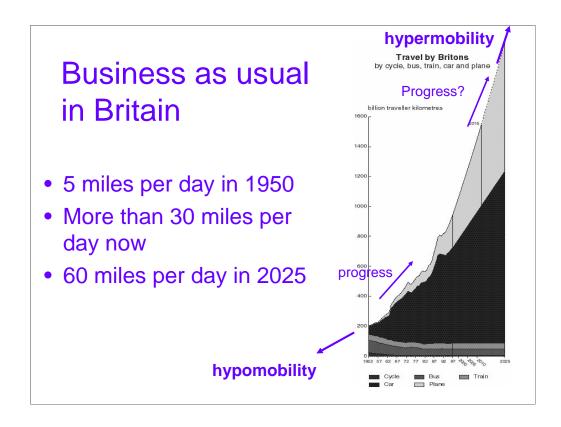


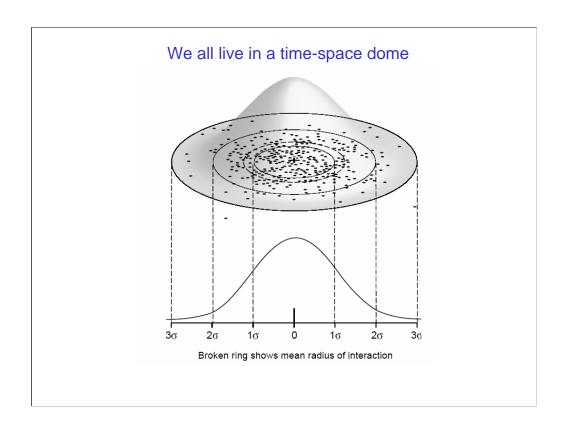
Hypermobility: too much of a good thing

Mobility is liberating and empowering. But it is possible to have too much of a good thing. The growth in the numbers exercising their freedom and power is fouling the planet and jamming its arteries. The consequences of this growth for the physical environment – the "environmental externalities" – have been much studied. This presentation will focus on the social externalities.



This graph, illustrates for Britain trends, and projected future trends, that are common to all OECD countries.

- Average mobility levels have increased, and are projected to continue doing so
- •The democratic and environmentally benign modes of travel are in retreat
- •The elitist and environmentally damaging modes are growing rapidly, and capture the lion's share of resources devoted to transport.
- •The increase in distances travelled is a result of faster longer journeys; travel time budgets have changed very little.
- •These trends have profound implications for the ways in which we interact with one another.
- •Projecting back into history one encounters the hypomobile society, the pedestrian peasant village socially claustrophobic, and vulnerable to disease, crop failure and misunderstandings with neighbours.
- •Post-war increases in mobility have been widely welcomed as "progress".
- •In recent decades "progress" has acquired a question mark.
- •Off the top of the graph one encounters the hypermobile society.

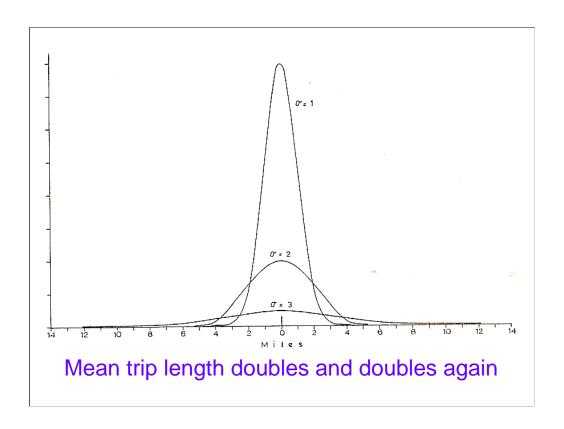


Some implications of this growth can be described with the help of "the time-space dome".

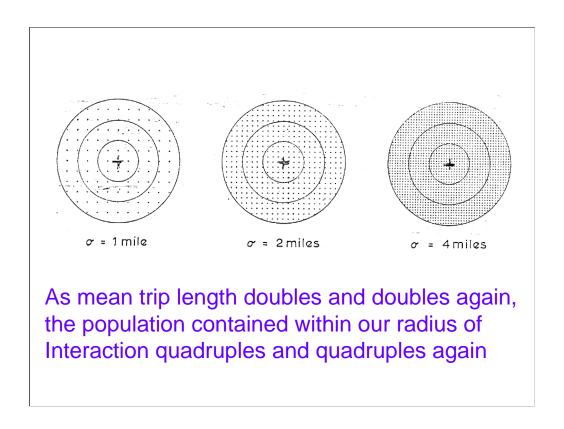
We all live in time-space domes – see www.agenda21.ee/english/transport/can_tech_save_us.pdf .

