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Automobility, Car Culture and Weightless Travel: A discussion paper

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> Roland Barthes says that the car is 'consumed in image if not in usage by the whole population ... [it is] the exact equivalent of the great Gothic cathedrals' (1972: 88).

The car and sociology

According to Heidegger, machinery 'unfolds a specific character of domination ... a specific kind of discipline and a unique kind of consciousness of conquest' over human beings (quoted Zimmerman 1990: 214). In the twentieth century this disciplining and domination through technology is most dramatically seen in the system of production, consumption, circulation, location and sociality engendered by the 'motor car'.

The car and the system of automobility are the best exemplification of the development of a putative globalisation. One billion cars have been manufactured in this century. There are currently over 500m cars world-wide, a figure expected to double by 2015 (Shove 1998). The car is curiously though rarely discussed in the 'globalisation literature' (see for example

Albrow's The Global Age; 1996). Its specific character of domination is nevertheless as global as the other great technological cultures of the twentieth century, the TV and the computer.

The social and technical system of the car constitutes an enormously complex hybrid, 'automobility', which I argue should be examined through six components, as manufactured object, individual consumption, machinic complex, quasi-private mobility, culture, and environmental resource-use. My argument in this paper is that it is the unique combination of these components that generates the 'specific character of domination' that automobility exerts over almost all societies across the globe (see Whitelegg 1997). This domination cannot be undermined unless all of these components are somehow replaced by alternative hybrid.

In the next section I outline some moments in its history; and this is followed by a lengthy analysis of the disciplining and conquering hybrid of automobility. This section is followed by an examination of the 'weightless mobility' alternatives to the car, involving what I call imaginative and virtual travel. I argue that these weightless mobilities do not provide straightforward alternatives to automobility since they at best only replace certain components of what constitutes this all-conquering hybrid. Indeed it may be that these weightless mobilities will mainly add to the social connections between people in diverse locations and hence increase the desire for what I call corporeal travel. And almost all corporeal travel in the contemporary world involves wholly or partly automobility, even when the 'main journey' appears to be by 'public' transport.

First then I will outline these intersecting components of automobility (see Shove 1998, on each of these):

- the quintessential manufactured object produced by the leading industrial sectors and the iconic firms within twentieth century capitalism (Ford, GM, Rolls-Royce, Mercedes, Toyota, VW and so on); hence the industry from which key concepts such as Fordism and Post-Fordism have emerged to analyse the nature of, and changes in, the trajectory of western capitalism
- after housing, the major item of individual consumption which (1) provides status to its owner/user through the sign-values with which it is associated (such as speed, home, safety, sexual desire, career success, freedom, family, masculinity); (2) is easily anthropomorphised by being given names, having rebellious features, seen to age and so on; and (3) generates massive amounts of crime (theft, speeding, drunk driving, dangerous driving) and disproportionately preoccupies each country's criminal justice system
- an extraordinarily powerful machinic complex constituted through the car's technical and social interlinkages with other industries, including car parts and accessories; petrol refining and distribution; road-building and maintenance; hotels, roadside service areas and motels; car sales and repair workshops; suburban house building; new retailing and leisure complexes; advertising and marketing, and so on
- the predominant global form of 'quasi-private' mobility that subordinates other 'public' mobilities of walking, cycling, travelling by rail and so on; it reorganises how people negotiate the opportunities for, and constraints upon, work, family life, leisure and pleasure
- the dominant culture of that organises and legitimates socialities across different genders, classes, ages and so on; that sustains major discourses of what constitutes the good life and what is necessary for an appropriate citizenship of mobility; and that provides potent literary and artistic images and symbols. These include E. M. Forster's evocation in Howard's End of how cars generate a 'sense of flux' (1931: 191), and J. G. Ballard's Crash which uses the car 'as a total metaphor for man's life in modern society' (1995: 6; Graves-Brown 1997).
- the single most important cause of environmental resource-use resulting from the exceptional range and scale of material, space and power used in the manufacture of cars, roads and car-only environments, and in coping with the material, air quality,

medical, social, ozone, visual, noise and other consequences of pretty well global automobility (see Whitelegg 1997; SceneSusTech 1998)

Sociology however has barely noticed these components of automobility, or even the car more generally (but see Moorhouse 1991; Eyerman and Löfgren 1995). Three sub-disciplines that ought to have examined the car and its social impacts are industrial sociology, the sociology of consumption and urban sociology. Within industrial sociology there has been little examination of how the much-analysed mass production of cars has actually transformed social life. It did not see how the huge number of cars being produced through 'Fordist' methods, especially within the US, were impacting upon the patterns of social life as car ownership became 'democratised'.

Within the sociology of consumption there has not been much examination of the use-value of cars in permitting extraordinary modes of mobility, new ways of dwelling in movement and the car culture to develop. The main question for the sociology of consumption has concerned sign-values, with the ways that car ownership in general or the ownership of particular models does or does not enhance people's status position. The car as the locus of consumption remains on the drive of the house.

Urban sociology has at best concentrated on the socio-spatial practice of walking and especially upon flânerie or 'strolling' the city. It has been presumed that the movement, noise, smell, visual intrusion and environmental hazards of the car are largely irrelevant to deciphering the nature of contemporary city-life. Much urban sociology has in fact been remarkably static and has concerned itself little with any of the forms of mobility into and across the city. One exception is Shields' account of Rodeo St in Seoul that brings out the tactile interchanges between walking and driving (1997). The cars involved in symbolic display are bumped up against, as young men and women walk the street and take every opportunity to meet each other in spaces in part structured by the flashy parked cars.

