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EXCAVATING THE MIND

CROSS-SECTIONS THROUGH CULTURE, COGNITION AND MATERIALITY

Aarhus University Press

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Introduction

Mads D. Jessen & Helle J. Jensen

Science has started to change its mind about the relationship between humans and the material world, and has begun to recognize material culture and technology as important factors in human mental life. This renewed interest in materiality and the mind has raised a series of central questions concerning their relation and dependency. What is the position of material culture in the construction of meaning? How does the existing material culture influence human development, learning and cooperation? Does the cultural environment form part of the human cognitive architecture? These are not just central topics in the growing debate concerned with such cross-sections through culture, cognition and materiality, but are highly relevant for the understanding of human ontology in general.

However, from an archaeological perspective, it is interesting to observe the growing interest in material culture in the academic world. In most branches of learning which study the intersection of human culture and cognition, the material world has usually been of secondary importance. With some notable exceptions to the mainstream, this secondary position has only recently started to be modified (Lave 1988; Merleau-Ponty 1945; Modée 2005).

Nevertheless, the study of material culture has always been the primary domain of archaeology, but the discipline has gone through considerable problems trying to define the significance of material culture for human ontology. This has at least two reasons: Firstly, the discipline itself does not have access to the empirical richness of specific thoughts and actions of individual agents, and this has made it difficult to come to terms with the details of human-artefact interactions. Secondly, the limited interest of neighbouring disciplines in the material domain has reduced the possibility of importing relevant theory into archaeology. These shortcomings can often find a rather straightforward remedy in the establishment of cross-disciplinary studies, and a more open-source attitude towards the sharing of information between different research traditions. A multidisciplinary approach will be especially fertile when it comes to such weighty and fundamental questions as the faculties of human (material) culture and human ontology – subject

matters which cannot be embraced by any separate perspective. The different analysis and cross-disciplinary discussions presented in the book are therefore meant to provoke new ideas about mind and matter.

However, archaeology is not only in a position to receive theoretical input, it equally has something important to add to the debate. The uniquely diachronic perspective of archaeology may sometimes be able to supplement or even correct the account of human ontology that is derived from the more synchronic focus of other disciplines. Therefore, supplementing the prevailing research in cognitive studies, which tend to focus on modern, predominantly Western societies and individuals with studies of different cultural contexts and processes in the evolutionary and historical past as well as the ethnographic present, should give rise to a deeper insight into the long-term, recursive relationship between the material culture of humans and our mental worlds. Such processes as how cultural information is transferred from one generation to the next can only be explained through diachronic studies, and as the material side of many human activities persist for several centuries, the study of materiality generates a tangible and enduring platform for understanding the continuity as well as transformation of cultures.

Furthermore, the growing emphasis of material culture and of cognition in a range of subject matters now creates a favourable environment for the exchange of ideas between disciplines (see DeMarrais, Gosden & Renfrew 2004; Renfrew *et al.* 2009; Renfrew & Malafouris 2010; Renfrew & Zubrow 1994), which formerly had limited contact. Our initiative to this anthology is an attempt to contribute to this momentum, and further exchange between disciplines.

Taking a look at the titles of the papers presented in this volume, it is clear that the authors are inspired by research in a wide range of disciplines. These include at least anthropology, archaeology, cognitive science, philosophy, psychology, semiotics and the study of religion. But despite this diversity of inspiration, the articles also suggest a commonality of purpose. This commonality concerns the interest in developing integrative ideas about the interaction of human beings and their material surroundings. And it is linked to a general reorientation of the way in which the human mind is conceived in a number of disciplines. To put it simply, this is the recognition that we can no longer claim to be studying the human being as an organic computer or a Cartesian subject. On the contrary, the importance and complexity of cross-sections through culture, cognition and materiality are becoming increasingly clear. In other words, it is no longer sustainable for disciplines concerned with human beings to study one without the others. Furthermore, it carries the implication that the traditional distinction between idiographic and nomothetic approaches must be moderated, because

the relationship between the specific and the general constitutes one of the main questions.

