

Geography and Matter/Materiality

A workshop series sponsored by the
RGS(IBG) Social and Cultural Geography Group

Briefing Paper 1

(Please note: This has been written specifically for the workshop and should only
be cited with the authors' permission)

Ben Anderson, Ian Cook & Joanne Maddern

Written for discussion at Workshop One, University of Birmingham, December
18th 2006

Geography and Matter/Materiality

Introducing the series and the paper...

Attending to matter and materiality seems to offer much to social and cultural analysis; ways of theorizing structural inequalities, ways of fostering attention to the non-representational, ways of understanding the more-than-human world of objects, ways of understanding the genesis and composition of the social. The list could go on, especially as Social and Cultural Geography is now populated by a wide range of materialisms (including, for example, actor-network theory, corporeal feminism, material culture studies, non-representational theories or Marxism). Yet attending to matter/materiality has long raised a series of questions for social and cultural analysis and has thus been peculiarly troublesome; what do the terms matter and materiality designate?; how do they relate to categories such as the social or cultural? How to avoid equating matter with an unmediated physicality? Again the list of questions could go on, especially since the differences between materialisms must preclude any simple invocation of matter or materiality. Given these promises and questions, and of course many others, this workshop series aims to provide a forum to think through what Social and Cultural Geography is and could be in the context of its multiple encounters with a range of materialities and materialisms.

We don't want to review these different approaches to matter/materiality here – partly because this has been done elsewhere both in Human Geography (see, for example, Anderson & Tolia-Kelly 2004; Colls 2006; Kearnes, 2003; Latham & McCormack 2004; Jackson 2000; Whatmore 2006) and in the Social Sciences and Humanities more broadly (e.g. Latour 2004; Pels et al 2002; Bennett 2001; Miller 2005). Rather, we want to start by asking how to deal with this plurality. Claiming and affirming that Social and Cultural Geography is pluralist in ethos, and practice, begs the question of how different materialisms relate? How do the many materialisms, and the

many ways of being materialist, co-exist? To both affirm this plurality, and dramatize the kinds of questions and problems raised by an attention to matter, we want to offer some opening reflections that exemplify different, although partially connected, materialisms. This briefing paper contains three 'takes' on these debates. Written by the three people who volunteered to organize this workshop series. But we didn't volunteer to 'represent' any pre-ordained perspectives. And we didn't really know each other before we met to discuss the series and this paper. Quickly, however, it became apparent that there were significant differences, and connections, between our work and writing. We could each appreciate the others' perspectives, approaches and inspirations, but it wasn't obvious how they fitted together. So, we decided to try to preserve, 'represent' and work through these differences and connections here. For us at least, they were the basis of some fascinating discussions. Not least about the first thing that comes to mind when the word 'material' is mentioned. For Jo, it was inequality and exploitation; for Ben, it was nothing, a blank; and for Ian it was flesh. We decided to work these up, each writing a separate section of the paper, and doing so without reading or responding to the others.

The three sections encounter the promise of attending to matter/materiality, what matter/materiality offers, in three different styles; by following things, by offering assertions and propositions, and by tracing a intellectual trajectory. We're hoping that this will generate the kind of discussion that will get this workshop series off to a good start.¹ After our three sections the conclusion opens up a set of questions that we hope will offer a starting point for the workshop.

¹ We're hoping that this might encourage others - in the final session on December 18th (and/or perhaps afterwards) - to agree to co-author a briefing paper for the second workshop in Durham next year. The third and final workshop will take place in Dundee later next year, for which another paper will ideally be written by another set of authors, and from which a fourth paper will hopefully emerge written by still more. We're planning to submit these papers as an ongoing 'Geography and Matter/Materiality' series to the new online Blackwell's journal *Geography compass* to represent and provoke wider debate.

Section One

1.1:

Affirming a particular take on materiality involves, by necessity, revealing a positionality and affirming a particular kind of 'politics' in the process. My own is borne out of a very particular academic trajectory (Maddern, 2004; Desforges and Maddern, 2004). The trajectory begins within the walls of a popular United States museum called Ellis Island (though it doesn't end there). I arrived at the Ellis Island research with two sets of literatures in mind, literatures that were extremely prevalent in early 1990s British geography. Firstly, there was the literature collectively known as contributing to the (often polemic) 'heritage debate' fronted by people like Hewison (1987) in which heritage critics argue that the industry is guilty of producing official 'metanarratives' in which the 'memories' of elite groups are presented as history with a capital 'H' as a way of propagating a hegemonic nationalism. Secondly I had also become interested in a genre of diasporic writers including Gilroy (1993), Hall (1990) and Massey (1993) who collectively proved very influential in challenging national histories legitimised through roots, boundaries, stability and belonging by reasserting the importance of *international geographical connectivity* in the formation of *national* identities and histories. Both of these sets of arguments were things that I had become familiar with during my undergraduate studies at the University of Wales, Aberystwyth. Dr Luke Desforges' course about the 'cultural economies of tourism' provided the conceptual framework that structured my research from there on in.

A fieldtrip to New York City led me to Ellis Island Immigration Museum, where it seemed that... (1) it was a good place where I could test out whether the rather theoretical debates about *all* heritage being narrations of 'bogus' elitist history actually held any weight empirically and... (2) I could see evidence of the types of supposedly buried / silenced geographically interconnected histories people like Gilroy (1993) were talking about *already* being narrated to a popular audience. At first glance, this certainly didn't

seem to be your standard patriotic museum focusing on the sedentrist political and military achievements of a few 'great white men' whilst masquerading as a place representing *all* Americans and their histories. Surely the narratives circulating through the material displays of the rooms within the cavernous former immigration station *were* popular, 'bottom up', hybrid histories. They *were* about the mass movements and everyday lives of quite a marginalised group of people who often faced discrimination and exclusion (late 19th century and early 20th century Euro-American immigrants). This certainly didn't seem to be your average museum. I was intrigued....

Eleven days before 9/11, (an event that left certain categories of American migrants more pathologised than ever), I was back in New York. It was possibly not the best place to be at that moment in time from a safety *or* research point of view. But I was back to carry out interviews with producers of the museum. I wanted to find out about the choices that had been made in producing the material displays and the narratives that circulated in and through it. Perhaps British museums could learn something from the 'technologies of representation' employed -- museums that according to the critics were enmeshed in elitist political projects, nodes in a larger circuit of cultural (re)production that *emerge from* and *enforce* dominant societal values. 'The potential for these institutions to act in ways that maintain deep-rooted inequalities in the relative power of social groups has long been noted by academic commentators' (Desforges and Maddern, 2004). Ellis Island appeared to be doing something completely different though.

My 'politics' at that moment in time could be described as resolutely (neo)-Marxist (one presumably shared by the heritage critics). I bought wholesale into the theory of material culture in which artworks, artefacts, in fact all other material culture forms are implicated in progressively unfolding political projects, playing a central role in the (re)production of ideological attitudes (Sim, 1992; Duncan and Lambert, 2002:270). I thought of materiality as inherently *duplicitous*, refracting a 'brute materiality' whilst simultaneously serving ideological agendas (Daniels, 1989; Olwig, 1996:630). My general

'hypothesis' was that the 'messages' embedded within the material cultures of the museum to be 'consumed' by tourists would faithfully reflect and report the 'messages' the producers wanted to tell. I set about trying to find out *what* the politics towards immigrants (past and present) embedded within those messages was. In doing so, I was swiftly proven wrong in all of my assumptions about materiality...

