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TO GO WITH THE FLOWS OR TO FLOW WITH THE NODES?

An exploration of 'post-disciplinary' theories of movement in space syntax and mobilities research

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ABSTRACT

All too often the dialogue between space syntax and the social sciences pits space against society. For this reason the recent 'mobilities' turn in urban studies – stimulated by John Urry's key (2007) text *Mobilities* – presents space syntax research with an opportunity but also a theoretical challenge. Urry's 'mobilities paradigm' advocates a broad 'post-disciplinary' convergence on infrastructural systems as agents actively creating and restraining social competences through the effects they have on movement and communication. Space syntax theory and research is well placed to make a substantial contribution to this emerging field. For example, the theories of 'natural movement' and 'movement economy' offer a radical conceptualization of quotidian pedestrian and vehicular movement-space that, in comparison with other forms of transport and communications infrastructure, are seriously under-conceptualized by Urry. For space syntax theory, on the other hand, the mobilities emphasis on the infrastructure of movement-space as enabling social practices to emerge in particular historical, geographical and cultural contexts invites consideration on the extent to which the implicit normativity of the space syntax theory of urban movement has been repressed in the name of prioritizing the objectivity of its contribution to the design process, over the benefits of wider interdisciplinary – or indeed 'post-disciplinary' engagements.

KEYWORDS

Space syntax theory, John Urry, mobilities, movement, interdisciplinarity

1. INTRODUCTION: MOBILITIES AND MOVEMENT-SPACE

In his landmark synthesis *Mobilities*, John Urry (2007) boldly introduces mobilities as a "new paradigm" in social research (p.46) – declaring his aim as nothing short of "establishing a movement-driven social science" (p.18). Since then the field has expanded rapidly with a dedicated academic journal *Mobilities* (Taylor and Francis, 2011) and numerous publications and conferences using mobilities as an organizing theme. Indeed the 10th International Space Syntax Symposium included a series of papers on 'Urban studies, transport and mobility', although interestingly Urry's work was not referenced in any of these studies[1]. Even so, the apparent congruence of aspects of mobilities studies[2] and a substantial body of theory and research in space syntax around the theme of corporeal movement deserves a more sustained examination than it has hitherto received. Of course, therein lies the interdisciplinary rub – the acknowledgment of which must precede the realization of Urry's aspiration for mobilities as a 'post-disciplinary' research domain. On the face of it at least, *Mobilities* derives from a tradition

1 http://www.sss10.bartlett.ucl.ac.uk/category/04-urban-studies-transport-and-mobility/ [accessed, 4.2.17]
2 http://www.lancaster.ac.uk/cemore/mobilities-journal/ [accessed, 4.2.17]

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of research in human geography, heavily influenced by Lefebvre, which Hillier (2008) has referred to as the 'spatiality paradigm' that puts 'society first', in the sense of producing social space in the image of dominant socio-economic forces. On the other side of this argument is the theory and formal analytical methods of space syntax, that put 'space first', in the sense of asserting the productive role of society's *material organization* in generating and constraining social relations. This paper does not claim nor advocate any synthesis, but makes the case for further interdisciplinary engagement on the basis that a broad focus on the conceptualization what Thrift (2011) nicely characterizes as 'movement-space' promises a way out of the 'space first', 'society first' binary. This does little to develop the space syntax theory of the encounter field in the context of widespread scholarly interest in how increasingly global infrastructural systems are transforming social practice and the power they bestow on the political and corporate regimes that produce and maintain them (Easterling 2014).