Another and related way in which the study of mind and matter cross-cuts traditional boundaries has to do with its wide chronological relevance. The exploration of certain important questions concerning the future of humankind may require us to study not only the present, but also the past. Considering the speed with which modern societies change their material culture, one cannot help wondering what will happen to the human mind in the coming decades and centuries. Is there a limit to the degree of complexity we can handle in our interactions with the material world, or can we keep on pushing the boundaries? In other words, is there a finite maximum capacity of the human mind – are we going to hit the ceiling? Perhaps there can be no *pre factum* answers to such questions, but the study of long term developments in the history of human thought may at least point us in the right direction.

For these reasons, it seems that a point has been reached, at which our attempts to come to terms with our own materiality are changing fundamentally. All of the authors of *Excavating the Mind* – in one way or another – contribute to the growing multidisciplinary debate on the uniquely human entanglement of complex material cultures and mental worlds, and we believe that some of the potential that lies in the current situation is exposed in the following articles.

Setting up the cross-sections

The book has been organized into three sections each focusing on different cross-sections through culture, cognition and materiality. In each of these groups, the texts have an overall thematic commonality, or share a range of viewpoints and follow similar lines of argumentation. At the same time, the divisions are by no means mutually exclusive, and the contributions often expose the same layers as are investigated in the other sections.

Debating the mind

This first section takes up the fundamental problem of trying to define the mind. In doing so, the basic premises for describing the mind, and its relation to material culture, figures prominently. First and foremost, the writers contest the classical notion of the Cartesian mind, where mind is regarded as having a completely immaterial character. Instead, the mind is described as an inherently composite apparatus, which consist of an intricate interface between brain, body and socio-material environment. This standpoint leads to the direct acceptance

of a distinct interdependency between concepts and practices, and the contemporary technological environment. The considerable interchange of knowledge taking place between technological domains and social domains, often creates a cultural situation where human thinking become distributed across several domains, which so-called ontological reasoning cannot keep separate. In effect, the writers advocate a distributed notion of the human mind, where the mind assimilates extra-somatic materials with constructs inside the human skull. Physical engagement with the (technological) world therefore seems to play centre stage when people enter into complex social formations such as economic exchange, the image of nature or the understanding of time and space, or even when unfolding the origin of cultural diversity itself. As a result of this standpoint it is consequently argued that the cognitive architecture behind the construction of multifaceted and complex cultural objects (and objects in general) is best understood as an amalgamation of individual and group-based actions, which originates in the physical interaction with the object under construction. Accordingly, the 'things' which are involved in human acting and thinking should not be regarded as decoupled objects which require special types of mental computations, but rather be understood as active components in the overall cognitive organization, just as much as the naked brain is an active element. For this reason, one of the main arguments in this section is that the particular type of material environment with which humans engage inevitably will influence the way we think, and the notion of mind thus cannot be secluded from the notion of materiality.

Svend Østergaard takes an evolutionary look at the preconditions for the human use and development of material culture. Inspired by neuro-cognitive studies of 'mirror-neurons' and by primate research by Michael Tomasello, Østergaard outlines a possible explanation behind the advance of meta-cognition, artefact use and symbolic representations. Central to his idea is the universal inclination for individuals and local groups to imitate each other. Because imitation is also a principal component in children's development, Østergaard regards imitation as a decisive factor in cultural learning *per se*. The neural grounding of such imitation might be presented by the function of mirror-neurons. In combination, imitation and mirror-neurons entail a local adaptation and streamlining of behavioural strategies and goals. Tools are, both with regards to production and function, intrinsically goal-oriented, and effective tools will, for that reason, be imitated within the local group. A side-effect is that each local group often equips its tools with particular symbolic expressions and therefore the dynamics of local imitation will generate a large scale emergent structure, i.e. cultural diversity.

