TERRITORY AND NETWORK

A FALSE DICHOTOMY ?

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The concepts of 'territory' and 'network' seem to come from different, incompatible, spatial discourses. In English usage, at least, 'territory' evokes boundaries that parcel the world into a patchwork of two dimensional shapes with internal integrity and distinct identities. Networks, by contrast, stretch out over space, drawing the faraway near. Networks involve connection, flux and mobility; they mix things up and form hybrid identities. A complex network seems to work in three, four or more dimensions. Where networks seem dynamic, territories appear static and resistant to change.

The incommensurability between these two concepts matters because of the hold both ideas have over spatial theory. The growth of network theorising has been a notable trend in recent geographical scholarship. At the same time geographers have, rightly, been first to question the claims of some cheerleaders for globalization that we are on the threshold of a borderless world.

How then can we reconcile these apparently competing perspectives? Do we need to ? And is it possible ? Valérie November has asked 'whether the concepts of network and territory can be linked together, or if they correspond to two different explanatory systems'[1] (November 2002). I want to address this question by considering the changing relationship between the concepts of network and territory in geography.

One perspective is offered by John Agnew who argues that '[p]olitical power [...] is exercised from sites that vary in their geographical reach. This reach can be hierarchical and network-based as well as territorial or contiguous in application' (Agnew 1999: 501). In a set of arguments designed to challenge the assumptions of the 'territorial trap', Agnew suggests that human history has been marked by at least four different 'spatialities of power': the 'ensemble of worlds', the 'field of forces', the 'hierarchical network', and the 'world society' (Agnew 1999: 503-08). Territorial states correspond to the 'field of forces' model. Agnew writes that 'in the contemporary world there is evidence for the effective co-presence of each of these models, with the former territorial models somewhat in eclipse and the latter network models somewhat in resurgence' (1999: 506). The emerging informational society is a 'deterritorialised network system' (1999: 512).

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[1] My translation from original French.

This suggests that territories and networks are distinct forms of organization. They may co-exist but they cannot be conceptually reconciled or reduced to one another. But is this right ? Can the incompatibility between network-thinking and territory-thinking be transcended ? And what would that do to the concept of territory ? In this brief paper I suggest that there are four ways in which the relationship between territory and network have been understood in (Anglophone) geography. First, some writers have suggested that networks have replaced territories. Second, and in reaction to this view, others have insisted that 'territory still matters'. A third view sees some aspects of reality in terms of networks (notably the globalised economy) and other aspects in terms of territory (the politics of nation-states, for example). Finally, it might be possible to understand territories as special kinds of networks.

Territory and Network I: Networks have replaced territories!

It sometimes seems as if 'networks' represent a new orthodoxy that has replaced supposedly outdated ways of writing geography in terms of bounded areas. This is an over-simplified view, but consistent with two common assumptions. Both assumptions see territory and network as antithetical.

The first assumption is that the world has changed from a territorial to a networked form. The category 'territory' was appropriate for an 'old' geographical reality, but our 'new' reality consists of networks. Modernity, with its sovereign states, national markets and distinct culture areas has given way to post-modernity, the decline of sovereignty, the development of global markets and cultural hybridity. A brave new networked world is emerging from the territorial ruins; 'de-territorialization' is its implacable logic.

The second assumption is that it is our ideas that have changed. 'Territory' is the conceptual framework of an old Geography, a modernist world view obsessed with essential distinctions between categories and spaces and driven by a desire for purification (Latour 1993). Network thinking, in contrast, can underpin a new Geography : complex, hybrid, mobile. The shift here is epistemological, from a territorial conception of space to networked one. The scales have fallen from our eyes and the world and its geographies are revealed as always already networked, territory as merely an illusion.

Territory and Network II : Territory still matters !

In response to these suggestions, there is a 'territorial backlash' that can be summed up in the phrase 'territory still matters'. Against claims that the world is becoming borderless, critics of simplified narratives of

globalization stress the continuing relevance of territoriality. As economic geographer Henry Wai-chung Yeung puts it,

> *The story that today's global economy is still made up of distinct national territories (as defended by the state) and local distinctiveness (as constituted by the spatiality of local people, cultures and social practices) may seem outdated, given the growing interpenetration of goods, capital and people, and the interdependence of national economies. There are, however, serious reasons to retell the story. (Yeung 1998: 295)*

However, Yeung does not suggest that nothing has changed or that older territorialities are unaffected by growing interdependence. Territory may still matter, but it matters differently. States themselves are becoming internationalized, scales are increasingly 'relativized' (Yeung 1998: 292-3).