 Interdisciplinary engagement cuts both ways. Space syntax theory is well positioned to address a clear weakness in Urry's 'mobilities paradigm' – namely its inadequate conceptualization and formal articulation of the quotidian mobilities of inhabited space – while acknowledging that these too comprise a normative 'infrastructure' of movement in different cultural and historical contexts – including, it will be argued, our own. Urry quotes approvingly Castells' (1996) pronouncement that networks "constitute the new social morphology of our societies", pre-eminent over social action (quoted in Urry 2007, p.212). Yet from a space syntax perspective one is entitled to respond with Hillier's (1989, p.6) argument that asserts spatial configuration as an "intrinsic" aspect of social morphology. Hillier maintains that 'networks', both material ('spatial') *and* virtual ('transpatial') are the fundamental synchronizing elements of social ontology. This implication is that this is as true of 'simple' and historical societies that are the specialist focus of anthropologists and archaeologists, as it is of the settlements of an emerging global society powered by digital communications technology that are the principal focus for mobilities studies. From Hillier's perspective, while there is clearly a need to shift the scale of analysis, there is no need to shift social ontologies to acknowledge the transformations of contemporary globalization. Yet for Urry as for Castells the plurality of interlinked networks for travel, communication and economic transitions that characterize the 'space of flows' does indeed herald a new research paradigm (i.e. *Mobilities*) in which the material spaces of everyday life in the public realm have increasingly little purchase on many areas of social practice. In that sense their work decentres the ontological primacy of the material organization of inhabited space asserted by Hillier and Hanson as the foundational pre-requisite of becoming a social human. Is this simply a question of finding the right, or does it raise more fundamental theoretical issues about the relationship of the material and corporeal with the immaterial and disembodied?

2. CONCEPTS OF MOVEMENT IN SPACE SYNTAX AND MOBILITIES STUDIES

Urry notes how the expansion of systems of mobilities has remained something of a 'black box' for the social sciences (meaning, I suspect, a place where formal descriptions of different networked infrastructure systems are called for!). Embracing both complexity science and the 'post-humanist' turn associated with Actor Network and Assemblage perspectives, Urry's *Mobilities is* as concerned with non-human as it is with human agency (Bender, 2010; De Landa 2006). Urry (2007, p.47) posits five kinds of mobility: corporeal, material objects, imaginative, virtual and communicative. The main focus is to explore the agency of technological infrastructure conceived as socially generative systems, enabling new kinds of socio-spatial practices to emerge. Urry's starting point philosophically is that neatly objectivist (i.e. that tend to the technologically reductionist) and subjectivist (i.e. unable to address the nature of human agents' reliance on material systems that enable mobility) approaches provide an inadequate epistemological basis for his new paradigm (p.50). There are clear parallels here with how Hillier and Leaman (1973, p.508) exposed contemporary theorizations of the relationship between space and society as an alliance of 'mutually exclusive' epistemologies.

Urry then, broadly shares with Hillier an awareness that society is inadequately theorized in purely interactionist terms, i.e. as individual social interactions projected onto an intrinsically asocial environmental backdrop (where an interaction is not taking place). Both mobilities and

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space syntax highlight the relation of the individual to enabling material-technological systems that extend beyond any individual body yet are fundamentally implicated in the creation of the totality we recognize as society. Urry puts it this way:

> social science mostly focuses upon the patterns in which human subjects directly interact together and ignores the underlying physical or material infrastructures that orchestrate and underline such economic, political and social patterns. (Urry, 2007, p.19)

Hillier and Hanson (1984, p. 45) establish in the *Social Logic of Space* that what they refer to in terms of embodied social action is the essential performative dynamic that connects a society's materialization in space to its reproduction in time. As early as the preface Hillier and Hanson claim:

> By giving shape and form to our material world, architecture structures the system of space in which we live and move. In that it does so, it has a direct relation - rather than a merely symbolic one – to social life, since it provides the material preconditions for the patterns of movement, encounter and avoidance[3] which are the material realisation - as well as sometimes the generator – of social relations. In this sense, architecture pervades our everyday experience far more than a preoccupation with its visual properties would suggest. (p. ix)

The points of congruence in these passages also highlight some divergence in how the respective research paradigms are developed. There is something of an irony in the fact that Urry's macro-sociological concern with socio-economic and political patterns disguises the emphasis he places on the close sociological analysis of the social practices of mobility he uses to get there. On the other hand Hillier and Hanson's theoretical emphasis on the performative nature of *patterns* of movement, encounter and avoidance in the *Social Logic of Space* disguises the lack of development of a theory of embodied social practice that could facilitate syntactical conceptualization of spatial cultures at the micro scale where social groups are differentiated, preferring instead to concentrate on achieving a macro-level synthesis (Liebst, 2012).

