emerge rather than simply be. In that they may be dynamic and emergent, networks have a temporal as well as a spatial occurrence. As the network as a whole shifts and alters over time, so do the positions of each node within it. Ingold does mention that the properties of materials are experienced, and that in this sense each one is a condensed story, but does not develop the temporal or narrative dimension any further here. His closing line, that the properties of materials are not attributes, but histories, is therefore rather enticing, particularly to an archaeologist, and one wonders how Ingold might have taken this further. His emphasis on the coming into being of materials will be music to the ears of those who engage in experimental archaeology, as it hints at an often lacking philosophical background or framework to such study. There is considerable scope here for developing a narrative perspective on material properties. Perspectives from materiality have perhaps paid too little attention to time.

Materials with materiality

In encouraging us to take materials seriously, Ingold has provided a powerful corrective to what risks becoming an unhelpful bias in material-culture studies. But if the materiality perspective critiqued by Ingold has focused on social relations at the expense of material relations, then how is Ingold's 'world-of-materials' perspective going to avoid doing precisely the opposite? We may be provided with a fruitful means of looking at material relations, but what about social relations? As with Gibson, relations between people do not seem to feature that prominently. Just as in a materiality perspective the things become ciphers for social relations, so in an ecological approach the humans seem to take a back seat to the trajectories of materials. We need to find a way, surely, of combining the two; or, in other words, of following both Latour and Lemonnier. There is also, perhaps more importantly, a pressing need for systematic methodologies with which to study material culture in the past and the present, and the development of such methodologies might enable the different disciplines concerning themselves with material culture to communicate more effectively, with archaeologists engaging more fully with 'materiality' and anthropologists with 'materials'. Ingold, occupying a unique position between various disciplines, is well placed to identify these discrepancies, and his bold statement should serve as a wake-up call across the multi-field domain of material-culture studies.

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Stone age or plastic age? Daniel Miller

Ingold starts his critique with a claim to find recent writing and talking about material culture essentially obscure and orientated to fashion. If one reads Ingold's own writing you will find plenty of references to philosophical

figures such as Heidegger and to phenomenology. I find such writing often incomprehensible and obscure, and much of its contemporary use pretentious. I would hope a reader would find that my own recent books, on the cell phone (Horst and Miller 2006), materiality (Miller 2005) and the sari (Banerjee and Miller 2003), are written in just as straightforward a style as those of Ingold, which I much admire, both eschewing unnecessary jargon. Clearly we happen to find very different theories more or less congenial and comprehensible. But I do not think the implication of his opening remarks is a fair one, and I would hope that readers would judge this for themselves.

A second problem is that much of Ingold's paper rests of a dualism of his own creation, between substantive concern with the material processes through which objects pass and of which they consist, and some kind of mentalist imagination and conceptualization of objects per se. To construct this dualism he has first arbitrarily to divide material-culture studies to fit his scenario. So, for example, Chris Tilley comes in on the side of the good while I organized the AAA session referred to (now published as Miller 2005). But Chris Tilley and I are pretty much equally representative of these contemporary material-culture studies he wants to critique. Indeed we have always edited the *Journal of material culture* together, and Chris Tilley (1999; 2004) writes books about metaphor as well as about stone. So the idea that he is criticizing a fixed object like a genre called 'material-culture studies' is unsustainable. He is extracting those aspects of these studies he does not like and calling them material-culture studies.

The next question then is whether writers such as myself do indeed ignore these material processes. My last book on an object was a study of the sari (Banerjee and Miller 2003). In this book Mukulika Banerjee and myself have a great deal to say about the physical attributes of the textiles used in the sari. At different times we dwell on transparency and sheen, and in particular are very much concerned with the relative propensities of silk, cotton and polyester. We discuss at length issues of colour, form, embroidery and other treatments. But we do so not in the abstract, nor by tracing them back to some natural state of inherently bundled attributes, though we are well aware these exist. Instead we always consider such properties in the context of our ethnographic encounter as dynamic processes, constantly being shifted for a wide range of reasons. In short we do not decide for ourselves that colour, transparency or sheen have this or that property. Instead we try and understand which attributes are salient for the population we encountered and why and at what times. We are not concerned with what transparency is, but with what for particular peoples is considered to be relative transparency, or the processes of becoming more or less transparent, and the consequences this has for them. These are not representations of prior mental categories. The whole point of most of the material-culture studies I work within is to eschew such static imagery. They are the very means by which imagination is made possible as the form and material of eroticism, for example, or, in the case of porosity, as relative spirituality.

