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Spaces of Vulnerability
The space of flows and the politics of scale

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The Poliscar
Krzysztof Wodiczko’s Poliscar is a practical aid to homeless living in the high-tech city. With nearly 100,000 homeless people in New York City at the beginning of the 1990s, Wodiczko, an artist who previously developed the multifunctional ‘Homeless Vehicle’ from supermarket carts, decided that communication between homeless people was a vital key both to dealing with homelessness (eviction) on a daily basis and organizing against it. Designed for use by information-literate evictees, the Poliscar is a new generation of homeless vehicle named deliberately after the Greek root for police, politics and polity:

The homeless population is the true public of the city in that they literally live on the street, spending their days and nights moving through the city, working and resting in public parks and squares. The contradiction of their existence, however, is that while they are physically confined to public spaces they are politically excluded from public space constitutionally guaranteed as a space for communication. (Wodiczko, n.d.)

The Poliscar has two modes of operation – a vertical sleeping position and a horizontal travelling position, see Figures 1 and 2 – which make it a startling hybrid between a Doctor Who Dalek¹ and a First World War ‘cubist’ tank. Simultaneously an art object and a resolutely practical vehicle of urban reconquest, the Poliscar eases homeless people out of the mere interstices of public space and into the ‘communications revolution’. It is intended as a contribution toward building a ‘Homeless Communication Network’ which would be staffed by fleets of Poliscars driven by homeless people: ‘The FCC [Federal Communications Commission] allows the existence of such networks for private and special interest public

communications’, observes the gallery catalogue accompanying the vehicle. Each Poliscar is outfitted with a CB radio:

CB land-radio services use half-duplex and full-duplex audio operations. A half-duplex system allows communications in two-directions but not simultaneously. . . . Vehicle-to-vehicle range is from 3–10 miles, vehicle-to-base from 5–15 miles, and base-to-base 10–50 miles. FCC regulations limit station antenna height to 20’ above natural formations and existing architectural structures. (Wodiczko, n.d.)

Beyond verbal communication, the Poliscar also has a portable microwave (video) link:

Key Poliscars within the Homeless Communications Network will be outfitted with Ikegami Portable Microwave Links. This is a line-of-sight video transmission signal requiring a low-power transmission license from the FCC. . . . A 13-GHz unit with a 0.5-ft parabola antenna can operate at a distance of 3–7 miles from its field pick-up site on the 82nd floor of the Empire State Building. Poliscar locations not capable of direct line-of-sight transmission will require an IF Through-Relay System positioned on a nearby rooftop to provide the necessary link from the ground to the Empire State Building. (Wodiczko, n.d.)

And it is kitted out with external cameras, for security against police and other predators. In case of attack, a ‘Star Tech Video Sender can transmit a high frequency video signal for short distances between its active camera and its Poliscar. This allows mobility of a camera unconstricted by cables.’

Like Wodiczko’s earlier ‘Homeless Vehicle’, the Poliscar is an impertinence in the urban landscape. It is simultaneously absurd yet utterly functional; a satire on military industrial technology and a forceful assertion that the city is itself a war zone; a means of reversing the habitual surveillance of homeless people in the street and a vehicle of political empowerment and organization; a mobile communications and living unit and a rhetorical outrage against the ordered privatization of public space. It talks back against the urbane propriety that made people homeless in the first place. It was developed in the context of New York’s Tompkins Square Park where by the late 1980s several hundred evictees and street dwellers had defied police attacks and begun to live in semi-permanent shanties and other structures (Hebdige, 1992; Smith, 1992a, 1996; Wright, 1992).

This may seem like an odd point of entry in a commentary on the work of Manuel Castells, but I think the Poliscar brilliantly highlights two crucial issues that also emerge in Castells’s recent work: the politics of scale, and the complex social connections between technology, space and politics. In the first place, the Poliscar empowers its users in part by providing enhanced access to urban space, a means of retaking and reorganizing
evictees’ geographies of the city from the interstices of public space to which they are condemned. But its success lies not simply in retaking space but rather in the act of *remaking the geographical scale* of daily social and political intercourse. The Poliscar dramatically expands the scale of

*Figure 1. The Poliscar in vertical sleeping position.*
everyday life for its users, renders new places accessible, provides communication links with people citywide, and expands the information field. It literally stretches the available urban surface. The Poliscar bursts out from the scales of social life imposed by eviction from the private and public spaces of the real estate market.