In deploying the agency of non-human actors Urry suggests some interesting possibilities for a space syntax theory of the social practice, especially when one considers the materialization of a given spatial configuration as a non-human actant itself. This might be conceptualized as some sense as an emergent 'infrastructure' of social practice no less (in fact much more) than, for example, a railway network. The plurality of networked infrastructure that constitute a movement-space of material, communicative and symbolic possibilities for social practice – recalls the heterogeneous possibilities of Hillier and Leaman's 'logical space':

> … an imaginary, many dimensional space created by and filled with systems of signs, symbols and representations. It exists neither purely in our heads, nor in real [i.e. physical] space outside, but constitutes the medium through which the relation between the two is made (Hillier and Leaman, 1973, p.501).

Many kinds of networked agencies might be assumed to constitute 'logical space' and realize the particular built-environment materialities of the world in which live. For Urry the idea of the *hybridity* of human and non-human agents, taken from the actor-network tradition is important in suggesting how bodily practices become reconfigured through their use of technological systems of mobilities and communications that both extend and fragment their presence in geographical and virtual space. In this sense we might understand spatial configuration as a kind of *assembling agency* through which bodies becomes social as they participate in the plurality of corporeal, material and informational networks they inhabit (cf. Netto, 2016). Hillier himself uses the term 'hybridity' to suggest a parallel between ties that link locally dense to globally diffuse regions of social networks and the local to global structures linking the 'background' and 'foreground' networks of cities (Hillier, 2016).

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3 Note Daniel Koch's paper on the neglected dimension of this triad '…and avoidance' in the Proceedings for the 10th International Space Syntax Symposium. http://www.sss10.bartlett.ucl.ac.uk/wp-content/uploads/2015/07/SSS10_Proceedings_022.pdf [accessed 4.2.17]

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Both Urry and Hillier emphasize the association of access to mobilities infrastructure and social privilege. For Urry (2007, p.194-7, 39), 'network' or 'motility' capital provides access to social networks that perpetuate economic and cultural capital and define a new globalizing social stratum of highly connected individuals. He argues: 'network capital points to the real and potential social relations that mobilities afford' (p.196). This dynamic is disruptive of traditional sociological categories of class and party-political allegiance which become increasingly defined by access to networks rather than place-based affiliations. Given that much of what Urry is describing takes place in the context of a rapidly urbanizing world, one wonders whether there is scope in this theorization to engage with Hillier's formal articulation of cities as fundamentally social network building entities; spatial-agglomerative processes that generate non-local relations (Hillier 2010). In this context there is broad agreement between Urry and Hillier that an undue focus on the qualities of locality and 'place' elides what is really at issue, i.e. how non-local network relations are a socially structuring agency.

When, however, Urry states, again paraphrasing Castells, in the context of a discussion of air travel that "geographic proximity in most countries no longer shapes social relationships" (Urry 2007, p.135), it is hard to not to think that he is perpetuating the what Hillier and Netto (2002, p.183) refer to as the "myth of historic spatiality" – that is the idea that as societies 'progress' technologically they move from comprising homogeneous territorial communities to aspatial networks. Yet, as has previously been pointed out, such an argument lacks credibility in the face of Hillier's assertion that all societies combine spatial (material) practices with aspatial (semantic or institutional) identities. For Hillier being social is fundamentally a process of overcoming the space that constrains non-local networks (Hillier and Hanson, 1984, p.236). Clearly, the digital frontier has opened up the global frontier but this means less that the materiality of spatial practices cease to matter, simply that they increasingly have the potential to propagate social relationships over a greater extended area of geographical space.