In general, however, sociology has regarded cars as a neutral technology, permitting social patterns of life that would have more or less occurred anyway. Sociology has ignored the key significance of automobility, which reconfigures civil society, involving distinct ways of dwelling, travelling and socialising in, and through, an automobilised time-space. Civil societies of the west are societies of automobility. This is neither simply a system of production nor of consumption, although it is of course both of these. I discuss now some key moments in the emergence of civil societies mobilised around automobility.

The emergence of automobility

John Ruskin had maintained that: '... all travelling becomes dull in exact proportion to its rapidity' (quoted Liniado 1996: 6). The early developers of motorised transport did not agree. Speed and its effects were the key issue when the earliest cars appeared in the late nineteenth century, soon after Ruskin's death (Liniado 1996, Kern 1983). There was a preoccupation with the breaking of speed records in Britain, especially as these were recorded by increasingly precise watches. Life appeared to be accelerating as humans and machines combined in new and intricate 'machinic complexes', following the development of railway which had so perturbed Ruskin. The shock of seeing cars racing through the English countryside provoked intensely heightened opposition between rustic images of a defenceless countryside already ravaged by the Great Depression, as against images of technological progress and the dominance of a new machine culture (Liniado 1996: 7).

Thus at first the car was constituted as a speed machine, to propel humans ever-faster (in fact rather rich humans). There was an obsession with the setting of new speed records although controversy raged over the costs and benefits of such speed. Many motorists described their experience of speed in mystical terms, as though this were an experience not so much opposed to the natural world but one which expressed the inner forces of the universe. The author Filson Young wrote of the sensuous experience of riding in a racing car as 'the exultation of the dreamer, the drunkard, a thousand times purified and magnified' (quoted Liniado 1996: 7). He also captures the cyborgised character of such a machinic complex. 'It is, I think, a combination of intense speed with the sensation of smallness, the lightness, the responsiveness of the thing that carries you, with the rushing of the atmosphere

upon your body and the earth upon your vision' (quoted Liniado 1996: 7). Elsewhere Filson Young writes of the racing driver having to wrestle with the speed, power and dynamism of the car which has to be tamed rather like a Nietzschean Übermensch struggling with the intense natural forces of life and power.

In Edwardian and later in inter-war England an alternative notion of automobility developed. This was based around the concept of the 'open road' and the slow meandering motor tour that became a highly favoured middle class pursuit. This developed after some of the exceptional uncertainties of car travel had been overcome (Bunce 1994; Thrift 1996; Liniado 1996). Motor touring was thought of as 'a voyage through the life and history of the land'. There was an increasing emphasis upon slower means of finding such pleasures. To tour, to stop, to drive slowly, to take the longer route, to emphasise process rather than destination, all became part of the performed art of motor touring as ownership of cars became more widespread. Filson Young wrote of how 'the road sets us free ... it allows us to follow our own choice as to how fast and how far we shall go, to tarry where and when we will' (quoted Liniado 1996: 10).

Motoring also had some similarities with the emergent practices of leisurely walking in the countryside (Wallace 1993). It seems that there was a heightened nostalgia for nature as a motored through countryside. Walkers, campers, motorists and caravaners increasingly enjoyed the fresh air and lack of Victorian restraint while passing along the open road through the purity and respectability of rural England (Liniado 1996: 10). The car enabled the those touring to create the ideal English countryside: Tudor architecture, the benign country squire, thatched cottages, sleek southern landscapes, the village green and so on. Such a novel spatial practice was facilitated by organisational innovations partially taken over from cycling clubs: a road map industry, motoring organisations, hotel rating systems, road signs, village signposts, a national road building programme after 1910 and so on. These paved the way for the inter-war transformation of the motor car, from alien threat to a 'natural' part of the rural scene. The motor car was tamed and the open road made relatively riskless and safe. Light notes how 'the futurist symbol of speed and erotic dynamism - the motor car - [was turned] into the Morris Minor' in the inter-war years (1991: 214). In that period motoring had become an apparently 'natural' yet hugely fateful way of experiencing the countryside.

An important additional feature found in north America involved the adoption of the car by wilderness camping and touring fraternity (see Bunce 1994: chap 4, on 'outdoor recreation resources'). As early as the 1920s motor camps were springing up to cater for the touring motorist. They enabled huge increases in the use of national parks, transforming so-called 'wilderness' from an elite space which was approached by train, to a mass space visited and partially lived in by mass motorists. Four hundred thousand cars a year visited such parks even by 1926 (Bunce 1994: 119). Such a complex became possible partly because of the 'democratisation' of car ownership, especially within the US where even the dispossessed of the Great Depression travelled by car (Graves-Brown 1997: 68; Wilson 1992: chap 1). Movement itself became a measure of hope; the road itself seemed to offer a way out and to offer new possibilities, of work, adventure, romance. The Grapes of Wrath tells the story of hope and opportunity travelling along perhaps the most famous of roads, Route 66 (see Eyerman and Löfgren 1995: 57).

Automobility was more generally organised around a certain cosiness of inter-war family life both in the US and Europe (Taylor, J. 1994: chap 4). In the US this was the period of massive suburban housing that was predicated upon low density family housing with a sizeable garden, many domestic production goods for the 'wife' to use, and a car to enable the 'husband' to travel quite long distances to get to work. Such car-based suburbanisation occurred after the war in Britain (in mainland Europe suburbanisation occurred even later). Its effects have been devastating, resulting in 'auto sprawl syndrome' in which cars make urban suburbanisation/ sprawl possible and in so doing they make those living in such areas pretty well entirely dependent upon the use of cars (Scenesustech 1998: 100). The suburbs surrounding American or indeed Australian cities represent the extreme case of a civil society of automobility tied in fairly directly to work-based commuting patterns.

