

Exploring the Materiality of Water in Bronze Age Cyprus

Abstract

This paper examines the materiality of water, interrogating how this substance, the essential stuff of life, shaped people's social and material worlds in Bronze Age Cyprus. While water was a daily concern for Bronze Age communities it remains hidden in archaeological narratives, which have tended instead to focus on other aspects of the environment and their role within the island's economy. The theoretical approach is drawn from the New Materialisms (Bennett 2010, Coole and Frost 2010), which develops the notion of entangled agencies of matter or substance and seeks to unseat perspectives that privilege human action. As such this paper emphasizes the agency of water and how this created communities. It examines how water controlled people's engagement with and movement through their landscape, where they chose to settle, how they sought to "domesticate" water within the household, and how water played a key role in daily life. The physical properties and agency of water runs through these investigations.

Introduction

We never know the worth of water till the well is dry

(Thomas Fuller, *Gnomologia*, 1732)

This paper examines the materiality of water, interrogating how this substance, the essential stuff of life, shaped people's social and material worlds in Bronze Age Cyprus (Fig. 1). The approach taken is informed by the New Materialisms (Bennett 2010; Coole and Frost 2010; Drazin 2015) – the notion that matter is vital and has agentic capacities. This approach, which is gaining traction within the wider social sciences and humanities including archaeology (cf.

Witmore 2014), is key for understanding how people are situated within, and (more importantly) are part of, the physical world: it allows us to consider how we create, transform and consume our environment (Coole and Frost 2010, 3) whilst also recognizing that we are equally shaped by brute materiality of the world around us. Embracing this approach is fundamental for our understanding of the shaping and transformation of past landscapes and environments and people's place in the natural world.

My interest in ancient water management stems from a recognition of how the basic human need for water – a fundamental, daily concern – can often be overlooked within the household archaeologies of Bronze Age Cyprus and the Near East (Steel 2016a, 529; 2016c, 390; see however Calvet 1981 for Bronze Age Ugarit): wells, drains and nearby waterways are dutifully recorded in excavation reports but are rarely explicitly incorporated within narratives of past human activities and daily lives. The intangibility of water as a thing is of course problematic for archaeologists – we cannot recover it in the archaeological record, only evidence of where it has been. The focus on people's physical, sensual engagement with water is particularly significant in the context of the arid landscapes of contemporary Cyprus. Exacerbated through dramatic climate change, water security is a relevant and troubling modern issue. This has been reiterated time and again through numerous conversations with the villagers of Aredhiou, where my primary fieldwork is based. A common concern is the perception of local evidence for climate change and specifically desiccation of the landscape. Accounts abound of parcels of family land proving worthless, with consecutive bore-holes producing nothing but dust. This aridity stands in strong contrast to the middle years of the 20th century, when the villagers report water freely flowing along the now almost perpetually dry Aloupos river bed (Fig. 2) with many recollections of fishing for eels (χέλια) and trout (πέστορφα) being a popular past-time in bygone years.

New Materialisms

As human beings we inhabit an ineluctably material world. We live our everyday lives surrounded by, immersed in matter. We are ourselves composed of matter. We experience its restlessness and intransigence even as we reconfigure and consume it.

(Coole and Frost 2010, 1)

Materialities are being increasingly debated within the wider social sciences and humanities, including anthropology and its cognate discipline of archaeology. While material culture studies refer explicitly to the object world, created by people and invested with meaning and symbolism, the materiality's perspective emphasizes not only the raw physicality, or thingness, of the material world but also entanglements of human and object agency within recursive relationships (cf. Boivin 2008; Hodder 2012). These studies recognize that materiality does not simply refer to the anthropocentric world of objects and artefacts, but instead refers to all forms of matter – the landscape, environment and biosphere that makes up the wider world – and moreover recognize these to be fundamental for all life, including people (Ingold 2012, 431). This widening of the concept of materiality lies at the heart of the New Materialisms, an approach that questions the predominant western ontology that matter (the material world) is passive and inert, something bounded, tangible and quantifiable. Bennett (2010) for example, explores the vitality of matter, recognizing the potential agency of things (natural matter and substances in their raw state as much as humanly-crafted artefacts), to have material agency and the potential to effect transformations and change. This approach blurs the boundaries between seemingly inert physical matter and biological systems and inevitably questions the privileged position western philosophies have ascribed to rational human actors, their assumed uniqueness and specialness distinct from and

dominating the rest of nature – agency is no longer their exclusive prerogative (Coole and Frost 2010, 6-10, 15-16, 20). Accordingly, intentionality and cognitive processes, no longer underpin understandings of agency, which instead should be expressed as transformative or the ability to effect change, described by Deleuze and Guattari (1987, 407) as “this matter-movement, this matter-energy, this matter-flow”.