A certain presentism is certainly evident in Urry's *Mobilities*. While he is strong on articulating the socially transformative effects and *affects* of systems that enable non-pedestrian movement by rail, road, air and sea, and mobile communication via a range of electronic devices – he is weaker on conceptualizing the movement and encounter field of inhabited space which is so central to space syntax research. Despite his acknowledgement that 'all movement involves intermittent walking. Pedestrianism is everywhere..." (Urry, 2007, p.63) and that walking is an aspect of 'multiple socialities' (p. 90) there is a strong if implicit technologically-directed historical narrative at work in which 'pedestrianism' is increasingly superseded by other forms of mechanized and digitized motility and communication. I suspect that this is less because Urry particularly believes this to be the case but rather because he lacks the theorization to articulate what he categorizes as 'pavements and paths' as mobilities infrastructure in a manner parallel to the kind of system represented by railway lines and airport connections. By contrast Hillier and Hanson (1984) provides a way of thinking about and researching how society's material organizes arises from the generic imperative to cross space to encounter 'the other' – a contribution that directs attention towards, but is explicitly not restricted to, spatial encounters.

There is nothing equivalent in Urry's *Mobilities* and this leads to difficulties. The social practices enabled, for example by aviation and communication networks cannot be entirely abstracted from corporeal movement dynamics in material space any more than their social affect can be comprehensively explained in these terms. Urry's interesting account of motorized automobility as a non-linear, self-organizing system, for instance, is rather impeded by not considering how contemporary road systems largely emerged from historical networks that long pre-dated the automobile era (Urry, 2007, p.118; Dhanani, 2016).

The space syntax theory of movement offers a much richer set of concepts than mobilities for thinking about how the spatial configuration of movement-space shapes the material world in which other material infrastructure are, to an extent, embedded and practiced. At the same time there is also a sense in which the role of movement has not been fully resolved in space syntax theory. It was not until the completion of the computationally-enabled phase of research that concluded with the publication in 1996 of Hillier's *Space is the Machine* that movement-

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space really moved to the centre stage in the theory and practice of space syntax. Drawing on a body of research conducted by the international space syntax research community, Hillier (1996) assimilated two new components on the built environment into space syntax theory – the theories of 'natural movement' and 'movement economy'. In the theory of natural movement Hillier proposes that the spatial configuration of the plan or urban grid *itself* produces 'attraction inequalities' that privilege some spaces over others for movement on a *probabilistic* basis, prior to any consideration of 'attractors' on the basis of design aesthetics or land-uses (Hillier *et al* 1993). The theory of the movement economy complements this approach by proposing that land-uses benefitting from a high rate of movement will tend to cluster in more accessible networks locations at a premium cost, while other land-uses situate themselves in relatively less integrated positions in the network, depending on the economic value they assign to accessibility. By launching an evidence-based assault on the attractor-based origin-destination models commonplace in urban planning Hillier and his colleagues demonstrated that *space matters*, not in naïve terms, for example representing community as a function of locality or spatial determinism, but as a generative socio-spatial dynamic through which social life emerges.

Griffiths (2011) proposes that while Hillier conceives cities (and by extension social systems) as systems of organized complexity, movement in space syntax theory is largely confined to a Newtonian model, regarded as a constant that simply 'just happens' all things being equal (Hillier 1996, p. 393). Movement in this sense is *that which does not need to be explained* – hence the critique it presents to origin-destination thinking. The difficulty is that explaining movement as the probabilistic outcome of the laws of spatial configuration means that it really has very little to say about the specificity and plurality of movements across history, cultures and between different social groups. Quite deliberately, moving bodies are conceptualized as kind of proxy to demonstrate probabilistic configurational structures, rather than as agents of a complex socio-spatial process. It is telling how small-scale urban movements (i.e. within a given convex area) hold relatively little theoretical interest for Hillier in comparison with larger-scale movements that link across spaces, a point he emphasizes by differentiating local movements as 'occupation' (Hillier 1996, p.316-7). Yet such an argument tends to privilege the synchronic social totality over 'messy' diachronic processes where no privileged scale of analysis can be assumed.