In inter-war Britain the car was more connected to leisure use and to the turning of otherwise rural areas into a countryside which was less viewed for its productive capacity and more for

its visual consumption (Urry 1995). The increasingly domesticated middle classes in their Morris Minors: ‘began to tour England and take photographs in greater numbers than ever before’ (Taylor, J. 1994: 122, 136-45). Taylor talks of the ‘Kodakisation’ of the English landscape through motorised touring. The subsequent post-war development of such motorised touring would of course result in rural roads unsafe for pedestrians and cyclists and where rates of car ownership and the impact of automobility are both higher than they are in towns and cities.

In the development of automobility as a distinct culture, north America has been seminally important in providing experiences, scenes and literature which have become icons of the car (see Eyerman and Löfgren 1995, on American road movies). Particularly important in the development of American automobility was the Interstate Highway System that began construction in 1956 funded by a specific gasoline tax (Wilson 1992: 30). This building of 41,000 miles of freeway involved a huge federal subsidy to automobility and to the various social practices with which it became entwined, such as camping, leisure and tourism. Wilson summarises how the speeding car along the open road has become a metaphor for progress in the US and for the cultural taming of the American wilderness:

> The new highways were thus not only a measure of the culture’s technological prowess but they were also fully integrated into the cultural economy. They were talked about as though they had an important democratizing role: the idea was that modern highways allowed more people to appreciate the wonders of nature (1992: 30).

American culture is in some ways inconceivable without the culture of the car. Some obvious examples include Kerouac’s On the Road, and the films, Easy Rider, Rolling Stone, Alice Doesn’t Live Here Anymore, Bonnie and Clyde, Vanishing Point, Badlands, Thelma and Louise, Paris, Texas and so on (Eyerman and Löfgren 1995). More generally, Baudrillard writes of the post-war American landscape as the ‘empty, absolute freedom of the freeways ... the America of desert speed, of motels and mineral surfaces’ (1988: 5). American post-war landscapes are empty and stand for modernity and the rejection of the complex histories of European societies. This emptiness is a metaphor of the American dream.

Baudrillard suggests that ‘America’ undertook to make utopia real, to realise everything through the strange destiny of simulation. Culture then in America is ‘space, speed, cinema, technology’ (Baudrillard 1988: 100). These empty landscapes of the desert are experienced through driving huge distances across them; travel involves a ‘line of flight’. Deserts constitute a metaphor of endless futurity, a primitive society of the future, combined with the obliteration of the past and the triumph of time as instantaneous rather than time as depth (Baudrillard 1988: 6). Driving across the desert involves leaving one’s past behind, driving on and on, seeing the ever-disappearing emptiness framed through the windscreen (see Kaplan 1996: 68-85).

Mostly this movement of ‘hitting the road, Jack’ has been highly gendered, the unending movement of men in their cars conspicuously consuming the planet’s carbon resources. This is especially so in North America which contains the iconic car landscapes of the post-war period. Whitelegg emphasises the resulting invisibility of the ‘other’ to this all-conquering car, of women, children, the elderly, pedestrians, cyclists and so on, indeed anyone who steps outside the car (1997: 46).

Wilson also emphasises the horizontal quality of the landscape seen through the car windscreen: ‘the faster we drive, the flatter the earth looks’ (1992: 33). He describes how in the post-war period certain landscapes in the US were substantially altered so as to improve the view that they afforded from the newly constructed roads. In the case of the Blue Ridge Parkway in the southern Appalachians, ‘hillbillie’ shacks and derelict farmhouses, as well as any signs of commercial development, were removed from sight. What was generated was a landscape of leisure ‘pleasing to the motorist … using the land in a way that would "make an attractive picture from the Parkway"’ (Wilson 1992: 35). The Federal and then the local states turned nature into something ‘to be appreciated by the eyes alone’, looking out and over the scene laid out before the invincible car-driver (Wilson 1992: 37).

Analysing automobility

I now turn to analyse some of the main features of automobility, features that are relevant to assessing the likely consequences of weightless mobilities. But I begin here by briefly considering the implications of mobility for social life found in the novels of Raymond Williams. His novels are interesting in that they bring out how twentieth century social life exists through interconnecting route-ways that link place with place. To imagine that such mobilities can be eliminated is clearly nonsensical. He elaborates how many of the socialities of civil society are sustained through technologies of movement which both literally and imaginatively connect peoples together over significant, complexly structured, heterogeneous distances. In Border Country Williams is 'fascinated by the networks men and women set up, the trails and territorial structures they make as they move across a region, and the ways these interact or interfere with each other' (Pinkney 1991: 49; Williams 1988).

He describes how during the 1926 General Strike in Britain different kinds of network were differentially powered. Williams contrasts the rich network made possible by the trucks and wirelesses of the state and the bosses with the much thinner networks possible with the bikes and telegrams of the strikers (Pinkney 1991: 51). More generally, Williams' novels demonstrate the paradoxical interaction of travelled between spaces, of the intensely specific and locally loved places on the one hand, and multinational global spaces on the other. This yoking of localism-and-internationalism has the effect of 'bypassing the territory of the old nation-state' (Pinkney 1991: 141, 32).

Williams mainly considers the connections made possible by the railway. But these are now of course far less significant than the consequences of automobility. This permits multiple socialities, of family life, community, leisure, the pleasures of movement and so on, which are interwoven through complex jugglings of time and space that car journeys both allow but also necessitate. These jugglings result from two interdependent features of automobility: that the car is immensely flexible and wholly coercive.

