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Abstract

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Spatial theories of the urban

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Abstract: This paper explores how spatial theories, models and concepts function as representations whose underlying logic and reasoning are primarily metaphorical. We examine the underlying metaphors and founding premises of key theories of urban systems and of cities' internal spatialisation, and we trace these theories' production as artifacts of how we *think* space. The purpose of this is to focus attention on *how* metaphors, as representations of space, make the city available to us for analysis; what they foreground and what they elide. We suggest how, as representations, these theories give us interpretive frames through which we grasp empirical data and develop understanding of process, creating 'facts' about urban spaces and spatial relations. Relatedly, then, we foreground more generally the necessity to think critically and reflexively about our representational practices and the analyses they sustain.

Our purpose in this paper is to elaborate on the argument developed in O'Neill and M^cGuirk (this collection) regarding the functioning of spatial theories, models and concepts as representations whose underlying logic and reasoning are primarily metaphorical. The paper does this straightforwardly; by way of some worked examples drawn from urban spatial theories. It uses these examples to demonstrate how, as representations, these theories give us 'grids of intelligibility' (Shields 1996) or interpretive frames through which we grasp empirical data and develop understanding of process, creating 'facts' about urban spaces and spatial relations (see Vigar *et al.* 2005). The purpose of this is twofold. The first is to highlight the obvious dangers of being unconscious of the premises of our spatial theories and the theoretical landscapes they allude to, as if our representations had a neat or transparent correspondence to an underlying geographical reality. The second is to stress the need arising from this to scrutinise systematically the metaphors we use in spatial analysis and their aptness to the analytical task at hand (Barnes 1992). This requires attention to *how* these metaphors, as representations of space, make the city available to us for analysis; what they foreground and what they elide. So we draw on theories of urban systems and theories of cities' internal spatialisation and, in exploring their underlying metaphors, we attend to their founding premises. The paper deals with theories of urban systems and theories of cities' internal spatialisation and it addresses two phases in social science—roughly corresponding to the periods of modernity and post-modernity—if we can think of these things chronologically. Our purpose here is to point to the spatial orderings the engagement of these theories produces. Spatial theories, models and concepts are artifacts of how we *think* space. To paraphrase Massey (2005: 5), they are not descriptions of the world, they are images in which the world is made.

We begin with spatial theories of urban systems. At least until the 1970s, Central Place Theory and Rank-size rule dominated our understandings of the form and functioning of urban systems.

Walter Christaller's (1933) in-depth analysis of Southern Germany led to Central Place Theory which theorises an hierarchically ordered landscape of inter-connected cities, towns and villages that operated as an integrated urban system of interlocking hexagonal market areas. That little empirical evidence could be found of the regularity suggested by Central Place Theory did not prevent the widespread application of many of its core spatial concepts as framing devices for urban analysis—particularly the notion of integrated nationally-bounded systems of cities. The rank-size rule (also originally developed in Germany [Auerbach, 1913]) was popularised by Zipf (1941) in a US publication. It proposed that diversified and fully integrated economies will produce an hierarchical array of cities in which the relationship between size and rank could be graphed as a straight line. The second ranked city would be half the size of the largest city; the third ranked would be one third the size of the largest and so on. These theories dominated understandings of urban hierarchy until at least the 1960s and they still feature in geographical and economic analysis: Harvard economist Edward Glaeser (2005) shaped his economic history of Boston's development, published this year in the *Journal of Economic Geography*, around tracing the city's rank within a national urban hierarchy.

Three things are important here. *First* is that both theories are underpinned by the founding premise of neo-classical economics—economic rationality—that choices about the efficient allocation of scarce resources will be made with a view toward the maximisation of rational self-interest. The urban system, as the aggregation of individual rational decision-making processes by producers and consumers, takes an economically rational form, hindered neither by motivations other than interest-maximisation nor the context-dependent nature of human behaviour (see Barnes 1992). Following this, the economically rational form is understood as a hierarchy: a hierarchy of cities, as economic entities, related in an orderly fashion. *Second* is that these theories embody an economic concept of urban space. They take cities to be inter-dependent, rationally ordered, bounded entities, and take the urban hierarchy to be a product of an integrated economic system whose territorial boundaries are naturally contiguous with those of a nation state. So the notion of nationally-bounded systems of cities embedded in an integrated national space economy—something that contemporary representations of urban systems habitually query—is naturalised. *Third* is the manner in which the spatial hierarchies these theories imagined constituted a norm for the evolutionary path of urbanisation against which nations were empirically tested (see Massey 2005). We can certainly see their influence, for instance, in the accounts of Australian urbanisation in the 1970s and 1980s by Neutze (1977), and Logan, Whitelaw and McKay (1981) which, somewhat anxiously, described Australia's urban system as an anomaly: a departure from the complex hierarchies of the observed European urban systems on which these models were based. And they highlight the nation's stubborn refusal over time to develop as the theoretical ideal of the integrated national system.

