Material and Nonhuman Agency: An Introduction

C. Knappett and L. Malafouris

Material and nonhuman agency – surely this is a mistake? Is not agency a solely human property? How then can we devote a whole volume to a topic with such obviously shaky foundations? Certainly, the odds seem to be stacked against us when we think of agency as not only the capacity to act, but also the capacity to reflect on this capacity. A subject may feel his or her arm moving and recognise ‘ownership’ of that movement, but this is not necessarily the same as being able to reflectively understand that he or she is the cause or ‘agent’ of that movement (Gallagher 2007, p. 2). When agency is linked strictly to consciousness and intentionality, we have very little scope for extending its reach beyond the human.

Even those nonhuman entities that seem to threaten this neat equation most – let us say software agents or robotic agent-artefacts – do not get close to fulfilling these criteria of agency, even though they are closely modelled after the human (Suchman 2007; Sørensen and Ziemke 2007). In this view, then, ‘material agency’ is a secondary property, a mirage even, with agency (as consciousness and intentionality) still very much in human hands. Nonetheless, there is some sense, even an anxiety in folk psychology, that the autonomy and interactivity of such artefacts is a step towards agency. But achieving agency is from this perspective a question, essentially, of becoming human.

This human-centred view of agents and artefacts is not limited to those artefacts we design to be like agents. It extends to a much wider and more prosaic world of artefacts and matter, an environment of things that is conceived on our own terms, under our control and designed to serve. We do not give a second thought, on the whole, to chairs, mugs, steps, litterbins, wooden, ceramic, concrete or plastic: these objects are overlooked because we engage with them habitually and haptically every day. They would not serve our ends very well, if we could not overlook them. Designed to be secondary, they have to be secondary, forming the backdrop to our lives, of which we are of course the stars, the decision-makers, the agents. It is common sense that agency should be conceived anthropocentrically – how can it be otherwise? We are centre-stage in our lives, not these artefacts, however mundane, or indeed intelligent.

Although here glossed rather simplistically, this anthropocentric worldview means that the material or environmental counterpoints to human agency have
generally been given short shrift in scholarly discussion. Indeed, while agency is a much-debated theme across the social sciences, the terms of the debate have remained rather narrow, focussing overwhelmingly on the relationship between agency and structure (Emirbayer and Mische 1998, pp. 962–963). Arguments go back and forth over the degree to which agents, which may be, though certainly need not be, human individuals, are free to act in the world. This degree of freedom is socio-culturally mediated (Ahern 2001, p. 109), and thus varies considerably in different settings and societies. It is a fundamental question in how society is constituted, from the top-down or the bottom-up: does power lie with individuals, or with social institutions? This debate, often cast in terms of structure vs. agency, has seen attempts to bridge the divide, in the form of practice theory and structurationist ideas (Archer 1988; Bourdieu 1977, 1990; Giddens 1984). Such ideas are now familiar territory not only across much social science, but also in archaeology, with the work of Bourdieu and Giddens frequently cited (Barrett 2001; Dornan 2002; Gardner 2004; Johnson 2000; Smith 2001). Agency has become something of a buzzword in archaeological theory (Dobres and Robb 2000, p. 3), particularly in post-processual thinking, where it is a byword for individual rather than systemic power in the past.¹

Yet while the concept of agency is much contested, it is done so within the theoretical margins of a narrow anthropocentric perspective. This anthropocentric view of agency is based upon a general agreement about a single undisputable fact: that agency, in the real sense of the word, is a property of the human individual – “the only true agents in history are human individuals” (Giddens and Pierson 1998, p. 89). Whether this individual is conceived through a Cartesian or an existential lens makes no important difference. What is important is that when we speak about agents proper, we are referring to human individuals, and preferably of the modern Western-type. In short, agency is an attribute of the human substance.