Automobility is a source of freedom, the 'freedom of the road'. Its flexibility enables the car-driver to travel at speed, at any time in any direction along the complex road systems of western societies that link together most houses, workplaces and leisure sites. Cars therefore extend where people can go to and hence what as humans they are able to do. Much of what many people now think of as 'social life' could not be undertaken without the flexibilities of the car and its availability 24 hours a day. One can travel to and from work, friends and family when one wants to and not when the bus or rail operator determines. Cars avoid much of the time-tabling involved in most public transport, as well as the dangers of being a pedestrian or a cyclist. It is possible to leave late by car, to miss connections, to travel in a relatively time-less fashion. People find pleasure in travelling when they want to, along routes that they choose, finding new places unexpectedly, stopping for relatively open-ended periods of time, and moving on when they desire. They are what Shove terms another of the 'convenience devices' that make complex, harried patterns of contemporary life just about possible (for those with cars: 1998).

Moreover, car-driving is not merely a means of getting from place to place. It is an activity that people enjoy in itself or at least feel that it is part of what it is to be a contemporary citizen. Car-driving is a goal and a set of skills and accomplishments in themselves. Driving a car can be a source of intense pleasure: of flexibility, skill, possession and excitement. Not to drive and not to have a car is to fail to participate fully in western societies. In research conducted in the 1970s it was reported that the overwhelming majority of employees demonstrated more skill in driving to and from work than in what they actually did while they were at work (Blackburn and Mann 1979). The car is never simply a means of transport. To possess a car and to be able to drive it are crucially significant rights articulated through powerful organisations such as the AA and RAC in the UK.

But at the same time this flexibility and these rights are themselves necessitated by automobility. The moving car forces people to orchestrate in complex and heterogeneous ways their mobilities and socialities across very significant distances. Automobility necessarily:

- divides workplaces from the home so producing lengthy commutes

- splits home and shopping and destroys local retailing outlets to which one might have walked or cycled
- separates home and various kinds of leisure site which are often only available by motorised transport
- splits up the members of families who will live in distant places and which necessarily involve complex travel to meet up intermittently
- entraps people in congestion, jams, temporal uncertainties and health-threatening environments
- encapsulates people in a privatised, cocooned, moving environment which uses up a disproportionate amounts of physical resources (see SceneSusTech 1998).

Automobility thus coerces people into an intense flexibility. It forces people to juggle tiny fragments of time so as to deal with the temporal and spatial constraints that it generates. It is perhaps the best example within the social world of how systematic unintended consequences are produced as a consequence of individual or household desires, in this case for flexibility and freedom. Shove writes: 'more freedom means less choice, for it seems that cars simultaneously create precisely the sorts of problems which they also promise to overcome' (1998: 7). Mass mobility does not generate mass accessibility.

Automobility can thus be seen as a Frankenstein-monster, extending the individual into realms of freedom and flexibility whereby one's time in the car can be positively viewed, but also in structuring and constraining the 'users' of cars to live their lives in very particular time-compressed ways. Whitelegg neatly summarises the consequences of this Frankenstein: 'Henry Ford would not have been impressed by the monster that he was instrumental in creating' (1997: 18).

Automobility dominates how both car-users and non-car-users organise their lives through time-space. J. G. Ballard in Crash describes this car-based infantile world where any demand can be satisfied instantly (1995: 4; Macnaghten and Urry 1998: chap 5). It develops what I call 'instantaneous', or 'timeless', time that has to be juggled and managed in highly complex, heterogeneous and uncertain ways. Automobility is involved in the generation of a hugely fragmented time elaborated below:

Table 1: Instantaneous Time
informational and communication changes which allow information and ideas to be instantaneously transmitted and simultaneously accessed across the globe
development of automobility which breaks down the public time of the time-table
technological and organisational changes which dissolve distinctions of night and day, working week and weekend, home and work, leisure and work
the increasing disposability of products, places and images in a 'throwaway society'
the growing volatility and ephemerality in fashions, products, labour processes, ideas and images
a heightened 'temporariness' of products, jobs, careers, natures, values and personal relationships
the proliferation of new products, flexible forms of technology and huge amounts of waste often moving across national borders
growth of short-term labour contracts, what has been called the just-in-time workforce, and the tendency for people to develop 'portfolios' of tasks
the growth of 24 hour trading so that investors and dealers never have to wait for the buying and selling of securities and foreign exchange from across the globe

the increased 'modularisation' of leisure, education, training and work
extraordinary increases in the availability of products from different societies so that many styles and fashions can be consumed without having to wait to travel there
increased rates of divorce and other forms of household dissolution
a reduced sense of trust, loyalty and commitment of families over generations
the sense that the 'pace of life' throughout the world has got too fast and is in contradiction with other aspects of human experience
increasingly volatile political preferences

accompanied the development of the railways in the mid-nineteenth century (and which continues with many timetables; see Lash and Urry 1994: 228-9). This was modernist clock-time based upon the public timetable.

Automobility by contrast involves a more individualistic timetabling of one's life, a personal timetabling of these many instants or fragments of time. There is here a reflexive monitoring not of the social but of the self. People try to sustain 'coherent, yet continuously revised, biographical narratives … in the context of multiple choices filtered through abstract systems' (such as that produced by automobility: Giddens 1991: 6). The objective clock-time of the modernist railway timetable is replaced by personalised, subjective temporalities, as people live their lives in and through their car(s) (if they have one; Lash and Urry 1994: 41-2). Automobility coerces almost everyone in advanced societies to juggle tiny fragments of time in order to put together complex, fragile and contingent patterns of social life, which constitute self-created narratives of the reflexive self.

Automobility transforms time-space in another way. It involves the production of new scapes that structure the flows of people and goods along particular routes, especially motorways or inter-state highways (Urry 1998, on scapes and flows). These flows can dramatically reduce those distances between people who happen to be connected along such routes. At the same time this makes those people living off those routes relatively further away from each other and from those who do live along those dense tunnels of mobility. What is significant is 'relative' as opposed to 'absolute' location (Brunn and Leinbach 1991: xvii). This creates novel inequalities of mobility. There is a rewarping of time and space by advanced transportation structures, as scapes pass by some areas while connecting other areas along transport rich 'tunnels'.