Imagine all of you kept a diary of all your journeys for the last month – noting the length and compass direction of every journey. This diagram represents what the group's journeys would look life if plotted on a graph in which the centre represents the starting point of every journey. The volume under the dome represents the total amount of interaction time we have to spend at our trip destinations.

This volume under the dome is a constant – 24 hours per day minus time for sleeping and attending to personal needs.



So if we spread ourselves wider, we must spread ourselves thinner. If we spend more time farther from home we will have less time to spend closer to home. Because of Pi r-squared, as our mean radius of interaction doubles, the area over which we spread ourselves quadruples, and because the volume of the dome must remain constant, its average height drops by a factor of 4 for each doubling of the radius



Thus in in pedestrian peasant villages everyone knows everyone. In hypermobile societies we lead our lives amidst strangers.

- •The current Dutch government has explicitly rejected strategies that influence the demand for mobility, assuming that this not socially viable. Is that right?
- •"We expect that economic growth will increase demand for business and personal travel as well as increase the requirement for freight movement" UK Government's 10 Year Plan

 $http://www.dft.gov.uk/stellent/groups/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about/documents/page/dft_about_503944.hcsp.com/dft_about_50$

- •The trailer for this lecture on the KSI website poses this question.
- •The UK Government not only rejects demand restraint, it accepts the *growth* of demand as an inevitable concomitant of economic growth. GNP is the dominant variable in almost all traffic forecasting models. I am aware of no country in the world that does not aspire to make its economy grow; and I am aware of no country that has manage economic growth with out traffic growth.

The lion's share of time, money and regulatory energies now being devoted to the pursuit of solutions to the environmental problems caused by motorized travel is currently being spent on "technical fixes".

Suppose technologists were to succeed in inventing a pollution-free perpetual motion engine; the laws of physics dictate, of course, that they can never succeed, but this defines the goal towards which the motor industry and environmental regulators are striving. Suppose further that they succeed in developing the ultimate Intelligent Transport System – a computerized traffic control system that will hugely increase the capacity of existing roads, rails and airports. And finally, imagine a world in which computers are universally affordable and access to the Internet is too cheap to meter; pollution-free electronic mobility is vigorously promoted as an important part of the solution to the problems caused by too much physical mobility.

The social consequences of hypermobility

(the pollution-free perpetual-motion engine & electronic mobility too cheap to meter)

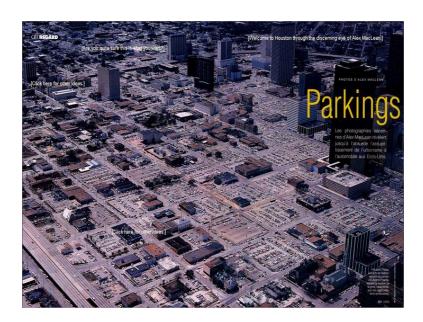
- more dispersed (more suburban sprawl)
- more polarised (greater disparity between rich and poor)
- more anonymous and less convivial (fewer people will know their neighbours)
- less child-friendly (children's freedoms will be further curtailed by parental fears)
- less culturally distinctive (the McCulture will be further advanced)
- more dangerous for those not in cars (more metal in motion)
- fatter and less fit (less exercise built into daily routines)
- more crime ridden (less social cohesion and more fear of crime)
- subject to a more Orwellian style of policing (more CCTV surveillance)
- less trusting (the rise of the audit/risk-assessment culture)
- less democratic (the majority will have less influence over the decisions that govern their lives)

This is my list of the principal social consequences of technological success.

The list has been compiled by identifying current developments that appear to be related to increasing mobility, and projecting them into the future, assuming that mobility will continue to increase – (to the extent that technical fixes succeed, they will make travel faster and cheaper and encourage more of it). Let us examine these consequences in a bit more detail.



This is a view of Houston, claimed to be the World's most car-dependent city, provided by Google Earth.