By comparison contemporary theories of urban hierarchy are based on a spatiality in which the nationally-bounded spaces encapsulating national urban systems have been surpassed by, and re-scaled to, the global as the primary logic driving urban spatiality and urban life. Global city theory, championed by Friedmann (1995), Sassen (1991), Castells (1996) and Taylor (2003) amongst others, replaces the notion of nationally bounded urban systems by the idea of a globally integrated urban system, headed up by a hierarchically structured set of global cities. While the idea of hierarchy retains a presence, at this point a powerful new metaphor is adopted to capture the driving forces of global urbanisation and that is the metaphor of the network and networked

space. Castells' (1996) trilogy *The Rise of the Network Society* has been enormously influential in establishing this vision of space.

Global cities' dominance is assumed to arise from their depth of connection into networks of capitalist accumulation and exchange and global economic control. This conception has particular effects in that it casts our attention into a specific register of global connections. For leading proponents of global city theory, this is the register of transnational business and finance connections. For instance, the website of the Global and World Cities Group (GAWC) at Loughborough University (<http://www.lboro.ac.uk/gawc/>) led by Peter Taylor, provides a rich supply of maps in which cities are assessed according to a variety of metrics of connectedness related to transnational finance and advanced producer services corporations. The inference here is that the most connected cities have floated free of their national spatial setting to be reinscribed in a new globalised spatiality. The nation disappears from view, overwhelmed by the non-territorial spatiality of the network in its multiple, often virtual, forms.

The other inference, of course, is that if these are the connections that matter, then places without them are disconnected from globalisation. Critics of global city theory, such as Michael Smith (2001), Jennifer Robinson (2003), and Eugene McCann (2002), point to the hierarchical structuring that this spatial imagining generates in its privileging of certain forms of global connection over others. A small range of economic activities with global reach, usually concentrated in a small part of cities, are prioritised. Capturing the diverse other forms and scales of connection that shape urban economy and society would require quite a different spatial imaginary (see Robinson 2003)¹.

The result of global city theory, and of the network metaphor, then tends to be a binary ordering of places and spaces as globalised/localised, as advanced/backward, as competitive/uncompetitive, as connected in the ways that matter or as disconnected. Spatial constructs like the hub and spoke model of urbanisation (see Graham and Marvin 2002) embody this idea of networked urban islands whose connecting flows pass over, without ever touching down on, the disconnected territories between them. There is a clear ordering and a new geography of core and periphery, of stretched and compressed distance, being established here that ascribes vast swathes of territory and its inhabitants as 'structurally irrelevant' to the global economy (Castells' phrase 1996: 404). And it is not difficult to see the impact of global city theory on the framing of urban and economic policy settings in Australia's major cities—especially Sydney (see M^cGuirk 2004). The drive to global connectedness and to global city status has saturated policy rhetoric and underlain its logic since the late 1990s. The need to be connected and to maintain connection to the global network of accumulation and information flows can be read effortlessly in fiscal regulation and industrial relations reform, infrastructure, education policy and urban planning.

Having sketched the overlaying of hierarchy with network metaphors in the realm of urban systems theory, we turn now to theorisations of cities' internal spatial organisation. Here we compare Burgess' (1925) Human Ecology arising from the Chicago School, and Dear and Flusty's (1998) model of the post-modern city arising from the Los Angeles' School. Burgess' concentric zone model was developed in the 1920s and has become what David Smith (1988) once called 'the most famous diagram in social science' (cited in Duncan 1996: 256). The diagram and its text are steeped in biological metaphor. The city is an 'organism', a unity in

which the whole is organised by the centre and in which development is driven by a linear, evolutionary process. City form is characterised by internally homogeneous concentric zones or 'natural areas' whose progress over time is determined by competition between users resulting in the 'invasion' of spaces by outwardly expanding social groups. Here, again, city form results from the aggregation of multiple individual rational decisions. But perhaps the model's most powerful spatial construct is that of there being an order to the city's spatial patterning and social process; the predictable distribution of ethnic enclaves, ghettos, areas of vice and 'clean and bright' suburbs (see Jacobs and Fincher, 1998). The city is an ordered coherence, a unified entity with its own internal logic of development.

This particular schema demonstrates clearly how models of urban structure as representations are unable, necessarily, to reproduce the whole of what they seek to represent. Rather, the representation stands in for the city, keeping particular components and processes in the frame and available for analysis whilst other remain selectively visible (Shield 1996, Vigar *et al.* 2005). For instance, Jacobs and Fincher's (1998) critical reading of Burgess' model points out how it assumes groups to be definable by a single attribute—race, class, sexuality or criminality—and to be directly mappable as such. Similarly, the model's organic metaphor is unable to capture the processes whereby identity groups are socially constituted. So racial groups, for instance, are accepted as pre-given and uncomplicated—simply there to be mapped as a category of distinction. And through the biological metaphor, the model also theorises a moral landscape. Certain groups are designated as problematic (e.g. prostitutes) and as representing a malfunction in the city's ordering. Burgess described these 'malfunctions' as 'disturbances' to the urban 'metabolism'; the assumption being that under 'proper' conditions these 'deviant' groups would be assimilated into the norms of the 'clean and bright' suburbs. So the model suggests clear hierarchical structurings of social difference—a moral order.