Automobility also reduces choice. Because of the increasing physical separation of homes, workplaces, leisure sites, families and so on, it is often impossible to use public transport, or to walk or cycle (although most journeys are still reasonably short). The freedom of the car subjects everyone to its power (even when that traffic is anything but fast-moving). The shortage of time resulting from the extensive distances that increasingly 'have' to be travelled means that the car remains the only viable means of highly flexibilised mobility. Walking, cycling, travelling by bus, steamship or rail are in danger of being relegated to the dustbin of history. By comparison with the car these are relatively inflexible and inconvenient modes of transportation. However, these criteria to assess modes of transportation are the very criteria that automobility itself generates and generalises.

What is significant about the car is that it enables seamless journeys from home-away-home. And this is what the contemporary traveller expects. The seamlessness of the car journey makes other modes of travel seem inflexible and fragmented. So-called public transport rarely provides that kind of seamlessness (except for first class air travellers with a limousine service to and from the airport). There are many gaps between the various mechanised means of public transport: walking from one's house to the bus stop, waiting at the bus stop, walking though the bus station to the train station, waiting on the station platform, getting off the train and waiting for a taxi, walking though a strange street to the office and so on until one returns home. Each of these gaps in a semi-public space is a source of inconvenience, danger and uncertainty. And this is especially true for women, older people, those who may

be subject to racist attacks, the disabled and so on (see SceneSusTech 1998). There are gaps for the car-driver involving semi-public spaces, such as entering a multi-storey car park or walking though strange streets to return to one's car or waiting by the side of the road for a breakdown vehicle, but these are much less endemic than for other kinds of travel (although they are much more so for women than for men). Jain has recently elaborated some of the complex tactics employed by those rejecting life with a car (1998).

Automobility affords dwelling inside a mobile capsule that involves punctuated movement 'on the road' from home-away-home. In each car the driver is strapped into a comfortable armchair and surrounded by micro-electronic informational sources, controls and sources of pleasure, what Williams calls the 'mobile privatisation' of the car (Pinkney 1991: 55). Many aspects involved in directing the machine have been digitised, at the same time that car-drivers are located within a place of dwelling that insulates them from much of the environment that they pass through. The Ford brochure of 1949 declared that 'The 49 Ford is a living room on wheels' (Marsh and Collett 1986: 11).

The sights, sounds, tastes, temperatures and smells of the city and countryside are reduced to the two-dimensional view through the car windscreen, something prefigured by railway journeys in the nineteenth century. The sensing of the world through the screen has of course become the dominant way of dwelling in contemporary experience. The environment beyond the windscreen is an alien other, to be kept at bay through the diverse privatising technologies incorporated within the contemporary car. These technologies ensure a consistent temperature (with the standardisation of air-conditioning), large supplies of information, a relatively protected environment, high quality sounds and sophisticated systems of monitoring. They enable the hybrid of the car-driver to negotiate conditions of intense riskiness on high-speed roads (roads are risky because of the reduced road-space now available to each car).

As cars have increasingly overwhelmed almost all environments, so everyone is coerced to experience such environments through the protective screen. Pedestrians and cyclists have to be kept apart from those car environments. Roads are so full of speed, noise and poisons that only cars (and lorries, buses and so on) can dwell there in relative safety. 'What was central now was the fact of traffic', as Raymond Williams puts it (Pinkney 1991: 55).

I want also to suggest that the nature of this 'dwellingness' has changed, from 'dwelling-on-the-road' to 'dwelling-within-the-car'. The former was found within inter-war North America and Europe and can be seen in much of contemporary Africa and Asia. The car-driver is part of the environment through which the car travels and the technologies of insulation do not exist or have not been repaired. The car-driver dwells-on-the-road and is not insulated from much of its sensuousness. This contrasts with the car-driver in the contemporary west who dwells-within-the-car, one effect of which has been to provide much greater safety for the car-driver since risks have been externalised onto those outside. Those who dwell within the car are also able not only to prevent the smells and sounds of the outside to enter, but also to effect an environment in which a certain sociability can occur. Car-drivers controls the social mix in their car just like homeowners control those visiting their home. The car has become a 'home from home', a place to perform business, romance, family, friendship, crime and so on. Unlike 'public' transport, the car facilitates a domestic mode of dwelling. The car-driver is surrounded by control systems that allow a simulation of the domestic environment, a home from home moving flexibly and riskily through strange environments.

Automobility then is a complex of interlocking machines, social practices and ways of dwelling, not in a stationary home but in a mobile semi-privatised capsule, containing just whom one chooses. The hybrid car-driver is at home in large-scale movement, transcending considerable distances in order to complete a series of activities within highly fragmented moments of time. Many journeys involve multiple functions juggled together and involving complex monitoring. Automobility makes especially instantaneous time and the negotiation of extensive space central to how social life is configured, as people dwell in, and socially interact through, movement in their cars.

The car is thus not simply an extension of each individual; automobility is not simply an act of consumption since it reconfigures the modes of sociality. Social life has always entailed

various mobilities but the car transforms these in a quite distinct combination of flexibility and coercion. Civil society should be re-conceptualised as a 'civil society of automobility', a civil society of quasi-objects, or 'car-drivers' and 'car-passengers'. It is not a civil society of separate human subjects who can be conceived of as autonomous from these all-conquering machines (nor of course from the machines of the television and computer).