Museum producers, I quickly realised, had a much more 'troublesome' relationship with the mischievous materiality of the museum than I had even begun to imagine. The inanimate objects and general matter of the museum (immigrant clothes, shoes, documents, suitcases, letters, graphs, photographs, oral histories, displays, racist songs sheets, ship manifests, bricks, tiles, architecture, hospital beds, medical paraphernalia) seemed to possess some kind of social agency *independent* of the characteristics and meanings institutional actors were attempting to impose upon it. For instance, 'objects' were often 'speaking' in different ways to differently positioned social actors, causing all sorts of bitter battles in boardrooms about what to include/exclude in the finish museum. Assemblages of objects were also subverting or resisting the meanings imposed upon them and being read or interpreted in uncertain and ambiguous ways by visitors and producers alike. Producers often spoke about the voices and presences of the 'ghosts' that inhabited Ellis Island as 'things' that were unexpectedly 'leaping out' of the stonework to be 'present' with them, seeking a lost person or object or attempting to right a wrong:

'I happened to be there [at Ellis Island] one very snowy morning and in 1996, a January morning. I was working... on a temporary exhibit called 'Doctors at the Gate', which was about the public health presence on Ellis Island. Because it was snowy... not many people had come, the school groups had cancelled and so there was nobody running around and it was all quiet and still with the snow sort of falling outside and you really could hear the voices there then.... just a magical feeling about the place'

(Professor Alan Kraut, immigration historian and advisor to the restoration).

Derrida (1994) might call these 'presences' *revenants*, contributing to aesthetics of resistance through *bumps, jolts* and *shocks* which can reverse enactments of erasures through recognition of polytemporal assemblages. Three thousand miles away in San Francisco Gareth Hoskins was carrying out a similar research project at Angel Island Immigration Station and he was finding much the same thing in relation to the material evidence of the past (Chinese poems carved into the barracks, wax mannequins, bells and leftover paraphernalia): 'The material nature of buildings and roads and passageways means that they endure – not forever perhaps – but for considerable passages of time. This endurance provides an anchor for stories that circulate in and around a place. It reminds us of things. Perhaps this is the point made by Kenneth Foote when considering places associated with painful memories: As a geographer I could not help but notice that the sites themselves seemed to play an active role in their own interpretation. What I mean is that the evidence of violence left behind often pressures people, almost involuntarily, to begin debate over meaning. (Foote 1997, 5, quoted in Cresswell and Hoskins, forthcoming). For Cresswell and Hoskins, matter has an obduracy and fluidity that relationally produces 'ironies of persistence' (forthcoming).

By this stage, I was decidedly tempted by the claims by Hetherington that 'taking elements of actor-network theory (ANT) out of the laboratory and putting them in the museum... might allow us a clear... perspective on the relationship between heterogeneity and its agentic performance within such a network that constitutes the spaces that we call a museum...' (Hetherington, 1999:53). It was clear that artefacts, photographs and remnants from the past were enrolling themselves into networks of *knowledge* and *affect* at Ellis Island. It wasn't just the museum 'producers' in charge of creating meaning here. It seemed that the semblance of a stabilisation of 'memory' (a rather precarious achievement) was being achieved through the 'relational effects' of these objects and agents in a play of obduracy and fluidity. By going down this

road I was acknowledging (at least to some extent) the *indeterminacy of meaning* possessed by matter, meaning which is not fixed in advance but relied on the 'ingenuity of the reader's interpretation, what Cull has called 'the pleasure' of infinite creation (Culler, 1975, p.248)' (quoted in Sim, 1992(b)). Taken to its logical conclusion, in the absence of a 'metaphysics of presence', assemblages of material objects, artefacts, things, stuff were descending into a 'chaos of private languages'. Such understandings problematised straightforward accounts of social memory, materiality and power.... Ellis Island had not simply been 'sanitized' through its restoration it seemed (though some might argue that), but a 'cultural politics of difference' has been created through the fusing of heterogeneous materialities (Jacobs, 1998). A broadly network inspired perspective would suggest that material objects, once enrolled in the network, can have their own semiotic effects, over and above the intentions projected upon them by producers. It appeared as if the buildings on Ellis Island housed more than one museum or that several museums co-existed at the same time... a space that (unwittingly?) paid homage to hybrid identities through syncretic material cultures (MacDonald, 2003). But I was troubled by the thought of adopting the poststructuralist stance of ANT because it meant dropping the neo-Marxist framework I started with (or did it?). How could I retain a critical politics (Vis-a Vis my research on the cultural politics of memory) at the same time as acknowledging these slippages in meaning?

1.2: Out of the museum and into the 'real world'.

I'm not sure that I ever really resolved this problematic, but eventually I became slightly 'bored' with museums and instead embarked on a project with Emma Stewart from Strathclyde on the theme of biometrics. I was still interested in how mobile populations including migrants were represented in society, but this time, through technologies such as biometrics (i.e. finger printing, facial recognition, iris scanning) at places like airports rather than in museums. I was struck by a claim by Stephen Graham (2005) that software-

sorting was, in his view, increasingly complicit in generating inequality amongst these groups. I wanted to think about how this was happening, and what role the materiality of biometrics systems actually played. How did the materiality of biometrically programmed software interact with the fleshy corporeality of the body? To try and find this out we interviewed producers (companies which develop, manufacture, pilot and 'test' biometric technology) and consumers (UK passport service, DVLA and other authorities) of biometrics. Again in analysing the themes emerging from interviews, I was struck by the apparent *mischievousness* of matter. *Bodies* (just like the array of objects at Ellis Island) were subverting, resisting or reworking the meanings imposed upon them by these computer systems. Whilst producers were claiming the supposed infallibility of these systems, users were finding that the capacity of bodies to 'outwit' the pre-imposed logics and meanings was great. There is for instance, the potential for false identification in users that have similar bodily characteristics and evidence that something as banal as a change in clothing or haircut can have a profound effect on the accuracy of facial recognition technology:

"The face machines I looked at all show quite a lot of promise when demonstrated but when I tried them I found that if I had my haircut or put on spectacles the thing just fell to the ground."

(Biometric technology producer, London)

Even something as simple as a change in facial expressions can cause problems for the technology:

"Smiles disrupt the use of facial recognition technology... they cause an earthquake in terms of the facial recognition."

(Biometric technology consultant, Scotland)

There was also the way in which particular bodies were more 'illegible', more resistant to being enrolled into these systems than others:

“The problem that some [biometrics companies] are finding is that there are certain races with very dark pupils and... the retina is very hard to distinguish from the rest of the eye and um, there’s very little structure in it. Thais, Filipinos have been mentioned to me... There are also people with droopy eyelids that are a problem.”

(Biometric technology producer, London)

In short, bodies (like objects in a museum) were being unruly, changeable, illegible and acting inconsistently. The, fleshy corporeal surfaces of the bodies being enrolled into biometric networks had ‘agencies’ and animating forces of their own that made readings difficult for a computer programmed to recognise constancy and fixity in material assemblages. The body was not simply ‘text’ that could be read by an automated system, it had its own logics...

1.3: The ‘mischievousness’ of matter....

My aim in these two (perhaps quite disparate) examples has been to try and think about the relationships between *matter* and *politics*. How can we acknowledge the ways in which multifarious matters (GM food, ID cards, guns, smart bombs, the fur trade, DNA, nuclear power stations, prison camps, weapons of mass destruction, biometric passports, Co2 emissions, artworks) can be, have been and still are enrolled into all sorts of political projects, bound up with social inequality and exclusion, whilst *also* acknowledging the considerable potential of matter to act in confusing, multiple, unexpected ways (to have agency of its own)? Traditional Marxist approaches to materiality see it as complicit in social inequality. From his Marxist perspective, Harvey has long seen ‘matter’ as a ‘mask’ of false consciousness or as a ‘veil’ over the inequitable social processes it camouflages (Jacobs,

1998:254-5, Harvey, 1989:87).² But to see matter as simply reflecting meaning as straightforwardly as this is to deny what I have called here the inherent 'mischievousness' of materiality -- the agency, logic and animating forces inherent within matter itself whereby 'the authority of presence depends on the alterity of otherness' (Law and Mol, 2001:616). Webs of material relatedness have never been so seemingly complex, *unintelligible* and *uncontrollable*. 'The rolling out across the world of a carpet of stuff' (Thrift 2004) has resulted in a 'society that has conjured up such gigantic means of production and of exchange... like the sorcerer who is no longer able to control the powers of the nether world whom he has called up by his spells' (Marx and Engels [1888]1973:72). To think about materiality then, is not only to be haunted by complex relations, but also to be haunted by an *uncertain* politics that is borne out of the absent-presences that inform relations between matter at numerous co-constitutive scales from the atom to the globe.

