1

Introduction: The Uncanny Home

There will be a road. It will not connect two points. It will connect all points. Its speed limit will be the speed of light. It will not go from here to there. There will be no more there. We will all only be here.

(TV ad, 1993)

[T]he dream of a completely fluid and passable world-space may be the last utopia of the 20th century.

(Multiplicity, 2005)[1]

The house that Gates built

In the mid-1990s, as the dotcom boom ramped up in velocity, media reports circulated about the house Bill Gates was constructing in Seattle. Conceived as a state-of-the-art merging of computer technology with architecture, Gates' multi-million dollar residence boasted all the standard automated functions such as climate control and electronic security systems, as well as a few extras like a hot tub which switched itself on as soon as the master's car entered the grounds. But the most striking feature of the Gates' house was its walls. Gates' original plan called for interior walls consisting of a series of massive floor to ceiling video screens. In some cases, like the trampoline room, the 360 degree panorama would be supplemented by an additional screen in the ceiling. All these screens could be programmed, according to his guests' wishes, with works of art selected from their host's virtual collection (the largest in the world). The duration of the displayed images could be tailored to each guest's attention span, while the different rooms they entered, accessed via electronic security PINs, would never repeat the same picture.

These chameleon-like walls gripped the imagination of many commentators, including leading proselytizers of 'digital architecture' such as William Mitchell (1995: 33):

The interior wall panels are not what they seem. They turn out to be huge, flat video screens. In repose they simulate the surfaces of standard architectural materials, but activated they become electronic windows opening onto anything at all.
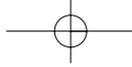
Penz and Thomas (1997: 3) soon envisaged the democratization of such possibilities:

> What Bill Gates has in his domestic environment today, we will all be able to have in our homes the day after tomorrow, or the day after that. Our digital windows will be able to provide a screen version of the world offering anywhere, anytime, any reality [. . .].

A similar vision was evident in the 'Digital House' designed by New York based architects Hariri and Hariri for *House Beautiful* magazine in 1998. The design was an adaptation of the 'plug-in' logic developed by Archigram's Peter Cook in the 1960s, comprising a central core onto which additional factory-built rooms could be joined, as one might connect new electrical appliances. The main walls were to be made from LCD screens, dubbed 'the building blocks of the future' by the architects (quoted in Riley 1999: 56).

Of course, wall-size screens were familiar creations of 20th-century science fiction. In *Tomorrow Revealed* (1955), author John Atkins envisaged walls that were not only screens, but interactive devices enabling the house to become a conscious entity capable of speech, thought, listening, acting and entertaining:

> The walls could dissolve into a three-dimensional scene of jungle or veldt, anything you liked, a scene from a fairy-tale or from a romance, with animals and vegetation to match, smells, sounds, hot sun, cold snow. The walls were not quite alive, but they were at the next remove: made of crystal, played on with dimensional, super-reactionary, super-sensitive colour film behind glass screens, plus odorophonics and sonics. (Atkins 1955: 180)

Wall-size screens have also featured in numerous science fiction films, including landmark productions such as Fritz Lang's *Metropolis* (1927), William Cameron Menzies' *Things To Come* (1936), Francois Truffaut's *Fahrenheit 451* (1966) and Paul Verhoeven's *Total Recall* (1990). What is immediately noticeable from such films is the wall-screen's political versatility. In *Metropolis*, the wall-screen is both a symbol and a practical technique of technocratic power; a unique device located in the top floor office of the city's patriarch. In *Things To Come*, the screen facilitates a more democratic form of technocracy, distributed throughout the populace to serve an apparently benign educational and communicational function, while in *Fahrenheit 451*, made in the era of broadcast television, the wall-screen is figured as a propaganda device for pacifying the general population. In *Total Recall* the range of imagery that the wall-screen provides, from live news feeds to ambient images, is used to dramatize the split consciousness of the protagonist.

As it turned out, wall-screens were much easier to propose in literature or simulate in films, than they were to produce materially and architecturally. Lamenting the fact that the hardware for producing large-scale screens with sufficiently high definition had not been perfected in the
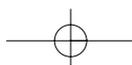
mid-1990s, Bill Gates was forced to scale down his ambitious plans. Nevertheless, as Penz and Thomas forecast, spin-off technology from digital cinema systems meant that wall-size images were soon becoming a familiar experience in the home.[2] Walls that have become electronic windows construct a novel point of view which is no longer continuous with site, but instead establish variable sightlines apparently capable of opening 'anywhere, any time, any reality'. Such window-walls offer to radically renovate the home, displacing its customary interiority, while also disturbing the spatiality of the world at large.

Technological nature

There are several points we might note in relation to this scenario. The first is the way that imagination and desire continually outstrip technology, despite – or perhaps because of – extraordinarily rapid technological development. To give one point of reference, it is well known that the field of computing has undergone a period of exponential growth lasting several decades. In the first issue of *Wired* in 1993, Frederic Davis (1993: 30) commented:

> [H]ad automobile technology advanced at a similar pace over the last 20 years, your car would travel at 500 000 miles an hour, get a million miles to the gallon, and only cost a measly $1000.

Yet, even this dizzying velocity of technological change in a realm where many of changes are themselves mostly about speed (measured in processing power and bandwidth), leaves many impatient and frustrated that things don't move even faster. The 'world wide web' was soon ironically dubbed the 'world wide wait' as bandwidth limitations – and the cost of addressing them – became apparent in the mid-1990s. Like Bill Gates, we often find ourselves waiting for technology to catch up to where our imagination – fuelled by corporate advertising – has already taken us. A striking example was the wave of enthusiasm, crossed by a frisson of fear, that surrounded Virtual Reality technologies from the mid-1980s to the early 1990s, as 'cyberspace' became the new frontier for millennial fantasies. As anyone who was actually able to get access to a pair of EyePhones or some other VR system soon discovered, the experience fell a long way short of the total perceptual hallucination promised in films like *The Lawnmower Man* (1992). While there was certainly industry hype in the service of commercial agendas at work here, there was also a kind of longing – a technological *yearning* – which we need to recognize as part of the motor driving the ideology of progress. The deep-seated aspirations for the mastery of nature and the transcendence of bodily limits which have long underpinned faith in progress have found themselves increasingly invested in new waves of technology, culminating in the emergence of 'techno-culture' in which the place of 'nature' and the delineation of 'human nature' have become problematic in new ways.[3]

If fantasies of mastery and transcendence constitute a general premise of modern technological development, they have found particularly fertile ground in the field of media and communication. Because media and communication technologies have the capacity to reconfigure the spatial and temporal parameters of perception and experience, enabling us to see, hear and even act 'at-a-distance', they alter frames of existence previously taken for granted as natural, if not immutable. The ability to span space and compress time through different generations of media from telegraph to satellite television and the internet has not only exerted a powerful fascination over modern imagination, but has fundamentally shaped the economic and social relations of modernity. As Giddens (1991: 17) observes:

> Modern social organization presumes the precise co-ordination of actions of many human beings physically absent from one another; the 'when' of these actions is directly connected to the 'where', but not, as in pre-modern epochs, via the mediation of place.

The widening of the gap between ways of life primarily grounded in place, and emergent ways of life in which spatial experience is increasingly opened to events occurring elsewhere has been a primary characteristic since industrial modernity. The capacity of new steam-powered vehicles such as trains and ships to traverse space more rapidly and consistently in the second half of the 19th century fed the massive extension of colonial empire and international trade in that period. In the 21st century, the increased capacity of new media technologies to generate 'real time' action-at-a-distance has underpinned the post-industrial phase of globalization characterized by the heightened penetration of transnational economic and cultural exchanges into the 'local' interstices of everyday life. Lash (2002a: 15) argues the centrality of new communication forms underpins a general shift to 'technological forms of life' characterized by the pervasiveness of human-machine interfaces. Insofar as technological culture is 'constitutively *culture-at a-distance*', social bonds assume technological forms:

> I operate as a man-machine interface – that is, as a technological form of natural life – because I must necessarily navigate through technological forms of social life. [...] Because my forms of social life are so normally and chronically at-a-distance, I cannot navigate these distances, I cannot achieve sociality apart from my machine interface. (Lash 2002a: 15)

Since these developments collectively redefine not only the speed of economic exchange but the spatio-temporal frameworks of human experience, it is not surprising that cultural responses often seem to simultaneously reach backwards and forwards in time: on the one hand, towards creation myths and the sort of omnipresence traditionally attributed to the gods, and on the other to a future in which all material coordinates, including the body, are dissolved to unimaginable ends. This broad spectrum underlines the extent to which responses to technological transformation have
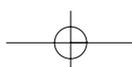
long been marked by ambivalence. The desire for technological transcendence has been intimately linked to the cultural production of what might be called the technological unconscious – a theme cogently explored in modern art and literature, perhaps most notably in the modern genre of science fiction. Atkins' 'telepathic house' of the 1950s is both distant and yet recognizable at the dawn of the 21st century. The walls 'which were not quite alive' evoke the distinctly modern myth of the technological creation of life – an ur-narrative which enters modern consciousness precociously with Mary Shelley's *Frankenstein* (1818), in which the all-too-human 'monster' comprises a collection of body parts animated by electricity.