There are three aspects of a civil society of automobility that I need to emphasise: first, such hybrids are not simply scripted as civilised and controlled but also as intensely competitive and dangerously skilled; second, automobility involves immense contestation over the very power of the car and of the complex scapes that it brings into being; and third, automobility remakes public 'space' because of the proliferation of car-only or car-dependent environments.

I will make some brief comments on each of these. First, the hybrid or co(a)gent of the car-driver is in normal circumstances unremarked upon as it reproduces the socio-technical order (Michael 1998). There is a careful, civilized control of the car machine deploying, as we have seen, considerable technical and interactive skills. But in situations of 'road rage' another set of scripts are drawn upon, of aggression, competition and speed. But these scripts of the other are always components of automobility as we have noted historically. Michael elaborates on this polysemic nature of automobility: encouraging us to be careful, considerate and civilised (the Volvo syndrome) and to enjoy speed, danger and excitement (the Top Gear syndrome). There is multiple scription involved here and hence different kinds of hybridised car-driver, the careful and the competitive, which are both elements of the hybrid car-driver and hence of an automobilised civil society (Michael 1998: 133).

Specifically in the case of road rage Michael argues that:

> … one actually needs to be more skilful, to push both body and machine into quantitatively greater alignment, than in the case where one is a responsible civilized driver ... In order to exercise 'loss of social control', one needs to practice greater technological control (1998: 133).

Michael describes this as 'hyperhybridization' with the human being more or less obscured or immersed within the technology and vice versa. Such a virulent hybrid must of course be purified, according to the AA and the RAC, by changing the pathology of the human. What is not proposed by such organisations is that the technology itself should be changed and hence the hybrid would be different. Adams more generally suggests that all cars and lorries should be fitted with long sharp spikes sticking our from the centre of every steering wheel and that this would change the calculation of risk for the car-driver, compared with that of pedestrians and cyclists (1995: 155).

Second, automobility involves contestation. SceneSusTech has well-elaborated the political sociology of the road lobby and shown how it works away behind the scenes to produce new roads (1998: 116). But from the 1970s the car began to be viewed as more polluting than the train (Liniado 1996: 28). And most recently new roads 'slicing' through the landscape have provoked intense opposition, including from many 'car-drivers'. Automobility produces resistance, such as that in the UK between the British Road Federation and Transport 2000.

This resistance is generated for complex reasons. Partly it is because new roads instantaneously destroy the existing taskscape and no amount of re-landscaping compensates for that sudden loss. Also roads allow means of movement into the landscape that demonstrate no travail and hence may be viewed as less worthy than walking, climbing, cycling that environment. Descending the valley or climbing a hill are achieved instantaneously and promiscuously. On a motor journey in E. M. Forster's Howard's End: 'she felt their whole journey from London had been unreal. They had no part with the earth and its emotions. They were dust, and a stink, and cosmopolitan chatter' (1931: 200).

Overall then, while one may 'love' one's car, the system that it presupposes is often unloved, resisted and raged against. Civil society is significantly being remade through contestations over the power, range and impact of automobility. The same people can be both enthusiastic car-drivers, as well as being very active protestors against schemes for new roads (see Macnaghten and Urry 1998: chap 6, on how cars generate intense ambivalence). By

February 1994 in the UK, the scale of grass-roots protest against the construction of new roads had risen to such a level that Geoffrey Lean, the doyen of British environmental correspondents, described it as 'the most vigorous new force in British environmentalism' (1994). There were by then an estimated 250 anti-road groups in the UK, a movement significantly impacting upon civil society. The array of direct actions has also diversified as protesters have become more expert, through the use of mass trespass, squatting in buildings, living in trees threatened by road programmes, and digging tunnels (hence the iconic Swampy). They too became more sophisticated in the use of new technologies, including mobile phones, video cameras and the internet. This has enabled almost instantaneous dissemination to the media, as well as information about actions for a growing band of protesters prepared to travel up and down the country to protest against proposed developments (see Macnaghten and Urry 1998: chap 2).

Third, large areas of the globe now consist of car-only environments - the quintessential non-places of super-modernity (Augé 1995). About one-quarter of the land in London and nearly one-half of that in LA is devoted to car-only environments. And they then exert an awesome spatial and temporal dominance over surrounding environments, transforming what can be seen, heard, smelt and even tasted (the spatial and temporal range of which varies for each of the senses). Such car-environments or non-places are neither urban nor rural, local nor cosmopolitan. They are sites of pure mobility within which car-drivers are insulated as they 'dwell-within-the-car'.

One such non-place is the motel immortalised in the UK by the TV soap appositely called Crossroads. James Clifford notes that the 'motel has no real lobby, and it's tied into a highway network - a relay or node rather than a site of encounter between coherent cultural subjects' (as would, he implies, be found in a hotel; 1997: 32). Motels 'memorialize only movement, speed, and perpetual circulation' since they 'can never be a true place' and one motel is only distinguished from another in 'a high-speed, empiricist flash' (Morris 1988: 3, 5). The motel, like the airport transit lounge, represents neither arrival nor departure but the 'pause', consecrated to circulation and movement and demolishing particular senses of place and locale.

Automobility then constitutes a civil society of hybridised 'car-drivers' and not of 'pure' human subjects. They enter the public sphere in their mobility, dwelling-within-their-cars. Social conflicts are importantly structured around these mobilities and their profound temporal and spatial consequences.