Acknowledging this critique however, highlights the unresolved tension in space syntax theory which resides in its rather unique but also Janus-faced status in aspiring to be both a theory and method for application in contemporary architectural and urban design practice, and a social theory of space and method for built environment research which seeks broad engagement with the theoretical literature of Lefebvre and Soja, among many others as Hillier (2008) exemplifies. The tension arises from the fact that the 'configurational' approach to design (for want of a better expression) cut its teeth in a particular historical context and largely in response to a particular historical problem (the perceived failure of modernist social housing and urban design in post-war Britain) that lends a clear ideological inflection (the futility of social engineering) to the *de facto* normative practice of seeking to 'improve' the quality of life in the urban realm through architectural design. The overarching social theory, however, (as presented in Hillier and Hanson, 1984) aspires to develop a conceptualization that can put built environment research on an evidence-based footing. This claim of space syntax research to scientific objectivity was pushed hard in the work drawing on the natural movement and movement economy theories that flowed from *Space is the Machine*, providing strong vindication of Hillier and colleagues' belief that, after modernism, architects needed to understand theoretically how space *actually* works to produce social outcomes – when their designs were failing to produce the ones they had expected. I would argue that this normative imperative of space syntax implemented design practice had the unintended effect of obscuring theoretical reflection on the normative positioning of the associated but distinct identity of space syntax as a social theory of space. Its *theoretical* preference for the generic description of social totalities on a comparative basis has impeded elucidation of the pluralities and ambiguities of movement and encounter evident at the micro-scale, where further conceptualization of spatial configuration as an emergent (and historically contingent) field of social practice – perhaps a materialized 'spatial infrastructure' in

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a sense recognizable to mobilities research (and 'mobilities design' – see Jensen 2016) – would be beneficial (Liebst, 2011, 2016; Netto, 2016). In seeking to explain its particular trajectory of theoretical development, the next section of this paper seeks to locate the *normative* identity of space syntax as a social theory of space broadly in a utilitarian tradition of thinking on urban planning reform traceable back to a physiological strain of natural theology in the late eighteenth-century

3. MOVEMENT AS IMPROVEMENT: SANITARY ECONOMY AND MOVEMENT ECONOMY

The historian of ideas, John Pocock (1993, p.311), has used the term '*sattelzeit'*, literally a 'time in the saddle', to describe what he saw as a shift in dominant discourses in early nineteenth-century Britain. Very approximately, mid eighteenth-century discourses associated with civic virtue seemed to be eclipsed by discourses of utility and commerce in the early nineteenth-century (cf. Hunt 2004). The prevailing counter-revolutionary ideology of Burke did not provide the basis for a sociological critique of modernity as the Revolution precipitated in France had done. Instead, it was in Britain that the ostensibly apolitical social survey was pioneered, a development that was closely associated with the industrializing cities. One aspect of the *sattelzeit* was the gradual adaptation of Paley's theory of Natural Theology (a benign God who could be discovered in an ordered universe) into a proto-functionalist social theory which also co-opted the traditional organic analogy of the city and the human body. The city became a legitimate area for systematic enquiry aimed at finding out how it fitted into God's rational and benevolent universe. Robert Vaughan's *Age of Great Cities* (1843) is written in this tradition, and he is one of the relatively few thinkers of this time who saw urbanization in an unambiguously positive light: confident that, in time, the knowledge cities emanated would produce solutions to the problems they produced. How else would a beneficent deity arrange things?

Urbanists especially have tended to conflate the physical expansion of the nineteenth-century city with environmental considerations in a tradition that has its origins in the analogy of society as a biological organism. Graeme Davison (1983) has shown how the early social analysis of towns was often conducted by doctors who, in the light of physiological discoveries concerning disease, circulation and homeostasis, developed the organic metaphor into an anatomical diagnosis of urban maladies. Doctor Thomas Southwood Smith, a pioneer of sanitary reform argued that the city, like the body, functioned as a 'sanitary economy', a system, where the free circulation of water and air and removal of waste from the urban system created the conditions for a healthy life the city just as it prevented disease in the body. The sanitary reformers offered a greatly improved diagnosis of urban conditions in recognizing the connection between systemic factors (the circulation of clean water, for example) and localized problems. The previous science of 'medical topography', which it replaced, based its diagnosis on the 'qualities' present in local conditions. By contrast, in his 1827 treatise *The Use of the Dead to the Living*, Southwood Smith argued that:

> Disease is denoted by disordered function; disordered function cannot be understood without a knowledge of structure; structure cannot be understood unless it is examined. (quoted in Davison, 1983, p.361)

The difficulty with the anatomical analogy is, quite simply, that a body is not the same thing as a city, no matter how well it can be understood metaphorically in those terms. In the Victorian period the utilitarian sanitary economy became conflated with a 'moral economy' where poor physical environments and the presence of vice became inextricably associated; what Evans (1997) characterized as the contagious nature of immorality within the nether world of London's rookeries. The desire to replace these labyrinthine slums with thoroughfares was certainly informed by the Victorian association of urban morality with circulation, 'the street was not a place to loiter, but to move on', as Daunton (2000, p.6) puts it. Once it is conceded that there is an association between environmental degradation and social vice it is a short step to find social vice where there are signs of environmental degradation – particularly dirt. Accessibility then, 'through movement', was viewed as 'good' in normative terms by middle

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class urban elites, a way of cleaning up the city and making it more governable and even less revolutionary (Hobsbawm, 1969).

Without suggesting that such a physiological conceptualization of movement governs the theory of spatial configuration (quite clearly it does not) there is no doubt that much applied work in the field aims, quite properly, at establishing rational channels of movement between historical centres and more recently developed areas of cities, undermining spatial patterns of social segregation and creating high-quality public spaces where different social groups may easily mix. From this perspective one can identity in space syntax urban design practice, an implicit advocacy of what Bookchin (1974) refers to as the 'bourgeois city' (see also Griffiths 2015). In the European tradition these were more or less self-governing communities built through wealth in trade and which, in the second half of the twentieth century, were so often said to be in crisis from war damage, the consequences of modernist redevelopment and poor, socially divisive, systems of regulation and governance. It is in such 'cities of production', the arrangements of their streets and squares that space syntax as an applied theory of urban design has achieved so much. Yet historically such interventions have much in common with the eighteenth and nineteenth century sequences of urban improvements most clearly associated with Victorian 'civic pride' - arguably revived in the late twentieth-century by the 'urban renaissance' strategy of the Blair government - that sought to make the industrial city endurable for its middle-class inhabitants. While this class did not usually possess as individuals the financial resources or alternative residencies available to aristocrats, collectively they stood to benefit most from implementing urban reforms that could improve the quality of urban living and ameliorate the worst environmental conditions of the slums, which they feared as a potential source of social revolution. Urry (2007, p.91) himself comments on the new public spaces of the nineteenth-century city in characterizing the nineteenth-century as an epoch of 'public mobilization' through a massive expansion in public mobilities infrastructure, a similar point is made by Sennett (2002, p.317-354). In other words, one can associate a focus on urban-scale circulation with a particular phase of urban reform from the late-eighteenth-century and it is this, strongly normative vision of the bourgeois public realm that, I would argue, currently characterizes the space syntax theory of movement-space. The point is not to criticize space syntax as an urban design theory for this emphasis but simply to insist on *movement as a normative category* – that is as something that is not generic or socially unambiguous, especially when approached not at the macro-scale of social totalities but at the micro-scale where distinctive spatial cultures emerge and what might be considered to be 'natural' in culture is most likely to be contested.

Hillier has condemned modernism as essentially anti-urban. He has traced this influence back to the early town planners, particularly the Garden City movement, which was, he argues, based on an ironically atavistic response to the environmental and social squalor of the nineteenth-century industrial city that led to a distaste for the very *idea* of cities. Trevelyan's bestselling English Social History (in print continually since its publication in 1942) is indicative of the way in which contemporary cities became viewed in wider culture at this time.