If Shelley's monster is an assemblage which serves to index the growing uncertainty about the boundaries of the human in a society subject to new forces such as steam power and electricity, the vastness of industrial transformation over the next century demanded the invention of a new primal scene. This need was memorably fulfilled by the famous scene of the creation of the robot in Fritz Lang's *Metropolis* (1927). While Lang's fantasy robot was also enervated by electricity, it was quite a different entity to Shelley's patchwork monster. Instead of a crude copy, the technological double could now be imagined as visually indistinguishable from the organic human being – a shift paralleling the uncanny doubling of the visible world by the technological images of cinema.

Following World War II, and the emergence of the cybernetic paradigm, the encounter of human and machine was increasingly figured through the enigma of the cyborg.[4] The cyborg is neither human nor machine as these terms have been traditionally defined, but depends instead upon their merging as informational and communicational *systems* to produce a hybrid entity. In her influential 'Cyborg Manifesto' of 1984, Donna Haraway (1991: 150) appropriated the term to stress the conditions of identity in cultures which were rapidly being computerized: 'By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short we are cyborgs.' The cybernetic paradigm has exercised a major influence over the trajectory of scientific research, notably in underwriting developments in biotechnology. The success of the Human Genome Project in garnering massive research funding, which led to the earlier than expected completion of its mapping phase in mid-2000, depended on a cybernetic understanding of the lived body as a computational system running on a genetic programme in which DNA figures as 'the code of codes'. In this vein, Walter Gilbert (1992: 96) conjures a digital primal scene, looking forward to the day when 'one can pull a CD out of one's pocket and say, "Here's a human being; it's me".' This is a new conception of personal media; the person *as* media.

These three narratives of technological birth, spread across almost two centuries, can be read as distinct moments in the rewriting of Nature by technology, as industrial machines are supplemented by informational machines – media – and the horizon of programmed and patented life forms beckons. Lash (2002a: xi) underlines this trajectory when he links the

emergence of genetic engineering to a broader shift in the operation of power, and argues that the transition from a discursive to informational mode of power-knowledge means that '[...] "life" becomes a question no longer of organic systems but technological systems.'

Unsettling the home

Because of the radical uncertainty affecting what was once taken for granted as the 'ground' of social experience, I want to try to dislodge my response to the Gates' house from the familiar trajectory in which yesterday's science fiction becomes today's reality. The issue is more complex than the neat succession this kind of narrative promotes. Instead, I want to read the Gates' house as a metaphor for the *generally* unsettling effect exercised by electronic and digital media on the production of public and private space in contemporary cities. The transformation of the individual home is paralleled on a metropolitan scale by the reconstruction of urban spaces, and on a global scale by the spread of digital networks which are reshaping the vectors of economic and political power, as well as the matrices of cultural affiliation. In fact, the most significant change is that where these fronts or frontiers – domestic, local, urban, regional, national, transnational – were once distinct, or, at least, were believed to be – they now seem to be irreducibly imbricated in one another. The globalization of media flows goes hand in hand with the reorganization of the space of domestic life, including the micro-politics of the family.

The home itself now contains a wide array of media forms. Many of these are in the process of shifting from predominantly one-way broadcast systems with regional or national reach, to interactive global networks in which each node of consumption is also capable of production. As Beatriz Colomina (1994: 210) notes: 'The house is now a media centre, a reality that will forever transform our understanding of both public and private.' If the boundaries of the home have become more porous in an era of ubiquitous media, so have the borders of the nation-state. Contemporary cultural identity is consequentially less defined by an 'imagined community' based on the geographical borders of a single national territory, but increasingly assumes the mosaic pattern adumbrated by the overlapping footprints of satellites and the flows of digital networks. At the same time, media devices have become ubiquitous elements shaping the public space of contemporary cities, embedded in urban infrastructure in a wide variety of locations and forms from informational kiosks, large public screens, digital surveillance cameras and computerized traffic systems. The development of new generations of mobile media which are carried in the course of everyday life has further intensified the challenge to established boundaries of public and private space. The transformation of the spatial relations supported by the telephone is symptomatic. For the best part of a century, a phone call was made to a fixed site such as a house or office, and the caller
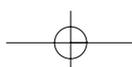
asked whether or not a certain person was 'there'. In contrast, the customary greeting on a mobile phone is 'where are you?' In an era in which media have become mobile, ubiquitous and personalized, technology and person have merged, and this merging is fast becoming taken for granted.

The wall-screen of the Gates' house can thus be read as symptomatic of the ways in which a broad array of new media technologies and platforms are not only redefining architecture and urbanism, but the social life sustained within their domain. The image of the city, and the ways of imagining existence within its bounds, are in flux. If the function of the wall as an architectural staple has been increasingly drawn into question, so have the private space of the home and the public space of the street. Thinking through this condition, which produces effects reaching from the interior subjectivity characteristic of modern identity to the role of public space as the forum for collective interaction and political contestation, demands our departure from the theoretical paradigm of media representation. By 'representation', I mean the varied discourse built on the underlying, if often unarticulated, assumption that the role of media is to provide representations – faithful or otherwise – of the world outside. This understanding that media are ultimately separate from the 'real world' informs the bulk of modern media analysis, as well as the 'postmodern' discourse about the blurring or collapse of the real in face of the media onslaught. While the issue of *how* the world is constructed in and through media remains critically important, it is equally critical to fully accept that media can no longer be set apart from the social; nor, for that matter, from the political, the economic and the cultural. Acceptance of the heightened role of media in the production of contemporary experience demands the critical embrace of McLuhan's insight that media constitute an *environment*. This aspect has become more manifest as media technologies have extended beyond fixed sites and specialized places of consumption such as home, office or cinema. Moving through the world at large now involves the ongoing negotiation of, and participation in, diverse media flows. Neither home nor street nor city can now be thought apart from the media apparatus which redistributes the scale and speed of social interaction in their domains.

Of course, 'home' needs to be heard here as more than a physical structure, but also as designating a sense of cultural belonging and existential shelter. However, it is important to try and hold the physical and the psychical together, without simply collapsing one into the other. There is a sense in which the spatial mutations affecting contemporary architecture and urbanism – the way in which we gain access to buildings, the passage between rooms, the proximity of separate sites, and so on – are critically linked to transformations in contemporary thought and experience which affect the social relations of subjectivity and meaning. The crisis of 'Grand Narratives', which Lyotard (1984) posed as the fundamental condition of postmodernity, can be at least partly understood as conditioned by a crisis of boundary, reference and dimension. How do we demarcate inside and

outside? What are the coordinates of the near and the far? What happens when 'here' and 'there' are no longer held apart, but threaten to collapse into one another.

Questions such as these exert a profound impact on the way in which we can define 'home' in the present, whether at the level of the private dwelling, the post-industrial city or the radically dispersed communities that make up the heterogeneous 'homelands' of contemporary nation-states. The older *geographical* question 'where is your home?' has been displaced by a newer imperative: what is the *meaning* of home? Do contemporary urban forms, with their unprecedented scale and dispersion, still correspond to what was historically called the city? Can cities accommodate the ascendancy of the new forms of technological mobility characteristic of 'real time' media? Suspended between the resurgent promise of technological ubiquity and the recurrent threat of technological alienation, there is an urgent need to investigate what it means today to be 'at home'. Does this still correspond to a particular location, site or territory – or rather, to a particular sense of situation, of locatedness, of cultural belonging? More to the point, how might we plot the coordinates or demarcate the boundaries of our homes in the present?