Weightless travelling

I will now try to connect automobility to the other great technological cultures of the late twentieth century, television and the computer. I shall elaborate each of these briefly in their own terms before considering their interconnections with automobility. These technologies offer what can be described as weightless travel. There are two forms, imaginative and virtual travel although this distinction is itself dissolving through technological transformations. In each case the metaphor of 'travel' is employed; as with the Microsoft slogan: 'where do you want to go today?' If people really did want to go elsewhere through virtual travel rather than corporeally in their cars, then this would have massive implications for the system of automobility. Work-based driving would decline because working at one's computer at home could provide the kinds of social and informational benefits currently gained while working at the office or the factory. While leisure-based driving would reduce because the visual pleasure of seeing other landscapes and townscapes was available on the TV and computer screen. Hence one could avoid travelling to the overcrowded site and 'travel' imaginatively or virtually instead. Certainly these are powerful new technologies but will extensive weightless travel replace or transform corporeal travel? My observations here will be brief and selective.

During the twentieth century radio and TV have generated the dominant communicational interchanges between households and the world beyond such households. In many ways now TV is culture mediating all other cultural processes including that of the culture of the car. Or rather according to Bachmair the car opened the way for the development of TV because of how it promoted individual consumption and mobility. The car had developed 'mobility as the shaping principle of communication' (1991: 522). Both car and TV cultures involve the

idea of individual and equalised ‘openness’. There is the opening out of previous restricted locales, the development of individually tailored biographies and the broadening of the limits of taboo as private lives become public. Bachmair suggests that the previous technologies of the railway and the cinema remain locked in a public system of transportation and communication, as opposed to the private sphere of the car interior and the TV-saturated living room.

The notion of TV as ‘openness’ parallels Heidegger’s observations about the radio (and the bus) made in 1919:

> I live in a dull, drab colliery village ... a bus ride from third rate entertainments and a considerable journey from any educational, musical or social advantages of a first class sort. In such an atmosphere life becomes rusty and apathetic. Into this monotony comes a good radio set and my little world is transformed (quoted Scannell 1996: 161).

The consuming of a live event on radio and then TV enables one to be in two places at once - at Princess Diana’s funeral, in wartorn Bosnia, seeing the world record being broken, seeing Mandela being released from jail and so on (Scannell 1996: 172). These events are part of one’s lives and undermine certain historic senses of place (see Meyrowitz 1995). The radio and the TV discloses the public world of events, persons and happenings. The media pitches that public world into one’s private world. People are thrown into the public world disclosed on the radio and much more powerfully on television. That public world enters one’s ‘little world’ and brings them together. This public world which is brought into how one dwells at home is not only a world of impersonal events and happenings but also of people. It makes public much of once had been private, especially people’s private lives. Before broadcasting ‘public life was not "for me". It was beyond the reach of me-or-anyone. As such it showed up then, of necessity, as anonymous, impersonal and distant’ (Scannell 1996: 166).

Heidegger described how the radio ‘has so expanded its everyday environment that it has accomplished a de-severance of the "world"’ (quoted Scannell 1996: 167). By this he means bringing close, within range, abolishing distance or farness with events and especially people. ‘Heidegger interprets the possibility of radio as transforming spatiality; as bringing things close and hence within the reach of concern; as making the ... the great world beyond my reach ... as accessible and available for me or anyone’ (Scannell 1996: 167). Radio and television have thus helped to produce a global village, blurring what is private and what is public, what is frontstage and what is backstage, what is near and what is far. Little remains hidden from view as television makes almost everything public, on display, available (see Meyrowitz 1985: 119). However, although there is increased concentration of ownership of the mass media, audiences appear to have become more segmented and diversified. Castells summarises: ‘While the media have become indeed globally interconnected, and programs and messages circulate in the global network, we are not living in a global village, but in customized cottages globally produced and locally distributed (1996: 341; emphasis removed).

We may also note the paradox that because media images are so commonplace a feature of all of our little worlds, they often provide more stable forms of meaning and interpretation than newspapers, books or radio. In a culture in which ‘seeing is believing’, to see on the TV screen is to have disclosed to us that a place really does look like that, a townscape really should be visited, that the waterfall is that impressive and so on. This ‘imaginative travel’ brings into the home images of other places that are complexly intertwined with the many processes of corporeal travel.

However, there is no research evidence that imaginative travel does anything but increase the curiosity about other places, that one really does need to see them for oneself. Indeed imaginative travel reduces the sense that other places are not for one. It increases the sense that everywhere can be possessed by one’s all-encompassing ‘eye’ (Urry 1995). The media brings close, within range, and reduces the social distance between people and environments and places that would otherwise seem not for one, beyond one’s reach.

I now turn to virtual travel through the computer which is based upon time-frames that lie beyond conscious human experience. The new "computime" represents the final abstraction of time and its complete separation from human experience and the rhythms of nature. This

instantaneous time stems from the shift from the atom to the bit; that the information-based digital age 'is about the global movement of weightless bits at the speed of light' (Negroponte 1995: 12). The information can become instantaneously and simultaneously available more or less anywhere, although not of course everywhere, as knowledge has become dramatically 'de-territorialised' and turned into bits of weightless information.

One consequence of new electronic places is that 'communion' may result even where there is no geographical propinquity. People can imagine themselves part of community even where they do not regularly see each other, where their bodies do not inhabit the same space and where they only know each other through some electronic name which may be invented (and reinvented; see Jones 1995; Turkle 1996). Rheingold's The Virtual Community apocalyptically elaborates on how social life, once organised within national societies, is now moving to virtual communities that transcend each society and their characteristic communities, solidarities and identities (1994: 63). As people become inhabitants of new virtual communities a new 'global civil society' could develop where most major communities are not organised within and through nation-states (Rheingold 1994: 265). Such a civil society would involve new forms of learning, the establishment of alternative counter-cultures, transformations in what is meant by copyright and privacy and the creation of major new opportunities for participatory democracy.