However, an emergent suspicion of the humanistic determinations of agency can actually be traced quite far back, to the likes of Mauss (1954) and Heidegger (1977). Mauss’s seminal study, The Gift, illustrated the fluidity of the boundaries between persons and things and the capacity of the latter to embody and objectify, as well as produce, social consequences. This is a point also reflected in Munn’s observations on the Kula exchange system: “Men appear as the agents defining shell value, but without shells men cannot define their value. In this respect, shells and men are reciprocally agents of each other’s value definition”, (Munn 1983, p. 284). Indeed, as modern anthropology has plainly illustrated “commodities, like persons, have social lives” (Appadurai 1986, p. 3). The enframing that, according to Heidegger, characterises the attitude of the

¹ “[A]gency has become the buzzword of contemporary archaeological theory . . . a lingua franca – an ambiguous platitude meaning everything and nothing . . . there is little consensus about what “agency” actually means . . . nor has there been sustained consideration of basic methodological and epistemological issues as to make it applicable and appropriate to the premodern past” (Dobres and Robb 2000, p. 3).
Western individual towards the world as a “standing reserve” — a passive recourse to be controlled and manipulated for human ends — has no place and meaning in a number of ethnographic contexts with a very different understanding of what it is like to be a person, and what it means to engage the world (Heidegger 1977). For example, what could agency mean to a partible, composite and relationally constituted Melanesian person (Strathern 1988)? Clearly the idea of the isolated agent that acts upon the world, imposing shape and meaning upon inert matter, can hardly be accommodated in a Melanesian context where the categories of persons and things are inseparably distributed over biographical time and space.

Despite those examples, however, it has been primarily in the last two decades that the idea of decentralised agency has gained momentum across the social sciences. It is Actor-Network Theory (ANT) that has been particularly influential in this regard (Callon 1986; Law 1992, 1999, 2002; Latour 1994, 1999a, b, 2000, 2005). ANT can be defined as a semiotics of materiality that is symmetrical with respect to human and nonhuman agents (Law 1999, p. 4). Conceptualizing agency as variously distributed and possessed in relational networks of persons and things, ANT proposes that all entities participating in those networks should be treated analytically as of equal importance (Ashmore et al. 1994; Fuller 1994; Lee and Brown 1994). In other words, for ANT what we call actors or agents are essentially the products or effects of networks. That means that no primacy of the human actor — individual or collective — over the nonhuman actor can be accepted on a priori grounds. This may sound like yet another attempt to reconcile the two traditionally opposed poles of social theory, i.e. agency and structure, but in reality is something quite different. In drawing material things into the sociological fold the aim of ANT was not to overcome this contradiction but simply to ignore it, and develop what Latour calls a “bypassing strategy” (1999, pp. 16–17).

For example, to answer the question whether people or guns kill, we need to move beyond what is acceptable in either the materialist or the sociological account of activity (Latour 1999, p. 180). Both accounts start with essences, and essences result in antinomies, and antinomies are the reason that modernist theories fail to capture practice.

What does the gun add to the shooting? In the materialist account, everything: an innocent citizen becomes a criminal by virtue of the gun in her hand. The gun enables, of course, but also instructs, directs, even pulls the trigger... Each artifact has its script, its potential to take hold of passerby and force them to play a role in its story. By contrast, the sociological version... renders the gun a neutral carrier of will that adds nothing to the action, playing the role of a passive conductor, through which good and evil are equally able to flow (Latour 1999, p. 177).

What both accounts — materialist and sociological — fail to recognise is that agency “resides in the blind spot in which society and matter exchange properties” (Latour 1999, p. 190). Neither the isolated gun nor the isolated individual can bear the responsibility for the act of killing. The responsibility lies, on the one hand, in the way those two agents come together to construct a new hybrid
agent – the gunman – and on the other, in the socio-technical network that supports and makes possible such a meeting. Action involves a coalescence of human and nonhuman elements and as such the responsibility for action must be shared among them (Latour 1999, pp. 180–182). No distinctions between human and nonhuman entities can be sustained in terms of agency.

More will be said on ANT in subsequent chapters, such as those by Knappett and Watts. For similar perspectives, we might also consider Pickering’s (1995) work on “the dance of agency” between humans and artefacts, Kaufmann’s “la danse avec les choses” (1997), or Suchman’s “sociomaterial agency” (2007). Cognitive science and philosophy have also advanced our understanding of the agency of artefacts in novel ways (see Hutchins 1995; Kirsh 1995; Clark 1997; Norman 1988). We might also very well turn to other domains such as human geography (Jones and Cloke 2002), political theory (Bennett 2004), economics (Lane and Maxfield 1997) and anthropology (Gell 1998; Layton 2003; Hoskins 2006). Many of these perspectives are more concerned with understanding agency as a situated process, rather than debating what or who is or is not an agent. This has, in part, been aided by a recognition that agency need not be coterminous with intentionality, which releases nonhumans into the process of agency. We hope to capture in this volume some of this move away from anthropocentric approaches that is happening across the social sciences. We also intend to show the worth of these new perspectives for archaeology, which has been slow on the uptake; despite the fact that the likes of Bourdieu and Giddens show little concern for material culture; much archaeological theory has remained faithfully wed to practice theory and structuration for 20 years. By using the term “material agency” we do not want to go to the other extreme and say that agency is material rather than human; it is more of a wake-up call, for social scientists and archaeologists, to encourage them to consider agency non-anthropocentrically, as a situated process in which material culture is entangled. Archaeology has the potential here to lead the way, as it deals with material culture “far more seriously and innovatively than do most social scientists” (Dobres and Robb 2000, p. 14).