Political geographers and state theorists have also emphasized the changing character of territory (Newman 1999). James Anderson has argued that a more complex form of territoriality is evident in contemporary Europe, one that parallels medieval forms of political spatiality more than the twentieth century's neat partitioning of Europe into sovereign states (Anderson 1996). Neil Brenner also counsels against state-centrism and accounts that naturalize state territoriality, but stresses that this does not mean that territory is unimportant :

> *Those globalization researchers who have successfully transcended [...] state-centric geographical assumptions have generally done so by asserting that national state territoriality and even geography itself are currently shrinking, contracting, or dissolving due to alleged processes of 'deterritorialization'. A break with state-centrism is thus secured through the conceptual negation of the national state and, more generally, of the territorial dimension of social life. I [...] argue, however, that this methodological strategy sidesteps the crucially important task of analyzing the ongoing reterritorialization and rescaling of political-economic relations under contemporary capitalism. (Brenner 2004: 30)*

Brenner's discussion of networks concerns inter-urban networks—more or less formal policy networks made up of institutions of municipal governance (Brenner 2004: 286-94). These are effectively networks of (municipal) territories, and thus they constitute one possible rapprochement between networked and territorial perspectives (see also Leitner et al. 2002). The territory/network dichotomy remains intact, however. Territories and networks can coexist, but the nature of each remains largely unchallenged. By contrast, two other contributions to the geographical literature on globalization consider the territory-network relationship in a more far-reaching way.

Peter Dicken and his colleagues advocate a network 'methodology for analysing the global economy' (Dicken et al. 2001: 91). Researchers should 'identify actors in networks, their ongoing relations and the structural outcomes of these relations' (91). Networks are not free-floating, however, and the 'socio-spatial constitution of [...] individuals, firms and institutions' (91) remains important. Furthermore, Dicken et al emphasize the practices that produce networks, rather than formal analyses of network relations. And they challenge scalar thinking, arguing that '[d]ifferent scales of economic processes simply become links of various lengths in the network' (95).

Moving to a network approach, however, should not 'denigrate the role of the territorial state in global economic processes':

> National regimes of regulation continue to create a pattern of 'bounded regions', and networks of economic activity are not simply superimposed upon this mosaic, nor is the state just another actor in economic networks. (Dicken et al. 2001: 96 original emphasis)

Thus networks exhibit territoriality and (state) territories affect networks in 'a mutually constitutive process: while networks are embedded within territories, territories are, at the same time, embedded into networks' (Dicken et al. 2001: 97). This clearly represents another possible rapprochement between networked and territorial approaches. Yet for Dicken et al, distinct underlying logics remain. Networks and territories interact, they are even 'mutually constitutive', but they are still different kinds of things.

Erik Swyngedouw also sees networks as central to the spatial restructuring of capitalism :

> The molecular strategies of capital as mobilised by a myriad of atomistic actors produce rhizomatic geographical mappings that consist of complex combinations and layers of nodes and linkages, which are interconnected in proliferating networks and flows of money, information, commodities and people. (Swyngedouw 2004: 31)

At the same time, these networks co-exist with and in part depend upon territories :

> these economic (and partially cultural and social) networks cannot operate independently from or outside a parallel political or institutional organisation [...]. Without territorially organised political or institutional arrangements [...] the economic order would irrevocably break down. (Swyngedouw 2004: 32)

For Swyngedouw territories and networks are interdependent. Indeed their relationship is dialectical and its outcome is a process of scalar transformation (rescaling) as social groups struggle for control over space and place. Dialectics function through contradictions and thus Swyngedouw

emphasizes 'the tensions between the rhizomatic rescaling of the economic networks and flows on the one hand and the territorial rescaling of scales of governance on the other' (Swyngedouw 2004: 33).

Swyngedouw thus offers a rapprochement between territory-thinking and network-thinking. Territories and networks are not mutually exclusive—they not only co-exist, but are also interdependent. Their interdependence is not smoothly functional, however, but riven by tensions and contradictions that drive geographical—especially scalar—change. Swyngedouw advances the debate by rejecting 'either … or' in favour of 'both … and'.

Territory and Network III : The economy is networked, but politics is territorial?

This is not the end of the story, however. Dicken et al and Swyngedouw both link networks with the economic and territories with the political and institutional. States are territorial, economic activities are networked. They co-exist and interact in various ways, but are fundamentally different ways of organizing social and material relations over space. Two linked binaries are present here: economics–politics and network–territory. The assumption is that that there is some essence or underlying principle to territoriality that resists re-thinking in terms of networks. But perhaps no such essence or principle exists. Perhaps territory-thinking and networking-thinking do not reflect distinctively different realities, but are different conceptualizations of a single reality.