How should we regard such a cyberspatial civil society and how does it relate to the civil society of automobility? First, computers should not be seen only in terms of the efficient overcoming of space at the speed of nanoseconds (in the 'nanosecond nineties' as Tom Peters expresses it: 1992). Indeed Benedikt argues that 'desire' significantly results from the very time taken to travel and that if computer-based travel were instantaneous then this would constitute a major reduction in the phenomenological experience of such travel (1991: 170). Some commentators argue that computer technology is much more important in terms of social ritual, for the various kinds of 'connection, linkage' that it may facilitate and permit, for the diverse hybrid person-machine entities that emerge (Jones 1995: 32). Studies of virtual communities show the complex ways in which normative conventions develop and are reinforced, so-called netiquette, including temporal norms of relevance (Baym 1995: 159).

Computer mediated communities are 'incontrovertibly social spaces in which people still meet face-to-face, but under new conditions of both "meet" and "face"' (Stone 1991: 85). In cyberspace, people do not dwell within a particular place, although of course there are some markers of where users should gather, such as sites, nodes, home pages and so on. People dwell in the scapes of movement (here today and gone a nanosecond later!). People 'belong' in the conduits of 'travel'. Cyberspace is thus a space only of movement (Benedikt 1991b: 126-7). Such computer-mediated communication in effect dissolves the conventional corporeal distinction between belonging and travelling.

Hence, in many virtual communities, identities themselves can be mobile, people can flow in and out of fixed identities, becoming what Makimoto and Manners term 'digital nomads' (1997). People can develop playful, transient and contingent relationships to mobile communities, as alternative and multiple identities are adopted, often ironically (Plant 1997). Turkle argues that the internet: 'has become a significant social laboratory for experimenting with the constructions and reconstructions of self that characterize postmodern life' (1996: 180). It also seems that much computer-mediated communication, although normatively sanctioned, is relatively less inhibited and more intimate (Reid 1995: 173). Email that is neither writing nor speech is informal and often involves a curiously confessional style. More generally, we can suggest that virtual communities in exchanging vast amounts of information come to constitute the world rather than simply reporting it.

However, many claim that 'virtual communities' are not 'real communities' (see Jones 1995: 24; Sardar 1996). Virtual communities have been seen as lacking the substance of 'real communities' especially because the majority of members of virtual communities appear only to lurk in cyberspace, reading message and not posting any. However, Rheingold for one suggests that broader changes are occurring in what we anyway mean by the idea of community, so that much of the time people interact and form 'communities' with those who are anyway geographically distant (and hence the importance of the system of automobility).

Rheingold also emphasises the importance of intermittent 'presence-availability' within virtual communities. They do in fact meet up from time to time, they dwell together in a shared place for periods. This 'compulsion to proximity' (Boden and Molotch 1994) has the effect of reinforcing the 'magical, intensely personal, deeply emotional bonds that the medium had enabled them to forge among themselves' (Rheingold 1994: 237). Thus virtual travel has to be understood in relationship with extensive corporeal travel and the ways in which face-face conversation appears crucial for the development of trustful relationships within cyberspace. There are apparently no systematic studies that show that the development of weightless mobility actually reduces the amounts of corporeal travel (pers comm: D. Shapiro).

There are thus complex interrelations between the flows of electronic messages and of people. Indeed new virtual communities may well presuppose even an enhanced corporeal mobility of people rather than the elimination of such flows (as well as the greater use of phone conversations). Or to put the argument the other way round: a particular IT executive argues that the 'daily information and entertainment needs of a traveller are typically multitudes greater than those of the average residential customer' (quoted Graham and Marvin 1996: 199). The more people travel corporeally, the more it seems that they are likely to travel in cyberspace. Overall it seems that travel through one medium overall increases travel through other media.

Conclusion

I have thus tried to elaborate the various interlocking components involved in automobility. It has been suggested that in the twentieth century civil society has been reconstructed around the hybrid of the car-driver and of the complex mobilities that such a hybrid engenders. Such hybrids juggle tiny, fragmented amounts of time in order to construct their own personal biographies. In late twentieth century society many such journeys are not directly and simply related to work – but to very diverse forms of leisure and pleasure. Indeed automobility itself generates new pleasures and desires which other means of mobility do not produce. Indeed the main point about car culture is that although it is of course a means of mobility it is not simply a means of mobility. This is shown by the way in which car journeys have so dramatically increased in number in all societies over the past fifty years. Most car journeys now made were never made by public transport. Car-drivers undertake connections with other peoples and places that were not undertaken previously.

I have considered various 'weightless mobility' alternatives to the car, involving imaginative and virtual travel. I argue that these weightless mobilities do not provide simple alternatives to automobility since they only at best replace certain of the components that constitutes this all-conquering automobility. I have shown that this comprises six components, as manufactured object, individual consumption, machinic complex, quasi-private mobility, culture, and environmental resource-use. It is the unique combination of these components that generates the 'specific character of domination' of automobility, a domination that is transforming civil societies across the globe.

Indeed these weightless mobilities add to the connections between people who are located far apart and hence they increase the desire for corporeal travel. And since almost all corporeal travel involves wholly or partly car travel, even when the 'main journey' is by so-called public transport, so weightless travel may paradoxically generate even more car travel. Since automobility is so much more than merely a means of travelling so weightless travel does not involve simple replacement of the car. In fact I showed that car and TV cultures are complexly intertwined, with the former in part paving the way for the latter.

Corporeal, imaginative and virtual travel all involve what I call instantaneous time. Challenging the system of automobility involves challenging the power of this form of time and promoting the alternative of glacial or evolutionary time. This is an immense cultural and political task which is of course not made any easier by the huge investments made by global capitalism in these intersecting modalities of instantaneous time (see Castells 1996: chap 7; Macnaghten and Urry 1998: chap 5).

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