Of 'Other' Materialities

– Why (mobilities) design is central to the future of mobilities research

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1. Introduction

Standing on the edge of the future this paper addresses a particular dimension of the mobilities research area which has emerged over the last one and a half decades. In tandem with the increased volumes and complexities of movement, whether of people, goods or information, the research world has attempted to follow track and to take stock of the various repercussions of this mobile world. In this paper I shall follow a line of argumentation that moves from this general level of mobilities research and see how a situational and pragmatic mobilities research may lead to an increasing interaction with the design world (in particular the urban design and architectural practices shaping the sites and 'stages' for contemporary mobilities). Furthermore, moving towards design opens up an interesting avenue to the question of 'the material' and of 'materialities'. The situational and pragmatic take on mobilities design advocated here justifies speaking of 'other' materialities. By this is meant that there is a different focus on the materials used in the spaces and sites hosting mobile practices, as well as the understanding of the materials in this perspective turn towards a pragmatic understanding of multi-sensorial mobile inhabitation of the contemporary world, which then again justifies the claim to work with 'other' materialities. Also Adey et al calls for a critical attention to materialities as an important dimension of mobilities research:

> Mobilities research is at the forefront of developing new ways of thinking about the politics of matter. Whilst people are mobile, the equally differentiated mobilities of information, capital, goods, and services that are essential for contemporary life are as sustained feature of mobilities research. Indeed one of the defining characteristics of mobilities research is its attention to the mobilities of multiple materialities, both human and non-human ... materialities that have different qualities, different properties, different capacities, and are formed of different relations ... A focus on mobile materialities problematizes simplistic distinctions between humans and non-humans and instead retunes attention towards the assemblages of matter that move (Adey et al 2014: 264 & 266)

As this is a relatively short paper fleshing out major issues for the future of mobilities research I shall not devote too much time and effort to recapitulate the description of the 'mobilities turn'. Rather, I point to a number of references where the reader with less familiarity with the 'turn' may find beneficial insights. One obvious first place to look for this is in the works of John Urry. Here the 2007 publication '*Mobilities*' must be recommended (Urry 2007). Alas, no turn is made by one scholar only so turning to wider presentations of the field is encouraged. One such general presentation is the '*Routledge Handbook of Mobilities*' edited by Adey et al (2014) and the collection *Geographies of Mobilities: Practices, Spaces, Subjects*, edited by

Cresswell & Merriman (2011) as well as the four-volume reader titled 'Mobilities' edited by Jensen (2015) may be recommended for readers with an interest in the underlying ideas shaping and framing the mobilities turn. This, however, is as much as I shall say about the general research field of mobilities and rather move towards a situational understanding of mobilities and how this links to the design world and to 'other materialities.

In this paper I present the notion of 'mobility affordance' (Jensen 2013:120) as a way of foregrounding the multiple layers of socio-technical systems, complex infrastructures, and mobile subjects in a research agenda focusing on how mobilities is performed and how it is a multi-sensorial phenomenon. This has certain affinities to so-called 'non-representational' strands of thinking (e.g. Andersson & Harrison 2010; Bogost 2012; Thrift 2008; Vannini 2015). The paper uses mobilites design as a field of research and inquiry to illustrate why future mobilties research should pay close attention to design, embodiment and affordances. This leads me to design as a way of thinking about interventions in the world as well as about creative acts of 'world making' (Ingold 2011). Needless to say this also necessitates an analysis of the 'politics of design' as mobility, design, and power will be brought together in new ways. The touch point for all this is the specific mobile situation or 'mobilities in situ' and how such material practices are created by means of design, policy and regulation as well as on mobile subjects' multiple choices and decisions. The framework of 'staging mobilites' (Jensen 2013) explores mobile situations as they are spanned out between the three analytical spheres of materiality, sociality, and embodiment. In this paper I point toward an 'other' material turn for the future of mobilities research as one that put focus on design, multi-sensorial embodiments, and affordances, and takes stock of a different underpinning philosophy which I term 'material pragmatism'. The structure of the paper is the following: After this short introduction I turn to the situational perspective on mobilities research. This is followed be a section on the emerging research field of mobilities design. The fourth section is then devoted to a deepened discussion of the material dimension of this research. Section five recaps the main arguments and points forward to a future research agenda for mobilities research pivoting around mobilties design and material pragmatism.