The same applies to the concept of materiality. Ingold complains that no one tells him what materiality is. That is because we are not philosophers and also do not accept this static concept which elsewhere he criticizes. Instead we

are anthropologists constantly engaged in ethnography. Ingold uses Gibson to assert there is no immateriality, only the flow of relationships between materials. But I think that here, as throughout his paper, although Ingold claims to be in touch with ordinary experience, he is rather removed from the experience of ethnography. Because, in ethnography, one constantly comes across people who do see the world in terms of immateriality and degrees of materiality. I start my edited volume on this topic once again with South Asian ethnography where this issue is pretty much the central point of religion, both in Hinduism and in Buddhism, and thereby of many people's lives. Gibson and Ingold may not accept the beliefs of Hindus and Buddhists with regard to immateriality, but surely they cannot deny our need as anthropologists to try and understand them.

Furthermore, understanding how the specific material qualities of the sari have an impact on people depends on understanding this concept of materiality. Ingold want us to pick up a stone, but his paper is actually not a stone but a text. He is trying to convey issues of materiality and material properties through semantics. A paper such as that by Webb Keane (2005) in the same edited collection on materiality is a brilliant analysis of the implications of this use of language to address these issues – how red and redness correspond and differ; when and how we can consider materiality or red or hardness as an attribute, a process or indeed sometimes a thing-like quality. Ingold is right then that there are people concerned, as Keane is, with issues of representation, but obviously so is Ingold's paper and it seems to me that Ingold and Keane have a good deal to say to each other and that the writings of people such as Keane are also a good deal more nuanced and sophisticated than Ingold gives them credit for.

I would also strongly contest the claim by Ingold that 'the very notion of material culture, which has gained a new momentum following its long hibernation in the basements of museology, rests on the premise that as the embodiments of mental representations, or as stable elements in systems of signification, things have already solidified or precipitated out from the generative fluxes of the medium that gave birth to them' (p. 5). My own work on material culture started quite specifically from a book about dialectical processes, the relational and processual view that Ingold aspires to. In my case I have struggled to develop a systematic philosophical grounding based in Hegel but understood and exemplified through a wide series of ethnographic encounters, all of which have shown why objects often considered as mere things, such as the Internet, or indeed persons, emerge in ethnography always as processual and relational. I cannot think of any study I or my students have been involved in which even vaguely resembles this premise about embodiments of mental representation. The concept of materiality in such an approach is not a stable element either, but a process by which people, observed through ethnography, open up a dimension of comparative thingness as part of that dynamic interaction with the world.

None of this, though, really addresses the crux of Ingold's problem with material culture, as it emerges from the paper he presents here, which is effectively his primitivism. Above all the problem is that Ingold seems to want to escape from the contemporary world and reimagine us back into some kind of stone age, when human beings interacted with the world largely in terms of its given material processes and qualities, as if we actually spent our time transforming nature, which for Ingold I suspect is the essence of authenticity.

The trouble is, we do not. We may deal with materials all day long, but it is increasingly rare to find what one might call virgin materials. They are all, from Ingold's perspective, sullied. The reason the vast majority of material-culture studies deals with industrial and commercial artefacts is blindingly obvious. It is because the vast majority of human beings alive today deal almost entirely with artefacts far removed from any claim to be natural substances. So the material processes we have to understand and whose qualities and consequences we document involve the life histories of not wood and stone but mobile phones, washing machines, tractors and sushi. I have just published (Horst and Miller 2006) a book about the impact of mobile phones on low-income Jamaicans. I am concerned with material properties, but these are the properties of plastics, not stone. For Ingold to make his materials critical to understanding humanity we would have to return to a stone age - that is, a time defined by the profundity of our relationship with stone and its transformations, which is why he now seems to prefer writings by archaeologists talking about the Neolithic to those of contemporary ethnographers.