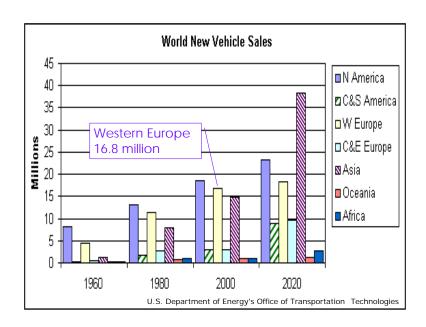


The light colour at the centre is explained by the fact that the centre of the city is a giant car park. This is one way of accommodating the continuing increase in numbers of cars.



Europe, like the rest of world is experiencing record increases in numbers of cars. Since 2000, in Britain, four of the last five years produced a new record for new motor vehicle sales.

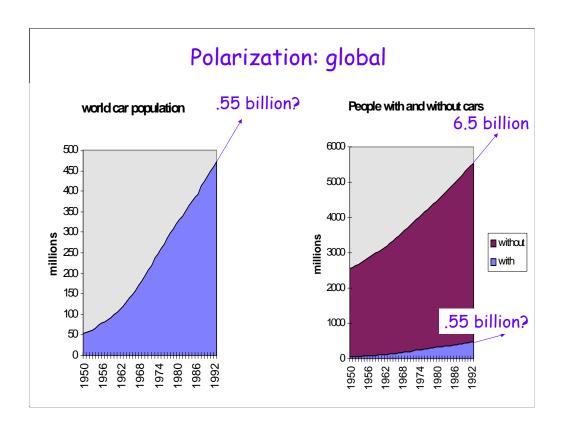
Unless Europe goes for a Houston solution most of these extra cars will have to find homes out of town – in low-density suburbs and beyond. Demand restraint, where it is contemplated by transport policy makers, focuses on the areas of most acute congestion. In the absence of policies curbing growth in numbers of cars, demand restraint in the form of congestion-charging will encourage more dispersal.



Here is a forecast from an authoritative source predicting that every part of the world will continue to set new records every year up to 2020.



As *average* mobility increases, disparities also increase. Those without cars and the price of an air ticket get left behind. The world is increasingly designed for the convenience of those in cars.



Social polarisation has a global dimension.

While global car population has increased 10-fold over the last 50 years, the number of people in the world without cars has more than doubled. The number of people who have never flown has also increased.

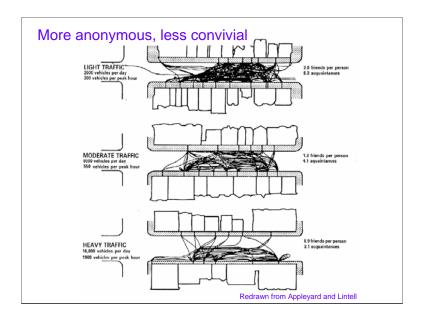
The poor world aspires to what we already have, and we aspire to still more.

The fastest *rates* of growth are now found in countries like China.

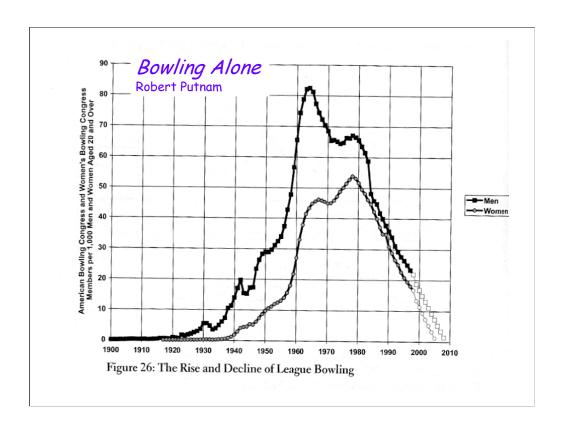
The prospect of the whole world achieving American levels of car ownership and car use has alarming resource and environmental implications. But the rest of the world is more likely to be influenced by our example than by our homilies about the virtues of restraint.



Car owners tend not to be car burners

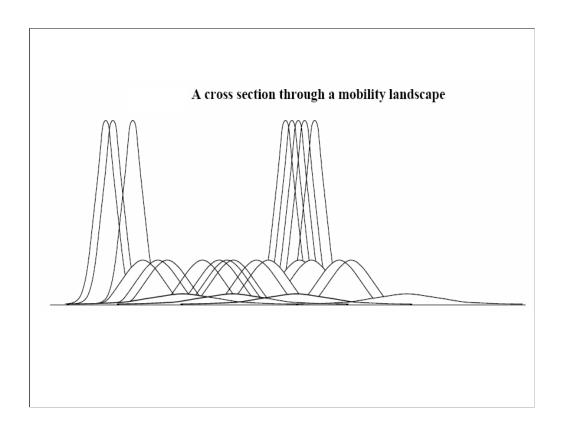


Fewer people will know their neighbours. Gated communities and Neighbourhood Watch – attempts to recreate of what used to happen naturally – are symptomatic of the angst of anomie.