2. Situational mobilities

As argued elsewhere the study of contemporary mobilities may profit from focusing at the concrete level of the situation as well as there is much to be gained from looking towards the nexus between design and mobilities (Jensen 2013; 2014). The pragmatic question '*what makes this specific mobile situation possible?*' suggests that the materiality of mobile situations should be explored in more detail. In this paper I propose such a 'material turn' to go via a critique of the notion of 'affordance' as it initially was coined by environmental psychologist James Gibson (1986/2015) and later developed further to include assemblages of technology, mobile and sensing bodies and material spaces as affordances for material practice (e.g. Degen et al 2010; Heft 1998, 2010; Kimbell 2011, 2012; Latour 2008; Latour & Yanvea 2008; Yaneva 2009).

One way of thinking about the situational perspectives on mobilities is through the notion of 'Staging Mobilites' which takes point of departure in the following observation:

> Mobilities do not 'just happen' or simply 'take place'. Mobilities are carefully and meticulously designed, planned, and 'staged' (from above). However, they are equally importantly acted out, performed and lived as people are 'staging themselves' (from below). *Staging Mobilities* is a dynamic process between 'being staged' (as for example when traffic lights commands us to stop, or

when timetables organise your route and itineraries) and the 'mobile staging' of interacting individuals (as for example when we negotiate a passage on the sidewalk, or when we choose a particular mode of transport in accordance with our self-perception) (Jensen 2013:4)

Coming from this perspective I argue that three analytical areas are or particular concern. These are the material and physical designs of spaces and artefacts; the social interaction; and the embodied practices of mobilities. As the 'Staging Mobilities' framework sets the 'situation' at the centre of analysis it means that one should unpack mobile situations within these three analytical themes and with an eye to how practices are staged 'from above' (i.e. by planning, design and policies) as well as 'from below' (i.e. by social agents choosing modes of transport, ways of driving and interacting). This perspective is presented in the diagram illustrating the 'Staging Mobilities' framework model (fig. 1).

Fig. 1: The Staging Mobilities framework (published in Jensen 2013, p. 6)

Accordingly the situational mobilities are understood as a hybrid assemblage of bodies, things, spaces, cultures and interactions that either comes into being though attempts to design, control, manipulate, and afford particular practices 'from above' as it were, or through choice decisions, affects, chance encounters, and individual motives 'from below'. Rather than seeing this framework as a binary structuring of the analysis it is an invitation to ask the pragmatic question: *What makes this mobile situation possible?,* and further from this, to turn more directly to the design and architectures of such situations, or in other words to turn towards 'mobilities design'.

3. Mobilities Design ... and mobilities affordances

The connection between mobilities turn, situational mobilities, and mobilities design lies in the fact that the staging of mobilities materialises within mobilities design (Jensen 2014:241). The relevance of addressing 'mobilities design' reaches back to the notion of situational mobilities and is basically concerned with answering the elaborated pragmatic question: *What design decisions and interventions afford, enable, or prevent concrete mobile situations?* In light of such a pragmatic and situational understanding, 'mobilities design' reaches across fields of practice and disciplines and may include architecture, urban design, and planning as well as traffic engineering, interaction design, software design, product/industrial design, and service system design. This is admittedly a broad notion but like the disciplinary underpinning of the

'mobilities turn' is diverse so are the design practices and professions of to 'mobilities design'. Or put differently; the design decisions and interventions affecting and creating 'mobilities in situ' are the ones of interest and relevance to research into 'mobilities design' (Jensen 2014:41-42). The articulation of mobilities design as a particular field of mobilities research is an emerging field and may be seen discussed more in Jensen 2014, Jensen & Lanng 2016, Lanng 2014). Elsewhere I argued for the potentials for both research and design in articulating a mobilities design as:

> ... a new 'material turn' within the already established field of mobilities research. There is a need for research targeting the material, physical and design-oriented dimensions of the multiple mobilities from the local to the global. Despite its cross-disciplinary identity the 'mobilities turn' has not capitalized from the potential in exploring issues of material design and physical form. The exchange value with design is twofold; first this means getting closer to the 'material' which is needed if mobilities research can claim to have understood contemporary mobilities. Second it means that the creative, explorative and experimental approaches of the design world become within reach to mobilities research offering new potentials for innovative research. Design research, on the other hand, might enter into a fruitful relationship with mobilities research, taking in a 'mobile' perspective on design objects and issues, including methodological insights, concepts of space and place, and relations between fixities and flows (Jensen 2014: 239)

Design is an act of 'staging', so mobilities design is staging mobilities! In line with Yaneva, I consider design to be a question of 'enacting the social' through meticulous and detailed design decisions and interventions:

> Design [is] a way of producing additional attachments that make a variety of actors congregate, forming different groupings and assembling social diversity. Tracing networks with wood, steel, polished surfaces and blinking signals, bip-bing doors and blinking elevator buttons, design connects us differently, linking disparate heterogeneous elements and effects, thus entering a game of producing, adjusting and enacting the social (Yaneva 2009:282)

The actual practices are at the focus of a situational gaze, and the situation is staged through design. In other words mobilities design is an opening up towards 'other materialities' than the ones often discussed and theorized by the social science approach to mobilities. Here we find inspiration in a critical re-reading of Gibson's notion of 'affordance' as a fruitful way into the understanding of materialities. In the book 'The Ecological Approach to Visual Perception' James Gibson (1986/2015) proposes that, *'The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.'* (p. 119). Expanding Gibson's affordances, Harry Heft (2010) argues for *action-based approach*. This entails that perceiving what the physical environment offers is not a uniform process in the minds of people, but rather it is going on 'where the action is', in the specific dynamic coupling of a human body and the physical environment (p. 29). Shields (2010) capture this symmetry in the formation of affordances:

> For pavement, you can walk on it; you can sit on it; you can drive on it... [...] You have to actualize it as this or that. What will it be? It is your choice at any given time. So, in the actualization, people play essential roles. But one should not underestimate the materials: their hardness, their softness, their ability to maintain a shape. All this makes the material a player in a way that is significant, causative, but not causal (Shields 2010:297)

So far I have looked towards Gibson's approach and its benevolent adheres, however, Ingold raises some important critiques of Gibson's attempt to remit the social/material distinction which, according to Ingold, led Gibson to the unhelpful solution suggesting that the environment is given 'in advance' with all the problems of de-coupling the meanings, and understandings from the situated practices (Ingold 1996:184). Obviously this and other attempts to understand situations as 'staged' should not lead us to de-couple the specific situated practices of from the processes of meanings and investments. The 'staging mobilities' perspective surely offers a dramaturgical approach to the specific mobile situations, but the sensations and the liveliness of these must be comprehended 'in situ' and in process (Jensen 2013). Importantly, however, the staging of situational mobilities may be informed by decisions and interventions effectuated from 'outside of the situation'. In other words, we may act in the situation but rarely without our acts being informed, shaped, and affected by extra-situational properties (e.g, design interventions, political decisions, cultural values etc.). Ingold is right in pointing at the context-dependency of all actions, and that the notion of the 'social' and 'the material' may in fact not help understanding the pragmatic situation at hand, if these words work as abstractions detaching the materialities and the human values invested into the situation (Ingold 1996:187). His solution is to discharge of the two notions all together substituting them with the holistic notion of 'ecology'. This may be one feasible way to disentangle such fixed and blocked conceptualizations. Here the situational and pragmatic approach to mobilities including materials, spaces, technologies, bodies, sensations, values, and interaction dynamics is another (Jensen 2013). Furthermore, and in line with this paper, Ingold request a re-focus from 'the material' towards 'materials' in order to sharpen the attention to the multi-sensorial engagements with the felt and embodied experiences (Ingold 2011). Rather than focusing on 'the material' in the abstract looking at the specific artefact and its relational linkages with the multiple relevant 'entities' defining the mobile situation is at the centre. Ingold's ontology is one of holism and deep sensations. Let me point to his description of a stone and how it manifests its heterogeneous materialities as a vivid example of such sensibility:

> ... we might be inclined to say that a stone bathed in moisture is more 'stony' than one bathed in dry air, we should probably acknowledge that the appearances are just different. It is the same if we pick up the stone and feel it, or knock it against something else to make a noise. The dry stone feels and sounds differently from the wet one. What we can conclude, however, is that since the substance of the stone must be bathed in a medium of some kind, there is no way in which its stoniness can be understood apart from the ways it is caught up in the interchanges across its surface, between medium and substance [...] Stoniness, then, is not in the stone's 'nature', in its materiality. Nor is it merely in the mind of the observer or practitioner. Rather, it emerges through the stone's involvement in its total surroundings – including you, the observer – and from the manifold ways in which it is engaged in the currents of the lifeworld (Ingold 2011:32)

This rich and sensitive understanding of a stone leads me to the main argument of this paper, namely that a focus on situational mobilities and mobilities design point towards engaging with 'other' materialties – 'other' both in the sense of having an-other understanding of materialities than the prevalent, but also to simply look at 'other' things.