Crucially, Jacobs and Fincher (1998:6) stress how this most famous diagram in social science is 'not just an objective description of the city that indifferently attended to the social distinctions that occurred there. Rather, (it) was one more articulation in the ongoing discursive constitution of those categories of distinction'. Here we would add that it was also one more articulation contributing to the materialisation of social groups' spatiality, as the *idea* of space creates the *materiality* of space or, to return to Massey, as the world is made in the image of its representation. We could certainly point to the imprint of this ordered view of urban space and of natural areas in the modernist practice of comprehensive metropolitan planning for Australian cities; in its reliance on functional separation of urban activities into distinct zones and in its view of the city as a unified entity amenable to comprehensive management (see Sandercock 1998).

The Los Angeles School's vision of the internal spatiality of the post-modern city, developed by Dear and Flusty (1998), offers an almost painfully sharp contrast to Burgess' orderly, integrated 'city as organism'. Dear and Flusty's spatial imaginary of the contemporary city is defined by fragmentation and disaggregation, reflecting the polycentric, dispersed forms of contemporary urban areas. The idea of an organising centre to the city is gone as 'urban peripheries are organising what's left of the centre' (Dear 2003:503). The network metaphor is at work here again and, with it, the idea of an uneven landscape of connection and disconnection as the capitalist imperative of uneven development takes effect on an ever-finer scale. As Dear (2003: 503) puts it 'urbanisation occurs on a quasi-random field of opportunities in which each space is (in principle) equally available through its connection with the information superhighway.

Capital touches down as if by chance on a parcel of land, ignoring the opportunities on intervening lots thus sparking the development process'. With the displacement of the organism metaphor, there is no longer any expectation of a linear, progressive evolution. Rather development is expected to be non-linear and regressive, resulting in a growing disjuncture between prospering and excluded segments of the city. And the model is fleshed out with its own set of additional spatial constructs that build the 'city of fragments' representation—ethnoburbs, edge cities, corporate citadels, command and control centres—many of which we know have filtered into the frameworks we use to trace, evaluate and manage urbanism in Australia.

The displacing of the organism with the network metaphor produces quite a different understanding of the processes producing spatial ordering. The spatial ordering of contemporary city structure is not one imagined to arise from the aggregation of rational *individual* decisions—as in the concentric zone model—but from a broader understanding of rationality derived from Marxian political economy: the structural economic rationality of capitalism as an economic system (Barnes 1992). The same is true of global city theory and the global urban hierarchy it imagines. The spatiality and functioning of the city, and the global urban hierarchy that frames it, are understood as products of capitalist spatial imperatives. Analysis of the city therefore stands in for analysis of capitalism (Duncan 1996). In both these examples, the dominant conception of space is an economistic one in which the scope for attention to the processes *producing* globalisation and to the role of reflexive human action in shaping urbanism is restricted at best².

To conclude, let us return to the straightforward purpose of this discussion. It is aimed to foreground the need to be critically conscious and reflexive about how our central representations—and particularly their founding metaphors—impact on spatial analysis. We need to nurture an alertness to how they create orderings, frame visions, alternatively naturalise or 'other' processes, identities and spatialities. Crucially, then, we need to be aware of their implication in the creation of material spaces, particularly through their impacts on shaping the policy imagination. Our spatial theories, models and concepts have a descriptive and a performative purpose (Sayer 2000). In the field of spatial analysis—and perhaps particularly those areas engaged in the use of GIS—there is still a need to cultivate a more acute consciousness of the implications of our representational practices. Massey (2005: 28) suggests that we consider our acts of representation as part of the continuous production of space; a position that 'rejects a strict separation between world and text and which understands scientific activity as... a practice, an embedded engagement *in* the world of which it is a part'. We hope that the work of the socio-spatial theory paradigm forum will assist us in thinking critically and reflexively about our representational practices and about the analyses we produce under the banner of Spatially Integrated Social Science.

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¹ Indeed, developing this imaginary is the explicit purpose of post-structuralist inspired theorists aiming to promote relational understandings of urban space that, rendering the notion of the city as an integrated bounded entity moribund, focus on the multiple forms of variously scaled connections and associations that produce urban space (see Amin and Thrift 2002, Doel and Hubbard 2002, Massey 2005). In this imaginary, urban space and urban systems are much more precarious assemblages than in the political economy inspired vision of the network city system of global capitalism.

² The contrast here to urban theorists working within the post-structuralist paradigm, and developing the view of cities as spaces built relationally and through multiple forms of association, is stark. Beyond this, there are of course other paradigms for urban research that engage quite different epistemologies than do political economists, work with different, less economic conceptions of space and, consequently, work through a very different register of representations and metaphors: post-structuralist-inspired work, for instance, that engages ideas of embodiment, hybridity or multiplicity to envision urban spaces (see Amin and Thrift 2002; Longhurst 1993; Sandercock 1998). While there is no opportunity to rehearse this (vast) body of work here, the key point is that all spatial theories, whatever their epistemological flavour, are representational.