores (see Chapter 4, this volume). Second, it might concern a technology that a group readily carries to a new location. Various kinds of subsistence and craft technologies are adapted to particular social and material landscapes, though some seem more readily transferred than others. Why is this? What features make for these kinds of mobile technologies? Third, a mobile technology could be one that is readily transferred between two groups separated in physical and social space. Again, some technologies seem to lend themselves to such transfer and transmission more than others. Why? We can think about this in 20th-century contexts, such that some Western technologies have ‘colonised’ the developing world much more deeply than others (Edgerton 2006). This means we have to rethink technological change; it is not always a process of pure invention and innovation, but is also often a matter of technological transfer, transmission and translation.

With its extensive geographical and temporal scope, archaeology has rich potential as a domain for exploring the intersection of human mobility, technology and landscape. New combined biomolecular approaches are helping identify ancient population movements (e.g. Bentley 2006; Irish 2006; Montgomery and Evans 2006; Coppa et al. 2007; Zakrzewski 2011; Shapiro and Hofreiter 2012; Giblin et al. 2013),² and (archaeo)material science has a long history now of identifying long-term patterns in the movement of artefacts (Knapp and Cherry 1994; Whitbread 1995; Stos-Gale 2000; Carter and Kilikoglou 2007; Haskell et al. 2011; Yavuz et al. 2011). Technological mobility, however, has received much less attention. This volume sets out to fill this gap, systematically exploring questions concerning technological mobility. Some of the key issues include:

- What makes some technologies more mobile than others?
- Is it social context that recasts technologies? Or does the technology itself also enact the way it is taken up?
- Do certain technologies move preferentially into particular landscapes?
- What does it take for a technology to be recognised as mobile?
- How is technological knowledge invented, borrowed, appropriated, transmitted, adopted and reproduced?
- Can technologies manifest different mobilities across spatial scales, e.g. intra-settlement, inter-settlement and inter-regional?
- Are some technologies more mobile through time than others? How does a technical tradition propagate? Why does a technology change over time and space?
- Is a ‘convergence’ of cultures in the Bronze Age achieved solely through the mobility of traders/merchants, and the flow of commodities, in particular metals? Or is there greater social mobility than we have anticipated, with more kinds of people moving and for more kinds of reasons?

We are not alone in seeing gaps that need filling. A number of projects have blossomed in Europe in the last few years, with the express goal of understanding ancient mobilities: *Forging Identities: The Mobility of Culture in Bronze Age Europe* (www.forging-identities.com/); *Material Connections: Mobility, Materiality and Mediterranean Identities* (AHRC, van Dommelen and Knapp 2010); *Tracing Networks: Craft Traditions in the Ancient Mediterranean and Beyond* (Leicester, Leverhulme, www.tracingnetworks.ac.uk/content/web/introduction.jsp); *Mobilität und Wissenstransfer in diachroner und interdisziplinärer Perspektive* (www.topoi.org/event/mobilitaet-und-wissenstransfer-in-diachroner-und-interdisziplinaerer-perspektive/),

² We thank Sevi Triantaphyllou for help with providing references here.

a workshop in the DFG project *Topoi: The Formation and Transformation of Space and Knowledge in Ancient Civilizations*).

So, how is the Fitch Laboratory tapping into this *Zeitgeist*? Or is it doing something different? The Fitch Laboratory's angle is distinctively science-based and technological, and has been developing its perspective for the past thirty years. In the beginning, the scale of analysis was macro and inter-regional, with typical early problems tackled being the provenance of Greek transport amphoras (Whitbread 1995), the production and circulation of Mycenaean pottery in south Italy (Vagnetti and Jones 1988) or the trade of stirrup jars between Crete and mainland Greece (Jones 1986, 477–93). But over time the scale of analysis changed from macro to micro. It emerged that broad regional patterns could not really be grasped without a firm grip on the local – both in terms of the material resources and technological practices. The shift in scale thus has gone hand in hand, though perhaps not always explicitly, with a shift to technology, and particularly the use of the *chaîne opératoire*, situated within certain landscapes, the study of *technological landscapes* (Kiriati 2003; Gauss and Kiriati 2011; Kiriati et al. 2012).

This shift in scale has taken place within the context of broader trends in archaeology. It fits with a greater concern for local agency, for community and for everyday practice; and with the growth of phenomenological perspectives that encourage the situation of practices within particular places and landscapes. These are very positive developments. Indeed, Sorge & Roddick (2012), reviewing anthropological and archaeological research on mobility and multi-sited approaches, identify a focus on landscape as a strength of archaeology, in contrast to anthropology. This being said, we still need to find ways to ensure that the macro-scale perspective on movement and mobility is also maintained. In the shift from the circulation of artefacts to the practice of technologies, we need to allow for the *circulation of technologies*. Essentially, we need to find a way to tackle the macro, while keeping a micro-scale technological outlook. We have to keep this outlook, because whichever way we turn, we *do* see common technological practices across wide areas, or the introduction of novel technologies from one area to another, that point to the *mobility* of technology across space – whether in the 'small-scale' societies of the Neolithic and EBA, or the palace societies of the Late Bronze Age. But how are we to achieve this? How are we to recognise both local agency on the one hand, and on the other to explain broad regional trajectories such as Neolithic colonisation, Minoanisation or Mycenaeanisation (or even wider currents at the Mediterranean and European level)? It is not surprising that most of us focus on one scale or the other, or do both somewhat separately. The previous example of the