The technological uncanny

In his well-known essay 'The "Uncanny"' published in 1919, Freud (1955) traces the etymology of the German word *unheimlich*, which is often translated into English as 'uncanny' but is more literally rendered as *unhomely*. For Freud, the sensation of the uncanny is not caused by what is strange or unfamiliar. Rather, it arises when the known and the familiar are *made* strange. Uncanniness is a *disturbed* domesticity, the return of the familiar in an apparently unfamiliar form. Elsewhere in his essay, Freud approvingly quotes Schelling who defines the uncanny as the bringing to light of that which ought to have remained hidden. Uncanniness thus belongs to a complex scene of veiling and unveiling, of secrecy, revelation and improper exposure.

In his discussion, Freud continually links the uncanny to the experience of *ambivalence*, and he offers a number of suggestive examples. The first is uncertainty as to whether an animate being is alive, or, conversely, whether an object is really inanimate; the second concerns the enigma of the *doppelgänger* or double (here Freud narrates a personal experience in which he saw but did not recognize his own reflection, recalling that he thoroughly disliked what he saw); the third concerns the experience in which the distinction between imagination and reality is effaced. As Anthony Vidler (1994) has pointed out, even though Freud developed his concept of the uncanny in the context of Romantic literature and the 19th-century discovery of buried cities such as Pompeii and Troy, the categories he deploys seem peculiarly suited to exploring the way contemporary media technologies can rearrange bodies, times and spaces, seemingly at will.
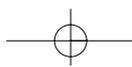
As writ large in the Gates' house, the solidity of our walls has increasingly given way to the restless luminosity of electronic screens. Looking through these strange windows we are invited to perceive the world as if divorced from bodily constraints. We see the world from where we are *not*, from where we have *never been*. Despite its everyday familiarity, this mode of disembodied perception – which can be equated in psychoanalytic terms with the fantasy of seeing from the place of the 'other' – retains a strong sense of the uncanny. One of Freud's primary reference points in his essay was the 19th-century story of the 'The Sandman' by E.T.A. Hoffmann. In Hoffmann's story, the Sandman is a quasi-mythical figure used by adults to persuade children to go to sleep. At one point, the young protagonist's Nurse tells him:

> He's a wicked man who comes when children won't go to bed, and throws handfuls of sand in their eyes so that they jump out of their heads all bleeding. (Quoted in Freud 1955: 237)

In his analysis of the story, Freud (1955: 230) relates the experience of the uncanny 'to the idea of being robbed of one's eyes'. The deeper Freudian analogy is, of course, the ubiquitous spectre of castration. But, before proceeding too rapidly to this destination, it may pay to read Hoffmann more literally. In many respects, the fear of being 'robbed of one's eyes' is akin to the spectre which has haunted modern consciousness ever since the invention of the camera. While technological images were readily inserted into the Enlightenment discourse associating light and transparency with reason and truth, enabling a direct relation to be plotted between the transparency desired in political representation and the transparency invested in photographic representation, the other side of this discourse has been the threat that photographic prostheses will in fact *replace* the organ they were meant to merely supplement. In other words, the media will effectively rob us of our eyes, of our capacity to see for ourselves.

As early as the 1880s, when photography was first industrialized and public images began to proliferate in newspapers and on postcards, the camera's prodigious capacity to hijack visual appearances and to transport them into new contexts highlighted an unnerving instability in the bond between image and referent. What was inaugurated was the growing recognition of the inability of modern signs to *secure* meaning, an instability which opened a rift at the centre of the positivist model of knowledge. The scientific vision which had enthusiastically acclaimed photography as objective truth in the mid-19th century found itself increasingly outflanked by the radical promiscuity of what Kracauer (1995: 58) aptly called the 'blizzard' of modern images. The ambivalence of photorealism is central to the instability of what Habermas (1989) calls the 'publicness' which forms a key plank in modern forms of political legitimation. Faith in the capacity of visual images to bring us close to the real has been counterpointed by a growing suspicion that media form a screen blocking the real. This tension between the factual pull of technological images and the semantic instability

arising from their capacity to be manipulated and reproduced in different contexts has never been resolved. Instead, it has been systematically displaced onto each new wave of image technology – photography, cinema, television, VR – triggering recurrent fears about the capacity of images to *replace* the real. This ambivalence has been magnified in the brave new era of digital imaging. From the moment that we began to see Michael Jackson morph into a panther in front of our eyes, or Sam Neil run from a herd of dinosaurs in *Jurassic Park* (1993) – in other words, when we could *see* photorealistic moving images of things we knew didn't exist – the knot linking technological images, realism and embodied perception has become subject to new exigencies.[5]

My interest here is not so much trying to disentangle the residues of 'photorealism' from 'manipulation', nor to demarcate truth and ideology, as if such gestures are feasible on more than a limited, situated basis. Rather, I am more concerned with exploring the ambivalence which currently affects all of us who live with media technology as an integral part of our daily lives. As Virilio (1995: 99) points out: 'The technology question is inseparable from the question of *where* technology occurs.' Inserted directly into the heart of domestic space, devices such as the telephone, radio, television and computer, punch right through the physical threshold of the private residence. Instead of being defined primarily by the passage of material bodies, access to a residence increasingly depends upon the activation of an electrical circuit. Conceiving the home as an interactive *node* permanently on-line to vast information flows radically alters the division and dynamics of public and private space. One result is a profound *de-territorialization* of the home, insofar as what we see and experience within its walls is no longer contained by their limits. At the same time, and as a result of the same forces, public space also undergoes profound changes, as the immediacy of various forms of action-at-a-distance dislodge the social primacy of embodied presence. The intersection between modern media and modern urbanism transforms the nexus between place and experience, familiar and foreign, self and stranger. The blurring of boundaries between human perception and technological vision asks us to rethink the space of consciousness, as the models of autonomy and interior subjectivity which have dominated modernity become increasingly difficult to reconcile with everyday experience.

Instead of the presumption of spatial continuity which has been the historical 'ground' of social relations, the immediacy of the continuous space surrounding our bodies is increasingly overlaid with a matrix that is intermittent, discontinuous and fluctuating. In the screen window, spaces appear and disappear abruptly. We can activate links between physically discontinuous sites at a moment's notice but these conjunctions are transient and inherently unstable. Dwelling in a space-time framed by a proliferation of media technologies fundamentally alters human sensory and perceptual parameters, sustaining a range of encounters which question the limits of the body and the authority of embodied perception. It is the tendency for technology to displace the body as the privileged measure of
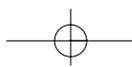
human experience which induces what I referred to above as a crisis of boundary, reference and dimension. Events happening in one place have instantaneous effects in another, or in a multiplicity of others, potentially impacting on sites distributed across the entire globe. With live television and 'real time' networked media, the classical definition of 'the event' as a singular occurrence is brought increasingly into question. In this context, concepts such as distance, proximity and locality, as well as interiority and exteriority, take on a range of new meanings. This transformation of the relation between sites, boundaries, and systems of access and enclosure, points to a critical aspect of contemporary experience which I want to call the *technological uncanny*.

The 19th-century uncanny was frequently linked to dark, hidden spaces. A classic literary example was Poe's *The Fall of the House of Usher* (1839) in which the narrator encounters the horror of a living being who has been walled up, buried alive in a house which itself assumes frightful organic qualities. It was precisely this 'unhealthy' profusion of dank cellars, hidden recesses and musty attics which modern architects such as Le Corbusier sought to abolish with flat-roofed residences, elevated above ground on thin pilotis, surrounded by verdure, with their terraces and windows open to the endless flow of light and air. Exposure of the hidden, the bringing to light of the repressed was thought to have a healing function. It offered a way of exorcising the demons. In contrast, the technological uncanny is less a function of hidden space or invisibility than of what Virilio aptly calls the *overexposure* of space. For Virilio (1991a: 19): 'This overexposure attracts our attention to the extent that it offers a world without antipodes and without hidden aspects, a world in which opacity is but a momentary interlude.' Borrowing Freud's sense of 'improper unveiling' – the exposure of something which ought to remain hidden – I will argue that the contemporary drive towards technological visibility and social transparency is producing a range of effects which depart the forms of truth and knowledge once imagined as the mark of the rational subject. The Enlightenment dream of subjecting the exercise of power to rational control through public scrutiny has been parlayed into the progressive mediatization of the home, and the reconstruction of urban space along the twin axes of surveillance and spectacle. If, on the one hand, the extension of media throughout urban space has supported strategies of instrumental control, it is becoming increasingly clear that visibility can no longer be correlated to security. As Peter Weibel (2002: 214) argues: 'The more the state attempts to make its citizens become transparent people and the community a transparent community, the more insecurity is created.' Vastly exceeding the effects of State surveillance is the way new media platforms – media which are always on and always available – support the extension of market relations and commodity values into more and more areas of everyday life.