Second, and perhaps more obviously, the content of these stretched daily spaces is enriched. Evictees from the real estate market are simultaneously evicted from access to anything but the most primitive means of communication and sources of information. As one homeless
man comments upon seeing the Poliscar, ‘while New York is a computer-age city, the people who live in parks and streets might as well be in “the stone age or the tin age”: the challenge for the Homeless Communication Network is to link “the most primitive forms of communication to the computer age”’ (quoted in Wright, 1992: 14). The appropriation of sophisticated communication and information technology becomes a means of overcoming the prisonhouse of homeless geographies in which evictees find themselves.

Technology and the politics of scale

When, in the winter of 1857–8, Marx came to the conclusion that the development of capital made a specialty out of the ‘annihilation of space by time’ (1974 edn: 539; see also Mizuoka, 1986), he surely could not have anticipated the technological extremes that cyberspace, global electronic capital transfers, interplanetary travel, geographical positioning systems (GPS), video cameras or fax machines (already outmoded), or even the telephone would bring. These and other technologies bring about such an extraordinary annihilation of space by time for some people in some places that the survival of space in social scientific discourse has seemed at times like a nostalgic residue. And yet at precisely this time the rediscovery of space in the social sciences has been dramatic (Harvey, 1973; Soja, 1989), and in the humanities and cultural studies (and indeed refracted back into the social sciences), the appropriation of a spatial language as the powerful source domain for metaphors of identity has been ubiquitous. ‘Space is dead! Long live space!’ might well sum up the schizophrenic intellectual mood.

But the traditional privileging of time over space in the conceptual lexicon of capitalist modernity is not so much a philosophical question (Foucault, 1986; Giddens, 1981; Soja, 1989) as a practical one. The reassertion of space in critical social and cultural theory is less a matter of going ‘back to ontology’, as Soja (1989: 131) has suggested, or of ransacking a crusty spatial language for novel-again meanings (for a critique, see Smith and Katz, 1993). Rather it is a question of grappling with the practical experience of a sometimes spectacularly changing social production of space, to use Henri Lefebvre’s language (Lefebvre, 1991). Over more than two decades, Manuel Castells has been a central figure in this project to rewrite the architecture of geographical space. The Urban Question (Castells, 1977) represented an ambitious attempt to recompose our understanding of urban spatiality which he conceived as the highly structured concomitant of capitalist relations and forces of production. If
oppositional agents of alternative urbanities fitted rather awkwardly beside these powerful urban forms, functions and systems, they increasingly became his focus of attention. The City and the Grassroots (Castells, 1983), then, reversed the priority: Castells gathered research on urban social movements across several continents and centuries, but focused most on issues of collective consumption and the ‘urban crisis’ of the post-Fordist city. It was not that the structuring of urban space was abandoned, since most of these social movements were viewed as responding to the various predations of a powerfully structured capitalism. Rather, the limits of a structural analysis were exposed as the structuring of late capitalist urbanism was taken as more of a given, constraining these social movements. The guarded optimism of this work stemmed directly from his political involvement in urban social movements, especially in Spain.

And yet most of these same social movements failed to reinvent the urban in the ways that Castells and a whole generation of '68-ers and post-'68-ers had expected and worked for. The movements were variously co-opted into liberal bureaucratic state policies that were in turn crushed under the weight of their own failure; they were stymied and whittled away by local opposition, or failed to galvanize and retain mass active support; or they were destroyed outright with the conservative resurgence of the 1980s. Progressive policies had selectively become the state they we initially galvanized to fight, while the same state was being dismantled and replaced from the right. All of this was bound up with a dramatic restructuring of the political economy of capital, so-called globalization, and an integral spatial restructuring at various scales. And not a few commentators were encouraged by these events to blend nostalgia with apocalypse in a reinvented vision of the annihilation of space by time (Kunstler, 1993; Meyrowitz, 1985; for a critique of Meyrowitz especially see Kirby, 1988).