The relevance of Putnam. Has he discovered the "optimum" between hypomobility and hypermobility?

In Bowling Alone Robert Putnam documents the rise and decline of civic engagement in American life over a century of increasing physical and electronic mobility. Putnam has amassed an extraordinary range of indicators of "social capital", ranging from membership in Rotary Clubs and bowling leagues to the decline in hitchhiking and participation in parent-teacher associations. Putting all his indicators together, he found that the median peak year for civic engagement in America was 1959 - perhaps an approximate marker of the country's transition from hypoto hyper-mobility. Putnam favours television - a weak one-way form of electronic mobility - as the principal villain in his story of civic decline. But he also gives an important share of the credit to "sprawl": "this physical fragmentation of our daily lives has had a visible dampening effect on community involvement."



Even when they live in close physical proximity to each other the mobile wealthy and the immobile poor live in different worlds. The

poor are confined by their lack of mobility in prisons with invisible walls. They are continually tempted and taunted - in a way that prisoners confined to cells with opaque walls are not - by the freedom and conspicuous consumption of the affluent. The wealthy can be seen and heard flying overhead, or driving along motorways through the ghetto, or on television, enjoying privileges that remain tantalizingly out of reach. To the wealthy, the poor are often invisible; because of the height and speed at which they travel, the wealthy tend to see the world at a lower level of resolution.

Less child friend	dly & SAY	7.	2
	NO SAY	GER	
	PLAY SAFE KIDS		
	DANGER STRA	NGE	R!
	Play safe Kids always	Say	NO
	Strangers may try to trick you	Say	NO
	Never get into a strangers car	Say	NO
	Never take sweets or money	Say	NO
	Never go with anyone even if you Know them, ask mum or dad first	Say	
	PLAY SAFE KI		

Children's freedoms will be further curtailed by parental fears, and the social catalyst of children playing in the street will disappear. In Britain, as recently as 1971, 80% of 7 and 8 year old children got to school on their own unaccompanied by an adult. Now virtually none do, and the Government issues guidance to parents warning that allowing children under the age of 12 out of the house unaccompanied is irresponsible. As the world becomes ever fuller of traffic it becomes increasingly full of strangers; primary schools routinely run "Stranger Danger" campaigns – amplifying parental fears and inculcating paranoia at a tender age. Children become captives of the family chauffeur. The loss of traditional childhood freedoms denies them the experience of mixing independently with their peers and learning to cope without adult supervision, experience essential to the process of socialisation.

The McCulture effect

"The only way you could tell you were leaving one community and entering another was when the franchises started repeating and you spotted another 7-Eleven, another Wendy's, another Costco, another Home Depot."

Tom Wolfe A Man in Full

The McCulture will be further advanced. Tom Wolfe captures the phenomenon in *A Man in Full*: "the only way you could tell you were leaving one community and entering another was when the franchises started repeating and you spotted another 7-Eleven, another Wendy's, another Costco, another Home Depot". Tourism becomes an industry. Travel writers urge their readers to rush to spoil the last unspoiled areas on earth, before others beat them to it. The moving pavement that now speeds tourists past the Crown Jewels in the Tower of London to maximize throughput is but one example of the triumph of Fordist efficiency that now characterizes mass tourism



There will be more metal (or carbon fibre) in motion. The increase in danger is not well reflected in accident statistics. The fact that there

are now about one third as many children killed every year in Britain in road accidents as there were in 1922 when there was hardly any traffic and a nation-wide 20mph speed limit, does not mean that the roads are now three times safer for children to play in; they have become so dangerous that children are not allowed out any more. The retreat of pedestrians and cyclists of all ages will continue. As traffic increases, fewer people try to cross the street - one of the reasons why diminishing numbers of people know their neighbours on the other side of the street.