Yet, even while acknowledging the reach and extent of these headings, it is important to recognize they are neither inevitable nor yet total. In this sense, the concept of the technological uncanny has a strategic aim.

Foregrounding the ambivalence created by technological transformation of the city and the private dwelling as 'home' offers a way of reading emergent signs of social contradiction and political contestation. Realizing this ambition demands the detachment of the uncanny from its Romantic origins in the Burkean sublime.[6] It also demands adding a critical historical context to Freud's usage, to interpret the spatial ambivalence generated by media technologies as symptoms of unarticulated and often repressed political contradictions.[7] Focusing on the ambivalence of the socio-cultural experiences generated by new media technologies is helpful in thinking the spatiality of the media city as one of doubling and displacement, but also for emphasizing different media temporalities – the belated, delayed or deferred effects – which are routinely obscured beneath, or actively repressed by the current drive towards 'real time' networks.

The 'annihilation' of space and time

In a television advertisement for telecommunications company MCI screened in the 1993, the much-heralded 'information superhighway' was presented in the following terms:

> There will be a road. It will not connect two points. It will connect all points. Its speed limit will be the speed of light. It will not go from here to there. There will be no more there. We will all only be here.

While the ad starts out with the familiar metaphor of a road, it is soon evident that it envisaged less a traditional linear thoroughfare than a *network* in which infinite speed overcomes distance to generate a technological form of perpetual presence. In a world in which 'There will only be here,', MCI propose not so much a journey with an identifiable destination as the triumph of technology over the margins, over marginality as such. The ad invites us to imagine a future in which we will never be 'outside', never 'there' but permanently 'here'. Less clear are the social and political ramifications of this putative transcendence. If there is no more *there*, does this imply – at least in fantasy – the disappearance of the place of the other, the final solution to colonial strategies of territorial domination and assimilation, what Paul Virilio (1986: 135) has called the geostrategic homogenization of the globe? Or is a different heading indicated? Once the *here* has been generalized and universalized – dare one say *democratized* – can colonial hierarchies between metropole and periphery, self and other still assume the same authority? To pose this question another way, does being propelled on a journey bereft of familiar coordinates operate to problematize mastery and overthrow entrenched relations of power, or does it simply accentuate an existing state of generalized disorientation and alienation?

MCI's image of a ubiquitous network connected at light-speed drew on prevailing *fin-de- siècle* rhetoric prophesying that the internet
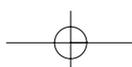
would – finally – produce the technological annihilation of time and space. Such rhetoric drew a utopian energy from the legacy of *Wired*'s adopted patron saint Marshall McLuhan (1974: 11), who had famously proclaimed in the mid-1960s that electronic media 'have extended our central nervous system itself in a global embrace, abolishing space and time as far as our planet is concerned'. However, if one looks back further, similar pronouncements can be traced right across the 20th century. Marinetti's 'Founding Manifesto of Futurism', published in *Le Figaro* in 1909, extolled the victory of technological speed to boldly assert 'Time and Space died yesterday' (Apollonio 1973: 22). Corbusier's (1971: 187) vision of modern offices presented in his 1924 book *Urbanisme* (later translated as *City of Tomorrow*), stressed that 'Everything is concentrated within them: apparatus for abolishing time and space, telephones, cables and wireless [...].' Dziga Vertov's (1984: 18) famed 1923 'Kino-eye' manifesto proclaimed cinema as a machine capable of abolishing space and time: 'free of the limits of time and space, I put together any given points in the universe.' When Howard Hughes completed his continuous circumnavigation of the globe by air in 1938, the *News of the Day* newsreel acclaimed him as 'The world's no. 1 annihilator of time and space'. It would be easy to multiply these examples.

In fact, as Schivelbusch (1986) has pointed out, similar rhetoric first emerged as long ago as the 1820s, when the invention of steam-powered trains radically transformed the way that people saw and experienced the landscape. Mechanically powered motion, in conjunction with the increased speed of travel, the relatively smooth transit offered by engineered and embanked tracks, and the closeting of train travellers in glass-windowed carriages, all combined to alter spatial perception. According to Schivelbusch (1986: 10):

> 'Annihilation of time and space' was the *topos* which the early nineteenth century used to describe the new situation into which the railroad placed natural space after depriving it of its hitherto absolute powers. Motion was no longer dependent on the conditions of natural space, but on a mechanical power that created its own spatiality.

In his pioneering work on the technological sublime, Leo Marx (2000: 194) observed similar responses to the emerging machine culture of the 19th-century United States:

> No stock phrase in the entire lexicon of progress appears more often than the 'annihilation of space and time', borrowed from one of Pope's relatively obscure poems [...]. The extravagance of his sentiment is apparently felt to match the sublimity of technological progress.

The reappearance of similar sentiments surrounding the 1980s invention of 'cyberspace' indicates the need to interpret them as a particular *rhetoric*. Such a stance is a necessary first step towards a richer understanding of emergent relationships between technology, territory and social experience. One of the major problems with simply accepting the claims of 'annihilation'

at face value is that it positions the present as the apex of the historic process, leaving little room for conceptualizing further change. Time and space have not yet *disappeared*, nearly two centuries after this fate was first widely pronounced. However, the ways in which time and space are individually and collectively experienced have certainly undergone dramatic and far-reaching changes.

Once we recognize that pronouncements of the 'annihilation of time and space' form a *recurrent* theme in the technological transformation of modern life, we can begin to plot the specific thresholds – particularly those concerning the emergence of new transport and media technologies – at which this theme is deployed. We can also begin to map a cyclical process in which the rhetoric of annihilation constitutes a specific moment in the assimilation of novel and potentially disjunctive spatio-temporal experiences. In this respect, it is important to appreciate that the longevity of the rhetoric is partly a function of its adaptability. Marinetti's account was dominated by the automobile; Corbusier's by telephone and radio; Vertov's by cinema; Hughes' by air travel; McLuhan's by television; MCI looked to the internet.

Positioning the rhetoric of the 'annihilation of time and space' as a particular moment in a dynamic cycle of rupture and recuperation enables a deliberate focus on the process of transition. If the rhetoric of 'annihilation' generally corresponds to the initial roll-out of a new technology, and 'assimilation' to the moment in which that technology has entered the dominant social habitus to such an extent that it can ground new forms of abstract knowledge and social practice, what separates these two poles is the passage of negotiation.[8] It is this in-between or transitional phase that I want to particularly focus on in this book. As Walter Benjamin, (1999b: 857) pointed out long ago, there is a strategic value in analysing phenomena 'at the crossroads': 'namely, the new view on the historical world at the point where a decision is forthcoming as to its reactionary or revolutionary application'. At the crossroads, the contradictory tendencies and ambivalent currents of new phenomena can often assume a marked *political* tenor. What may in retrospect seem the 'logical' pathway of future development is not yet inevitable; other possibilities remain open.

The railway is itself a prime example of this dialectic. As Schivelbusch (1986: 10) demonstrates, initial responses to steam power tended to focus on its profound disruption to established patterns of geography and mobility. Accelerated mechanical motion broke up the customary space-time of embodied human experience, and it was this profound sense of rupture which generated the modern rhetoric of the annihilation of time and space, establishing the template for apprehending many future technological developments. The fact that the process was grasped largely through the rhetoric of 'annihilation' is by no means an indication that reactions were uniformly negative. Rather, the predominance of 'annihilation' signals that the experience of discontinuity with the past was the primary register for processing technological change. In the rhetoric of annihilation, technology
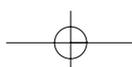
is generally positioned as an autonomous agent, enabling extravagant claims to be made concerning its transformative powers. But this phase does not last forever. While the railway's impact was widely described in terms of the 'annihilation of time and space' for several decades from the 1820s, such claims began to recede as the new mode of travel became more habitual, and people were able to contemplate travel at 30 miles an hour with greater equanimity. Schivelbusch (1986: 14) argues the outcome was the formation of the new perceptual habitus which he dubs 'panoramic perception'. By the new century, the once novel space-time of train travel had become such a common experience that Albert Einstein (1920) could draw on it as a way of explaining relativity theory to general readers.[9] The familiarity of train travel meant that it could form a 'ground' from which to explain the radical new concept of field theory.