Lambros Malafouris's examination of the Mycenaean Linear B tablets focuses on human cognitive architecture and how external materialities influences cognitive processes. He identifies the Linear B system as a cognitive artefact which forms part of a distributed system of Mycenaean thinking, in which internal as well as external components constitute the overall cognitive configuration. In doing so, Malafouris breaks down the classic division of brain, body and culture in favour of a notion on human thinking which essentially is an extended functional system integrating all three elements. For this reason, Linear B tablets can no longer be seen solely as inscribed abstract codes, but as engaged in a distributed cognitive system that unfolds in time and space, between human and material actors. By replacing the image of the isolated scribe who externalizes information on clay with that of a dynamically coupled network of agents that form a coalition and complement each other, the physical features of the Linear B tablets can be directly linked with human cognitive operations.

Chris Gosden follows a similar line of reasoning as he investigates the mutual dependency between abstract ideas and their expression in material culture. He advocates an understanding of the human involvement with material culture which underlines the non-isolatory nature of human tool-use and concept building. In essence, human thought is distributed over a variety of different media which include words, artefacts or particular types of behaviour. It is argued that even a complex concept such as time can be intimately related to and recognized in certain artefacts. Gosden uses the Iron Age Celtic torcs in Britain as point of reference for describing the relationship between mental and material entities. The torcs have an elaborate decoration and the ornamental elements tend to, over time, exhibit an accumulative and referential style, thus incorporating and mixing former elements with novel ones. This combinatory approach indicates that (former) times and (other) places where condensed into a single object, the torc, and that Iron Age Britain had an ambiguous conception of time with a multiplicity of possible readings.

Also **Tim Ingold** has explored the way in which different technologies interfere with our original way of conceptualizing the world. Ingold especially draws attention to how fundamental assumptions about mind and nature are grounded in the pervasive aspects of everyday life, and in this case movement and wayfaring. By exemplifying how the use of rigid footwear, the paving of roads and the introduction of vehicular transport have occasioned the nomination of the foot as deprived of any significant intellectual relevance for the perception of the environment, he parallels this development to the problematic conceptualization of the mind as being carried around in a container, the body, without any direct contact with the surrounding milieu. Instead Ingold promotes (i.e. moves

forward) an understanding of mind and matter which emphasizes the obvious interdependence of the two, and in that sense, the human involvement with the environment is therefore best indentified as a domain of entanglement.

Cultural practice, material reference and the generation of meaning

In section 2, *Cultural practice, material reference and the generation of meaning*, the central problem of ascribing meaning to material objects is debated. This problem is only touched upon occasionally in most philosophical writing, and in these writings materiality is regularly described as having only a secondary function. Objects have therefore been regarded as mere representations that one should think *of* and not active elements that one should think *through*. In order to broaden the understanding of the diverse range of meanings embedded in and generated by material objects, examination of the various connections between cultural practices and materiality figure prominently in all of the articles in this section. In their examinations, as well as in their general theoretical debate, the writers tie together works from a diverse range of disciplines, with linguistic theory as a recurring field of reference. In particular, the works of C.S. Peirce, Lakoff & Johnson and Berlin & Kay loom large and point towards the dominant position that the study of language has had in the description of meaning. Most importantly, however, the case studies give evidence to the significant influences that materiality has on human meaning construction and to the point that language cannot stand alone. In fact, the articles underline material culture as a generative factor in the construction of meaning, and criticize former theoretical frameworks for being overly linguistic when focussing on meaning. Furthermore, a combination of the group's articles provides the identification of what could be termed a triple grounding of meaning. Firstly, the possibilities of describing certain universal human traits which persist across cultures, such as the perceptual system or body format, and assert meaningful and comparable exchange between humans and their environment. Secondly, that the cultural context and practices often generate a particular version of a meaningful concept, and are, over time, susceptible to change. Thirdly, that such concepts present themselves across a wide variety of media, ranging from performances to words to objects. This triple grounding is to be understood as the recognition of the distributed quality which characterizes the cognitive processes generating meaning in human thinking – a recognition that, unlike most former theories on meaning, positions the material centrally in the dissipated network of cultural meanings.