Castells’s response to these events has been typically imaginative, combining the rigours of the Marxist theory that has always undergirded his work with his roving eye for the novelties of the present conjuncture. Since the late 1980s he has investigated the ways in which this economic and spatial restructuring have combined with dramatic revolutions in technology, focusing especially on information technology, and the ways in which this has resulted in an ‘informational city’, even an informational society (Castells, 1989, 1994). If the mode of production remains resolutely capitalist, Castells argues, the ‘mode of development’ (the technological arrangements that unite labour power with the raw materials of labour) has changed dramatically from the industrial to the informational. Since the
1960s, information has increasingly become the raw material of technological change and a ‘new technological paradigm’ has emerged. This in turn produces a whole new spatial logic of development, and Castells concludes that we now live amidst a ‘space of flows’ that increasingly supersedes an inherited ‘space of places’. Fluid spatial organization of information networks and systems supersedes the place-based social and technical arrangements of the past. Social movements now find themselves in the position of having to ‘reconstruct the social meaning of localities within the space of flows’ (Castells, 1989: 353).

Via this formulation of a ‘space of flows’ Castells seeks to capture the extraordinary fluidity of the global political economy and of information in the last two decades without abandoning altogether the possibilities for place-based oppositional politics. He also sets up a certain dialectic reconciliation between the structuralism of his earlier work and the more voluntarist thread of *The City and the Grassroots* (1983). He clearly has no truck with proponents of a utopian technological sublime, for whom the technological developments of the recent (and not so recent) past have indeed taken us ‘beyond space’ (Meyrowitz, 1985; Turner, 1980), and equally clearly the subtleties and political intent of his analysis of ‘informational society’ mark him off from the rather one-dimensional celebrations of ‘post-industrialism’. For all his concern with industry, technology and information networks, Castells’s argument is resolutely social.

If the argument about a ‘space of flows’ captures admirably the increasingly fluid social, technical and economic arrangements of production and consumption, nonetheless I think it is incomplete and perhaps misleading. Capital, in Castells’s vision, commands the space of flows, having achieved near-total autonomy from the constraints of specific places. ‘The fundamental fact’, he concludes, ‘is that social meaning evaporates from places’ (Castells, 1989: 349). This argument has been extended by Wark to suggest that now we ‘have aerials not roots’, and that we occupy ‘a third nature of information flows, creating an information landscape which almost entirely covers the old territories’ (Wark, 1994a: 120; 1994b). For Castells, social opposition is, by contrast, imprisoned in localities, condemned only to negotiate new local meaning in the interstices of that flow. (For Wark it seems to be reduced to a question of ‘green cultural criticism’. ) There is a lot of truth in this diagnosis, but I want to argue two corollaries here that have widespread political as well as intellectual significance. First, capital and information are never entirely free of place, and spatial fluidity is only ever achieved via a parallel and deepening *spatial fixity* which at crucial moments reasserts itself, often
violently. Second, for all their imprisonment in space, opposition social movements do have access, albeit radically mediated and partial, to some of the same technologies and information that convene the space of flows. Opposition comes from within as well as outside the space of flows.

Let me make two points in developing this question of spatial fixity. First, the fluidity of space is fundamentally premised on some quite traditional spatial fixities. The networks that make up the space of flows – banks and telecommunications systems, government agencies and orbital satellites, information corporations and telephone lines – all have nodes located in strategic places. Insofar as the view from these control nodes in California, New York or Tokyo differs from the view from Baghdad, Timbuktu or Havana, the design of the network, the degree of inclusion and exclusion, the source, destination and configuration of messages, are all already imbued with a place-based identity that infects the entire network. To take just one obvious example, the software necessary for access to the ‘information superhighway’, (internet or worldwide web) is almost exclusively written in English. This pervasive whiff of place-based bias represents what we might think of as a weak version of spatial fixity that is written into the very possibility of ‘spatial flows’ from the start.