² This kind of viewpoint is implicit in Harvey's discussion of urban spectacle as something that is deployed primarily to attract capital, to augment entrepreneurialism, and to act an opaque face of new processes of accumulation and social and political regulation (Jacobs, 1998:255).

Section Two

In one of his late writings, as part of his scattered remarks on what he termed in some places an 'aleatory materialism' and in others a 'materialism of the encounter', Louis Althusser offered a succinct if perhaps initially puzzling definition of what it was to be a materialist. Rather than point to the determination of the economic in the last instance, or circumscribe a realm of objects subsequently identified as material culture in contrast to some putatively non material culture, he tells the story of a philosopher who "always catches a moving train" and so does not know the origin or destination of the train or his journey. What does he do?

"A train passes by in front of him. He can let it pass [passer] and nothing will happen [se passer] between him and the train; but he can also catch it while it is moving. The Philosopher knows neither origin nor first Principle nor destination. He boards the moving train and settles into an available seat or strolls through the cars, chatting with the travellers. He witnesses, without having been able to predict it, everything that occurs in an unforeseen, aleatory way, gathering an infinite amount of information and making an infinite number of observations, as much of the train itself as of the passengers and the countryside which, through the windows, he sees rolling by"

(Althusser, 1994: 64f cited in Suchting 2004: 11)

From this striking, if now a little clichéd image, we find that to be a materialist is not to simply affirm that matter or the material are the prime substances that make up life. But, rather confusingly, to inhabit a certain relation with the aleatory (*Aleatory*; dependent on chance, luck, or an uncertain outcome. From *alea*, the rolling of dice). And to be materialist is, perhaps, to learn once again to be surprised by this process. Of course, as this briefing document exemplifies, there are multiple definitions of materialism but this one has

struck me partly because it refuses any simple recourse to matter but also because its attention to the dissemination of matter anticipates a materialism that currently animates parts of British Social and Cultural Geography. Recent work has disclosed an excess of different materialities: ghosts, dance therapies, footpaths, pained bodies, pain, trance music, reindeers, plants, boredom, fat, anxieties, vampires, cars, enchantment, nanotechnologies, water voles, GM Foods, landscapes, drugs, money, racialised bodies, political demonstrations. What gives momentary consistency to this undisciplined process of propagation, what therefore holds together the open endedness of this list, is an imagination of matter that revolves around a simple affirmation; a materialism can be written in/on any state (solid, fluid, gas) and in/on any element (as earth, air, water, fire) (see Anderson and Wylie forthcoming).

In a series of lyrical studies on the four elements Gaston Bachelard (e.g. 1988) argued that every materialism imagines matter according to a certain state or element. Might it be worth expanding this simple insight to Human Geography's renewed encounter with the multiple currents that make up theories of matter and materiality? Perhaps we sense the density, and friction, sometimes attributed to the element of the earth in the periodic return of calls to re-materialise Social and Cultural Geography? Perhaps we sense the movement, and circulation, of fluids in actor-network theory's attention to the fragile, provisional, assembling of changing, changeable, relations? Perhaps we sense the tempestuous, abundant, vicissitudes of the element of air or the state of a gas in the Deleuzian disclosure of expansive, proliferating, 'lines of flight'? Do we not sense a transition between states, and an intermingling of elements, when two authors declare that the solid institutional core of the Modern world *melts*?

"All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new formed ones become antiquated before they can ossify. All that is solid melts into air"

(Marx and Engels 1998: 56)

Or when, in London in 1856 discussing revolutionary events in 1848, we find one of the authors declare that European society is *boiling*:

“The so-called revolutions of 1848 were but poor incidents small fractures and frissures in the dry crust of European society. But they denounced the abyss. Beneath the apparently solid surface, they betrayed oceans of liquid matter, only needing expansion to rend into fragments continents of hard rock”

(Marx ‘Speech at the Anniversary of the People’s Paper’ cited in Berman 1984: 19)

Given that all materialisms are, perhaps³, written on/in a certain state(s) and/or a certain elements, how to proceed with this naïve task of disclosing matter according to any element or state? Let us briefly turn to consider the theoretical basis of some recent work in social and cultural geography that offers such a material imagination (e.g. Anderson 2004; Bingham 2006; Dewsbury 2003; Doel 1999; Roe 2006; Wylie 2002; Latham & McCormack 2004; Whatmore 2006; Saldanha 2006). What does this singular materialist thought do? First, it is characterised by an attention to the assembling, or networking, of relations, where relation is defined at its most simplest as “being-toward-another” (Gasché 1999). But any simple definition of relation is immediately undone by the irreducible plurality of relations. Note the proper names that are given to just some of the shapes relations take: “encounter, arrival, address, contact, touch belonging, distance, accord, agreement, determination, measuring, translation, and communication are some such forms of relation” (Gasché 1999: 11). Second, and both supplementing and undoing a logic of relations, it has strived to bear witness to the event as “an incorporeal, complex and irreducible entity, at the surface of things, a pure event that inheres or subsist in the proposition” (Deleuze 1990: 19). Third, it

³ “Grammatically, perhaps represents a modality in which assertions in the enunciatory process are put into suspension” (Gasché 1999: 174).

has aimed to attune to the fold from which qualities of the material and immaterial emerge. Hence the constant attention to questions of affect, or, put differently, the capacities to affect and be affected that human and non-human materialities have. But we should not be surprised at the intimacy this materialism has with reflections on immateriality. Because from the void of Epicurean philosophy, through to the proletariat in historical materialism, haven't spectres haunted *all* materialist thought (Pile 2005)?

So we begin with, to paraphrase Latour (2004a), a set of very complicated ways of learning to be surprised at the capacities, and properties, of different materialities. And an inclusive material imagination that, if we draw it into relation with other encounters with the question of materialism, echoes a subterranean or secret assemblage of materialisms that share both an attunement to how matter differentiates and an attunement to what materialities do – the force, or agency, of materialities⁴. Such a secret legacy is, like Althusser's philosopher on his moving train, not concerned with the origin or destination of matter but summons different problems. Namely: how to attend to the genesis of order, and the emergence of newness, from within the turbulence of the encounters that make up human and non-human life? Over the last ten years or so these subterranean currents of materialist thought have, in the context of British Social and Cultural Geography, been taken up under the name of 'non-representational theory'. So called because it names a set of partially connected theories that are animated by two shared imperatives. First, to disclose how life precedes and exceeds representation. Hence the attunement to a range of modalities (sensation, affect, emotion, non-humans, practices etc). Second, to describe how human or non-human subjects are involved, intertwined, with the world before they represent that world to themselves or others. Undoubtedly, then, the most materialist of geographical theories. *Because literally everything, from a fleeting affectively-imbued thought to a durable economic structure – can affect and can be affected.* What a terrible name though. A name surely caught up in a performative

⁴ This secret or subterranean current has been given numerous proper names: epicurean, actant-rhizome ontology, enchanted materialism.

contradiction. A name that instigates another dualism. Or so seems to have become the common sense. Hence the recent substitution of the term 'more-than' for 'non' representational to affirm life as anterior to, and thus always in excess of, representation (Lorimer 2005). But perhaps there is something important about the term 'non' that shouldn't be lost. Perhaps, as a set of questions and problems, non-representational theory/theories shouldn't be turned into something positive, consensual, or manageable. 'Non' cannot be thought *as such*. It is frustratingly elusive. It leaves things incomplete. It manages to obscure what it affirms by studiously avoiding positive nomination. Remember the name is not anti-representational or non-representational theory. Perhaps the term 'non' is therefore appropriate for a subterranean current of materialist thought strangely unconcerned with questions of origins or destinations. Appropriate for materialisms that ask, instead, how matter flees, diverts, distracts, breaks, undoes, and disrupts.