Children with parental chauffeurs no longer acquire the habit of walking or cycling to school, friends or other activities. As functional walking and cycling disappear, we will have less exercise built into daily routines, although this is a trend that appears to be being partially offset by the growing numbers of people who drive to health clubs to run on treadmills. The US Centre for Disease Control and Prevention recently

identified America's dependence on the car as the principal cause of the country's epidemic of obesity, declaring that "decades of uncontrolled suburban sprawl conceived around the motor car have left Americans unable to walk even if they wish to." And the return of

infectious diseases like tuberculosis to the developed world is attributed, at least in part, to the growth of international air traffic.



The strained relations between haves and have-nots will generate more crime and fear of crime. As with danger on the roads this phenomenon is not reliably captured by crime statistics. Homes become better defended with stronger doors and locks and alarm systems. People, especially women, retreat from the areas where they feel threatened, especially the streets and public transport, and growing numbers of motorists travel with their doors locked. Policing will become more Orwellian.

Orwellian is the only adjective that can be applied to the vision of the Department of Trade and Industry's Foresight Directorate. The Directorate's Crime Prevention Panel has published a consultation document entitled "Just Around the Corner". It surveys the potentialfor new technology to "create new opportunities for crime and crime prevention." It concludes with two scenarios. The first, "TECHies" (Teleworking Executives Co-Habiting) is the Directorate's optimistic scenario, in which advances in crime-prevention technology out-pace advances in crime-promotion technology. It might best be described as 1984 with a Brave New World gloss – but which appears oblivious to Huxley's satirical intent. It depicts a world in which identity theft is kept in check by all-pervasive surveillance technology, DNA fingerprinting, odour detectors and probabilistic profile matching. The second "socially exclusive" scenario is less cheerful – 1984 without the gloss: most people live in walled estates and don't venture out much because "all public space is potentially hostile."

This high-tech policing, decried by civil libertarians, is an inescapable cost of hypermobility. The alternative is ineffectual policing. If terrorists and criminals avail themselves of modern means of mobility – physical and electronic – and the forces of law and order do not keep pace, the latter will become impotent.



Highspeed anonymous hypermobile societies are characterised by low levels of trust. Numerous studies by Mori in Britain have documented declining trust by the public in the institutions of government. The government's trust in the public has also declined. Everywhere one sees signs of defensive practice; both doctors and the managers of doctors now practice defensively for fear of being sued.



The audit culture adds numerous layers of defensive bureaucracy.

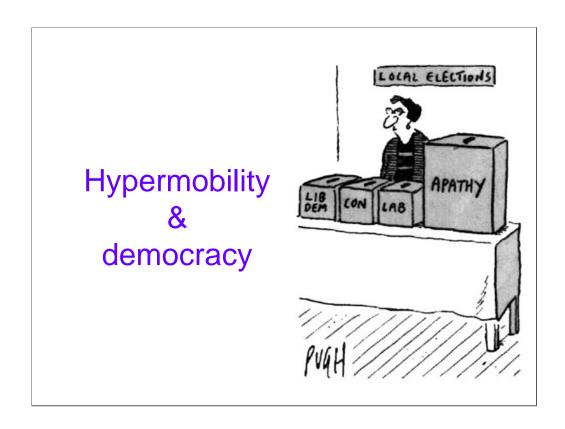


"The swings are packed away at night because kids might climb the fence and use them unsupervised and hurt themselves."

Playground planners, like doctors, also practice defensively.

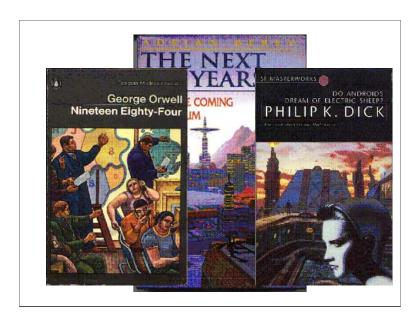


As do transport planners. Although in Britain recently there has been great interest in certain "progressive" circles in the innovative work of Hans Monderman in Friesland by those who are appalled by the aesthetic impact of defensive transport planning.



Individuals will have less influence over the decisions that govern their lives. As we spread ourselves ever wider and thinner in our social and economic activities the geographical scope of political authority must expand in order to keep up with the growing size of the problems that require governing. Political authority migrates up the hierarchy from Town Hall to Whitehall, to Brussels and ultimately to completely

unaccountable institutions like the World Bank and the World Trade Organisation. On neither side of the confrontations that now routinely accompany meetings of the WTO or the G8, such as those in Seattle, Prague or Genoa, between the advocates of globalization and disparate groups of protesters, can one find institutions that are democratically accountable – Greenpeace and Friends of the Earth are no more representative democracies than the World Bank or the WTO.