Positioning shifting social responses to new technologies in terms of this dialectic of rupture and recuperation can be regarded as a specific example of the broader process of the 'dis-embedding' and 're-embedding' of tradition that Featherstone and Lash (1995: 4) argue is characteristic of modernity. What I am seeking to give greater emphasis to here is the extent to which any 're-embedding' enabling the social assimilation of new media technologies has been dependent on paradigmatic shifts in the social relations of space and time. In the process, initial experiences of discontinuity and rupture have given way to new continuities established at a more abstract level. Clearly, a term such as 'abstract' cannot assume an absolute value, since what is experienced as more abstract for one generation – for example, rail travel between cities – may well become 'natural' to another. Once naturalized, experience can become the basis for further 'abstractions' affecting both knowledge and social practice. This underlines the fact that 'assimilation' is neither inherently conservative, nor simply directed towards functional integration in the interests of social cohesion. Assimilation does not imply social stasis, but simply a lessening of the initial experience of rupture surrounding the new technology, as certain uses become routinized while others are gradually closed off or remain latent. In fact, the social assimilation of technological media has produced profoundly ambivalent outcomes, underpinning the general shift from social 'structures' to the 'flows' of increasingly open systems. In this respect, assimilation accentuates latent social contradictions and generates further pressures for social transformation, resulting in the generalization of media-architecture complexes: what I am calling the media city.

The city as home

It is remarkably easy to forget how recent the phenomenon of mass urbanization is, and therefore to ignore to what extent it constitutes an *experimental* mode of living. As Mumford (1973: 40) notes in his magisterial account of urban history: 'until the present period of urbanization, cities

contained only a small fraction of mankind.' Kasinitz (1994: 8) points out that: 'As late as 1850 there was no predominantly urban society on the planet. In 1900 there was only one, Great Britain.' This was despite the rapid expansion of cities during the first half of the 19th century, when many European cities were subject to phenomenal rates of growth. However, it was only during the 20th century that cities became the dominant form of dwelling for entire national populations. The fall in rural population was most dramatic in the United States, from over 90 per cent of total population in 1810 to below the 50 per cent threshold around 1920 to below 3 per cent in 1980 (Short 1991: 104). While this decline has been less extreme in other nations, the general trajectory from country to city remains dominant. Moreover, on a global basis, it is still accelerating. Since 1950, the proportion of urban dwellers worldwide has tripled (Ferrarotti 1994: 462). According to estimates from the United Nations (2004: 3), 2007 will be the threshold at which more than 50 per cent of the world's population live in cities, rising to 61% by 2030. Perhaps most significantly, the fastest urban growth is no longer in developed, industrialized nations, but in poorer nations where industrialization is uneven or marginal.[10]

Not only are more people living in cities, but cities have themselves increased enormously in scale over this period. In the 19th century, cities of more than one hundred thousand people were rare. Even by 1920, only 1 in a 100 people lived in cities with populations of more than 1 million. As Soja (2002: 95) has pointed out: 'In a few years the majority of the world's population are going to be living in these megacities of more than a million inhabitants.' Cities of far larger scale are also multiplying rapidly. In the mid-20th century, only London and New York possessed populations of more than 8 million; in 2002 there were 22 'megalopolises' of at least this size.

The rapid growth in the scale and density of cities from the mid-19th century occurred in close concert with the development of new transport and communication technologies, which, paradoxically, fed both centripetal and centrifugal pressures. The horizontal extension of the modern city was directly dependent on the emergence of new vehicles such as trains, bicycles, trams and automobiles which provided the infrastructure for the suburban dispersion of populations, while also enabling new forms of linkage between cities and surrounding regions. Urban extrusion was also facilitated by new communication technologies such as the telephone, which supported the coordination of spatially separated production and retail sites in the factory system. Conversely, the dense concentration of workers in office buildings and factories demanded mass transit networks capable of delivering peak loads to central sites, while the logistics of office work demanded communication networks such as telephones capable of servicing multiple cells aggregated in monolithic structures such as the high-rise tower.

Even in the mid-19th century, it was becoming evident that the growth of the city challenged its historical coherence. London seemed vast and

apparently limitless to Friedrich Engels (1971: 30), who wrote in 1844 of 'a city in which one can roam for hours without reaching the beginning of the end'. Here Engels announces two recurrent themes of modern metropolitan discourse: the image of the city as a labyrinth, and the implicit annexation of its public space to the male *flâneur* whose mobile gaze would soon be elevated by Baudelaire to a privileged mode of modern experience. As Benjamin pointed out, the modern city assumed a labyrinthine quality *in spite of* the rationalization of urban space advocated by those such as Haussmann in mid-19th-century Paris:

> Most hidden aspect of the big cities: this historical object, the new metropolis, with its uniform streets and endless rows of houses, has given material existence to those architectures of which the ancients dreamed – the labyrinths. (1999b: 839)[11]

In retrospect, it can be more clearly appreciated that, rather than establishing a stable system capable of anchoring the new social order, the modern industrial city introduced a new set of variables which altered the nexus between urban space and the reproduction of cultural identity. In the traditional city, whether antique, medieval or Renaissance, the stable disposition of buildings, monuments and public spaces formed a network which held the lives of its citizens in relatively tight rein. The city was both the concrete expression of the hierarchy of social and political relationships, and the material structure of a collective memory which ensured the maintenance of those relationships. Dominated by a cathedral or castle, bounded by a wall with secure gates, the city constituted a protected environment in which movement was controlled and the appearance of strangers – particularly foreigners – was a noticeable event. In contrast, as Simmel emphasized, the modern metropolis is characterized by an influx of strangers and the experience of 'shock'.[12] The displacement of rural workers into urban factories was accompanied by the increasing depersonalization of social relations under the market system of capitalism. Growing anonymity from one's neighbours was double-edged. If anonymity brought new opportunities for self-invention, as old social hierarchies were eroded by the pursuit of individual advancement, it also carried the price tag of increasing alienation and estrangement.

In Mumford's (1973: 41) account, the 'invention' of the city was originally the result of spatial implosion:

> [T]he city may be described as a structure specially equipped to store and transmit the goods of civilization, sufficiently condensed to afford the maximum amount of facilities in the minimum space, but also capable of structural enlargement [. . .].

The ancient city developed its competitive advantage over surrounding regions by condensing things in a concentrated space: people, capital, technology and access to natural resources produced the fecund urban mixture 'which resulted in an enormous expansion of human capabilities in
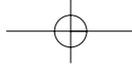
every direction' (Mumford 1973: 40). The modern industrial city replaced medieval walls with new forms of circulation: boulevards, railway tracks, telegraph wires and telephone lines. But even as late as the 19th century, industrial cities still followed the ancient model in many respects. Major cities tended to be located at significant transportation junctions, most commonly ports. The growth of railroads served to amplify the older natural advantages of port cities like London, New York and Chicago. However, by the end of the 19th century, the growing networks of tram and suburban rail lines had created the characteristic wheel-spoke pattern of the industrial metropolis comprising an inner core or central business district, a middle production zone of factories and crowded working-class housing, and an outer ring of more affluent middle-class suburbs.[13] While many, including Mumford, regarded these cities as horrific, they 'worked', at least according to their own logic. The clustering of businesses in the city centre multiplied opportunities for face-to-face contacts and the exchange of information, creating advantages over small town competitors. Mass transit to the city centre enabled large-scale patronage to support new forms of shopping and entertainment.[14]

In many respects, the 1920s stands as the zenith of the industrial city. After this time, the dominant model of concentric urban rings began to wane. If the modernist *avant-garde* of the 1920s tended to represent urban space as decentred and decentring, more recent developments have made the city's 'loss of centre' even more radical. With the rise of automobile culture after World War II, the dependence of the suburbs on the city centre declined rapidly. Fishman (1994: 394) notes that in the United States the suburban population doubled as a proportion of the total, from 23 per cent in 1950 to 45 per cent in 1990. At the same time, twice as many suburban workers commuted to another suburb rather than to the city centre. The result, according to Fishman (1994: 398), is that 'the peripheries have replaced the urban cores as the heartlands of our civilization.' In his landmark essay, 'The Overexposed City', Paul Virilio (1991: 12) underlined the role of transport and communication technologies in this transformation:

> The phrase 'to go into town', which replaced the nineteenth century's 'to go to town', indicates the uncertainty of the encounter, as if we could no longer stand before the city but rather abide forever within. If the metropolis is still a place, a geographic site, it no longer has anything to do with the classic oppositions of city/country nor centre/periphery. The city is no longer organized into a localized and axial estate. While the suburbs contributed to this dissolution, in fact the intramural-extramural opposition collapsed with the transport revolutions and the development of communication and telecommunications technologies. These promoted the merger of disconnected metropolitan fringes into a single urban mass.