So what are we left with? Nothing? Perhaps at worst nihilism indifferent to the world? Perhaps at best an affirmative nihilism devoid of political content/intent? And if this *was* the case there would undoubtedly be a problem because to offer a materialism in the social sciences has been nothing if not a performative act – describing matter or the material, yes, but as often affirming or defending a politics. How curious, then, that we find emerging alongside these various complicated ways of learning to be surprised at the world a renewed emphasis on the composition of novel political techniques and the invention of new, or an affirmation of old, goals. Witness just two of numerous examples. On the one hand, consider Latour's (2004b) assembling of an experimental politics committed to a goal of the progressive composition of good common worlds. On the other, consider Bennett's (2001) exemplary performance of an ethos of generosity that discloses events that may help us to unlearn how to do harm to others. Both echo and repeat the imbrications of materialism and politics. But what sort of politics is it that coexists in complex relation, rather than simple causal determination, with a materialism that writes on/in any element and any state? Do these two examples constitute what we could easily identify as a

critical politics? No. Neither expose. Neither reveal. Neither suspect. Neither judge. Neither accuse. Neither denounce. In short neither practice the violent repertoire we have come to name as critique and assume marks the limit of being-political. How scandalous, then, a materialism that might be acritical or noncritical! But perhaps these and linked materialisms are 'critical' if we return to the persistent specialist use of the term 'critique' in Western medicine, to designate a turning point (Williams 1976: 75). Because what the invention or discovery of these other repertoires, and many other comparable techniques or dispositions⁵, foster are ways of comprehending, bearing witness to and taking care of *turning points* in and through which something better might, only might, take place. Turning points such as; an aesthetic event that extracts a new vision of the political good, a set of therapeutic practices that reconfigures the habitual, everyday, organisation of bodies, an encounter that reworks the materialities of racialised bodies, an assemblage that fosters an autonomous form of political organisation, ...⁶

A materialism then, or better a set of partially connected materialisms, that invents multiple ways of being political because it shares a dream offered by an anonymous philosopher:

"I can't help but dream about a kind of criticism that would try not to judge but to bring an oeuvre, a book, a sentence, an idea to life; it would light fires, watch the grass grow, listen to the wind, and catch the sea foam in the breeze and scatter it. It would multiply not judgments but signs of existence; it would summon them, drag them from their sleep. Perhaps it would invent them sometimes - all the better. All the better"⁷

⁵ Including; generosity, agonistic respect, experimentation, care, wonder, hope, enchantment, affirmation, surprise.

⁶ Examples taken from currently unpublished research presented at the 2005/2006 RGS/IBG and 2006 AAG by, respectively, Charles Rolfe (2006), Jennifer Lea (2005), Dan Swanton (2006) and Keith Woodward (2006).

⁷ Michel Foucault in conversation with Christian Delacampagne (Foucault 1997: 323). First published in *Le Monde* April 6-7 1980. Paul Rabinow, in the editor's notes, states that Foucault opted not to reveal his name in order to "demystify the power society ascribes to the 'name' of the intellectual" (see Foucault 1997: 321).

Section Three

3.1: A sermon...

It's 1967. The 9th of April. In the New Covenant Baptist Church in Chicago, Illinois, the Reverend Martin Luther King, Jr. is in the middle of his sermon on 'The three dimensions of a complete life'. He says (and the congregation respond):

"And don't forget in doing something for others that you have what you have because of others. (Yes, sir) Don't forget that. We are tied together in life and in the world. (Preach, preach) And you may think you got all you got by yourself. (Not all of it) But you know, before you got out here to church this morning, you were dependent on more than half of the world. (That's right) You get up in the morning and go to the bathroom, and you reach over for a bar of soap, and that's handed to you by a Frenchman. You reach over for a sponge, and that's given to you by a Turk. You reach over for a towel, and that comes to your hand from the hands of a Pacific Islander. And then you go on to the kitchen to get your breakfast. You reach on over to get a little coffee, and that's poured in your cup by a South American. (That's right) Or maybe you decide that you want a little tea this morning, only to discover that that's poured in your cup by a Chinese. (Yes) Or maybe you want a little cocoa, that's poured in your cup by a West African. (Yes) Then you want a little bread and you reach over to get it, and that's given to you by the hands of an English-speaking farmer, not to mention the baker. (That's right) Before you get through eating breakfast in the morning, you're dependent on more than half the world. (That's right) That's the way God structured it; that's the way God structured this world. So let us be concerned about others because we are dependent on others. (Oh yeah)" (King 1967, np).

I want to use this quotation to start a discussion of material geographies bringing together arguments about commodity de-fetishisation, cyborg ontologies, and thing-following research. Here we go. First, you could say that he's arguing that his congregation should appreciate commodity relations as social relations. Or, as David Harvey (1990, 422) put it, paying attention to where things come from "reveals a relation of dependence upon a whole world of social labour conducted in many different places under very different social relations and conditions of production". Second, you could say that he's arguing that they shouldn't think of themselves as isolated individuals, but as "tied together in life and in the world" with countless others helping them to be who they are on a daily basis. Or, as Hari Kunzru (1997, 2) put it, "Our bodies, fed on the products of agribusiness, kept healthy - or damaged - by pharmaceuticals, and altered by medical procedures, aren't as natural as The Body Shop would like us to believe. Truth is, we're constructing ourselves, just like we construct chip sets or political systems - and that brings with it a few responsibilities". And, third, you could say that he's thinking about what it would be like to meet the people who make that soap, sponges and bread, to 'follow those things' in order to better appreciate the interrelationships between the lives of each commodity's producers and consumers (Cook et al 2006). So, there we have it. Materialities. Things. Fetishism. Social relations. Bodies. Identities. Nature. Society. Interdependence. Inequalities. Exploitation. (Im)moralities. Knowledges. Connective aesthetics. Appreciation. Change. The pedagogy of the sermon. (yes).

3.2. something that matters: an autoethnographic story...

I don't know about you, but I find reviewing scary. Isn't it supposed to involve some kind of bird's eye view of a discrete area of literature, compartmentalizing people's work by common approaches or arguments, talking about them separately, trying to identify weaknesses and strengths,

reassembling them maybe at the end, often as a prelude to doing some research which will fill gaps, bring to bear new theoretical and/or methodological approaches? That's a tall order. If it's true. Especially when, methodologically, you're a thing-following researcher taking a more postdisciplinary approach (Sayer 2003; Gregson 2003, Cook et al 2006): i.e. holding theory lightly and fitting together bodies of theory, expertise, etc. if, as, and when they are encountered through the research process (Marcus 1995, Latour 1996, Laurier and Philo 1999). I could carry on the review started above very much along the traditional line: fleshing out and fitting together those three bodies of research. But other people could do a much better job of this. And I haven't got the time to do this properly. This 'review' is different, It's rough. Half baked. Slapdash. Full of holes and missing references. I know. And it's written to matter - no pun intended - a lot more to me and, hopefully, to others. It's an autoethnographic, postdisciplinary response that begins in reviews of the kind of research that I've been doing to date. Defetishising food through undertaking multi-site, follow the thing ethnographies and through developing critical pedagogical approaches that attempt to get students to take such connections personally (Cook, Evans *et al* in press).

The thing about research defetishising food, as critics have pointed out lately (e.g. Goss 2006), is that what's studied is usually lavishly fetishised in advertising, product design and consumption. The commodities chosen are often the ones whose consumption is supposed to 'take you there'. You know, tropical fruits or Jamaican food (Cook et al 2004; Cook & Harrison 2003). We have to take on board these criticisms. For me, because these things are much more a part of my life/self/body as subjects to research and write about, than they are things to buy, eat, cook with, digest and so on. As Karen Bakker and Gavin Bridge (2006) have suggested, what's being neglected in this broader literature are things that are more ubiquitous and important but perhaps less 'obvious' or 'interesting'. Like stainless steel. What are the imaginative geographies at work in their public fetishisation? Have you ever washed up in a Belgian sink? It really takes you there. And that Chinese lift door?

Reminds me of that holiday I took... Ah.