As an archaeologist who has increasingly sought to find ways to access embodied people in the past, teasing out their agency and lived experiences from their material remains (cf. Steel 2016a; 2016b; 2016c), this approach is challenging, as it seemingly prioritizes the wider natural world – or, for the archaeologist, the physicality of the archaeological record, in particular environmental data – whilst questioning the foregrounding of human agency. In fact, the New Materialisms ask important questions not just about nature and the environment, but also the place of embodied humans (cf. Merleau-Ponty 2005) within the material world. These new and exciting ways of thinking about matter allow us to explore how matter played a transformative role in the creation of ancient material worlds as much as the people occupying spaces. They enable us to consider how people, along with all other living things, are enmeshed within the natural and material world; how they co-produce it through their actions, but are likewise constrained by the very physicality of the matter and substances with which they engage. A shift in perspective, moving the emphasis to humans within their material environment, therefore lets us explore how people experience the world, in particular focusing on acts of making, the physical properties of matter, and how these become embedded in social and political networks (Drazin 2015, xxv). People think with, or through, matter and respond to it in particular ways because matter behaves in certain ways with people; human agency does not occur in isolation but is constituted by the matter with which it engages (Malafouris 2013, 173-7, fig. 7.4) and matter therefore responds to, acts

with and even directs human agency, both enabling and provoking certain responses from the human actor. Thinking about matter as a co-agent in our environment and social worlds results in a shift of perspective; as Ingold observes, “[t]o understand materials is to be able to tell their histories – of what they do and what happens to them when treated in particular ways – in the very practice of working with them” (2012, 434).

Materiality of Water

“[A] focus on the active materials that compose the lifeworld” (Ingold 2012, 429) inevitably draws our attention to matter such as water. This paper focuses on the thingness of water, its very physicality and how it shapes people’s daily embodied experiences. As noted above, my aim in drawing attention to this is based around water being problematic for archaeologists – although water is integral to daily life, it does not survive as a meaningful, measurable entity in the archaeological record – the material is transient, ephemeral, something we rarely find archaeologically and cannot record empirically, although of course associated hydraulic technologies have been identified (cf. Mithen 2013). Nonetheless, water is (and was) central to people’s engagement with and experience of the material world (Wilk 2012; Houseman 2013; Strang 2014a; 2014b; Attala 2017). We cannot exist without water; it is equally sustaining of our bodies as of the foodstuffs we consume; it permeates

multiple everyday experiences with the dampness of rain, the relieving rehydration of a cold drink, the taste of spring water, the weightlessness of immersion...the mesmerizing shimmer of water surfaces, the excitement of waterfalls, the calming rhythm of waves, the movements of water through the material world, and the vagaries of the weather.

(Strang 2014a, 136)

A New Materialisms perspective allows us to explore the vibrant materiality of water, its “thing-power” (Bennett 2010), and how its very wateriness shapes human actions and their construction of social and material worlds. Water has certain properties, characteristics and behaviours that are formative in the creation of social and material worlds. People can only interact with water in specific ways; while the pragmatic archaeologists might note that human interactions with water, “[h]ow they contain, channel and domesticate” (Wilk 2011, 1) it, is largely defined by technological capacity (cf. Mithen 2013; Strang 2014a, 142), the new materialist would remind us that these human-created technologies are equally determined and constrained by the physical properties of the material world. Thus, highlighting the vital materiality of water should throw light on its “complex and constantly shifting relationships” (Strang 2014a, 136) with people in their daily lives and how their environments were co-produced with water as much as other matter.

As water flows through landscapes it connects communities, enables relationships, and in doing so provokes and shapes cultural behaviours. The affordances (Gibson 1986) of water in its various states shape human interactions (Wilk 2012; Strang 2014a; Attala 2017). It can be controlled, channelled through pipes and drains and along viaducts, or it might be contained in pools, cisterns, wells and reservoirs; but equally it resists our attempts to handle and manipulate it, trickling through fingers and cupped hands, evaporating and “disappearing” into thin air (see Attala 2017, 90-2 for a detailed discussion of the nature of water). Despite millennia of water management systems (Mithen 2013) we have yet to fully master this, at times elusive, substance. All too frequently water runs free, wild and uncontrollable, overflowing river banks, wreaking havoc as it floods communities and destroys crops, breaching sea defences as it batters the coastline, and demonstrating its ability to devastate and destroy

all in its path. What is more, standing bodies of water can become stagnant, stale and contaminated – the potential carriers of disease. At the other extreme, river beds and waterholes dry up and as the last drops of water elusively trickle away, so do its life-sustaining powers. This everchanging and unpredictable abundance and scarcity is an essential source of risk and uncertainty in people's daily engagement with water (Wilk 2012; Attala 2017).