To take a second example, far from having annihilated space by time, the mere fact of differential location became an extraordinary danger in the stock market crash of 1987 in a way that would have been inconceivable even a decade earlier. With such a complete global information network, led by 24-hour stock market information and computerized trading, the stock market crash of October 1987 began in the Pacific markets in Sydney, Tokyo and Hong Kong – the first to open – and decimated all of the other markets of Europe and the Americas in a row as they opened. This in turn reverberated the next day on the Pacific markets. Only a halt in trading and later a cap on computerized trading suspended the threat of a kind of self-propelled, continuous, round the world domino effect. Space–time fixity, far from being eroded, here served to accentuate and differentiate the tendencies inherent in the information (finance capital) being traded, and indeed threatened the collapse of the space of flows itself.

The strong version of spatial fixity is much more direct, and the recent history of sub-Saharan Africa is a good example. Virtually redlined in the private and public financial markets of the global economy, most sub-Saharan African economies did not until recently even have the luxury of amassing large-scale debt. Even now they experience low levels of debt in per capita terms if not in relation to their minimal GDPs (Leys, 1994). In large part, in fact, sub-Saharan Africa has been unceremoniously expelled from the global spaces of economic and informational flow – written off.
And yet it would be a mistake to see this region as therefore outside the system, when its marginalization carved out from within the space of flows is primarily the result of deliberate investment and disinvestment decisions taken by capital owners and managers whose nodes are located elsewhere. Far from experiencing ‘space–time compression’ or a ‘shrinking world’ within the space of flows, much of sub-Saharan Africa is experiencing space–time dilation, an expanding world (for a related discussion see Kirsch, 1995).

If Castells is correct about the importance of the space of flows, and I think he is, this should not blind us to the continued importance of fixed spaces and place. It is not so much that place is deracinated in the space of flows than that the relationship between the fluidity and fixity of space is itself restructured – often in surprising ways, and certainly not in a unidirectional manner.

The radical excision of the fixity as opposed to the fluidity of space in Castells’s account is facilitated by an inordinate extraction of technology from the wider social and economic arrangements such that the ‘mode of development’ stands opposed to and equal with the mode of production. Although Castells may be clear in avoiding the obvious trap of technological determinism, this vision of technology (a broad definition to be sure, which includes the social organizational as well as physical implements of technology) confers on itself a more accomplished autonomy than may be warranted. Only when the logic of technological development is considered, thick with the social context, does any erosion of place and spatial fixity become multifaceted and somewhat less predictable.

This brings us back to the issue of scale. Castells has a broad and impressive grasp of the contours of spatial restructuring at the urban, regional and international scales. More than most researchers his analysis skips nimbly between these scales: from the restructured relationships between production, reproduction and rent, the new industrial geography, and global flows of information, capital and goods. As he himself puts it:

The growing internationalization of the American economy reshapes cities and regions following the logic of the space of flows. . . . The supersession of places by a network of information flows is a fundamental goal of the restructuring process. . . . This is because the ultimate logic of restructuring is based on the avoidance of historically established mechanisms of social, economic, and political control by the power-holding organizations. (Castells, 1989: 344, 349)

The picture that emerges from Castells’s work is of a spatial maze of cities, regions and nations submerged in a spatial swirl of capital and information that makes these spatial units increasingly obsolete. The cities, regions and
nations are themselves deposited out of this space of flows, and in the last two decades the content of each of these city, regional or national units has been drained of many elements – sucked back into the flow – and flooded with others that crystallize out of the information and capital flux. There may be a dialectic of recentralization and decentralization but social and economic activities are being decentralized and recentralized into pretty much the same containers.