So, I've been thinking lately, what about the stuff that I really need, but have no idea what it's made from, what relations with whom/what/where it might embody, what new aspects of material/semiotic, hybrid/cyborg selfhood might be mobilised and/or recognised through finding out, and why/how this might be of relevance or interest to anyone but me. What about commodities that aren't advertised to the public, that others decide that you should buy from whichever company that makes them, that aren't available on any 'open' market, that others tell you exactly how, how much and when to consume? Like prescribed medicines. Stuff that might help you to cope with a chronic illness you've been diagnosed as having. Commodities that, in a way, choose you. Fit you. Ones that have to be added to your chemical and other selves on a daily basis, to help them to work better than they would otherwise. Hopefully. Stuff that 'matters', to you and to others near and far, in every sense of the term. I first came across this idea when Ali Buckler, a student taking my *Geographies of material culture module*, submitted a journal entry on the thyroxine tablets she took. Through Google-searching their specific ingredients, she'd found some amazing stories about 'unseen others' who were helping thyroxine to help her to be herself every day, including Bedouin people, their camels and their camels' chiropractors.⁸

I'd thought that this was brilliantly original at the time. But it wasn't anything I thought I'd ever try myself. Until about three years ago. At home. One morning. I had a pain in my side. It wasn't too bad to start with. But it got worse and worse over the course of an hour or two. Until it was excruciating. All I could do was bray like a donkey and stuff my face in a pillow. Until the taxi came. To take me to the Accident and Emergency department of my local hospital. There I was diagnosed with kidney stones, and was prescribed a course of heavy painkillers (diclofenac and co-

⁸ This is the beginning of one of her footnotes: "Another node in the network of Thyroxine production is the transport of acacia gum across the deserts of Egypt by camel. Acacia powder (a derivative of acacia gum) is an essential component of many tablets, including Thyroxine (Grieve 1995). Recent reports from the 'St Katharine's Protectorate' in Egypt explain the increased loads to maximise profits are damaging the camel's spines, requiring the involvement of chirovetpractices (chiropractors for quadrupeds, Scanlan 2002). The literature states that the livelihoods of the Bedouin people are dependent on their camels (Cairo Cabinet of Ministers 2001)" (Buckler 2004, 2).

dydramol, along with zantac to dull the nausea they caused). Over the next four months, I had a couple of operations to remove a blocked stone from my ureter, stopped taking the painkillers, and thought that was that. Until - the following summer - I started to lose my appetite and an awful lot of weight. People were shocked at my appearance. I was thirsty all the time, and was more grumpy and lethargic than usual. That was the summer I turned forty. Our two children, both under 5 at that time, hadn't allowed us more than a few proper nights' sleep since they were born. And work was really stressful.

I thought that this might be fairly normal, under the circumstances. But I kept getting those pains, taking those painkillers, and producing those stones. They're rock hard and spiky. I was not happy. Getting them out is excruciating. So, I went to my GP. She sent me for a blood test, and ticked a few boxes on the form that I'd have to give to the phlebotomist. He took a blood sample from my arm, and analysis confirmed that it contained an abnormally high level of calcium. That was getting filtered out by my kidneys to make those stones. But where was it all coming from? It wasn't obvious. She referred me to Neil - an endocrinologist who was an expert on blood calcium. My 'hypocalcaemia',⁹ he told me, could be caused by a number of conditions. I'd have to have tests. Lots of them. Ultrasounds, x-rays, that big donut thing. To him, the results suggested sarcoidosis. So I Googled it and found a US Department of Health and Human Services report, which explained that:

"Sarcoidosis is a disease that causes inflammation of the body's tissues. Inflammation is a basic response of the body to injury and usually causes reddened skin, warmth, swelling, and pain. Inflammation from sarcoidosis is different. In sarcoidosis, the inflammation produces small lumps (also called nodules or granulomas) in the tissues. Once thought rare, sarcoidosis is now known to be common and affects

⁹ Please note that this draft includes rough science from this point on. There's a detailed medical literature to draw upon here (e.g. Sharma 2000).

persons worldwide. In fact, sarcoidosis is the most common chronic fibrotic interstitial lung disorder” (Anon nda, 1).

It wasn't only found in people's lungs, though. The report went on. It had no obvious cause. It wasn't genetic. But was more common in African American communities. There was no cure. It usually just went away in time, “with or without treatment” (*ibid*). These granulomas convert the body's Vitamin D into an enzyme that removes more than the normal amount of calcium from food in the gut. It's one of those diseases that you might never find that you're 'suffering' from. Most people's calcium leaves the body in urine in solution. Not as stones. I found a strangely high proportion of 9/11 firefighters in New York had been found to have sarcoidosis (DePalma 2006). And then there was the campaign in the US questioning the scientific credibility of that report I'd found.¹⁰ I'd printed out copies for Lucy, her mum, my mum. They were reassuring. Not like those sarcoidosis blogs I'd found. They're scary, upsetting, horrible.

Meanwhile, Neil referred me to his colleague Richard: a lung specialist. He'd seen the tell-tale shadows of sarcoidosis on my chest x-rays. But he couldn't make a proper diagnosis until he'd done a lung biopsy. He 'grabbed a granule' under general anesthetic. This confirmed their suspicions. He wrote my first prescription for a steroid called hydrocortisone. In tablet form, this was going to help reduce the inflammation, the conversion of Vitamin D, and hence my blood calcium to 'normal' levels. They'd monitor my condition, and see what happened. This wasn't my body any more. I'd let them in. I didn't mind.

3.3: A genealogy of appreciation...

Over the past few years, I've spent a lot of time in hospital waiting rooms. They're great places to read and to think. Especially when you're not that ill. Especially when you don't have that much time to read and think.

¹⁰ See www.marshallprotocol.com/view_topic.php?id=4101&forum_id=18 (accessed 31/10/06).

Ordinarily. Especially if you've been wanting to try some new research that matters differently to you. And especially if you like the idea of doing your next multi-site ethnography on something that you know nothing about, have no idea where it might take you as you try to follow its entanglements, tangents and travels. So I started to think about this as a research project. I haven't got very far yet, but all sorts of interesting, bizarre, surprising connections are emerging from the preliminary research I've been doing...

I take my hydrocortisone prescriptions to my local Lloyd's pharmacy. I pay the standard prescription fee and get four boxes (two of 10mg and two of 20mg tablets) of Hydrocortone®. Hydrocortisone (synthetic cortisol) is the active ingredient, but these tablets also contain lactose, magnesium stearate, and maize starch. Hydrocortisone is an ingredient in 93 named drugs, manufactured by 37 different companies (Anon ndb). When I tell people what I'm studying, it's amazing how it is, or has been, part of many of their bodies, or those of those they know and/or care for:

"If inflammation (swelling, heat, redness, and pain) is your problem, hydrocortisone can be injected into a large muscle (such as your buttock or hip), directly into your vein, or added to an intravenous fluid that will drip through a needle or catheter placed in your vein. Oral hydrocortisone, on the other hand, may be prescribed to treat certain forms of arthritis; skin, blood, kidney, eye, thyroid, and intestinal disorders; severe allergies; and asthma. Hydrocortisone is also used to treat certain types of cancers, such as leukemia, lymphoma, and multiple myeloma" (Anon ndb, np).

Then there's the topical hydrocortisone that is often part of the creams used to treat eczema. My children are also hydrocortisone consumers in this sense. My tablets are made in a factory in Shotton Lane, Cramlington, Northumberland by a UK based company called Merck Sharpe & Dohme Ltd. But the Hydrocortone trademark is registered to Merck & Co. Inc, Whitehouse Station, NJ, USA. According to the box and the information

leaflet inside. These tablets sit in their foil packaging, in their boxes, in a green Lloyd's paper bag next to the radio in our kitchen. Waiting for me to remove and swallow 25mg in the morning and 15 in the afternoon, 'with or after food'. At the moment. That's much less than I started with.

I totally LOVE this stuff. This drug. This medicine. What's in it. And these people, others, near and far who make and get it for me. It's no exaggeration to say that, together, they have transformed my life. Brought back a 'me' that had disappeared. And exaggerated it, at the start, when the dose was too high. Then, whenever Lucy asked how my day had been, I would always reply 'amazing', 'brilliant', 'fantastic'. I was ridiculously enthusiastic and positive. I couldn't stop talking. I was buzzing with ideas and energy at home, at work and in those waiting rooms. I was being much more 'productive'. Neil and Richard wanted to see me every couple of months at the time. To check the results of blood tests (my serum calcium levels), send me off for x-rays and lung function tests, and the like. To see how my sarcoidosis was doing. How I was doing. In one meeting, while the dose was still quite high, I asked Neil whether hydrocortisone was some kind of happy pill. I'd found references to it on the Web of Knowledge as an antidepressant prescribed to people at risk of suicide (reference). I explained to Neil what I did for a living, and mentioned that I was thinking of doing some 'follow the thing' research on Hydrocortisone. I asked if I could have copies of my medical notes, and maybe one day interview him and Richard and others about them. He told me that Paul, a Birmingham University Professor who was an expert on steroids, and had given a talk on the history of hydrocortisone prescription in the UK which began with a Birmingham doctor illegally importing it from the US to treat his son who had been born without genitals and would have died without the drug. The same condition was, he said, behind the papal seat – a device designed to anonymously check a new pontiff's genitalia after the (mythical?) 'Pope Joan' incident. Something like that! I'd have to follow that up.¹¹ Neil was rocking back in his chair, really enjoying telling these tales.