At the beginning of the 21st century, urban form is no longer typified by the highly concentrated and vertically stratified city of Lang's *Metropolis* (modelled on Manhattan), but by the sprawling, ex-centric agglomeration of suburb, mall and freeway covering vast tracts of land. The basic urban
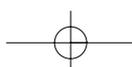
unit is no longer the street measured in blocks but the *growth corridor* measured in hundreds of square kilometres. This city is symbolized less by a skyline of iconic skyscrapers than by networks of superhighways whose logic can best be understood from the air, or, increasingly, by invisible digital networks which demand to be mapped in new ways.

Cities without centres

As Sassen (1991: 13) notes: 'Cities have historically provided national economies, polities and societies with something we can think of as centrality.. Of equal significance to the sheer size of the new conurbations is their lack of identifiable centres. Mumford (1973: 45) highlighted this tendency more than half a century ago, adopting a language McLuhan would soon popularize:

> We live in fact in an exploding universe of mechanical and electronic invention [...]. This technological explosion has produced a similar explosion of the city itself: the city has burst open and scattered its complex organs over the entire landscape. The walled urban container indeed has not been merely broken open: it has also been largely demagnetised, with the result that we are witnessing a sort of devolution of urban power into a state of randomness and unpredictability.

This 'technological explosion' represents a profound reversal of the historic rationale for urbanism. For Fishman (1994: 398): 'The new city [...] lacks what gave shape and meaning to every urban form of the past: a dominant single core and definable boundaries.' The result is something that still lacks a recognized name. Fishman (1994: 400) argues: 'Not urban, not rural, not suburban, but possessing elements of all three, the new city eludes all the conventional terminology of the urban planner and the historian.' Similarly, Ferrarotti (1994: 463) argues: 'We are moving towards an urban-rural continuum [...]. Here, the city is deprived of its natural center of attraction, its core.' Sorkin (1992: xi) talks about 'the emergence of a wholly new kind of city, a city without a place attached to it' which he terms an 'ageographical city'.[15] Soja (2000; 2002: 95) uses the term 'postmetropolis' and elsewhere '*exopolis*' to describe the new urban landscapes 'to stress their oxymoronic ambiguity, their city-full non-cityness'. Rem Koolhaas (2004: 161, 166) sums up the transformation with the appellation *junk space*:

> Junkspace is what remains after modernization has run its course, or, more precisely, what coagulates while modernism is in progress, its fallout. Modernization had a rational program: to share the blessings of science, universally. Junkspace is its apotheosis or meltdown [...] Junkspace pretends to unite but it actually splinters. It creates communities not of shared interest or free association, but of identical statistics and unavoidable demographics [...]. Each man, woman and child is individually targeted, tracked, split off from the rest [...].

The loss of urban centre is not total.[16] But it has clearly generated what Boyer (1999: 138) terms a 'crisis' of urban representation as what Lynch (1960)

once called the 'legible city' has become increasingly unreadable. Virilio (1991a: 30) posits successive thresholds in this growing urban illegibility, as the city loses historic coherence, productive functions and, finally, the geometric space on which urbanism was predicated:

> With the decay of urban centrality and axiality, the symbolic and historical reference points go first. Then, when the industrial apparatus and the monuments lose their meanings, the architectonic references vanish. Most decisively, the demise of the ancient categorization and partition of the physical dimension leads to the loss of the geometric reference points

It is the displacement of 'substantive, continuous and homogeneous space inherited from classical geometry' in favour of what Virilio (1991a: 35) calls 'the relativity of an accidental, discontinuous and heterogeneous space' of electronic media which deals the final blow to the spatial paradigms of classical architecture and urbanism. In this context, Virilio (1991a: 30) argues that we are forced to 'find other, electronic means of evaluating time and space, ones which share no common ground with the measuring systems of the past'. Unfortunately, in practice, Virilio has tended to ignore this task, preferring to interpret the transformation of urban space overwhelmingly in terms of loss and disorientation. The rhetoric of the 'annihilation of time and space' becomes his stock lexicon.[17] But the exhaustion of classical geometry or humanist architecture cannot be equated with the end of space and time. Rather than continuing to lament an absolute loss, I am more interested in exploring new ways of conceptualizing the space-time of social experience and agency in a context in which the older boundaries of both territory and media are in flux.

Relational space

The trend towards statistical and probabilistic forms of knowledge and meaning, which emerged in the mid-19th century, was consolidated in the formal elaboration of cybernetics towards the end of World War II. By the 1960s, electronic information processing machines had begun to change both work practices and social organization to such an extent that futurologists such as Daniel Bell (1968: 4) saw networked computers as a key element of post-industrialism. The new nexus between technology, economic production and social relations also inspired Archigram's futuristic visions of information-based dwellings and 'plug-in' cities.[18] If, as Mumford (1973) and Kittler (1996) argue, there is a sense in which the city has always been a *medium*, the interlacing of urban space with high-speed interactive networks nevertheless constitutes a critical change in urban experience. The intermeshing of digital technology with urban terrain has produced a new set of pressures with both centripetal and centrifugal trajectories. On the one hand, digital networks have promoted the dispersal of economic activities across geographical space, increasingly on a global scale, while, on the other hand, they also produce increasing concentrations of
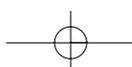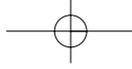
power, as command and control centres for the global economy are consolidated in relatively few 'global cities'.[19] These trajectories increasingly interpenetrate and shape the context of personal life. As Sussman (1997: 36) points out, while many ordinary people, particularly in affluent societies, have more 'opportunities for distant association' than did their parents, the same technological infrastructure has 'helped to normalize a degree of industrial, commercial, social and familial separation that was also unknown to earlier generations'. The consequences for the less affluent are even starker. As Nikos Papastergiadis (2000) has argued, the cross-border movement of people in the face of poverty, environmental degradation or war has become a defining characteristic of the present.

The paradoxical combination of dispersion and concentration arising from the growing importance of information and communication networks to economic, social and political organization, manifested in the simultaneous abolition of distance and the inscription of new forms of distancing and exclusion, has accentuated awareness of the growing dislocation of 'place' from 'space'. Castells (1989: 6) influentially defined the 'informational city' in terms of 'the emergence of a *space of flows* which dominates the historically constructed space of places'. Despite his use of 'domination', Castells clearly recognized that informational flows do not simply obliterate existing geographical and urban space, but are articulated with it in complex ways. Sassen (1991) similarly stressed that, while cross-border economic processes lead to a 'partial unbundling' of the nation-state in favour of the ascendancy of other units and scales of organization such as cities and regions, the communication and information infrastructure underpinning such flows is itself materially located.

This emphasis provided a useful corrective to the tendency to either lavishly celebrate or lament the emergence of 'cyberspace' for displacing 'real' social space.[20] Now that such hyperbole has subsided from its dotcom heights, it is increasingly recognized – even by some who once confidently prophesied the replacement of bricks by bytes – that, instead of the 'annihilation of space and time', we are experiencing the emergence of new spatial ensembles. This new conjunction of media and architecture has been variously described in terms of 'augmented reality', 'mixed reality', 'augmented space' and 'stereo reality' – descriptions which all seek to emphasize the heterogeneous spatial regimes of what I call the media city.[21] While descriptors such as 'informational city' or 'digital city' are more established, I find media city more useful in encompassing both the historical dimensions of the relation between media and modern urban space, and in connecting this history to the changes driven by digital convergence in the present.