Swyngedouw and Dicken et al both draw on actor-network theory, while Swyngedouw's account echoes Gilles Deleuze in its references to rhizomes and to de- and re-territorialization. Since, to put it rather crudely, both actor-network theorists and Deleuze emphasize that *everything is networked, everything is rhizomatic*, is it possible that what we think of as territories and territorial institutions are in fact composed of networks? Could territories somehow be rhizomatic ?

There is a number of senses in which this might be so. We might recast the relationship between territory and network in one of the following ways. First, we could think of 'territory' as the label we give to a particular set of the *effects* of networks. The operation of certain kinds of networks gives rise to the appearance of territoriality. Second, maybe territories are special kinds of networks. For example, when network relations become particularly intense within a particular area the result may comprise what we understand as territory. Third, we could think of territory as a mental construction placed on the geography of networks—a more or less arbitrary carving up of a fluid and networked world. A fourth hypothesis is that territory represents a snapshot of the geographies of networks at a particular moment in time. Let us consider these possibilities in a little more depth.

Territory and Network IV: Territory is a special type of network

Any conceptual reconciliation between network-perspectives and territory-perspectives will fail if the network–territory binary is mapped homologically onto the economics–politics binary. Instead we need to see political, institutional and regulatory relations as always already network relations. *Pace* Swyngedouw, it is not only the economy that is comprised of rhizomes and flows. The state is also rhizomatic.

So far I have used 'network' and 'network-thinking' as if they refer to singular phenomena. In fact 'network' is used in at least four different ways in social science. Each of these can be related to the territory-network nexus, with different results in each case. As a shorthand we might refer to them as *transmission networks*, *social networks*, *topological networks* and *actor networks*.

In *transmission networks* the connections are like the pipes in a heating system or the rails in a railway system. Substances (water, trains) traverse the network, but remain largely unaffected by it. The network merely facilitates movement. In human geography such networks typically involve the flow of money, goods, people and information. The most developed example of this kind of network thinking is Castells' account of the emergence of a network society based on the 'space of flows' (Castells 1996). By thinking about networks like this it is possible to argue, as Castells does, that the world has become more networked. For Castells this is a result of technological and organizational changes in society, especially the development of new information and communication technologies.

Social networks here refers to networks of social relations such as a circle of friends, a set of firms linked together through supply chains, or a pattern of political connections and obligations. Here we are no longer talking about network links as the conduit for the transport of other things, rather it is the links themselves that constitute a social relation. Interaction is not necessarily continuous. In fact it is likely to be sporadic. Kinship networks are maintained through intermittent correspondence, telephone calls and visits; buyer-supplier links are activated only when a transaction occurs; political favours are called in when circumstances require and so on. Such networks are thus virtual, ready to be actualized on particular occasions. Social network analysis is one methodological approach for their study. In political science, policy network analysis and rational choice theory have provided two more, and in economic geography supply chain modelling offers another approach.

Like transmission networks *actor-networks* involve the movement of material things (of all kinds and sizes) (Latour 1987; 1993; Law 2002; Law and Hassard 1999). However, like social networks their geographies are not confined to pre-existing infrastructures. Actor-network theory is a philosophy of connection, in which the most important methodological injunction is 'follow the thing'. In the actor-network approach kinship networks are

understood not as a virtual presence, but in terms of the material connections through which they are produced and sustained. Letters, telephone calls, gifts, remittances, emails as well as human bodies moving on foot, in cars, boats, planes and so on do not 'give rise to' a network that is then somehow separate from them, rather they *are* the network. No distinction can be made between 'social' networks and material networks, it is the movement of matter that forms the social. Even a face to face conversation is material, involving neurons, electrical impulses, vocal chords, air pressure changes, and ear drums. Objects, such as planes or computers, are understood as themselves the effect of relational networks.

Finally, the notion of *topological networks* is a way of thinking about the complex spatialities of actor-networks. In a topological world space is no longer an absolute container of objects that have their own defined geographies. Instead we can understand space as bent, folded, curved, stretched, torn, discontinuous, rough or smooth. In this view the actor-networks associated with the American government's attack on Iraq in 2003 bring the Pentagon and Baghdad into close topological proximity. Generals in Washington can follow battlefield engagements in real time and with similar information to that available to local commanders. By contrast topologies can also involve extension and rupture so that those living close together in Cartesian space can be separated by a vast gulf when their relationships (or the lack of them) are viewed topologically.