Given this obvious focus on material culture in archaeology, and the acknowledgement that “material culture is clearly central to creating agents and expressing agency” (Dobres and Robb 2000, p. 14), it is surprising that the relationship between material culture and agency does not feature more prominently in current archaeological theory. Strange as it might seem for a discipline that is in broad agreement on the “active” nature of material culture, archaeology remains, in our opinion, attached to an anthropocentric view of the world and by extension also of agency. The move towards a more active view of

\[2\] In a recent review, Dobres and Robb note that agency remains both “woefully under-theorised” and subject to remarkably “sparse methodological developments” (2005, p. 159). While Dobres and Robb stress in particular the need for robust methodologies in the study of agency (see also Joyce and Lopiparo 2005), we focus here more on the woeful under-theorisation.
material culture goes back 20 years or more; but this has been more a case of acknowledging the active rather than passive use of material culture by humans, rather than ascribing much dynamism to the artefacts themselves. What the active nature of material culture in its common usage seems to imply is essentially that human individuals, far from passively adapting to external systemic forces, are actively using material culture as an expressive symbolic medium for their social strategies and negotiations (Hodder 1982, 1986). In other words, the essence of the argument is that material culture may not simply reflect but also actively construct or challenge social reality, on the necessary condition, however, of human agency and intentionality. The above sounds too obvious to be wrong, and indeed this is precisely how material culture operates in many cases. However, this is only a part of the picture and, once you embrace it, leaves you with few chances to discover what the active nature of material culture really means.

There are some recent exceptions that do take the activeness of artefacts themselves more seriously, but they are surprisingly few (Chapman 2000; Chapman and Gaydarska 2007; Gamble 2007; Olsen 2003; Shanks 1998; Webmoor and Witmore 2005). Perhaps we should look beyond archaeology, particularly given this volume’s interdisciplinary breadth; if we turn to the emerging field of “material culture studies”, does this fare much better? A good place to assess this is the Journal of Material Culture, founded in 1996. A search reveals the word “agency” mentioned in the texts of 111 papers over the last 10 years. While this might at first glance appear to represent a strong commitment to issues of agency across a range of approaches in material culture studies, there is a remarkable tendency in the vast majority of these cases to engage with agency in a very particular way, influenced predominantly by Alfred Gell’s 1998 volume “Art and Agency”. Thus even here the concept of agency is not subject to very much depth or breadth of investigation.

These modest advances notwithstanding, we believe that approaches to material agency would benefit greatly from a much broader interdisciplinary involvement. This is one of the main justifications for this volume.

We begin with a contribution from Andy Clark, one of the foremost philosophers of mind to have contributed to discussions of agency. In “Where Brain, Body and World Collide” (Chapter 2), which was originally published in Daedalus in 1998, Clark sets out a possible conceptual background and philosophical conception of self and the mind with which many of the independent perspectives and case studies presented in this volume can be anchored. Drawing on recent theoretical and experimental work ranging from monkey finger control and mirror neurons to interactive vision and robotics, Clark puts together a powerful argument for the integration of perception, cognition and action in the study of mind and agency. For him the agency of the material world is simply the natural consequence of a “deeply interanimated unity” between perception and action.

This view of the situated brain and the extended mind is then explored by Malafouris using the potter’s wheel as his example (Chapter 3). Developing his
argument for Material Agency, Malafouris argues that the only available starting point and obligatory point of passage for studying the emergence and determination of agency is that of material engagement. As with many other dimensions of the human mind, agency and intentionality should be understood as distributed, emergent and interactive phenomena rather than as subjective experiences. The clay on the potter’s wheel should not be construed as the external passive object of the potter’s intentional states, but as a functionally co-substantial component of the intentional character of the potting experience.