As media become increasingly mobile, scalable and interactive, the new mode of social experience in the media city is characterized by what I term *relational space*. I want this concept to carry a particular load here. Of course, there is a sense in which spacing – setting things apart – always implies relation. However, by relational space I am referring to the

contemporary condition in which the horizon of social relationships has become radically open. As Lash (2002a: 16) puts it: 'In technological forms of life, what were more or less closed systems, my body, the social body, becomes more or less open constellations.' This openness brings with it a new freedom to construct social relationships across space and time. The flipside of this freedom is that it cannot be refused. As Beck (1994: 46) argued when defining the 'reflexive modernity' which characterizes risk society, the conundrum of reflexive modernity is that the reflexive subject cannot refuse to choose.[22] The heightened contingency and fluidity of space in the media city is a manifestation of this condition. Relational space names the spatial experience characteristic of 'reflexive modernity', as the pre-given nature of social space and the taken-for-granted contours of subjectivity are increasingly withdrawn in favour of the ambivalence of mobile spatial configurations and ephemeral individual choices.

The openness of relational space is a condition which has most often defined in merely negative terms, focusing on what has been lost as social space has been stripped of inherent qualities, such as stable dimensions, persistent appearances and secure meanings. If such stripping has a productive element, summed up by the 'creative destruction' that Marx identified as the progressive force of capitalism, it can all too easily tip into what Harvey (1990: 105) calls 'destructive creation' in which tradition and territory are levelled in the name of the total market rather than recast in more inclusive and democratic forms. Yet, resistance to market fundamentalism can no longer simply appeal to classical notions of spatial stability with enduring forms and secure boundaries as the frame for supposedly homogeneous identities. If the process of dis-embedding tradition and de-territorializing locality which characterizes modernity has created the conditions for space to be increasingly experienced as shifting, variable and contingent, contemporary politics must begin from the possibilities produced by this unstable dynamism. As Beck (1994: 11–12) argues:

> In a political and existential sense, the fundamental question and decision that opens up here is, will the new manufactured incalculability and disorder be opposed according to the pattern of instrumental rational control, that is by recourse to the old industrial society (more technology, market, government, and so on). Or is a rethinking and a new way of acting beginning here, which accepts and affirm the ambivalence – but then with far-reaching consequences for all areas of social action?

The first theoretical intimations of spatial relativity in a modern sense appeared with Maxwell's equations for electromagnetic field theory published in 1864. The spatial consequences of field theory were extended and finally consolidated by Einstein's relativity theory in 1905, which confirmed the break with the Cartesian–Newtonian universe in favour of a radically differential perception of time and space irrevocably dependent upon the observer's frame of reference. However, while relativity became a hallmark of *avant-garde* theory and practice in the early 20th century, most
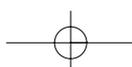
notably in the visual arts with the Cubist-inspired break with geometric perspective, it is only with the intensive development of media and communication technologies in the second half of the century that relational space has become dominant in everyday experience. This shift from abstract theoretical construct to the dominant condition of social space is a function of the increasing social primacy assumed by technological speed. As Virilio (1995: 141) reminds us, speed is a consequence of the relation between different phenomena. Relational space is the condition of social space shaped by the simultaneous experience of radically different velocities: the overlapping of what Virilio (1995: 144) calls the 'metabolic' speed of the body, the relative mechanical speed of vehicles, and the 'absolute' light-speed of media and communication technologies. Relational space comes to the fore when the primacy once accorded to the stability of material objects is reframed by the variable relations established between different velocities. In this respect, the light-speed of electronic media is critical. If relational space began to be conceptualized with Nietzsche's (1998) radical 'perspectivism' proposed in 1887 – the fact that all phenomena must be observed from somewhere – it comes to fruition when the extension of network logic demands recognition that every point of observation is *connected* to innumerable others. Relational space is the social space created by the contemporary imperative to actively establish social relations 'on the fly' across heterogeneous dimensions in which the global is inextricably imbricated with the face-to-face. It is a condition defined by the growing demand to recognize the unique position of each social actor and the situated context of every experience, coupled to the simultaneous recognition that context eludes exhaustive definition, or 'saturation' as Derrida (1982) puts it.

The media city achieves critical mass once relational space begins to emerge as a cultural dominant. Since relational space cannot be defined by essential attributes or inherent and stable qualities, it assumes significance primarily through the interconnections established between different nodes and sectors. Such interconnections are characterized above all by their variability and impermanence. As Lash (2002a: 206) argues, older social bonds organized on the basis of spatial proximity are being displaced by communicational bonds which are 'at-a-distance' – either communication coming from a distance, or people coming from a distance in order to meet face-to-face. Communicational bonds exhibit different durations and velocities to older forms of social bonds embedded in spatial proximity: in Lash's terms, they are brief, intense, discontinuous and no longer governed by narrative continuity.[23] Thus, while certain connections may endure over time or even assume a sense of relative permanence, the general context is one of growing susceptibility to rapid and volatile realignments.

This heightened volatility has increasingly become an operative factor in the exercise of power. In Deleuze's (1992) terms, the fixed and stable spatial 'moulds' of disciplinary society have given way to the continual processes of digital modulation. For Kittler (1996: 726), the loss of stable

spatial hierarchies, such as those which once defined the notion of 'the capital', means that political power often springs up in 'less obvious tangents'. Exercising power may be less a matter of occupying a traditional spatial centre such as a city square than making tactical assessments of communicational possibilities:

> Power thus means occupying at the right moment the channels for technological data processing. And centrality becomes a variable dependent on media functions, rather than vice versa.

Relational space is characterized by the frustration or complication of all simple or direct relations between 'inside' and 'outside'. While this corresponds to what Deleuze (1992) described as a general attack on established systems of enclosure, this tendency towards more open constellations is not characterized by a simple expansion of 'freedom'. In practice, contemporary social space also manifests what the architectural collective Multiplicity (2005: 173) describe as 'a proliferation of borders, walls, fences, thresholds, signposted areas, security systems and checkpoints, virtual frontiers, specialized zones, protected areas under control'. The porosity of boundaries at some levels has been counterpointed by new forms of friction and the proliferation of new mechanisms of policing and border control at others.

While relational space is often experienced as contingent, the versatility of networks and connections means it can also be made into a space of belonging – a 'home'. The reconfiguration of 'home' in modernity is the product of *both* the loss of stable coordinates, *and* the invention of new continuities and new processes of cultural affiliation across interlinked domains. Once again, it is important to emphasize the ambivalent and contradictory currents of such a process. As Guattari (1984: 36) argues: 'The more capitalism follows its tendency to "de-code" and "de-territorialize," the more does it seek to awaken or to re-awaken artificial territorialities and residual encodings, thus moving to counter-act its own tendency.'[24] There is no absolute and final 'loss of centre' in the de-territorializing tendencies of modernity. New 'centres' can be – and are – formed. However, such centres lack the aura of permanence that was integral to them in the past. Instead, each 'centre' now has to be situated in relation to – and legitimated against – a multitude of others. This condition has propelled nostalgia for a general *loss of centre* to a recurrent theme. Derrida (2002: 79–80) notes the way that global media feed a desire for being at home:

> [T]oday, we are witnessing such a radical expropriation, deterritorialization, delocalization, dissociation of the political and the local, of the national, of the nation-state and the local, that the response, or rather the reaction, becomes: 'I want to be *at home* , I want finally to be at home, with my own, close to my friends and family.' [...] The more powerful and violent the technological expropriation, the delocalization, the more powerful, naturally, the recourse to the at-home, the return toward home.
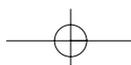
While de-territorialization can produce nostalgic and parochial responses, it is also the condition for rethinking social relations and cultural affiliations around more complex patterns than the model of the nation-state allowed. Relational space is necessarily more *other*-oriented, insofar as the 'here' becomes open and porous. As Giddens (1991: 96–97) expresses it:

> A world where no one is 'outside' is one where pre-existing traditions cannot avoid contact with others, but also with many alternative ways of life. By the same token, it is one where the 'other' cannot any longer be treated as inert. The point is not only that the other 'answers back', but that mutual interrogation is possible.

If Giddens' optimism demands qualification, his analysis highlights the new social context created by 'instantaneous global electronic communication' in which every situation is increasingly experienced as lacking 'full' presence and is instead conditioned by the fluctuating and discontinuous pressure of the generalized 'elsewhere'. Relational space is space suffused with 'uncanny' experiences of doubling and displacement, as the pulsions of events in other spaces interrupt and recontextualize immediate experience.