¹¹ Paul suggested that I read New and Kitzinger (1993), for starters.

When I met with Richard, we joked that Lucy might want the dose lowered to put me back in my box. But hydrocortisone gradually lowered my blood calcium to 'normal levels' (figures?) by reducing the sarcoid inflammation in my lungs. The dose has been reduced to the minimum necessary to keep things at this level. We have become stabilized. Me and my illness. We're taking the drugs and being monitored regularly by Neil and Richard. As instructed. I've calmed down. Except in my love of hydrocortisone, the people that make it, these healthcare professionals, and the UK healthcare system that's allowed me to call on their services by right. Not only have they sorted me out. But they've also had a positive effect on Lucy, our kids, our wider family, friends, some colleagues, postgrads, more (possibly). This drug helps things to *be* and/or to *seem* like this, anyway. To me, they feel like a new part of my immediate family. Caring for me, us. Sort of. 'In person'. Face to face. But also passing something on - down the line - to contribute to my body, the way it looks, and the way it works. In a strange way, this feels like a genealogical project. To learn more about these 'relations of care' and 'relatedness' - social, biological, economic, otherwise - helping to make me/us.¹²

3.4: ...the hormone hunter.

I tried to explain this project to Paul, Neil's Professor, and he was really helpful. Before we met up, he suggested that I read the (1971) autobiography by Edward Kendall, an American biochemist who - with Philip Hench and Tadeus Reichstein - won the Nobel Prize in 1950 for their "discoveries about hormones of the adrenal cortex" (np), including Cortisol. Such was their fame at the time, that the announcement of William Faulkner's Nobel Prize for literature was "almost a footnote in the world press" (Weissmann 2005, ?). Paul told me that there was some question about whether this was actually what Kendall had done. Scientific understanding had moved on since then. I need to get into that. But it was fascinating to find out that the patients whose

¹² A footnote is needed to discuss recent work on relatedness (e.g. Nash 2005, Wade 2005).

lives were transformed by those early corticosteroids not only had to thank Kendall for this. He wrote about his reliance on cheap and plentiful adrenal glands that were delivered to him in bulk from the Chicago slaughterhouses. By 1948, he and others developed ways of extracting these chemicals in a pure enough form to administer to people with rheumatoid arthritis. The results were near miraculous, and well known as “cinemas worldwide showed newsreels of cripples rising miraculously from wheelchairs” (Weissmann 2005, p.?). A lot of this research was undertaken with support from a pharmaceutical company called Merck, who had got into the steroid business in the second world war when the US government had learned that “Luftwaffe doctors were experimenting with injections of adrenal extracts to keep their aviators stress-resistant at 40,000 feet” (Weissmann 2005, p.?). The main problem with extraction, however, was that it was extremely inefficient. One method used in 1944 required the bile of 2,500 cows to make just 15mg of cortisone (Weissmann 2005, ?). That’s my evening dose. So, pharmaceutical companies and their scientists worked to replace extraction with synthesis, which often started with existing plant substances that were also steroids – e.g. in yams or soy beans (Anon 2005a, b) – through a series of chemical reactions, these could produce human steroids. Here, for example, trying to find out who was doing this where, I discovered the story a Mexican company called Syntex, which Gary Gereffi – the pioneer of Global Commodity Chains research - studied for his PhD (Gereffi 1978).

Drugs become cheaper if there are fewer steps in these chemical transformations. For cortisone, production costs per gram had fallen from \$1,000 in 1948 to less than \$7 in 2000 (Weissmann 2005). But these costs are set to fall further with the latest breakthrough in steroid manufacture: from chemical to bio-synthesis. Here, Merck’s European rival Sanofi-Aventis has developed a way in which baker’s yeast (genetically modified through the introduction of a “vegetal gene” and “nine mammalian genes” and the deactivation of “three of the yeast’s own genes” (Anon 2005a, np)) can, through the fermentation of sugar or alcohol, produce pure hydrocortisone in a single stage (Kelly and Kelly 2003). Biosynthesis is much faster, more yield

efficient, purer, less polluting, and much less labour intensive and than other forms of synthesis, and will allow Sanofi-Aventis to compete with low cost production by its Chinese competitors. If all goes to plan, bio-hydrocortisone products will be on the market in 2007 (Anon 2005a). But where do those ingredients come from – the yeast, the sugar, the alcohol and – most interestingly – those ‘mammalian’ genes? Denis Pompom (nd) says that the genes that cross species to become part of these yeast cells include those from “microbes, fungi, plant, fish, animal, even man”. He goes on to say that it was “necessary to entirely reconstitute in yeast the human chain of biosynthesis of hydrocortisone, ‘to humanize it’”. These cells then reproduce themselves, new genes included. I think. Wow! There’s more to ‘humanizing’ this commodity than finding out what happens in that Merck Factory in Northumberland. Which I still plan to do.

3.5: healing...

It might seem strange to have started with King’s sermon. And 1960s civil rights activism in the USA. But before I met Paul, I’d been Googling ‘hydrocortisone’, ‘synthesis’ and ‘history’ and came across a chemist called Percy Lavon Julian. The first hit was a critical review in the *Journal of blacks in higher education* (Anon 1997), of *The Cambridge dictionary of scientists*. Of its 1,300 biographical entries, it said, none were African American. Eleven, at least, were listed as missing: the first of which was Julian. He had, it said, been “instrumental in the development of cortisone and other drugs to treat arthritis” (134). Paul had never heard of him. Perhaps that’s not surprising. A month before Philip Hench addressed the Nobel audience in 1950, Julian’s house in the fashionable and exclusive Oak Park suburb of Chicago – where Ernest Hemingway, Frank Lloyd Wright and Ray Kroc also lived – was torched (Witkop 1980). He was the first African American to buy a house in the neighborhood and, that month, he was working on the synthesis of cortisone via Tadeus Reichstein’s ‘Substance S’ that would make its production considerably cheaper and much more widely available.

Hydrocortisone is still being manufactured the Julian way, “one of the most inexpensive ways of making this important chemical today” (Anon 2005c np, Weissmann 2005). From soybeans. This, and over 100 other chemical patents, made Julian extremely wealthy. In 1961, he sold one of his companies – Julian Laboratories Inc. – to Smith Kline French for \$2.3m. A 1946 *Reader’s Digest* article explained how far he’d come. Leaving Montgomery Alabama to go to De Pauw University in 1917, it states:

“...he had looked out of the window of a Jim Crow coach at his family, all standing waving. His little grandmother, who had once picked a record 350 pounds of cotton in a day, had waved a hand wrinkled with her 99 years. His grandfather had waved a hand from which two fingers were missing, cut off long ago because his master had found he’d learned to write”
(de Kruif 1946, 116).

As well as becoming a prolific chemist, in the 1960s Julian was considered to be an elder statesman of the civil rights movement. He was said to have spent “countless nights preparing and giving speeches, stirring his fellow citizens to deeper thoughts about human rights problems and the way to a better America” (Volwiler 1965, 113). In 1964, he gave the commencement address at Oberlin College. The following year, it was given by the Reverend Martin Luther King, Jr.¹³ for whom – along with other civil rights groups – Julian is said to have raised money. Thus, at his funeral, one of his closest friends described him as “A man who made contributions to healing, not only of the body, but of our society where he has built bridges between many groups” (Witkop 1980, 9). To be continued...