4. Of 'Other' materialities

Somewhere along the discussion of the proposal of mobilities design as an emerging research field, and as yet another 'turn' may have provoked the reader. The various more or less fashionable 'turns' within social science may require that I shortly pause to reflect. In the emerging research agenda on mobilities design the

focus on multi-sensorial mobile everyday life practices aligns with a particular sensitivity and alertness to 'materials' that do justify that we speak of this as something 'different'. But as Anderson and Wylie rightly states too much 'rematerilization' and 'returning to the material' may not actually have contributed much to the intellectual developing of our understanding of the material. Furthermore, the assumption of 'the material' as equal with the hard, the static, and the obdurate seems counter-productive to our comprehension of the world (2009:319; see also Bennett 2010, Ingold 2015, and Law 2002 for such a standpoints). So rather than advocating another 'turn' re-discovering materiality as something static and sedentary, I would agree to the agenda of outlining a 'material imagination'. In counter to Anderson & Wylie, however, I shall not seek inspiration for this different imaginary in philosophy but rather in the empirical research devoted to mobilities design. From this source of inspiration we may think of 'other materialities' and, in concert with Anderson & Wylie, that:

> 'textures and densities, liquidities and radiances, thus act as sets of imperatives within and through which movement and sensation are inspired and performed ... materiality, in this reading, is multiple: the term connotes forces and processes that exceed any one state (solid, liquid, gas), and are defined ultimately in terms of movement and processes rather than stasis' (Anderson & Wylie 2009: 326)

They argue, further, that to set materiality free from the counter-productive imaginary pivoting around notions of the solid, the static, and the obdurate (in other words from a sedentary metaphysics) materialities much be comprehended in its connection to mobilities, processes, relations, affects, sensations, and other dimensions that we now see articulated within various new streams of thought such as 'non-representational theory' (Vannini 2015).

In other words, one should be careful to announce new 'turns' and the like. Through research into the situational conditions of everyday live mobility (e.g. Jensen 2013, 2014) it has, however, become clear that architects, urban designers and theorists within these fields do think about 'materials' in a different way that mobility scholars. So, on the basis of this research and the continuing effort to articulate mobilities design as an emergent and important field of future mobilities research (e.g. Jensen & Lanng 2016), I believe we may talk of 'other' materialities as a shorthand for the different and much more sensual sensitivity to surfaces, structures, volumes, surfaces, and spaces to use a few of the terms widely used within urban design and architecture. I trust the alert reader have already identified the allusion of this paper's title to the Michel Foucault's seminal text 'Of Other Spaces' (1997). As Foucault found issues with the ways time in general, and history in particular, seemed to have dominated the discourse of societal transformation, so I argue here that we need a different attention to materialities. The 'other' materials and the 'other' ways to conceptualizing these are then what draw this paper into the direction of pointing at mobilities design as an important future trajectory of mobilities research.

Next to Ingold's call for a 'holistic' understanding of human and non-humans in a dynamic and relational perspective (Ingold 2015) there stand an interesting strand of thinking which to some extend is developed in tandem with his thoughts. I am thinking of the philosopher Jane Bennett and her advocacy for 'vibrant matter' (Bennett 2010). A number of similarities and parallels run between these two positions. Here I shall reference some of Bennett's arguments for re-thinking materiality as something both human and non-human, as well as something that sets aside the subject-object dichotomy. In her brilliant book *Vibrant Matter - a political Ecology of Things'* (Bennett 2010) Bennett invokes a material vitalism taking queue from Nietzsche, Deleuze & Guttarri, Spinoza, Serres, Latour, and Heidegger to mention but a few of the

influences. In this perspective Bennett articulates her main philosophical project as: '*to think slowly an idea that runs fast through modern heads: the idea of matter as passive stuff, as raw, brute, or inert*' (Bennett 2010:vii). This, indeed, is in accord with Ingold's claim for thinking about materials rather the material, and about 'things' rather than 'objects'. But it also touches base with Latour's attempts to re-valorise the importance of non-human actants, technologies, and artefacts (Latour 2005). In relation to mobilities design the importance of materials, the shaping of spaces (volumes, voids, edges, surfaces etc.), and the affordances facilitating movement already point to a deeper understanding of such 'other' materialities. Bennett argues further, and in accordance with the underpinning thoughts of mobilities design, that things are actants and powerful in their own way. This leans her to speak of 'thing-power':