In the world we actually live in, materials are just as dynamic as he wants them to be. Sculptors may be entranced by the qualities of wood and stone, but they are just as entranced by the qualities of plastic. A mobile phone is just as obvious a subject for art as is water. Furthermore, texting and indeed phone conversation is just as much a technology, a skill, recourse for poetry and love, as is a daisy or a mountain. I write books about the sari, not the silkworm, but even if I were studying the silkworm, I would do so in the same manner as Simon Charsley's very helpful book *Culture and sericulture* (1982). It would have to include the impact of the life cycle of this worm on the political economy of silk production, because surely Ingold would concede that the silkworm only interests us more than any other worm because of the silk industry and the rich consumption of silk in cloth such as the sari.

This is why, when reading this paper by Ingold, you find the text is replete with references to art, design and philosophy but not to ethnography. Most of those working in material-culture studies, including almost everyone I work with at UCL, come from a tradition more aligned with the ethnographic study of practice – that is, the actual use of materials by people – but above all study of the way the specific character of people emerges from their interaction with the material world through practice. Yes, several of us study consumption, but often as technology, because today most people engage in technology largely through their involvement in consumption, whether cooking or DIY. Consumption constantly engages with these bundled material propensities of objects, though mostly sullied artefacts, industrially produced goods, not natural bundles of innocent properties.

The same people are concerned with and do write about materials and objects, and were indeed taught from textbooks such as that of Hodges. To

work on the material propensity of plastic is not to repudiate a concern with the quality of stone. On the contrary, I believe that what we have done is to try and absorb the sensitivity to the flow of material qualities that Ingold addresses with respect to stone, and insist, contrary to most others, that this also needs to be applied to the way people come to understand, appreciate and work with plastic.

Ingold wants us to contemplate the stone in its environment, but he seems to want this to be a natural, not a human, environment. Another paper in the materiality volume, by Engelke (2005), rests largely on the way an apostolic group in Zimbabwe understand the material propensities of honey as against pebbles from a steam. So it is not that I would not want to respect Ingold's ideals. I do not want us to lose touch either with the contemplation of the natural or with the immediacy of our encounters with the world. There is a sense of beauty that Ingold touches upon that I have no desire to detract from. But, for all that, our profession demands an encounter with the world as we find it. My heart is in contemporary ethnography, and I do not feel the need to apologize for a material culture that has changed in recent decades largely because today it is, while a few decades ago it manifestly was not, central to this contemporary ethnography. In the end I guess I just do not understand why Ingold seems to want to privilege a stone in his eloquent discussion of the nature of material over a mobile phone and plastic. Because doing so threatens to disenfranchise most of the peoples of the contemporary world and their experiences, and I would wish to see them as just as authentic and potentially just as profound as any historical encounters of people with materials.

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An archaeology of material stories. Dioramas as illustration and the desire of a thingless archaeology Björn Nilsson

No matter what kind of archaeologist you think you are, Ingold's text evokes emotional and intellectual reactions concerning a core of archaeology: how to deal scientifically with the material world. It pinpoints some serious problems within today's archaeology, not least field archaeology. Given this, I will try to comment on Ingold's text from a practical archaeological point of view. Before I turn to the tangible fields of sand, clay, stone fragments and almost vanished materials, I will take the opportunity to associate Ingold's point of view with a well-known geographical tradition, since some concepts appear to be quite similar.

As a doctoral student at the University of Lund I had a room with a nice view. Twice, maybe three times, I recognized the geographer Torsten Hägerstrand passing by on his bike beneath my window. From his writings one could draw the conclusion that the bicycle played an important role in his life as geographer. Hägerstrand was often pictured with his bike. For him the