As a thing, water is “an exceptional vehicle for producing social meaning” (Houseman 2013, 137). Our interactions with this substance are many and varied – some visceral and fundamental to our existence, others culturally constituted. We physically consume it as a drink or use it to process foodstuffs and for cooking; we immerse ourselves in it, to cleanse ourselves, to cool our bodies and for sport or recreation; we use it to cleanse our clothing and our environment; and we mix water with other substances in numerous material transformations. Water is at the same time tangible and ephemeral – we can touch it but need containers to hold it, otherwise it seeps away from our touch. It appears transparent but its colour changes according to the surrounding light. Our tactile, visual and audio experiences of water might be pleasurable, soothing and relaxing or troubling and frightening. It is both powerful and dangerous – a matter of both life and death. As such there is a shared notion across many cultures that water represents a spiritual boundary between the tangible human cosmos and otherworldly spheres – and it is imbued with particular power at places where it emerges from the ground, such as springs, water sources, lakes and pools (Wilk 2012; Houseman 2013). How then can we explore this permeable, transient and ephemeral substance in the archaeological record and demonstrate its interactive and agentic relationships with the Late Bronze Age inhabitants of Cyprus?

Water in Bronze Age Cyprus

The provisioning of water is an economic and material aspect that has been largely overlooked in household narratives of the Cypriot Bronze Age – although wells and drains have been recorded at the major LC urban centres (see discussion in Steel 2016a, 522; 2016c, 390-1). This contrasts with detailed discussion of water provisioning in contemporary surrounding cultures, notably Minoan Crete (Houseman 2013) and Ugarit (Calvet 1981; 1989; Calvet and Geyer 1987; 1995). The intangibility and ephemerality of water effectively obscures myriad material engagements and social interactions in Bronze Age Cyprus, which remain hidden from archaeological view. Thinking about the materiality of water, as much as the technologies developed to interact with this substance, can help to illuminate these watery entanglements.

We are in essence watery creatures, composed of between 55% and 60% water (Roberts 2014, 303) and thus are dependent on its presence for our very existence (cf. Finlayson 2014). Consequently, the very location of human habitation is determined by the presence (or otherwise) of fresh water sources, simply because it is a constant, daily requirement for survival. Certainly, Cypriot Bronze Age settlements are characterized by their proximity to rivers, streams and springs (Steel 2004, 128). Water could be transported into the settlement for daily household needs – cooking, cleaning, drinking, various forms of processing and production – and also supported arable farming and livestock. To highlight these interactions with water is not simply to assert “the exclusive representation of water as an inert material or resource serendipitously available for human consumption” (Attala 2017, 80). Instead, we should consider how these interactions were enacted and how the agency of water shaped human decisions and actions.

Water was a key agent in the increasing connection of inland and coastal communities throughout the Bronze Age. Brown (2011; 2013) has demonstrated that the eastern Cypriot waterways were navigable during the Bronze Age and that “the Alykos-Gialias-Pedieos river system would have been the primary transport artery connecting...the copper-forestry industrial zone of the eastern Troodos foothills...with the eastern coastal towns” (Brown 2011, 28). The establishment of the large village communities of the Early-Middle Bronze Age like Marki *Alonia*, in the foothills of the Troodos, was made possible by theses connecting and sustaining waterways. Thus, the very choice of riverine location enabled communication. The southwest of the island, however, was more or less cut off from the rest of the island by a largely impassable limestone plateau plunging into the sea between Episkopi and Palaepaphos; rather than overland travel, maritime communication with the communities in this part of the island seems more probable (Steel 2004, 3-4, pl. 3). The crafts developed for navigating along waterways and hugging the Cypriot coastline have not survived physically; even so, there are occasional models apparently of boats, which might illustrate the importance of this new technology to the Bronze Age Cypriot communities. These include rare MC White Painted boat models, possibly representing coracles (Wachsmann 2008, 62, figs. 4.1-4.3), and three LC Plain ware models of more complex watercraft, which on analogy with Egyptian boat technologies, Wachsmann has identified as probable rivercraft rather than seagoing vessels (2008, 64, figs. 4.5-4.8). These objects give us an insight into the importance of waterways to the Bronze Age inhabitants of Cyprus. Interacting with the flow of water connected communities and allowed for the movement of people, raw materials such as copper, finished goods and ideas over considerable distances in the Cypriot interior north of the Troodos foothills, in a landscape otherwise impassable for its densely wooded forests. Understanding the importance of waterways for communication also