Each of these senses of 'network' can be related to territory. First, territories might be understood as *nodes* in transmission networks. A simple example is the international merchant shipping industry where shipping lanes and route networks connect together different territories and carry goods and people between them. In more complicated examples networks may transect or pass over or past territories. This kind of network approach has little effect on the conceptualization of territory, although it may mean, as in Castells' work, that territory comes to be seen as less important, or as potential hindrance to the smooth operation of the 'space of flows'. If we understand networks as transmission networks, in other words, we will not bring about a reconciliation between network-thinking and territory-thinking.

Secondly, social networks may be related to territory in terms of their *density* or *intensity*. Urban geographers have shown how cities may be defined in terms of the density of social interactions. Such accounts retain a strong sense of connection between the 'internal' life of the city and processes and practices elsewhere. The material environment of the city is understood as a territorial condensation of a particularly dense part of the network of networks that comprise social life. This comes much closer to transcending the territory-network binary. The 'territory' of the city is not something other than the networks that flow through the city, rather it *is* those networks as they coalesce and condense in place. Another example is Michael Storper's discussion of regions that I cited above. Although Storper sometimes uses the terms 'network' (or more frequently 'flows') and 'territory' as if they were dichotomous, in fact he sees territories as being

constituted by networks. It is the intensive localized networks of inter-firm linkages that, for Storper, give rise to economic territoriality—hence his well known definition of region as 'a nexus of untraded interdependencies' (Storper 1995).

Thirdly, in the terms of actor-network theory territories are configurations of mobile *objects-in-relation*. Both the objects and their configurations are constituted as (and by) networks. To see what this means in practice we need to consider the constitution of territory—constitution in the sense of 'making' and in the sense of 'ingredients'. We need to consider how territory as an abstract idea or principle is effectuated in the workings of what Deleuze and Guattari (1988) call assemblages. Assemblages will vary according to the kind of territory in question, and here it is necessary to be precise about whether we are considering, say, Agnew's political territories or Storper's economic territories. Although different kinds of territory may share certain formal similarities, they differ profoundly in their content.

As we have seen, a conventional feature of political territory is boundedness. But what is a boundary? As Elden (2005) notes, conceptually a boundary is a line. But a line has no material existence—it is, quite literally, one-dimensional. It has no content, mass or substance and it occupies no space. Its only properties are geometrical—length and direction. How can something so insubstantial have any social or political effect? The answer, of course, is that it only does so insofar as the idea of the line is effectuated in particular material assemblages. These are quite diverse and are also always certain to fall short of fulfilling the idea of the boundary, which is thus never achieved and always to come. This is a little different from Paasi's (1999) account of boundaries as processes and institutions. The networked assemblages that effectuate boundaryness include maps, charts, surveys, aerial and satellite photographs, GIS databases, boundary posts and markers, fences and walls, texts (national legislation, political declarations and international treaties), flags and signs ('Vous sortez du secteur americain'), customs regimes, border posts and guards, civil servants, passports, rubber stamps, transport companies' regulations, and so on and on and on (Painter 2006). And behind each of these lies other actor-networks (the manufacturers of passports and rubber stamps, for example, or the arms manufacturers that supply border guards' weapons, or the firms of international lawyers that advise governments about treaty negotiations). As Nigel Thrift (2000) has argued, in geopolitics it is frequently the 'little things'—the mundane, the everyday and the routine—that are most significant.

Finally, it seems likely that thinking about territories in terms of the topologies of their constitutive networks will require a different cartographic imagination. At the very least it is important to recognize the extent to which conventional cartography is integral to the networks through which territory is produced and policed (Pickles 2004: 107-23).

Conclusion

I have suggested that even the 'hardest' delineated notion of territory might be rethought in the most radically networked terms. From this perspective territory 'as such' has no real existence. Moreover it should not be seen as the *product* of networked relations, since this would re-impose the idea of territory and network as separate. Territory is, rather, an *effect* of networks. As a consequence the spaces we call territories are necessarily porous, incomplete and unstable. They are constantly produced and accomplished by countless human and non-human actors. The ideal of political territory as a perfectly bounded contiguous space across which sovereignty (or another kind of authority) is exercised smoothly, continuously and evenly belongs to Deleuze and Guattari's plane of desire. In this view, 'territory' and 'network' are not rival models, incommensurable worldviews or even the contradictory elements of a dialectical relationship. Rather, the configurations of practices and objects, energy and matter that go by the name 'territory' are no more and no less than another set of networks. The configurations flicker and settle for a time and give the impression of territory. But territory is not a kind of independent variable in social and political life. Rather, it is itself dependent on the rhizomatic connections that constitute all putatively territorial organizations, institutions and actors.