What never gets challenged in all of this, however, is the structure of geographical scale itself. What if the receptacles themselves are systematically restructured? What if, as a result of precisely the kinds of restructurings discussed here, the scale of the city, the scale of the region, and the scale of the nation are themselves so restructured that it makes little sense to cling uncritically to these concepts of geographical scale? Not just the fluid spaces of production, consumption and reproduction are subject to political contest, then, but the spatial scales at which these processes, quite literally, take place.

At the micro-scale, Krzysztof Wodiczko’s Poliscar brilliantly illustrates precisely the way in which this happens. A new technology can be deployed to restructure the scale of living and simultaneously restructure power relations in favour of the Poliscar user. The Poliscar is the individual informational city; it radically reasserts the power of place precisely through the Poliscar user’s enhanced mobility and surveillance. The Poliscar allows evictees to ‘jump scale’, and it simultaneously alerts us to the fact that ‘jumping scale’ is a political strategy. Castells is surely correct, then, to argue that the ‘ultimate logic of restructuring is based on the avoidance of historically established mechanisms of social, economic, and political control’ – to destroy certain scales of power – but I think that the spatial correlate of this argument, that historically given placeness evaporates, is wrong. Capital, the guardians of information flow, information corporations – ‘the power-holding organizations’ – may entertain the fantasy of spacelessness and act accordingly, but in practice, every strategy to avoid and supersede ‘historically established mechanisms’ and territories of social control involves not the extinction of place per se but the reinvention of place at a different scale – a capital-centred jumping of scale. Indeed, the perpetuation of control by these organizations (and classes) depends precisely on this reinvention of discrete places where power over and through the space of flows is rooted (Herod, 1992; Smith, 1992a, 1992b; Smith and Dennis, 1987).

The increasing porosity of national boundaries is a case in point. There is surely no doubt that the economic, political and cultural definition of national territory is being eroded, and yet equally clearly there is a
reassertion of cultural nationalisms in many places. How are we to make sense of this apparently contradictory development? On the one hand, it is not just that powerful political organizations have significantly superseded and circumvented the power of nation states – they obviously have. The power of these organizations does not now simply inhere in an ethereal space of flows; it is reconstituted at a different scale in a series of international organizations (multinational corporations, the IMF, World Bank, UN, etc.) and equally international places (Washington DC, the City of London, Hollywood, Tokyo, Wall Street). And the scale of power is not simply displaced geographically upward toward the global; as Patrick Bond (1966, forthcoming: 33) notes in the context of global ‘development’ initiatives, ‘the nation-state gives way to the city as a new unit of analysis, implementation and control, via structural adjustment policies’. Thus the decline of national territorial power over economic flows was paralleled by the emergence of geopolitical competition between cities and subnational states to ‘pull down’ a share of these flows. The resurgence of nationalism in cultural and to some extent political terms can be understood in part as a localist reaction against precisely the kind of internationalism that evaporated the social security of national boundaries. When he comments that the ‘more national states fade in their role, the more cities emerge as a driving force’ Castells (1994: 23) catches the point but not its theoretical generalization. The production of scale is a central strategy of a spatialized politics but it has generally gone unremarked. A stronger recognition of the power of the production of scale should significantly mitigate any vision of a space of flows.

Beyond questions of spatial fixity and scale, a second question arises concerning the connections between technology, space and politics. The importance of the Poliscar lies not only in its facilitation of scale-jumping as a political strategy but also in its reappropriation of technology by and for those who are more usually its victims. Imbued as they are with the sources of their own birth and power, technology and information are still available for reappropriation, and this somehow needs to be built into any vision of a space of flows. Let me give another example. ‘Geographical Positioning Systems’ (GPS) were invented in the 1980s as a means of identifying precise locations. A GPS receiver collects signals from several orbiting satellites and by a simple parallax computation derives the precise latitude and longitude of the receiver. It can pinpoint any location on the globe with an accuracy of within 30 metres. They are installed in most airplanes today, for example, and were first developed by the US military; the cross-hairs imaging of the bombing of Iraq was in fact dependent on this as well as other geographical information technologies. Actually, the technology
itself is capable of pinpointing any location with an error of less than 2 metres, but the US government, claiming the exigencies of national security, systematically scrambles the satellite signals so that civilian users cannot achieve an accuracy better than 30 metres. ‘Authorized users’ receive a code book which can be used to unscramble the ‘civilian’ signals and achieve military accuracy.