From the proceeding discussion, it should be evident that the concept of relational space is not premised on elevating space over time, or vice-versa. Rather, relational space expands the modern recognition of the inextricability of time and space to foreground the existence of heterogeneous temporalities which coexist, intersect and overlap. In this sense, it is not simply the 'space of flows' but also the *pace of flows* which is critical to power and political change in the present. As Lash (2002b: 58–59) notes: 'there's a form of inhabiting in something like an informational environment. And how does that work, when it's not all shock experience and mere operationality? Well, I would say it just has to organize itself differently.' Learning to inhabit mediated space *differently* is as much a question of speed as it is one of ownership or content. It demands the creation of media ecologies with the capacity to sustain a far more varied range of informational velocities than the current imperative of instant response allows.

Rather than opposing space to time, the most productive way of understanding Virilio's *chronopolitics* is in terms of the new sense of simultaneity which informs relational space. As Nowotny (1994) points out, the experience of simultaneity emerged in the early 20th century with the growth of electronic media. But it is only with ubiquitous 'real time' media that global simultaneity becomes culturally dominant. As Latour (2005: 40) notes, one effect of the new simultaneity is that the temporal hierarchies of colonial modernity become unsustainable: '*everything becomes contemporary.*' When everything is contemporary, contradictions can no longer be displaced onto the supposed slowness, backwardness or belatedness of the periphery according to the logic of historical progress. Instead contradictions are forced to coexist, and actively impinge on each other.

Latour argues that this novel situation demands an entirely new set of political questions revolving around the politics of cohabitation.

If the all-too evident contradictions of contemporary globalization dominated by a neo-liberal economic agenda are to become susceptible to new political currents, there is an urgent need for the articulation of new forms of social collectivity and collective interaction. This is undoubtedly a difficult task. It demands ways of thinking and acting collectively while respecting multiple levels of difference. It demands recognition of the uniqueness of individuals without exacerbating prevailing tendencies towards social atomization and solipsism. It demands the articulation of a new basis for collective projects and the constitution of new public spaces at the historical moment when collectivity has to be expanded beyond the geography of national borders. The extension of what Papastergiadis (2005) calls collaborative networks and clusters across older geographical and cultural borders, and their deepening to include new forms of dialogue and co-operation, is a vital manifestation of the role media might play in determining spatial ambience and social agency. If relational space grows out of the modern understanding that spatial surroundings can no longer be taken for granted as an inert container, the contemporary media city is the social milieu in which social agency comes to be routinely defined by feedback from other sites and other speeds. In the radical *openness* of relational space, we can feel the ambiguous headings which today affects the homeliness of our homes, the urbanity of our cities and the identity of our selves.

Notes

1 The ad was made for US telecom MCI, and the words spoken by child star Anna Paquin; Multiplicity 2005: 169.
2 Texas Instrument's Digital Light Processing (DLP) technology, originally developed for theatrical projection has become the dominant platform for the consumer roll-out of video projection systems. See McQuire 2004.
3 Once 'nature' is no longer opposed to 'culture', but subsumed within it, the two spheres increasingly merge into techno-nature and techno-culture. Beck (1994: 27) positions such a shift as the point of entry to 'risk society': 'The abstraction of nature leads into industrial society. The integration of nature into society leads beyond industrial society.'
4 The term cyborg, a contraction of 'cybernetic organism', was coined by Clynes and Kline (1960: 27) in 1960, under the influence of Norbert Wiener's (1948) work on cybernetics. See McQuire 2006.
5 This is not to suggest that the digital threshold 'caused' the crisis of photographic authority; rather that it intensified concerns, particularly in institutions such as news organizations and police forces with a high investment in photographic evidence, which had already been broadly articulated in photographic theory.
6 As Sean Cubitt (2004: 9–10) points out, sublime experience tends to exist outside history, time and the social. Technology has been related to the sublime by Marx (1965) and more recently Nye (1994), Carey (1989) and Mosco (2004).
7 Benjamin's example in the 1930s is suggestive, when he drew loosely on Freud to create his concept of the 'optical unconscious' as a means of theorizing the
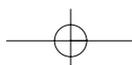
changing relation between technological images and urban experience. See Chapter 3.

8   It is important to appreciate that these phases are overlapping rather than linear, and that each stage assumes only relative permanence. Spatio-temporal frameworks, considered as social settings for particular forms of life, are not transformed overnight according to the high velocity vicissitudes of fashion. Nor are they immutable. The decline of what Gurvitch (1964) calls 'enduring time' as a regulative social force is itself a key index of the difference of contemporary understandings of space and time to those held by many earlier societies.

9   See his *Relativity: The Special and General Theory. A Popular Exposition* (1920), where Einstein makes numerous references to train travel as a way of conceptualizing differential spatio-temporal frames of reference in order to explain relativity theory to readers lacking advanced knowledge of mathematics and theoretical physics.

10 Koolhaas et al. (2001: 2–7) note that, of the 33 'megalopolises' with populations of 8 million or more predicted to exist by 2015, 27 will be in the least developed countries. The only 'rich' city remaining among the world's ten largest in terms of population will be Tokyo.

11 In a 1938 letter to Horkheimer, Benjamin (1994: 557) adds: 'the crowd is the latest and most unfathomable labyrinth in the labyrinth of the city.' The crowd and the *flâneur* will be discussed further in Chapter 2.

12 This theme will be elaborated in Chapter 3.

13 While this pattern belongs more to cities built on the US model with a high-rise central core, it is also applicable to 'modernized' European cities.

14 As Fishman (1994: 401) points out, the rewards were not evenly shared: the best-served group of this city model were the middle-class who 'enjoyed all the economic benefits of the great city while living in a quite, leafy-green, smoke free environment at its edge'.

15 Sorkin (1992: xii) adds: 'Whether agora, castle, piazza, or downtown, the idea of a city of centres stands, at a minimum, for the idea of a spatial city, a city in which order is a function of proximity.' With regard to the 'ageographical city', he concludes: 'In fact, the structure of this city is a lot like television.'

16 Sassen (1991) points out that face-to-face contacts continue to play a vital role in business, buttressing the emergence of 'global cities' which exercise command and control functions in the global economy. However, core city prosperity rests on a much narrower base than previously, with declining retailing dominance and loss of corporate employment to dispersed 'back-offices' providing outsourced functions such as computing and call centres. Instead, the traditional 'city centre' is increasingly defined by its role housing major cultural institutions such as museums, concert halls and art galleries. Possession of this infrastructure, which fuelled the recent wave of inner city gentrification, has become subject to national and international competition.

17 See McQuire 1999.

18 See Chapter 4.

19 Sassen (1991:24) notes:

> Economic globalization and the new ICTs have contributed to produce a spatiality for the urban that pivots in cross-border networks as well as territorial locations with massive concentration of resources. This is not a completely new feature. Over the centuries cities have been at the cross-roads of major, often worldwide processes. What is different today is the intensity, complexity and global span of these networks, the extent to which significant proportions of economies are now de-materialized and digitised, hence the extent to which they can travel at great speeds

through some of these networks, and the number of cities that are part of cross-border networks operating at vast geographic scales.

20 The rhetoric of 'cyberspace' will be discussed further in Chapters 4 and 5.

21 See for example Azuma 1997, Benford et al. 1999, Ranaulo 2001, Manovich 2006.

22 Beck, Giddens and Lash (1994) all used the concept of 'reflexive modernity' to periodize a shift from 'simple' to 'full' modernity in the second half of the 20th century. However, while Beck stresses that 'risk society' demands responses from subjects who, in having no choice but to choose, are often reduced to mere 'reflex' reactions, Giddens offered a more optimistic picture of heightened individual agency emerging as personal relations are fully 'de-traditionalized'. Lash's argument, which treats reflexivity as an ambivalent gift, is more useful for my purposes, insofar as he contends that it is not social structures which underpin reflexive modernity but an 'articulated web of global and local networks of *information and communication structures*' (1994: 121).

23 Lash (2002a: 75) makes his debt to Benjamin's contrast between 'storytelling' and 'information' explicit elsewhere, arguing: 'Social relations themselves are becoming less a question of sociality than informationality.'

24 Lash (2002a: 205) similarly argues for the need to understand the society of 'flows' needs dialectically: 'These flows gain hegemony in the grand "de-territorialization" of structures and institutions. But there is never the pure indifference of flows. The de-territorialized flows wind up "solidifying" in a group of new re-territorializations, some of which become infrastructure for the flows themselves.'