allows us to envisage the riverside nearby settlements as lively, bustling and exciting places, with people (family, friends and also strangers) coming and going, bringing with them goods, news and ideas.

Water in the Early Middle Cypriot Household

No wells or cisterns have been identified in the EC-MC villages excavated to date, such as *Alambra Mouttes*, *Sotira Kaminoudhia* and *Marki Alonia* (Coleman and Gale 1996; Swiny *et al.* 2003; Frankel and Webb 2006); presumably therefore, people's primary engagement with water took place outside the settlement, at the riverside. These activities are unknowable archaeologically, at best leaving ephemeral traces, and all too often the water sources adjacent to excavated settlements have not been the primary focus of fieldwork. However, thinking about the materiality of water, and how it shapes people's activities, allows us to think about the lively, potentially gendered, interactions that undoubtedly took place at these water sources, which I would argue were at certain times of the day lively, energetic and the focus of much social activity. Chief amongst these activities was likely to be the procurement of a household's daily needs for drinking and cooking. The riverside was plausibly also a place where people came to wash clothes and to bathe, pursuits that readily provided opportunities for interaction.

Water remained largely untamed in the EC-M villages: it was not channelled and could not be piped up to the settlements, but instead had to be contained and carried up in some sort of receptacle, presumably the large, round bottomed Red Polished jugs recovered in large numbers in EC-MC settlements (Frankel and Webb 2006, figs 4.33-4.34; Steel 2016b, 80, fig. 1). Ethnographic and historical analogy might suggest that the procurement of water to be a

gendered activity, the responsibility of the female members of the household (cf. Strang 2014b; Steel 2016c, 390). This was certainly heavy, strenuous work – Attala’s ethnographies of the Giriama in Kenya indicate that women are expected to carry some 20 litres of water twice a day over long distances (2017, 83-4; fig. 51), shaping the material experiences and the physical bodies of the individuals involved. Alongside this also, we should remember that collecting water provided a possibly rare opportunity for women and young girls to gather together, work and socialize. Bourdieu (1966, 222), for example, notes how the collection of water provided girls of the Kabyle villages with an important extra-household social arena in which they could meet to “exchange news and carry on their gossip”. Once water was transported into the settlement, it was probably stored within the many jugs, jars and pithoi that made up a household’s domestic equipment (Frankel and Webb 2006, figs. 4.40-4.41, 4.33-4.34; Steel 2016b, 80-1; fig. 1). Other than the obvious consumption of water in food and drink, its other household uses remain hidden.

Domestication of Water in the Late Cypriot Household?

People’s interactions with water were reconfigured in the LC urban communities, with water being increasingly physically captured and held within the settlement, in wells and cisterns dug inside some of the buildings (Steel 2016c, 390). Drainage systems were also developed, presumably to allow run-off of heavy rainwater in the winter months: see for example the drain running along the southeast corner of Building X at Kalavassos *Ayios Dhimitrios* (South, 1992, fig. 1, square N1). More elaborate drainage facilities are attested in the monumental Building II at Alassa *Paliotaverna*, which the excavator has compared with water systems in the Palace of Knossos (Hadjisavvas 2003, 434-5; Fisher 2014, fig. 6). These however, are exceptional and water management technologies in the LC urban environment largely parallel those described in detail for Late Bronze Age Ugarit (Calvet 1981; 1989; Calvet and Geyer

1987; 1995); these plausibly represent an area of LC material life influenced as a result of closer contact with the Levant, along with other items of the “social complexity package”: writing, seal stones and wheelmade pottery (Crewe 2007, 209, 213; Knapp 2013, 348). The apparent privatization of water supplies within the household (Bolger 2003, 49) suggests that water became valued as an economic resource, which needed to be secured and controlled within secluded, domestic spaces. This certainly implies changing relationships with water, some understanding that this was a resource that could be owned, controlled, manipulated, spatially confined and, in a sense, dominated. The flowing, fluid capacities of water were not harnessed in this changing relationship; instead it was a development of earlier practices of storing water in pottery containers, such as pithoi – which itself probably also persisted in some households. As Strang comments, even as “things retain their material properties and their agentive capacities...their re-formation as ‘resources’ is enabled by the application of more and more human (and specifically cultural) agency, materially enacted through technology, the ‘prosthetic’ extension of human physical capacities” (2014a, 142). The LC urban communities might have learned or developed more advanced ways of managing water, but these technologies continued to be confined by the affordances of water as a thing.