¹³ See http://www.oberlin.edu/archive/faq/commencement_speakers.html (accessed 12/11/06).

Concluding Comments:

In juxtaposing three different 'takes' on the relations between matter/materiality and social and cultural geography we wanted to affirm the starting point for this set of workshops: that a simple recourse to matter or materiality as a ground for Social and Cultural Geography is no longer possible or desirable because of the many differences that exist between materialisms. Without this qualification the call to 're-materialise' is a purely rhetorical gesture. And these differences matter to the practice, and to the ethos, of that disjunctive synthesis that we name as 'Social and Cultural Geography'. Why? For different reasons. Lets start by drawing out just a couple of the connections between the three material geographies. First, there is a commitment, in different kinds of ways, to the movement of connection and disconnection between and across what might otherwise be identified as separate registers. Second, and following on, there is a commitment to what we could call the excess of the world. To a world that is full of all sorts of human, ahuman, transhuman, or non-human materialities. There are other connections but also a set of differences, or perhaps even tensions; in how matter is disclosed as a question or a problem in our work; in the tone, style and voice through which those questions and problems are addressed; in what we explicitly or implicitly include or exclude within the category of matter/materiality; in the properties or capacities we give or do not give to matter; in the theoretical resources we draw on and how theory and practice relate; in the distributions of our interests and concerns; and in our understanding of the practice, and ethos, of a materialist ethics or politics.

So to enable us to think through the partial connections, and partial disconnections, between materialisms we want to end this briefing document with a set of linked questions that we hope will animate the workshop. Although we expect that other questions will emerge as these issues are engaged with in relation to the different research interests of the workshop participants:

- 1: What does attending to matter/materiality offer or promise Social and Cultural Geography? Alternatively, what could attending to matter/materiality fail to do?
- 2: How are the terms matter and materiality used, or how should they be used? How do they relate to, cross, disrupt or confirm distinctions between the living and non-living, the real and the ideal, natural and artefactual or human and non-human?
- 3: How do the various materialisms that populate Social and Cultural Geography differ in their theorization of matter/materiality and in their other epistemological and ontological propositions, claims and commitments?
- 4: What relations are there between Geography's engagement with matter/materiality and those in other disciplines (in anthropology, in performance studies, in sociology, in Science and Technology studies, for example)?
- 5: How, in the context of these interdisciplinary borrowings, to foster and develop explicitly spatial theories of matter/materiality?
- 6: How are matter and materialities understood, represented and worked with in the design, conduct, and dissemination of research?
- 7: What are the implications of different materialisms for thinking through the composition of the political/ethical and the practice and goals of a spatial politics/ethics?

References:

- Anderson, B. & Tolia-Kelly, D. (2004)** Matter(s) in Social and Cultural Geography". *Geoforum* 35, 6: 669-674.
- Anderson, B. (2004)** "Time Stilled Space Slowed: How Boredom Matters". *Geoforum*. 35, 6. 739-754.
- Anderson, B. & Wylie, J. (forthcoming)** Human Geography and Matter/Materiality. *Environment and Planning A*
- Anon (nda)** *Facts about sarcoidosis*. National Heart, Lung and Blood Institute, US Department of Health and Human Services
- Anon (ndb)** Hydrocortisone. *Chemical and engineering news*
- Anon (1997)** On the marginalization of black scientific achievement. *The journal of blacks in higher education* 16, 134
- Anon (2005a)** Yeast cells as active ingredient factory. *Process: chemical and pharmaceutical engineering*
- Anon (2005b)** Percy Lavon Julian and Carl Djerassi. *Chemical achievers: the human face of the chemical sciences*. Philadelphia: Chemical Heritage Foundation
URL...
- Anon (2005c)** For teachers: the life and science of Percy Julian. *Chemical achievers: the human face of the chemical sciences*. Philadelphia: Chemical Heritage Foundation
- Bachelard, G. (1988)** *Air and Dreams: An Essay on the Imagination of Movement*. Dallas Inst Humanities & Culture. Dallas
- Bakker, K. & Bridge, G. (2006)** Material worlds? Resource geographies and the 'matter of nature'. *Progress in human geography* 30(1), 5-27
- Bennett, J. (2001)** *The enchantment of modern life: Attachments, crossings and ethics*. Princeton University Press. Princeton and Oxford.
- Berman, M. (1983)** *All that is solid melts into air: The experience of modernity*. Verso: London.
- Bingham, N. (2006)** "Bees, butterflies, and bacteria: biotechnology and the politics of nonhuman friendship" *Environment and Planning A* 38(3) 483-498

- Buckler, A. (2004)** *Cyborg information leaflet: Thyroxine 50 microgram tablets*. Unpublished *Geographies of material culture* coursework, School of Geography, Earth and Environmental Sciences, University of Birmingham
- Cairo Cabinet of Ministers (2001)** St Katherine Protectorate Veterinary Programme. www.stkparcs.gov.eg/stk-img-cameltreatment.html (accessed 24th January 2004)
- Colls, R. (2006)** "Materialising bodily matter: Intra-action and the Embodiment of fat". *Geoforum* (forthcoming) Available at: <http://www.sciencedirect.com/science/journal/00167185>
- Cook, I et al. (2004)** Follow the thing: papaya. *Antipode* 36(4), 642-664
- Cook, I et al. (2006)** Geographies of food: following. *Progress in human geography* 30(5), 655-666
- Cook, I et al (in press)** 'It's more than just what it is': defetishising commodities, expanding fields, mobilising change? *Geoforum*
- Cook, I & Harrison, M. (2003)** Cross over food: re-materialising postcolonial geographies. *Transactions of the Institute of British Geographers* 28(3), 296-317
- Cresswell, T and Hoskins, G (forthcoming)**. The Ironies of persistence: evaluating significance at Maxwell St. Chicago and Angel Island, San Francisco. *Annals of the association of American Geographers*.
- Daniels, S. (1989)**. Marxism and the Duplicity of Landscape. In *New Models in Geography*, pp. 169-220. Edited by R. Peet & N. Thrift. London: Unwin-Hyman.
- de Kruif, P. (1946)** The man who wouldn't give up. *Reader's digest* ??(??), 113-8
- Deleuze, G. (1990)** *The Logic of Sense* (Trans. Mark Lester). N.Y.: Columbia UP.
- De Palma, A. (2006)** Tracing lung ailments that rose with 9/11 dust. *New York Times* May 13, Section A, 1-5
- Derrida, J. (1994)**. *Specters of Marx: The State of the Debt, the Work of Mourning and the New International*. London: Routledge.
- Desforges, L. & Maddern, J. (2004)**. Front doors to freedom, portal to the past: history at Ellis Island Immigration Museum. *Journal of Social and Cultural Geography* 5.

- Dewsbury, J.D. (2003)** "Witnessing Space: knowledge without contemplation." *Environment and Planning A*, 35, 1907-1932.
- Doel M (1999)** *Poststructuralist Geographies: The Diabolical Art of Spatial Science*. Edinburgh University Press, Edinburgh.
- Duncan, J. S. & Lambert, D. R. (2002)**. *Landscape, aesthetics, and power*. In *American Space / American Place: Geographies of the Contemporary United States*. Edited by J. A. Agnew & J. M. Smith. Edinburgh: Edinburgh University Press.
- Foote, K. (1997)**. *Shadowed Ground: America's Landscapes of Violence and Tragedy*: University of Texas Press.
- Foucault, M. (1997)** *Ethics. Essential works of Foucault 1954-1984 (Volume 1)* (ed Radinow, P.). Penguin. London.
- Gasché. R. (1999)** *Of minimal things: Studies on the notion of relation*. Stanford University Press. Stanford.
- Gereffi, G. (1978)** Drug firms and dependency in Mexico: the case of the steroid hormone industry. *International organisation* 32(1), 237-86
- Goss, J. (2006)** Geographies of consumption: the work of consumption. *Progress in human geography* 30(2), 237-49
- Gilroy, P. (1993)**. *The Black Atlantic: Modernity and Double Consciousness*. Cambridge, Massachusetts: Harvard University Press.
- Graham, S. (2005)** Software-sorted geographies. *Progress in human geography* 29(5): 562-580
- Gregson, N. (2003)** Discipline games, disciplinary games and the need for a post-disciplinary practice: responses to Nigel Thrift's 'The future of geography'. *Geoforum* 34, 5-7
- Grieve, M. (1995)** Acacia (gum). in *A modern herbal* (<http://botanical.com/botanical/mgmh/a/acaci006.html> accessed January 14th 2004)
- Hall, S. (1990)**. Cultural identity and diaspora. In *Identity Community, Culture and difference*, pp. 223-237. Edited by J. Rutherford. London: Lawrence and Wishart.
- Haraway, D. and Goodeve, T. (2000)** *How like a leaf: Donna Haraway, an interview with Thirza Nichols Goodeve*. London: Routledge