Our trio of cognitive science approaches to agency is completed by John Sutton. His chapter “Material agency, skills, and history” (Chapter 4) explores the issues of agency, interactivity, skill and distributed cognition from a broader historic and diachronic perspective. How can we identify the significant dimensions of cross-cultural and historical variation that will enable the construction of better typologies of distributed cognitive systems? What might be the role of cognitive archaeology to this end? How can archaeology and anthropology broaden the empirical and theoretical horizons of the cognitive sciences? Taking issue with a recent paper by one of us (Malafouris 2004), and focusing on the agency of things in the context of memory, Sutton proposes a number of fruitful directions for interdisciplinary research and the cross-fertilisation of ideas.

The next three chapters present diverse interdisciplinary perspectives on material agency, ranging from sociology and human geography, through to economics and human–computer interaction. The first two chapters, those of Law and Mol, and Jones and Cloke, provide us with an important correction to the potential pitfall in a non-anthropocentric approach of focussing only on artefacts and technologies. They show us that “material” in this case means “nonhuman”, with their case studies tackling sheep and trees, respectively. Law and Mol (Chapter 5) take a Cumbrian sheep as their prospective agent, specifically a Cumbrian sheep in the midst of the foot and mouth crisis of 2001. Situating their approach within the “material semiotics” afforded by ANT, they stress that entities give each other being: they both act and are “enacted” (hence their chapter title “The Actor-Enacted”). They allow for four versions of a sheep – as a veterinary, epidemiological, economic and farming entity. These entail multiple practices that enact the sheep, making for a “sheep multiple”. However, an enacted sheep is not a passive sheep; but it is difficult in the English language to circumvent this active/passive dichotomy. Though difficult to imagine a simultaneously active–passive agent, this is precisely what is required if we are to understand sheep as actors in this scenario. Furthermore, the practices that enact sheep-actors form complex webs that merge, interfere and pull apart, dynamically and indeterminately; we would be better advised, say Law and Mol, to ask what is happening, not who has done it.

The chapter by Jones and Cloke (Chapter 6) also falls under the broad ANT umbrella, with its presentation of trees as “actants”, and agency as a “hybridised” phenomenon. They note, however, that ANT, in its discussions of hybridity, has been “biased towards technological rather than organic nonhuman entities”. Not only this, but when the organic is included, it ventures only
as “far” as animals. Thus Jones and Cloke set out to remedy this imbalance in material agency by looking at other kinds of organism, in this case trees. They take three “tree places” in and around Bristol (South-west England) and assess the agency of trees in the making of these places over time. In so doing they distinguish between four kinds of agency, as routine, transformative, purposive and non-reflexive action.

In the approach taken by Harper, Taylor and Molloy (Chapter 7), we see the kinds of contemporary and future human–computer interaction that might easily tempt us into assigning agency to artefacts that appear somehow “intelligent”. Yet the authors are quick to state that the objects in question, though dynamic and interactive, do not have intelligence. This they assign to humans alone. They show how surfaces and containers in the home have particular affordances that can be augmented with digital technologies; but surfaces remain just surfaces, and do not become artefacts of intelligence through digital augmentation.

In a third section of the volume, we have four chapters dealing with archaeological contexts, albeit from interdisciplinary perspectives. Yarrow’s contribution (Chapter 8) is actually more an ethnography of recording processes during archaeological excavation. He looks in particular at context sheets, typically thought of as passive records of archaeological features but which, Yarrow argues, do have an enactive role within wider networks which include both human and nonhuman actants. There are interesting resonances with some of Harper’s earlier work on the role of paper documents in offices.

Chapter 9 by Knappett picks up on the theme of networks of human and nonhuman actants, seeking to develop more systematic means for addressing the network properties of agency, paradoxically neglected in Actor-Network Theory. Using examples from the Aegean Bronze Age, he examines the interactions between different categories of “material culture” – artefacts, images and texts. Early Aegean scripts are to some extent imagistic, and indeed they include images of artefacts; and some texts take artefactual form, inscribed on various kinds of support (e.g. tablets, sealings and pots). By looking at these various connections, we can gain glimpses into how artefacts, images and texts had a networked presence in the world of the Aegean Bronze Age; and that this presence formed a kind of material agency within which humans were deeply entwined.