The transformation of people’s relationship with water in LC society inevitably resulted in its collection becoming a more solitary affair, given that those opportunities for gathering, gossiping and socialization that water afforded the EC-MC communities were curtailed by the new organization of the household and its segregation of water. Strang (2014b) argues that within more hierarchically organized, urbanized communities, where water might be contested as an economic asset and the focus of property rights, hydraulic technologies organized at a community level (cisterns, aqueducts, communal fountains, drainage and sewerage systems etc.) tend to be male concerns, although women continue to physically

collect and carry water, providing the daily drinking, cooking and washing needs of the household. That water procurement was primarily a female task might be supported by a small number of anthropomorphic bottles attested from the end of the LBA, which represent women carrying (water-)jars on their head (Fig. 3). In the LC context, there is no evidence for centralized control over water management within the wider community, with no systematized drainage systems serving all houses nor evidence for piping water into and around the settlement, and only occasionally have archaeologists identified communal provision of water (Steel 2016a, 522, n.71). In cases therefore, where households did not have their own personal water supply at home, the inhabitants presumably continued to be dependent on the nearby waterways for their daily needs.

We might consider whether urban water management was distinct from practices in rural communities, drawing specifically upon evidence from the inland farming settlement at Aredhiou *Vouppes* (Steel 2009, 138-42; 2016a). Aredhiou was well-positioned for access to fresh water, lying on the eastern side of the Aloupos River, which also connected the community to the northwest coast. There is no way at present to assess the nature and extent to which the river was exploited by the community at Aredhiou; nonetheless, I would argue that the collection of water from the river continued to be a gendered and a communal activity for some inhabitants – the persistence of earlier domestic practices. Ethnographies inform us that transporting water on a daily basis would have been a heavy, cumbersome and time-consuming task (Attala 2017, 95). Consequently, there was, some perceived need to physically move water to within the limits of the settlement and physically to control access to this supply, as is demonstrated by the construction of a well, in the southern room of Building 2 (Fig. 4; Steel 2009, 142; Steel 2016a, 520-2). The room in which the well was located was only small enough for a single individual to draw water and access into the room

only allowed a single person to enter or leave at a time, reiterating the economic importance of water. As was the case in the urban communities, it is clear that certain individuals within rural settlements were increasingly controlling water as a substance and people's access to it as a resource.

The LC communities had not developed, or learned, technologies for piping water around their settlements, so they had to find other ways of moving water into and around their settlements. These watery interactions were primarily mediated through ceramic vessels, which effectively contained water and allowed it to be transported in small quantities, subsequently to be stored, poured and mixed with other substances. The clay used to make the pottery and the water contained in these vessels were not passive in these engagements, simply waiting for people to act upon them, but instead played an active role in the creation of human behaviours. "Ceramic production involves earth, water, fire, and human hands" (Weismantel and Meskell 2014, 236); indeed, the thing-power (Bennett 2010) or capacities of clay means that this substance works well with other materials and substances as well as with people: its malleability and plasticity allowing it to be easily formed into the required shapes, its durability once fired, its porosity and its portability all enabled interactions with water and people.

Particularly efficacious in LC human-water-pottery engagements was the predominant Plain ware, comprising jugs, basins, (bath)tubs and bowls (cf. Keswani 1989). Jugs (Fig. 5) were particularly suited to hold and pour water, especially in the hot Cypriot climate. The fabric is sufficiently porous and permeable to allow liquids to slowly seep through the vessel walls and evaporate off the jug's surface, thus cooling the water (Arnold 1985, 139) and the pale surface colour would reflect light, also helping to keep the liquid cool. New to the LC pottery

assemblage was the large rectangular tub (Keswani 1989, 19, figs. 20/28-29, 31), frequently associated with hard surfaces or set into the floor. These have commonly been identified as bathtubs for cleansing and ablutions,¹ suggesting that such activities had moved away from the riverside (as suggested above for EC-MC communities) to within the household.