> Thing-power gestures towards the strange ability of ordinary, man-made items to exceed their status as objects and manifest traces of independence or aliveness, constituting the outside of our own experiences (Bennett 2010:xvi)

Bennett vividly accounts for an experience where a number of discrete artefacts floating onshore at a beach as 'debris'. However, in the actual situation they come together as an assemblage featuring a material vitality we might not usually ascribe to them:

> In this assemblage [the debris floating onshore], *objects* appeared as *things*, this is, as vivid entities not entirely reducible to the contexts in which (human) subjects set them, never entirely exhausted by their semiotics (Bennett 2010:5, italics in original)

The term 'thing-power' is thus for Bennett a way of describing the *curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle'* (Bennett 2010:6). Moreover, Bennett reminds us that it is not only the dead, inanimate artefacts that constitute a vibrant materiality, humans equally are material constitutions. Here the connection to mobilities design and its sensitivity to the multi-sensorial becomes very important (Jensen 2014; Lanng 2014). The enrolment of the human body into designed systems, sites, and infrastructures creates complex assemblages where materialities are not just external to the human, but rather permeable as in a deep relationship of osmosis. The perspective of vibrant materialities may inspire research within mobilities design to think of such 'other' materialities by supporting the argument around processes, dynamism, and relations inherent in what at face value looks like dead, inanimate, objects. Rather, we must think about the artefacts, sites, and systems as vibrant in their own terms, as 'actors' facilitating, affording, and entangling mobile practices. The spatial confinements of this paper prevents me from going much deeper into the reflections of Bennett's but just as important as developing a more materially sensitive vocabulary is the discussion of an ethics of engagement with the world, let alone a 'political ecology of things'. But the first step in engaging with mobilities design is to comprehend these 'other' materialites on their foundational level. The next will be to start reflecting upon the normative, ethical, and political dimensions. This is corresponding to the double attention given to 'potentials' as well as 'dark sides' within 'critical mobilities thinking' (Jensen 2013).

5. A few short reflections of the future agenda in mobilities research

The claim thus far has been that there is a need for a different way of addressing the 'material' or the materialities of mobilities. The shortcomings of existing frames of mind may be one way into realizing this, but the potentials and new insights offered by adjacent disciplines may be another. In this paper I have tried to follow the potentials of engaging with the design disciplines in order to explore how such disciplinary

framings may alter the relatively abstract vocabulary of 'the material' in the social sciences. The emerging discipline of 'mobilities design' is such a new platform for re-thinking the relationship between materiality and mobility. In this short paper I have tried to exemplify this relation but needless to say more work needs to be done. Serious efforts in this respect are being undertaken as I write these words and the discussion of 'mobilities design' is one of the future developments paths for mobilities research. On the 'inside' of the academic venture this should hopefully provide more sensitive vocabularies and fine-grained vocabularies for understanding the mobile world. But this would be too introvert if there were no profit to be harvested on the 'outside' of academia as well. The future societal challenges ranging from climate change, demographic shifts, technological innovation etc. surely makes hands-on contributions from academic to global challenges more pertinent than ever. Here the re-thinking of materialities and the engagement with disciplines offering a more practical and hence pragmatic approach to real life practice should be most beneficial. The 'other' way of engaging materialities and the 'other' materialities to be explored leads to a deeper engagement with the nexus of the corporeal and embodied practices and the multi-sensorial entanglements that these are expressions of. The lesson learned from engaging with the design world and with articulating a vocabulary of mobilities design is that it sensitizes us to the detailed entanglements with matter, surfaces, volumes, physicality etc. that we know are important for the sensorial experiences of mobile subjects enrolled into various mobilities systems and infrastructures, but which until now has been too superficially understood.

The focus on 'other' materialities also points in the direction of a different relationship between the academic world and 'the public'. In direct prolongation of this a questioning of the 'politics of design' should be launched (see Latour & Weibel 2005 for one possible strategy of encountering this theme). The pragmatic approach from mobilities design will offer more tangible experiments and engagements with public policies as well as citizens. Processes of co-creation, collaborative design, and mutual learning mediated through mobilities design projects should be explored. The philosophical underpinning of such new practices and analysis may be labelled 'material pragmatism' and to define such a philosophical stance is a future agenda to explore. So far the trajectory that has led my own research from situational mobilities through the rough terrain of mobilties design and into a pragmatic understanding of materialities has had the re-thinking of and looking at 'other' materialities as a vital precondition.

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