Following this comes a contribution on the intertwined agency of water and stone in Irish Neolithic passage tombs (Chapter 10). Andrew Cochrane argues that the imagery carved into the stone façades of these tombs was “stimulated” by solutions, i.e. when wetted by rainwater and perhaps other kinds of liquid. That these images might come to life when wet, stimulating new perceptions and experiences among their viewers, is very suggestive; we might see some parallels with the paper of Harper et al., in that the affordances of surfaces and substances might be exploited and augmented by designers and/or users. Once again, it may not be easy to locate agency in this scenario; and we might follow Law and Mol’s advice in asking what is happening in Cochrane’s stone-and-solution scenario rather than who has done it.
The final Chapter 11 in this archaeological section comes from Chris Watts, who grapples with the complexities of Peircean semiotics, or ‘semeiotic’, in developing what one might call a situated semiotic approach to material agency. His use of Peirce’s notion of “synechism” conveys very persuasively the way in which “people and things are conjoined through the principle of semiotic mediation”. Watts grounds his sophisticated theoretical arguments in a case study drawn from the Late Woodland period of southwestern Ontario; comparing Iroquoian with Western Basin ceramic assemblages, he is able to show how these traditions bring into being two quite different agentic networks.

The volume concludes with two sets of concluding remarks, by Tim Ingold (Chapter 12) and Sander van der Leeuw (Chapter 13), respectively. The first of these is an ingenious critique of the ANT approach as applied to questions of material agency. Ingold creates a metaphor whereby “ANT” is one kind of creature in the forest, and “SPIDER” is another, and they strike up a philosophical dialogue. We know that ANT stands for “Actor Network Theory”, but SPIDER is a new acronym devised by Ingold that stands for “Skilled Practice Involves Developmentally Embodied Responsiveness”. Whereas ANT sees agency as coming about through the networked interlinkage of diverse objects, as for example in an ant colony, SPIDER rather sees agency as emergent from the skilled action-perception of an organism that inhabits a particular milieu, as for example a spider-with-web. The skilled action-perception of an organism as it moves through an environment creates a kind of mesh, but this does not mean that agency is distributed evenly between the organism and its mesh (which could be a fish with water, a butterfly with air, a spider with web or a potter with clay). Ingold thereby provides us with a thought-provoking challenge to ANT, particularly its tendency to see agency as a distributed network phenomenon, without sufficient attention to either the role of bodily perception and movement in the creation of the network, or the different qualities of the entities that are implicated in this process. Ingold’s wider aim is to get us thinking in terms of “meshworks” rather than “networks” (see Ingold 2007).

Sander van der Leeuw’s concluding comments (Chapter 13) have a different flavour. He draws on his experience of long-term, deep-rooted interdisciplinary projects in assessing the overall impact of the papers in this volume, both for archaeology and the social sciences more broadly. At the same time, he considers their potential for the development of a new approach to invention and innovation, topics of particular interest to van der Leeuw. He differentiates between a priori and a posteriori perspectives on innovation, the former engendering a proactive approach and the latter a reactive one. Unfortunately, the tendency is towards the latter in much of the scientific writing on innovation, which means that the inventive creativity leading to innovation is poorly understood. Van der Leeuw thus takes this volume’s emphasis on relationality (established through network thinking) to rethink the relationship between invention and innovation, with reference to traditional pottery making in Mexico and the Philippines. He sees the potential for inventive action as a feature of the dynamic “network”, composed of people, things, objects and
contexts, within which a potter is situated. Invention is a local process, only involving a relatively restricted network, whereas innovation is more widespread, cascading through a broader network.

Finally, we should emphasise that the aim of this volume is not to establish “material” or “nonhuman” agency as some kind of sustainable alternative to the idea of human agency. Rather, our primary intention is to provoke debate, with the term “material agency” intended as a challenge to the anthropocentrism inherent in existing approaches to agency. Some of the contributions to this volume argue that it is correct to centre our understanding of agency on the human; we are not averse to this when it is clearly and explicitly argued, as it is here, rather than implicitly assumed. We have not been looking for a consensus, but have actively sought divergent views. Such divergence is all the more likely when a project cuts across disciplinary lines, as here in the apparently unlikely combination of computer science, cognitive science, philosophy, human geography, and sociology, as well as anthropology and archaeology. Nevertheless, we do find that there are many converging lines of enquiry too, which here we have only begun to broach, and which, we believe, merit much fuller exploration in the future.

References


xviii  Material and Nonhuman Agency: An Introduction