An unusual jug with a pierced “strainer” base, found just south of Building X at Kalavasos Ayios Dhimitrios (Fig. 6a; South 1991, 136, fig. 2), might also have been used in some way for cleansing or ablutions. This jug, probably a Syrian import resembles the so-called shower pots from Ugarit (Lombard 1987, 351-6, figs. 1, 2, 4a-b). Lombard discusses how these pots were used to control water flow, perhaps in ablutions. He suggests these were filled with water and a vacuum created by sealing the mouth with the thumb; releasing the thumb would allow the water to sprinkle out from the pierced base (Fig. 6b; Lombard 1987, fig. 6a-b).

Using this shower jug suggests a different experiential engagement with water, bathing and ablutions: rather than splashing around and being immersed in either running water (streams and rivers) or water collected and pooled in a ceramic bathtub, a run of water could be controlled and trickled over the body. This ingenious means of creating water flow was not widely mimicked by LC communities but remained an oddity at Kalavasos. It does illustrate however, the permeability of LC water technologies, which were open to external influences, illustrated by the ready adoption and adaptation of a range of Ugaritic hydraulic conventions (see above).

Final Remarks

The social universe is not human-centred but activity-centred

¹ Alternatively, it has been suggested that these were more probably used in textile production, for dyeing or scouring and fulling wool (Mazow (2008, 298); activities which required water.

(Malafouris 2013, 149),

Handling water is a daily necessity. Paradoxically however, although water underpinned the social worlds of the communities that we archaeologists excavate, its physical attributes are such that water is all too often hidden or obscured in the archaeological record, only apparent in external material remains; consequently, it is concealed in our subsequent narratives. In this paper, I address this paradox, exploring how water-object-person engagements might have shaped people's lived experiences in the communities of Bronze Age Cyprus.

People's interactions with water were shaped by the multiple ways in which water acts and its physical properties, which permitted only a range of solutions according to the technological capacities of the Cypriot Bronze Age communities: it can flow or it can pool, but it needs to be contained otherwise it will seep out, trickle away or evaporate. Although water was essential to everyday life, the Bronze Age inhabitants of Cyprus appear to have had an ambivalent relationship with this material throughout much of the Bronze Age, its full capacities remain unharnessed. Certainly, it was not brought into the settlement with the same enthusiasm displayed by other contemporary cultures of the East Mediterranean. Most notably the capacity of water to flow was largely unharnessed and instead the focus was on holding and containing water. Although drains allowed the run-off of excess water in the streets of the LC urban communities, the Bronze Age Cypriots did not otherwise choose to pipe this substance around their settlements. If water were secured intramurally this was static and controlled –contained in wells or cisterns, or perhaps stored in the plentiful pithoi found scattered over Bronze Age settlements – or otherwise collected in small, presumably ceramic, containers from perennial water sources and brought into the settlement to be consumed as and when needed. We have seen how material engagements with water increased in complexity alongside the urbanization of Cyprus in the Late Bronze Age; indeed, water

procurement was one of a number of social activities influenced by increasing contacts with the urban communities of the northern Levant. Equally, engagement with waterways and development of boating technologies allowed the movement of people, goods and materials (such as copper) into and around the interior, which ultimately enabled social and economic developments of the mid-late second millennium BCE. Human-water relations, therefore can be seen to have shaped, enabled and greatly contributed to the social and cultural life of the Cypriot Bronze Age urban and rural communities.

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References

- Arnold, D. 1985. *Ceramic Theory and Cultural Process*. Cambridge: Cambridge University Press.
- Attala, L. 2017. Bodies of Water. Exploring Water Flows in Rural Kenya. Pp. 79-100 in *Exploring the Materiality of Food "Stuffs": Transformations, Symbolic Consumption and Embodiments*, eds. L. Steel and K. Zinn. London: Routledge.
- Bennett, J. 2010. *Vibrant Matter: A Political Ecology of Things*. Durham, NC; London: Duke University Press.
- Bolger, D. 2003. *Gender in Ancient Cyprus. Narratives of Social Change on a Mediterranean Island*. Walnut Creek: Altamira Press.