- Harvey, D. (1990)** Between space and time: reflections on the geographical imagination. *Annals of the Association of American Geographers* 80, 418-34
- Hetherington, K. (1999).** From Blindness to blindness: Museums, Heterogeneity and the Subject. In *Actor Network Theory and After*. Edited by J. Hassard. London: Blackwell.
- Hewison, R. (1987).** *The Heritage Industry: Britain in a Climate of Decline*. London: Metuchen.
- Jacobs, J. M. (1998).** Staging Difference: Aestheticisation and the Politics of Difference in Contemporary Cities. In *Cities of Difference*, pp. 253-278. Edited by R. Fincher & J. M. Jacobs: Guilford Press.
- Jackson, P. (2000)** "Rematerialising Social and Cultural Geography" *Social and Cultural Geography*. 1, 9-14.
- Kearnes, M. (2003)** "Geographies that matter – the rhetorical deployment of physicality?" *Social and Cultural geography*. 4(2) 139-152.
- Kendall, E. (1971)** *Cortisone: memoirs of a hormone hunter*. New York: Charles Scribner's Sons.
- Kunzru, H. (1997)** You are cyborg: for Donna Haraway, we are already assimilated. *Wired*, Feb (www.wired.com/wired/archive//5.02/ffharaway.html?person=donna_haraway&topic_set=wiredpeople)
- Kelly, D. and Kelly, S. (2003)** Rewiring yeast for drug synthesis. *Nature biotechnology* February, 133-4
- Luther King Jr, M. (1967)** Three dimensions of a complete life. www.stanford.edu/group/King/publications/sermons/670409.000_The_Three_Dimensions_of_a_Complete_Life.htm (last accessed 31/10/06).
- Laurier, E. & Philo, C. (1999)** X-morphising: review essay of Bruno Latour's *Aramis, or the love of technology*. *Environment and planning A*, 31: 1047-71
- Latham, A. and McCormack, D. (2004)** "Moving cities: rethinking the materialities of urban geographies", *Progress in Human Geography*, 28, 6. 701-724.
- Latour, B. (1996)** *Aramis, or the love of technology*. Cambridge: Harvard University Press

- Latour, B. (2004a)** *Reassembling the social: An introduction to actor-network theory*. Oxford University Press. Oxford.
- Latour, B. (2004b)** *Politics of Nature*. Harvard University Press. London.
- Law, J. & Mol, A. (2001)**. Situating technoscience: an enquiry into spatialities. *Environment and Planning D: Society and Space* **19**, 609-621.
- Lea, J. (2005)** "Bodily encounters/Encountering bodies: the challenges of experiential research". Presented at RGS-IBG Annual Conference, London, UK, 2005.
- Lorimer, H. (2005)** "Cultural Geography: The business of being more-than-representational". *Progress in Human Geography*. 29.1, 83-99.
- Macdonald, S. J. (2003)**. Museums, national, postnational and transcultural identities. *Museum and Society* **1**, 1-16.
- Maddern, J. (2004)** The Isle of Home is Always on Your Mind: Subjectivity and Space at Ellis Island Immigration Museum. In *Tourism, Diasporas and Space: Travels to Promised Lands*. Edited by T. Coles & D. Timothy. London: Routledge.
- Marcus, G. (1995)** Ethnography in/of the world system: the emergence of multi-sited ethnography. *Annual review of anthropology* **24**, 95-117
- Marx, K. & Engels, F. (1998 [1848])**. *The Communist Manifesto*. Oxford: Oxford University Press.
- Massey, D. (1993)**. Power-geometry and a progressive sense of place. In *Mapping the Futures: Local Cultures, Global Change*. Edited by J. Bird, B. Curtis, T. Putnam, G. Robertson & L. Tickner. London: Routledge.
- Miller, D. (ed) (2005)** *Materiality*. Duke university Press. London.
- Nash, C. (2005)** Geographies of relatedness. *Transactions of the Institute of British Geographers* **30**, 449-462
- Olwig, K. (1996)**. Rediscovering the substantive meaning of landscape. *Annals of the Association of American Geographers* **86**, 630-653.
- Pels, D et al (2002)** The status of the object: performances, mediations, and techniques. *Theory, Culture and Society*. 19 (5/6) 1-21.
- Pile, S. (2005)** *Real cities: modernity, space and the phantasmagorias of city life*. Sage: London.

- Pompom, D. (nd)** From metabolism re-routing to the total biosynthesis of drugs, or, ho to build a factory smaller than a pinhead? *Source?*
- Roe E J. (2006)** "Material connectivity, the immaterial and the aesthetic of eating practices: an argument for how genetically modified foodstuff becomes inedible" *Environment and Planning A* **38**(3) 465–481
- Rolfe, C. (2006)** "An unlikely alliance. Aesthetics after Rancière and Guattari" presented at RGS-IBG Annual Conference, London, UK, 30th August to 1st September 06.
- Saldanha, A. (2006)** "Reontologising race: the machinic geography of phenotype". *Environment and Planning D: Society and Space* , 24(1):9-24.
- Sayer, A. (2003)** *Long live postdisciplinary studies! Sociology and the curse of disciplinary parochialism/imperialism*. Department of Sociology, Lancaster University. (www.comp.lancs.ac.uk/sociology/papers/Sayer-Long-Live-Postdisciplinary-Studies.pdf accessed 20th November 2006)
- Scanlan, J. (2002)** The Camel. www.chirovetpractic.com/thecamel.html (accessed January 14th 2004)
- Sharma, O. (2000)** Hypercalcemia in granulomatous disorders: a clinical review. *Current Opinion in Pulmonary Medicine* 6(5), 442-447
- Sim, S. (1992 (a)).** Marxism and Aesthetics. In *Philosophical Aesthetics: An Introduction*. Edited by O. Hanfling.
- Sim, S. (1992 (b)).** Structuralism and Poststructuralism. In *Philosophical Aesthetics: An Introduction*. Edited by O. Hanfling.
- Suchting, W. (2004).** "Althusser's Late Thinking About Materialism", *Historical Materialism*, Vol. 12, No. 1, 3-70.
- Swanton, D. (2006)** "Race rides in the car: some thoughts on the circulation of affect" presented at RGS-IBG Annual Conference, London, UK, 30th August to 1st September 06.
- Thrift, N. (2004).** Posthuman world of technology. In *Paper session of the IGC UK 2004 One Earth - Many Worlds*. Glasgow, UK.
- Volwiler, E. (1965)** Percy Julian – citizen and co-worker. *The chemist* March. 113-5

- Wade, P. (2005)** Hybridity theory and kinship thinking. *Cultural studies* 19(5), 602-621
- Weissmann, G. (2005)** Cortisone and the burning cross. *The Pharos of Alpha Omega Alpha-Honor Medical Society* 68(1): 13-6
- Wiktop, B. (1980)** *Percy Lavon Julian - 1899-1975 - a biographical memoir.* (Biographical memoirs, Volume 52). National Academy Press: Washington.
- Williams, R. (1976)** Keywords. Fontana/Croom Helm. London.
- Whatmore, S. (2006)** "Materialist returns: practising cultural geography in and for a more-than-human world". *Cultural Geographies* 13: 600-609
- Woodward, K. (2006)** "Confused Affinities and Spinoza's Political Modes of Thought" Association of American Geographer's Annual Meeting, Chicago
- Wylie, J. (2002)** "An essay on ascending Glastonbury tor". *Geoforum*. 33, 441-454.