The national government of Bolivia, with an eye as much toward the potential of tourism and the pacification and economic integration of indigenous peoples as toward resolving territorial disputes, decided a couple of years ago that it wanted a definitive map of the territories of the 29 groups of indigenous peoples on Bolivian soil. The relevant government ministry was dispatched to do the job, secured the cooperation of 28 groups, and set about it. The 29th group, from the Bolivian Amazon, refused to cooperate. They did not want to be subject to outside representation and the consequent ‘discovery’ and objectification that this mapping would bring. And yet, in a context where the land was increasingly privatized and bounded and where other groups were laying claim to discrete pieces of territory, they recognized the benefits to themselves of establishing discrete boundaries to their own territories. While refusing to cooperate with the ministry or to allow them to carry out the mapping, they therefore secured their own GPS system and mapped their own territory for themselves, keeping the results from the government.

The Poliscar, with its camera, video and communications technology, restores to homeless users the ability to survey instead of simply be surveyed, and represents an exercise in what we might call, using the words of New York video artist Clayton Paterson, ‘the democratization of surveillance’. By the same token, the use of GPS systems by indigenous peoples of the Bolivian Amazon also accomplishes a defensive version of the same.

A footnote: if it remained a largely aesthetic intervention, and if the ‘Homeless Communication Network’ never got off the ground, the Poliscar nonetheless presaged by three years a novel proposal by New York activists in the ‘Coalition for the Homeless’. Denied addresses in physical space, argued the Coalition, homeless people surely deserved access to cyberspace, and they established a program to outfit homeless people with e-mail and internet addresses: ‘All it takes is a quarter and a local phone call’. So far.

**Spaces of vulnerability**

Even amidst the powerfully policed space of flows there always lurk ‘spaces of vulnerability’ – places where the power that directs and shapes the space
of flows is surprisingly vulnerable or even absent. One dramatic if ultimately unmobilized example of this came during the 1981 strike by PATCO air controllers against the Reagan government. So centralized had the power of global air flow become that it would only have taken a sympathy strike by about 40 key controllers in Portugal, and possibly a handful in Canada, to close down North Atlantic air traffic. In invoking the notion of ‘spaces of vulnerability’, then, I am in no way joining the chorus of Foucault interpreters who use his work to suggest that ‘anything that moves’ is political. When everything moves and everything is political, nothing is. Rather I have in mind more the work of someone like Donna Haraway. Haraway understands the depth to which technocultural and bio-engineering technologies transform a future we are rushing towards, but rather than consign them to a wholly negative dustbin of technology-inspired domination or technology-mediated race, gender or class power that is overwhelming, she works to find the vulnerable places, the weakest links perhaps, from within the political logic of socio-technological change (see Haraway and Harvey, 1995).

In our discussion of the space of flows, it seems to me that we can learn a lot from this strategy of always seeking the spaces of vulnerability. I would venture that the spaces of vulnerability for capital and for the informational organizations dominated by capital, emerge more often than not when power (capital, information, knowledge, skills) is necessarily fixed, brought back to ground, from within and as part of this space of flows. For this reason, whatever the undeniable fluidity of space, it is politically vital that our theorizations pay special attention to spatial fixity and the continual redifferentiation of space. The production of scale is not the only means through which this happens, and via which an opposition can be galvanized, but it is one of the most important and most overlooked. And mobilizing the politics of scale-making is potentially most rewarding in advancing a spatialized politics.

NOTES

Photos of the Poliscar reproduced by kind permission of the photographer, John Ranard.
1. The Dalek was a 1960s' futurist creation, conical in shape, featured on the BBC science fiction serial, Doctor Who.
2. Cf. Harvey’s (1973:171) remark that ‘the rich can command space whereas the poor are trapped in it’.
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