> When Waterloo was fought, rural England was still in its unspoilt beauty, and most English towns were either handsome or picturesque. The factory regions were a small part of the whole, but unluckily they were the model for the future. (Trevelyan, 1986, p.477)

In Hillier's view post-war urban theorists such as Lewis Mumford have much to answer for in translating their belief in what Mumford (1961, p.515) called the "de-natured" industrial city into an anti-urban planning ideology –still evident in writers such as Hunt (2004, p.16, 321). For Hillier, such anti-urbanism gave succour for modernism's undermining of the line (or street) as the fundamental (natural) organizing principle of cities, in the name of social engineering based on left wing and rural utopianism. Such responses to insanitary urban conditions he argues:

> ...do not derive from an understanding of cities. On the contrary, they threaten the natural functioning and sustainability of the city. (Hillier, 1996, p.136)

Yet Hillier's, no less than Mumford's, recourse to a vocabulary of what is or is not 'normal' or 'natural' is indicative of a largely unarticulated ideological position in which light-touch interventions to restore 'natural function' are preferred to the utopia-building schemes of

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the modernist planners. In that sense one can identify a clear lineage between theories of the city conceived as a natural system in the spirit of the early medical investigators and Hillier's own articulation of urban function. For example, space syntax research has argued how poor implementation of movement-circulation design is capable of causing social malaise where the interface between different age groups is minimized (Hillier 1996, p.183-214). There is a distinct echo here of early nineteenth-century physiologically-inspired urban sociology with its association of good circulation and the moral (or at least 'healthy') urban environment.

In fact the whole principle of design 'intervention' has strong medicalist- functionalist connotations, implying an intention to restore the proper or 'normal' functioning of the system. Yet whereas a medical patient can clearly decide the extent to which he or she feels ill, and indeed a large *de facto* consensus may exist about the definition of a contemporary problem in urban design, when it comes to applying key space syntax concepts of movement-space to an interdisciplinary range of enquiries from historical archaeology to contemporary urban anthropology – the question 'how do settlements function to produce social solidarities?' may be too abstract to help identify and describe the diverse aspects of a spatial culture as these emerge at relatively small scales of socio-spatial practice in particular times and places. Urry (following Sennett) reminds us that representations of networked movement and circulation can become fetishized in a society in which social status is associated with mobility (Urry, 2007, p.207).

4. CONCLUSION: MOVEMENT AS NORMATIVE

It is relevant in this context to consider how Urry prefers to ground the *Mobilities* paradigm in Georg Simmel's concern with modes of human association and circulation systems, over the Durkheimian emphasis on social solidarity, which appealed to Hillier and Hanson in *The Social Logic of Space* (1984). Although heavily influenced by Durkheim, Simmel's focus on mobilities serves to insulate his work from the conflation of social morphology with social physiology that precipitated the crudely functionalist approach of modernist sociology with its overriding concern for maintaining the stability of the social organism (Andrews, 1993, p.122-3). Yet the theorization of 'movement-space' in space syntax is, I would argue, neither functionalist nor positivistically modernist as an analytical proposition, but rather *utilitarian* in an ethical-normative sense. As an approach to urban design it seeks to maximize the public good (for example by contributing to the creation of high quality mixed-use public spaces) while theoretically it struggles to grapple critically with interdisciplinary questions such as gentrification, which, while neatly demonstrating the theory of the movement economy, equally indicate how it is usually social elites who are most at liberty to appropriate what Marcus (2010) has called the 'spatial capital' of the public realm, as much as they accumulate Urry's 'network capital'[4]. Further reflection on its own normative-ethical positioning as an analytical approach to design could help liberate space syntax theory more generally from the functionalist echoes of its intellectual antecedents and lead to a development of those components of the theory concerned with mobilities and encounter through interdisciplinary engagement with research questions beyond those typically raised in contemporary urban design and planning scenarios, while also offering fresh critical perspectives on these.

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4 A proposition explored by Pheereeya Boonchaiyapruek in her UCL doctoral thesis (2017) 'Spatial culture and spatial capital in Bangkok: a study of adaptability and diversity in the urban transformation process'.

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