- Boivin, N. 2008. *Material Cultures, Material Minds: The Impact of Things on Human Thought, Society and Evolution*. Cambridge: Cambridge University Press.
- Bourdieu, P. 1966. The Sentiment of Honour in Kabyle Society. Pp. 191-242 in *Honour and Shame: The Values of Mediterranean Society*, ed. J. Peristany. Chicago: University of Chicago Press.
- Brown, M. G. 2011. Landscapes of Settlement in South-East Cyprus: The Late Bronze Age Origins of a Phoenician Polity. Unpublished PhD thesis, University of Edinburgh.
- Brown, M. G. 2013. Waterways and the Political Geography of South-East Cyprus in the Second Millennium BC. *Annual of the British School at Athens* 108: 121-36.
- Calvet, Y. 1981. Installations hydrauliques d'Ugarit. *Travaux de la Maison de l'Orient* 2(1): 33-48
- Calvet, Y. 1989. La maîtrise de l'eau à Ougarit. *Comptes rendus des séances de l'Académie des Inscriptions et Belles-Lettres Année* 133(2): 308-26.
- Calvet, Y., and Geyer, B. 1987. L'eau dans l'habitat. Pp. 129-56 in *Ras Shamra Ougarit III, Le Centre de la Ville*, ed. M. Yon. Paris: Editions Recherche sur les civilisations.
- Calvet, Y., and Geyer, B. 1995. Environnement et ressources en eau dans la région d'Ougarit. Pp. 169-82 in *Ras Shamra Ougarit XI, Le pays d'Ougarit autour de 1200 av. J.-C.*, eds. M. Yon; M. Sznycer; and P. Bourdieu. Paris: Editions Recherche sur les civilisations.
- Coleman, J. E., and Gale, N. H. 1996. *Alambra: A Middle Bronze Age Settlement in Cyprus. Archaeological Investigations by Cornell University 1974-1985*. SIMA 118. Jonsered: P. Åströms Förlag.

- Coole, D., and Frost, S. 2010. Introducing the New Materialisms. Pp. 1-43 in *New Materialisms. Ontology, Agency and Politics*, eds. D. Coole, and S. Frost. Durham and London: Duke University Press.
- Crewe, L. 2007. Sophistication in Simplicity: The First Production of Wheelmade Pottery on Late Bronze Age Cyprus. *Journal of Mediterranean Archaeology* 20(2): 209-38.
- Deleuze, G., and Guattari, F. 1987. *A Thousand Plateaus: Capitalism and Schizophrenia*. Trans B. Massumi from French; Minneapolis and London: University of Minnesota Press.
- Drazin, A. 2015. Preface: Material Transformations. Pp. xvi-xxviii in *The Social Life of Materials*, eds. A Drazinn and S. Küchler. London: Bloomsbury.
- Finlayson, C. 2014. *The Improbable Primate: How Water Shaped Human Evolution*. Oxford: Oxford University Press.
- Fisher, K. 2014. Investigating monumental social space in Late Bronze Age Cyprus: an integrative approach. Pp. 167-202 in *Spatial Analysis and Social Spaces: Interdisciplinary Approaches to the Interpretation of Historic and Prehistoric Built Environments*, eds. E. Paliou; U. Lieberwirth; and S. Polla. Berlin: De Gruyter.
- Frankel, D., and Webb, J. M. 2006. *Marki Alonia: An Early and Middle Bronze Age Settlement in Cyprus: Excavations 1995–2000*. Studies in Mediterranean Archaeology 123/2. Sävedalen: P. Åströms Förlag.
- Gibson, J. J. 1986. *The Ecological Approach to Visual Perception*. Hillsdale: Erlbaum. (2nd edn).
- Hadjisavvas, S. 2003. Dating Alassa. Pp. 431-6 in *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium B.C.: Proceedings of the SCIEM 2000-*

EuroConference, Haindorf, 2nd of May -7th of May 2001 II, ed. M. Bietak. Vienna: Austrian Academy of Sciences Press.

Hodder, I. 2012. *Entangled. An Archaeology of the Relationships between Humans and Things*. Oxford: Wiley-Blackwell.

Houseman, L. 2013. Fluid Metaphors: Exploring the Management, meaning and perception of Fresh water in Minoan Crete. Unpublished PhD thesis, University of Manchester.

Ingold, T. 2012. Towards an Ecology of Materials. *Annual Review of Anthropology* 41: 427-42.

Keswani, P. S. 1989. The Pithoi and Other Plain Ware Vessels. Pp. 12-21 in *Kalavassos-Ayios Dhimitrios II. Ceramics, Objects, Tombs, Specialist Studies*, A. K. South; P. Russell; and P. S. Keswani. *Studies in Mediterranean Archaeology* LXXI:3. Göteborg: P. Åströms Förlag

Knapp, A. B. 2013. *The Archaeology of Cyprus: From Earliest Prehistory Through the Bronze Age*. Cambridge: Cambridge University Press.