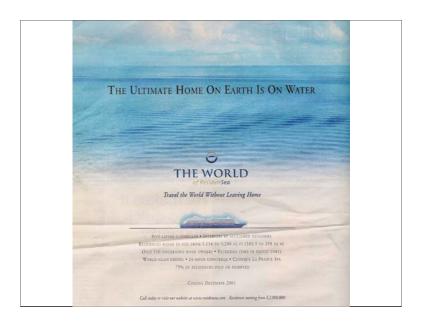


Trust in these unaccountable institutions diminishes as their "facts" become increasingly difficult to distinguish from spin. In the whole of the genre of science fiction devoted to speculating about futures in which distance has been conquered by science and technology one can find no plausible examples of democracy. From 1984 and Brave New World to Blade Runner and Star Wars the form of government is invariably tyrannical hierarchy. The possibility of an individual voter being of any significance is defeated by scale.

Miami Gated Communities



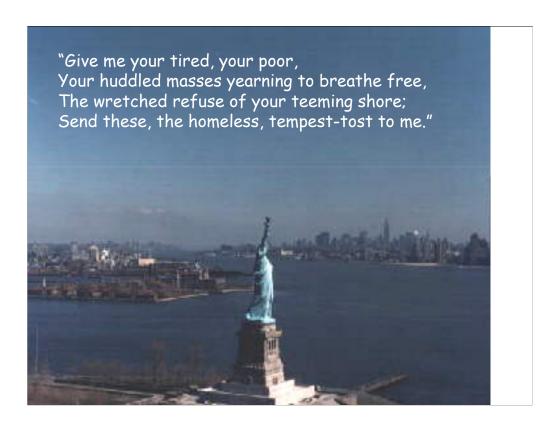
One of the symptoms of the decline of social capital and civic disengagement noted by Putnam is the gated community? One can find numerous websites advertising their attractions. This is one from Miami.



The gated community has now moved off-shore - Residensea – the ultimate gated community? The ultimate in civic disengagement.



Gated communities are being being superseded by gated nations. The fastest rates of traffic growth are for trips of the greatest distance. As travel, especially international travel, becomes faster, cheaper and easier for the affluent of the world, it becomes more difficult bureaucratically for the poor.

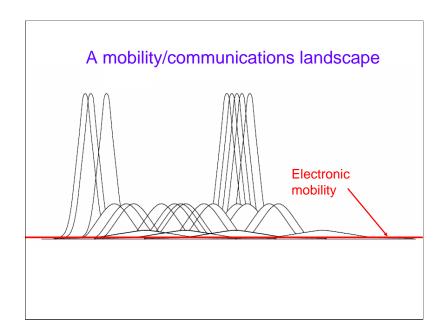


There is a growing intolerance of "economic migrants"



As the attractiveness of the gated communities – and gated nations – of the affluent grows, the gates need reinforcing.

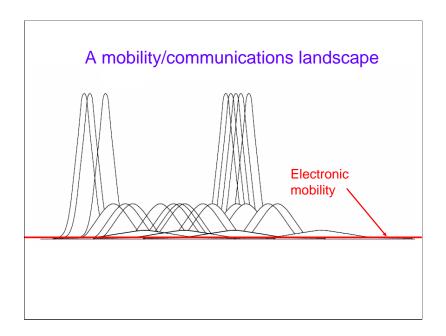
Wealthy countries previously protected by distance from mass invasion by the indigent are increasingly resorting to restrictive prohibition and force. Barriers – in the form of stringent visa requirement, difficult-to-obtain work permits, and obstructive immigration requirements – are being raised to contain the numbers who seek to take advantage of the mobility afforded by technology. The "huddled masses" who used to be welcomed to America by the Statue of Liberty are now dubbed economic migrants and denied entry to protect the living standards of those who got there earlier. And the Department of Homeland Security exploits the fear of terrorism to justify trampling on civil liberties previously held sacrosanct.



Electronic mobility, the ability to be in touch with anyone anywhere at the speed of light via the Internet, used to offered by enthusiasts as a solution to the environmental problems produced by physical mobility. The ability to "compute to work" and to substitute business travel by video conferencing promised to slow or even reverse the growth in the volume of physical traffic.