Lombard, P. 1987, Pneumatique d'Ougarit: note sur une "clepsydre" du Bronze Récent. Pp. 351-6 in *Ras Shamra Ougarit III, Le Centre de la Ville*, ed. M. Yon. Paris: Editions Recherche sur les civilisations.

Malafouris, L. 2013. *How Things Shape the Mind: A Theory of Material Engagement*. Cambridge, MA; London: Massachusetts Institute of Technology.

Mazow, L. B. 2008. The Industrious Sea Peoples: The Evidence of Aegean-Style Textile Production in Cyprus and the Southern Levant. Pp. 291-321 in *Cyprus, the Sea Peoples and the Eastern Mediterranean, Regional Perspectives of Continuity and Change*, ed. T. P. Harrison. Special Edition, *Scripta Mediterranea* 27-28. Winona Lake: Eisenbrauns.

Merleau-Ponty, M. 2005. *Phenomenology of Perception*. Trans. Colin Smith from French; reprint, London and New York, Routledge.

Mithen, S. 2013. *Thirst: Water and Power in the Ancient World*. London: Orion Books.

Roberts, R. G. 2014. Human Evolution: Just Add Water. *Nature* 507: 303-04.

South, A. K. 1991. Kalavasos-Ayios Dhimitrios 1990. *Report of the department of Antiquities, Cyprus*: 131-9.

Steel, L. 2004. *Cyprus Before History: From the Earliest Settlers to the End of the Bronze Age*. London: Duckworth.

Steel, L. 2009. Exploring Regional Settlement on Cyprus in the Late Bronze Age: The Rural Hinterland. Pp. 135-45 in *The Formation of Cyprus in the 2nd Millennium BC. Studies in Regionalism During the Middle and Late Bronze Ages*, ed. I. Hein. Vienna: Austrian Academy of Sciences Press.

Steel, L. 2016a. Exploring Aredhiou: New Light on the Rural Communities of the Cypriot Hinterland During the Late Bronze Age, *American Journal of Archaeology* 120(4): 511-36.

Steel, L. 2016b. Kitchenalia in Bronze Age Cyprus. In E. J. Abbots (ed.) Special edition on “The Stuff of Food and Bodies”, *Gastronomica: The Journal of Food and Culture* 16(3): 77-88.

Steel, L. 2016c. The Social and Economic Roles of the Women of Alashiya. Pp. 386-98 in *Women in Antiquity: Real Women Across the Ancient World*, eds. S. Budin, and J. McIntosh Turfa. New York: Routledge.

Strang, V. 2014a. Fluid consistencies. Material relationality in human engagements with water, *Archaeological Dialogues* 21(2): 133-50.

Strang, V. 2014b. Lording it Over the Goddess: Water, Gender, and Human-Environmental Relations, *Journal of Feminist Studies in Religion* 30 (1): 85-109.

Swiny, S.; Rapp, G. R.; and Herscher E. 2003. *Sotira Kaminoudhia: An Early Bronze Age Site in Cyprus*. CAARI Monograph Series 4. Boston: ASOR

Wachsmann, S. 2008. *Seagoing Ships and Seamanship in the Bronze Age Levant*. College Station: Texas A&M University Press.

Weismantel, M., and Meskell, L. 2014. Substances: ‘following the material’ through two prehistoric cases. *Journal of Material Culture* 19(3): 233-51.

Wilk, R. 2012. Water Magic. Pp. 126-44 in *People at the Well: Kinds, Usages and Meanings of Water in a Global Perspective*, eds. H. P. Hahn; K. Cless; and J. Soentgen (eds). Frankfurt: Campus Verlag.

Witmore, C. 2014. Archaeology and the New Materialisms. *Journal of Contemporary Archaeology* 1(2): 203-46.

Illustrations

Figure 1: Map of Cyprus showing 500m contour, Bronze Age settlements and waterways mentioned in text.

Figure 2: Alouppos river bed adjacent to site of Aredhiou *Vouppes*.

Figure 3: Anthropomorphic jug depicting a female water carrier, after Karageorghis 1993, fig. 56.

Figure 4: Well, Aredhiou Building 2.

Figure 5: Plain ware jug from Aredhiou.

Fig. 6a: K-AD 1400, Syrian (?) strainer jug from Kalavasos.

Fig. 6b: Using a strainer jug.