Advocates of telecommunications as a part of the solution to transport problems argued that they would revive human-scale community life by permitting more people to work from home, thereby encouraging them to spend more time close to home, and helping them to get to know their neighbours better. But this argument presumed that people would be content to lead a shrinking part of their lives in the *real* world which they would experience directly, and a growing part of their lives in *virtual communities* which they would experience electronically. It presumed that people would be content with lives of increasing incongruity of experience - that they would not want to meet and shake hands with the new friends that they met on the Internet; that they would not seek first-hand experience of the different cultures that they experienced vicariously electronically; and that they will not wish to have *real* coffee breaks with their fellow workers. It presumed much for which there was little encouraging evidence.

I offer a bit of evidence to explain the failure of this dream, albeit anecdotal. During a chance encounter in Vancouver airport while waiting for a flight to London, I got chatting to the fellow sitting next to me who was waiting for a flight to Toronto. He was flying for a game of bridge with someone from Toronto, someone from Edinburgh and someone from San Francisco. They had met and played bridge on the Internet, and now they needed a "real" game.



While writing this paper I listened to a BBC programme on "virtual tourism": without touching fragile environments or cultures it will simulate not only the view but also the noise, smells and even the weather of remote parts of the world which will be spared an invasion by real tourists. The complete lack of irony with which this vision was put forward suggests that its proponents could not have read *Brave New World* – which it mimicked perfectly.

And finally, the greatest advance in communications technology in history is having the perverse effect of widening and deepening many of the gulfs of misunderstanding separating participants in numerous conflicts around the globe. The Internet's flattening of the mobility/communications landscape permits people to live their lives in virtual "communities of interest" that can span the globe. The promise of the technology is being defeated by numbers. The disparity between the number of people that it is possible to communicate with, and the number anyone has time to communicate with, is so vast that we are all compelled to be highly selective in terms of the people and information on which we focus.

By providing cheap high-speed links between resentful cultural "silos" of relative physical immobility – whether in Britain or Pakistan, Amsterdam or Jakarta – it is catalyzing resentments. And by providing the means for exploring and exploiting the weaknesses of those resented, it is facilitating the range of asymmetric threats that are of such concern to Western security analysts who, in their turn, employ the technology to gather "intelligence" on a scale beyond anything envisaged by George Orwell.

Three opinion polls

- Would you like a car and unlimited air miles?
- Would you like to live in the sort of world that would result if everyone's wish were granted?
- Would you like to live in a cleaner, safer, healthier, more sustainable world in which people knew their neighbours, and it was safe for children to play in the streets?

The predicament I have outline above might be summarised with the help of three opinion polls:

- 1. Everywhere in the world transport policy appears to be driven by an implicit opinion poll "Would you like a car and unlimited airmiles?" And everywhere in the world this question elicits a resounding YES! People without cars envy the enlarged range of opportunities accessible to those with cars, and those who already have them find it difficult to imagine life without them.
- 2. There is a second question that policy makers do not ask "would you like to live in the sort of world that would result it everyone's wish were granted?" or, an alternative formulation, "would you like to live in a dirty, dangerous, ugly, bleak, unhealthy, undemocratic, unsustainable, fume-filled greenhouse?" This question confronts interviewees with the negative "externalities" described above externalities that have yet to feature in any cost-benefit analysis of transport policies.
- 3. There is a third, more positive question. What do we really REALLY want? "Would you like to live in a cleaner, safer, healthier more sustainable world in which people knew their neighbours and it was safe for children to play in the streets?"

This last question invites transport policy makers to treat the social consequences of transport policies not as "externalities", to be maximised or minimised so far as possible, but as the primary objectives of policy? I cherish the hope that if people could be persuaded of the impossibility of the whole world gaining the vision embodied in question 1, and of the undesirability of the world implied by question 2, and that world encapsulated by question 3 is achievable – they just might vote for it.

Only by *cherishing the local*, and defending it against the pressures of economic "efficiency" embodied in conventional cost-benefit analyses, can we hope to get there.

Further reading

Can technology save us?
World Transport Policy and Practice, 2/3 [1996] 4–17
www.agenda21.ee/english/transport/can_tech_save_us.pdf

The Social Implications of Hypermobility
Report for OECD Project on Environmentally Sustainable
Transport, Paris 1999

http://www.olis.oecd.org/olis/1999doc.nsf/63c71d2d4054d0fdc125685d00 53aee4/c125685b002f5004c125686b005cb510/\$FILE/00071363.PDF#pa qe=95

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Royal Society for the Arts Lecture 21 November 2001